Chichester City Council

Chichester Southern Access Road

Chichester Southern Access Road Review

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1 Introduction

1.1 Overview

1.1.1 This report has been prepared by PJA on behalf of Chichester City Council (CCC) and seeks to provide a review of the proposed Chichester Southern Access Road which forms part of the planning application associated with the Land West of Chichester development (planning application reference: 22/01485/OUTEIA).

1.1.2 The scheme forms Phase 2 of the wider West of Chichester strategic allocation and will accommodate up to 750 of the 1,600 allocated dwellings. Access to the scheme will be provided via the Southern Access Road, achieved through the realignment of Westgate.

1.2 Southern Access Road Overview

1.2.1 The Southern Access Road (SAR) forms the southern access to Phase 2 of the Land West of Chichester development. The proposed scheme constitutes a single carriageway two-way road, which connects to the existing road network at Sherbourne Drive opposite the junction with Westgate.

1.2.2 The SAR is proposed to connect to the internal access road proposed within the Phase 1 scheme, which connects to a Roundabout on the B2718 Broyle Road, which is complete and forms part of the Phase 1 development. Through the development the SAR will connect with Sherbourne Road in the form of a priority controlled staggered junction arrangement, with the continuation of Westgate to the east forming the other minor arm.

1.2.3 The proposed roads include provision for cyclists in the form of a fully segregated two-way cycle route located to the south of the road and a shared use footway to the north of the road. Crossing points are proposed on Sherbourne Road in the form of a parallel crossing to the north and a raised table crossing with a central refuge island to the south. Sherbourne Road is subject to a 20mph speed limit, with a system of traffic calming. The existing mini roundabout at Westgate forms a gateway treatment to the traffic calming, beyond which the plateau junction at Flaxman Avenue (c. 160m north) provides the next calming feature. Relative to current guidance calming measured should be less than 100m to achieve a self-enforcing <30mph. Whilst the proposed plateau crossing would introduce another feature, additional engineering measures might be necessary.

1.2.4 The SAR will also accommodate access to the Bishop Luffa School and a roundabout junction is proposed along the SAR approximately 300m to the west of Sherbourne Road to accommodate this access.

1.2.5 The SAR is proposed to be provided with a 20mph speed limit from Sherbourne Road, up to and including the school access roundabout. Beyond the roundabout, the speed limit of the road is proposed to be increased to 30mph.

1.2.6 Pedestrian and cycling crossing infrastructure is proposed on the SAR in the form of a parallel crossing.

1.2.7 Drawings of the proposed arrangement are reproduced at **Appendix A**.

1.3 Report Structure

1.3.1 Following this introduction, the report is structed as follows:

- **Section 2 -** Policy background and committed highways schemes
- **Section 3 -** Highway Assessment
- **Section 4 -** Design Review
- **Section 5 -** Alternative Options

2 Policy Background and Committed Highways Schemes

2.1 Local Plan Position

2.1.1 The Chichester Local Plan was adopted in May 2015 and sets out an agenda for development in the Chichester District from 2014-2029.

2.1.2 The Local Plan outlines a vision to deliver 7,338 homes over the period of 2012-2029, much of which are to be located on Strategic Development Locations (SDLs) identified across the district.

2.1.3 One of these such SDLs is the West of Chichester Strategic Development Location which features as Policy 15 in the LP. The 115-hectare site is envisioned as a sustainable urban extension of Chichester city.

2.1.4 The initial phase of development would be focused towards the north of the site, accessed off Old Broyle Road, and would deliver 750 homes, a new Country Park, a Local Centre ('community hub'), which would provide facilities such as a community centre, local shops, small scale office suites and a primary school as well as B1 commercial space.

2.1.5 The second phase of development at the West of Chichester SDL would see a further 850 homes delivered within a southern extension. Provision of a new southern access road, linking to Westgate, will be required.

2.1.6 The Local Plan highlights the need for the Southern Access Road, stating:

"There is potential for providing a north-south spine road linking from Old Broyle Road to Westgate, which would have some benefits for the traffic flows in the wider area including a reduction in traffic using Sherbourne Road."

2.1.7 Paragraph 12.35 refers to the specific issues to consider with development at this location. Of relevance to this report are the following points:

- Maximising the potential for sustainable travel links with the city, Fishbourne and the South Downs National Park, through improved public transport, cycling and pedestrian routes;
- Providing adequate mitigation for potential off-site traffic impacts, including improved access to the A27 and improvements to the local highway network as identified through a detailed Transport Assessment that will be

required in support of any planning application for the site

2.2 Local Plan Evidence Base

Chichester Link Road Modelling

2.2.1 Jacobs were commissioned to produce modelling for the Chichester Link Road in January 2014.

2.2.2 Modelling and forecasting of future transport demand was undertaken using the existing Chichester Area Transport Model (CATM) multi-modal model constructed within SATURN. It included the A27 trunk road bordering the south of Chichester as well as local access routes connecting to it.

2.2.3 This model has been subject to public scrutiny, as part of the Local Plan Examination in Public (EiP) and therefore PJA have assumed that results of the model are accepted and have not reviewed the model in detail to confirm its validity.

2.2.4 The purpose of the modelling was to assess the effects of existing and forecast development traffic along with planned infrastructure. Amongst other things the modelling examined local traffic and the 'New Link Road' to the west of the city, identified as the 'Southern Access Road' which is referred to in this report.

2.2.5 The report concludes that the New Link Road will likely have a negligible impact on traffic congestion in Chichester with its primary role being to serve as an access road to the proposed new development.

2.2.6 However, no changes in travel demand were accommodated for in the results produced. Modelling was undertaken of traffic turning movements at key junctions affected by the introduction of the New Link Road. This identified that the Sherborne Road/Westgate/New Link Road junction would likely require retrofitting or increased capacity to accommodate the additional traffic generated by the development.

Land West of Chichester Technical Note

2.2.7 In September 2014, a Technical Note (TN) was produced by transport planning consultancy, Vectos on behalf of Chichester District Council, WSCC, the Highways Agency (HA) (Now National Highways) and several housing developers.

2.2.8 Vehicular trip rates for the SDL had been agreed with WSCC and the HA. These were revised by request of the Parklands Residents Association, using survey results from a representative housing development in Chichester.

2.2.9 The selected site does not contain local shops, employment or a local school which would capture trips from homes to such land-uses, often referred to as internalisation. A 10% reduction factor was therefore applied to analysis to account for this. This is greatly supported by the proximity of Bishop Luffa secondary school. It is further noted a greater reduction factor (17%) has been agreed at other sites.

2.2.10 A further 5% reduction factor has been applied on account of the site being supported by a Travel Plan focussing on minimising single-occupancy vehicle trips.

2.2.11 Applying this reduction factor, a (two-way) trip rate of 0.333 in the AM peak and 0.394 in the PM peak were calculated.

2.2.12 Notwithstanding the above, it was proposed by Vectos to include a sensitivity test in the Transport Assessment using the surveyed residential trips for the weekday PM peak.

2.2.13 The collection of travel data in a local area can be preferrable to other areas, as it can reflect certain comparable factors. Demographics (age/economic activity and working patterns) and accessibility/capacity (mode shares/choice, congestion and delay) can have a significant effect on travel choices and times. These may vary across a geographic area as local and inter-urban trip patterns influence mode choice and travel time. As levels of congestion and delay on the A27 corridor will be a factor on travel time currently, it is important that data considers cumulative residual effects which may retain a level of congestion (contributing to peak spreading) or improvements which might allow travel patterns to contract.

2.3 Local Plan Review

2.3.1 At the time of adoption of the Local Plan, the Government Inspector required a review of the Local Plan to be undertaken within 5 years to ensure that sufficient housing was planned to meet the needs of the area. Consultation on the Local Plan Review was held in 2017, 2018 and 2019 with testing of the proposed strategy to be undertaken in 2022. No date for publication has yet been announced.

2.3.2 Policies specific to the Land West of Chichester site have been retained within the draft Local Plan Review document.

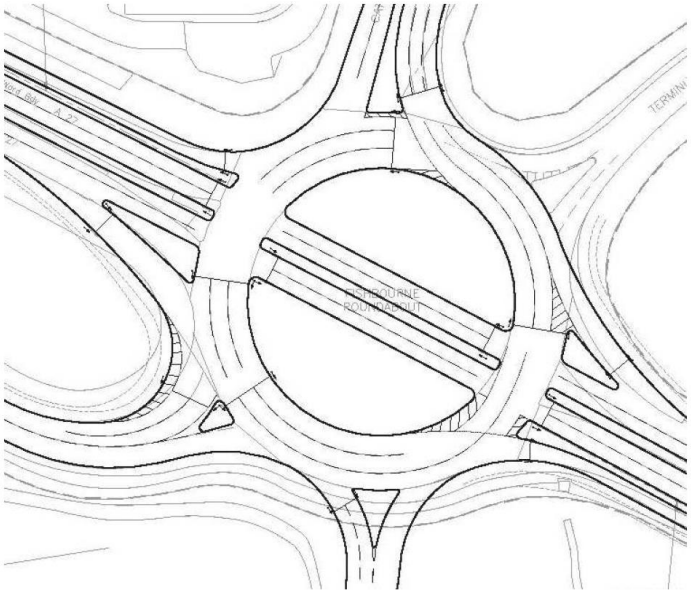
2.3.3 To support the draft Local Plan Review, Peter Brett's Associates prepared a Transport Study of Strategic Development Options and Sustainable Transport Measures document. The study concluded that the A27 corridor is subject to significant congestion and will require improvements to the Fishbourne Roundabout and the A259 to support the proposed strategic allocations.

Commented [AL1]: I'm assuming these are two-way trip rates?

Commented [JW2R1]: Yes they are

2.3.4 Proposals for the Fishbourne Roundabout included the creation of a Hamburger style roundabout, as shown in Figure 2-1. This also includes the removal of the Terminus Road arm of the junction, with a new junction provided on the A259 Cathedral Way to accommodate Terminus Road.

Figure 2-1: PBA Proposed Fishbourne Roundabout Improvements



2.3.5 In addition to the Fishbourne Roundabout, improvements were identified to be required at the A259/Sherborne Road Roundabout, including the widening on the A259 eastern exit and signalisation of the A259 western entry. The proposed scheme is shown in Figure 2-2.

Figure 2-2: PBA Proposed A259/Sherborne Road Roundabout Improvements

2.4 National Highways RIS3 – A27 Chichester Bypass Improvements

2.4.1 Permanent traffic counters on the A27 corridor around Chichester show that traffic flows have varied over the last two decades, typically 38-52,000 vehicles per day (two-way). The data suggests that daily traffic flows were highest 2006-08 but equally the (two-way) traffic flows have been 3,500-3,850 vehicles per hour over many years (including 2021) highlighting that the A27 is operating around operational capacity.

2.4.2 The A27 Chichester bypass is one of 32 pipeline schemes being considered for possible inclusion in the third Road Investment Strategy (RIS3). The scheme had previously been included consulted on in 2016, as part of an earlier RIS package, however following a failure to identify a preferred route, the scheme was cancelled.

2.4.3 The A27 was to be delivered as a Development Consent Order (DCO) and was supported by a raft of documents, including a Local Model Validation Report (LMVR) and Forecasting Report.

2.4.4 The LMVR acknowledges the validation was 'poor' in few areas including parts of west Chichester, highlighting many observed/modelled flows were marginally within GEH (+/-15%) suggesting the area is sensitive to subtle changes and the forecasting report acknowledging sensitivities between Fishbourne and Stockbridge Road.

2.4.5 Whilst the A27 forms part of the Strategic The modelling suggests around 46% of the A27 traffic has origins and destinations (O-D) outside of Chichester District

2.4.6 The (RIS) scheme included a series of at-grade junction improvements, typically involving signal-controlled junctions, some with turning movement restrictions. Whilst 5 out of the 9 options considered, explored grade separation at Fishbourne Roundabout, the Stockbridge Road and Whyke junction arrangements typically involved at-grade signal-controlled arrangements, with right-turns banned, these would limit A27 (to around 4,500vpd) and/or side road traffic capacities, potentially remedied with a Stockbridge link Road.

2.4.7 Whilst existing levels of congestion might be a good indicator, it is unclear where the capacity constraints are and how planned changes might affect network capacity either accommodating or constraining growth demand. For parts of

the local network close to the network this attracts significant uncertainty.

2.4.8 National Highways are currently assessing options for a potential scheme to be included within RIS3 as the A27 around Chichester continues to experience congestion, high accident rates and queuing.

2.4.9 National Highways state that new development within Chichester and the surrounding areas is anticipated to result in a 24% increase in traffic along the A27 by 2035 and therefore without any interventions, the situation will only worsen.

Commented [AL3]: Our wording or can we quote source?

2.4.10 Notwithstanding public consultation and the suspension of the (RIS) A27 improvement scheme, it is evident that forecast uncertainty will have a significant effect on the development and areas to the west of Chichester.

3 Transport Assessment

3.1 Overview

3.1.1 The purpose of this section of the report is to provide a review of the methodology used within the Land West of Chichester Transport Assessment that was submitted as part of the planning application for Phase 2 (planning application reference: 22/01485/OUTEIA). The document was prepared in May 2022 by Jubb Consulting Engineers Ltd.

3.1.2 The review considers the following key elements of the assessment:

- ✓ Baseline Traffic Conditions
- ✓ Determination of Future Year Traffic Flows
- ✓ Trip Rates and Internalisation
- ✓ External Trip Adjustments and Behaviour Changes
- ✓ Traffic Distribution and Assignment
- ✓ Junction Capacity Assessment

3.2 Environmental Impact Assessment

3.2.1 The application is submitted in outline including an Environmental Impact Assessment (EIA). Volume 2 Appendix 6 includes a range of reports providing information to support the applicant addressing the scoping response with the LHA.

3.2.2 Ordinarily, the scoping exercise would identify sensitive receptors such as schools or conservation areas, both of which are affected by the proposals. In these areas the magnitude of effect would become elevated thereby requiring greater mitigation.

3.2.3 Whilst it is not always necessary to complete a separate Transport Chapter, and elements can be combined into a traditional Transport Assessment, these must include the assessment of factors which might form material considerations to the development effect and recorded as permanent/ temporary, low/ medium/ high/ very high, positive/ negative, so that the magnitude of effect can be determined and a package of mitigation options can be presented so the balance of residual effects determined. Failure to achieve this can and often has led to legal challenges often resulting in the quashing of planning decisions.

3.2.4 The scoping material sent to the LHA did not distinguish the scope of the Transport Assessment and the (EIA) Transport Chapter. It is likely that any submission will have been

interpreted by the LHA as a Transport Assessment scope, so whilst the approach might be acceptable, this does not absolve the applicant's obligations to complete a proper assessment in accordance with the Regulations.

3.2.5 No assessment of pedestrian amenity has been undertaken and included within the transport section of the EIA, as required by the IEMEA guidelines, outlined in Section 4 of the 'Guidelines for the Environmental Assessment of Road Traffic'.

3.2.6 The Guidance document 'Environmental Impact Assessment: A Handbook for Scoping Projects' also includes a section on the potential impact on human environments such as local transport which should be addressed in an EIA. Specifically, it notes:

- ✓ Effects on multi-modal transport profile (cars, buses, trams, trains, walking and cycling)
- ✓ Effects on pedestrians
- ✓ Effects on cyclists
- ✓ Changes in waiting time for crossing pedestrians

3.2.7 Whilst the IEMA guidance still refers to the Manual for Environmental Assessment, incorporated into the DMRB, the DMRB has been substantially revised. Factors such as severance are now considered as human factors and consider, at a high level, the effect of traffic flows on movement and in particular crossings.

3.2.8 The EIA submitted as part of the planning application does not include reference to these points or consider the effect the development may have on the walking and cycling environment, more generally.

3.2.9 The Transport Assessment claims expectations to reduce traffic, with inferred assumptions these trips would be converted to other modes, often on foot or bicycle. And whilst the TA makes some reference to distances to facilities, no consideration is given to 'travel time', particularly within the area surrounding the site i.e., the walk time and directness of walking route to amenities within or adjacent to the site.

3.3 Baseline Traffic Conditions

3.3.1 The Transport Assessment suggests that discussions were held with the West Sussex County Council in relation to deriving suitable baseline traffic flows. At the time, it was concluded that traffic surveys would not provide a suitable assessment due to the impacts of the COVID-19 pandemic.

3.3.2 It was agreed that vehicle turning movements previously established in the 2014 Vectos TA for the consented phase 1

development would be adapted to inform the capacity assessment, with suitable adjustment to determine likely 2021 traffic flows.

3.3.3 Traffic flows were assessed using a permanent ATC counter at Westgate for a neutral, pre-COVID, month of September 2014 and 2019 respectively. The results identified a 2% increase in two-way traffic flows in the AM peak and 12% decrease in the PM peak – highlighting some of the findings in Section 2. To represent the worst-case scenario, only a 2% increase to the 2014 AM peak flows is applied with the 2014 PM peak flows left unchanged.

3.3.4 Utilising a single count along Westgate, whilst potentially being the only source of data available at the time, raises questions relating to the application of traffic forecasts across the wider network.

3.3.5 The Transport Assessment prepared in support of the Phase 1 scheme, suggests that the Sherborne Road/Westgate mini roundabout was anticipated to be operating close to its Ratio of Flow to Capacity (RFC) of 0.81 in the AM peak under 2014 flows.

3.3.6 Furthermore, the Sherborne Road arm of the A259/Sherborne Road Roundabout was found to operate with an RFC of 0.92 under AM 2014 flows, compared to an RFC of 0.11 on the Cathedral Way arm of the roundabout. The results suggests that capacity for traffic growth along Westgate was constrained from 2014 to 2019, however on Cathedral Way no such capacity constraints were present. It is therefore likely that the potential for traffic growth between 2014 and 2019 along the A259 is far more significant than would be the case for Westgate. As such, the application of growth factors determined from traffic volumes on Westgate is not considered to be appropriate.

3.3.7 Over the elapsed time, it can be assumed that traffic flows have largely adjusted following the pandemic and that it would be reasonable for the applicant to undertake new traffic surveys to confirm the suitability of the baseline flows used within the assessment, particularly given the concerns raised above in relation to traffic growth used in determining baseline flows.

3.4 Determination of Future Year Traffic Flows

3.4.1 Traffic growth arising from all committed and proposed developments in the Chichester LP have been considered as part of the original Vectos TA. This constitutes much of the forecast housing growth considered in the Transport Study

in support of the Chichester Local Plan Review 2016-2035. Indeed, one of the shortcomings of the A27 RIS improvements was that they would not support economic growth beyond 2035.

3.4.2 It was therefore agreed with WSCC and NH that the direct application of forecast flows from the Local Plan sites would be sufficient to support the assessment and that it would be counter intuitive to additionally apply a TEMPRO background growth factor.

3.4.3 It is also proposed in the TA that the COVID-19 pandemic has had a lasting effect on working and travel patterns causing a lasting reduction in person trips. Whilst hybrid/home-working patterns may be sustained, potentially affecting baseline travel demands and forecast changes, these should be detailed in the application assessment so that stakeholders and decision makers can take an informed view on forecasts and residual cumulative effects.

3.4.4 To reflect this, the applicants transport consultant decided, in consultation with WSCC, that a negative growth factor would be applied. This is based on the WSCC Local Transport Plan policies which promote sustainable transport options.

3.4.5 Consequently, a 7% reduction in baseline vehicle movements was applied within the Transport Assessment to account for the reduction in vehicle movements because of the sustainable transport initiatives and demand management measures introduced by the WSCC Local Transport Plan (LTP3) as well as the long-term impact of the pandemic.

3.4.6 The reduction appears to be based on LTP3 interventions, applied to all trips, effectively reducing baseline traffic during the peak periods. Whilst this might be a realistic target over a defined period, the TA assumes this would be achieved between 2014-2021.

3.4.7 Whilst this 'approach' is generally reasonable and follows what has been tested through EiP, accuracy should be enhanced through using updated traffic counts which better reflect current transport patterns. The evidence provided within the TA from traffic flows recorded on Westgate demonstrate that traffic flows have increased by 2% during the AM peak hour between 2014-2019.

3.4.8 The TA therefore needs to be clear as to what extent reductions are applied to travel demands for specific years/time-periods, what measures are being delivered and/or Monitoring & Evaluation Plan (MEP) so that proportionate interventions can be supplement should these fail to achieve the target reductions.

Commented [AL6]: ?

Commented [AL4]: 3rd person makes it a little hard to understand what we are saying, is it:

The applicants appear to have agreed with WSCC/NH that (TEMPRO) can be applied to observed 201? Flows to inform forecast flows.

Commented [AL5]: By whom, why? - Any evidence we can cross reference

3.4.9 Furthermore, the assumed reduction in trips set out within the previous Local Transport Plan was contingent on delivering several sustainable transport schemes, many of which have not been delivered.

3.4.10 A new Local Transport Plan (LTP4) was adopted by WSCC in April 2022 and sets out a new strategy for managing the transport network between 2022 and 2036. Whilst the new plan does include an objective to reduce car travel, this is tied to allowing for local living rather than specific measures to discourage car use. It is therefore reasonable to conclude that existing traffic is unlikely to decrease. Additionally, there is a strong emphasis within the plan objectives on the uptake of low emission vehicles, such as EV's, which may also impact on the reductions applied. Despite this, it may be reasonable to apply a reduction should it be demonstrated that there is a clear strategy to deliver significant modal shifts in the area, however no evidence is provided to support this within the Transport Assessment.

3.5 Trip Rates

Decide & Provide Approach

3.5.1 The Land West of Chichester masterplan aligns with the principle of 'Decide & Provide' with regards to trip forecasting for the development. The D&P approach is vision-led and seeks to achieve a desired outcome through 'deciding' a development path. The TA highlights the risks of following the traditional method of 'predicting', which is succeeded by actions which realise this status quo outcome.

3.5.2 The 2022 TA therefore claims to differ in methodology from the original 2014 TA which followed the 'Predict & Provide' approach. The agreed trip rates as set out in the Vectos TA are used as the basis of the vehicle traffic generation. These vehicle trip rates were previously agreed with WSCC and NH and were used to undertake the transport study in support of the Chichester LP. However, adjustments have been made to assumptions made previously, with consideration of "prevailing travel trends".

3.5.3 In the 2022 TA, it is claimed that the approach adopted follows the TRICS D&P Guidance and has been agreed with the LHA in principle as part of the pre-application consultation, with influence from WSCC comments raised.

3.5.4 However, Section 11 of the 2021 TRICS Guidance Note on 'The Practical Implication of the Decide & Provide Approach', stresses the importance of travel planning and monitoring of outcomes when the D&P approach has been used. As the trip

generation estimates are based on desired outcomes rather than predicted reality, further measures are required to ensure that the desired outcomes are realised. The guidance attests that putting in place a travel plan with a strategy of working towards these target figures. An effective monitoring strategy is also necessary to provide evidence that the local road network is functioning on the predicted traffic flow rates.

3.5.5 It is noted that the Traffic Flows section of the TA asserts a general commitment to 'worse case assessment'. This follows adaptations intended to mitigate the uncertainties of travel patterns following the COVID-19 pandemic.

3.5.6 However, the TRICS D&P Guidance deplores the use of 'worst case' scenario describing it as "a mathematical exercise to test the highway network's capacity". They instead recommend the use of multi-scenario planning and consideration of a "fan of influence":

"This "fan of influence" should be reported in the TA or similar, with a recommendation made on the most plausible scenario to achieve the vision for the site or area (taking account of phasing and implementation)."

3.5.7 Specifically, the Guidance "*strongly recommend[s] that a Monitoring and Evaluation Plan (MEP) is included in the TA to support the D&P approach*". A key element of the new Guidance is its focus on scenario planning with this typically including evaluation of three scenarios.

3.5.8 It is suggested that Scenario 1 uses the TRICS database current trip rates for reference and that further scenarios use extrapolated DfT road traffic forecasts. Consideration of increased internalisation or other transport effects from surrounding development could also be considered within different scenarios.

3.5.9 Whilst the applicants may wish to present a single scenario, the Guidance states that a TA should present these scenarios alongside a robust evidentiary base and assess what mitigation is required for each scenario.

3.5.10 These steps are, however absent from the TA and no MEP has been produced. A Travel Plan has been produced* for the site but this does not include a strategy for achieving D&P trip rates or monitoring and evaluating trip rates on this basis.

3.5.11 WSCC have offered similar comments in their September 2022 consultation response to the Travel Plan:

"It should be noted however that additional or revised monitoring may be required to accord with the Decide &

Provide approach being advocated by the applicant. Further discussions need to take place to agree the approach to monitoring and what additional mitigation is to be offered should the monitoring not occur as is forecast within the TA"

3.5.12 However, the relevance of D&P supporting actions is weakened by the fact that the approach used in the 2022 TA only weakly deviates from the traditional P&P approach used in the original TA. It is proposed that, following the receipt of up-to-date traffic survey results to inform the baseline traffic flows, the D&P approach is applied to assess traffic flows arising from the new development more strictly following the TRICS guidance, including the assessment of a few different scenarios, supported by a robust evidence base, and the creation of an MEP.

Traffic Generation Rates

3.5.13 The trip rates utilised within the Transport Assessment are consistent with those prepared in support of the Vectos TA for the Phase 1 scheme and utilised within the Local Plan evidence base. Whilst the proposals are likely to include a mix of private/affordable and housing/apartments, the study area includes a significant number of apartments (Charles Ave et al.) thus some comparison of typical dwelling size might be appropriate.

3.5.14 A comparison has been undertaken to the TRICS database to demonstrate that the trip rates are still reasonable for use within the assessment. The review has concluded that the residential trip rates are suitable, however no similar comparison has been undertaken for the employment trip rates. Given the age of the Vectos trip rates, it is considered reasonable that a similar validation exercise be undertaken to confirm the suitability of the trip rates, also considering any patterns of peak spreading and how wider network capacity may affect future demand and junction capacities.

3.6 Internalisation

3.6.1 A series of internalisation assumptions have been applied to the residential trip generation to consider the role of the supporting land uses on the site, including:

- ✓ Employment
- ✓ Primary School
- ✓ Local Centre
- ✓ Nursery

Residential Trip Assumptions

3.6.2 To account for the internalisation potential of residential trips, trips have been subdivided according to their purpose. Each journey purpose is then considered further in the context of the potential for internalisation of trips, assuming more of these trips would be on foot or bicycle.

Local Centre

3.6.3 The TA concludes that trips for the purposes of personal business and shopping could be attracted to the local centre (equating to 28% of all trips in the AM and 36% in the PM). Following this a 10% reduction to total vehicular trips for these journey purposes has been applied to account for the internalisation of these trips. This is presented as a robust assumption.

3.6.4 As the baseline surveys are based on an area close to multiple shops/take-aways there is no evidence is provided to justify this statement.

Escort Education

3.6.5 The TA has presented evidence that suggests 75% of primary school trips are not linked to a work-based trip and has then assumed that 50% of the trip attraction will be retained within the site to ensure a robust assessment. Whilst the baseline survey is a similar distance to some schools this assumption it is considered a reasonable assumption.

Employment

3.6.6 A 10% allowance for employment trips has been made. The baseline survey used to inform the trip rate lies immediately north of Portfield Industrial Estate, in East Chichester. It might therefore be reasonable to assume that trips on foot/bike to these employment areas are already reflected in the observed trip rate.

3.6.7 As the proposed development offers limited employment uses and is slightly further from Terminus Road Industrial Estate it might be reasonable to explore an upward adjustment to avoid the risk of double-count home/hybrid working patterns.

Employment Trip Assumptions

3.6.8 The TA has assumed that 10% of residential employment trips will remain internal to the site. This assumption is considered reasonable, remaining consistent with those previously agreed in the Phase 1 TA. This is also consistent with the level of internalisation derived for the southwest Chichester area based on 2011 Census data for the Method

of Travel to Work, but some caution is required to avoid double-counting.

Primary School and Town Centre Trip Assumptions

3.6.9 The primary school and town centre uses have been assumed to serve the development only and therefore would not result in any external trips. This is considered a reasonable conclusion.

Nursery Trip Assumptions

3.6.10 For the proposed day-care nursery facility, a "worst case scenario" of 30% of the forecast vehicle movements being made by parents living externally to the development site, has been applied.

3.6.11 Again, the baseline survey is based on a location a short walk from Chichester Nursery School, so the capture of trips is potentially reflected in the observed trip rate. Whilst 30% may be reasonable it is not sufficiently evidenced within the TA to support its validity. Nursery trips are assumed to be largely linked trips e.g. to/from work and may represent few primary trips but could affect distribution. These issues are not reflected in the approach adopted in the TA, particularly given that 90% of employment trips are anticipated to be external to the site.

3.6.12 Whilst the assumed internalisation assumptions are questionable, it is acknowledged that changes would have a limited impact on the overall trip generation of the site.

3.6.13 To interpret the internalised trips generated by the site, the TA breaks down peak hour vehicle trips by trip purpose using results from the

3.6.14 However, only a 5% reduction figure is applied to residential and employment trip estimates for 'behavioural change' with no evidence given to justify this figure. Further, a 10% reduction has been applied for trends in reducing trips such as increased working from home. Again, this figure is not appropriately evidenced with much greater figures quoted in the text. For example, applying the same 10% reduction to employment and residential trips is not consistent with the fact that it is journeys to work which have been reduced most significantly.

3.6.15 Assumptions:

a 10% reduction in residential trips

- Within this, 75% of primary school journeys are not linked trips – following results from the NTS 'Trip Chaining: 2002-2014' results. It is therefore assumed that 75% of residential trips derived from educational escorting are internalised.
- 10% reduction in residential trips related to work attributable to the employment on site (for Phase 2 only). This was accepted in the Vectos TA but could be updated to better reflect the employment within the site once this is established in Phase 2 of the development.

3.6.16 Further evidence is required to support these assumptions. For example, further details regarding the quantity and break down of the retail component of the Local Centre, would support the validity of internalisation assumptions.

3.6.17 It should be reasonable to explore the findings of the Travel Plan Monitoring Report for Phase 1, so that directly comparable trip rates (with proportionate levels of internalisation considered for the occupied uses) so that forecasts can be compared alongside the observed patterns in East Chichester.

3.6.18 For the baseline modal splits, 2011 Census Travel to Work data was interrogated to establish movement patterns within the MSOA 'Chichester 011' area. Several criticisms are given of this chosen methodology:

- 2011 Census data is old and does not reflect sustainable policy developments in recent years
- 'Journey to work' is not accurately applicable to residential trips or education trips
- Does not consider multi-purpose nature of day-to-day trips

3.6.19 A mode shift of 5% is assumed due to the fact this is the target figure used in the Travel Plan. However, it is not acknowledged that these targets may well not be achieved and therefore do not represent a robust estimation without further evidence and mitigation measures. This refers to discussions relating to the delivery of the D&P approach.

3.7 External Trip Adjustments and Behaviour Changes

3.7.1 The Transport Assessment has set out an argument that considers how the impacts of behavioural changes would impact on traffic generated by the development. Consideration of behaviour change is considered a reasonable approach under a decide and provide methodology applied appropriately, through which a scenario whereby the assumed behaviour change isn't

achieved has been assessed and a scheme of suitable monitoring and mitigation has been committed to. However, in the case of the Transport Assessment, the assessment fully relies upon the predictions made becoming a reality, despite the uncertainty and lack of evidence supporting the assumptions.

3.7.2 The Transport Assessment provides an argument that a 10% reduction in car trips should be applied to residential and employment trips, based on the following evidence:

1 National Travel Survey which suggests that a 13% reduction in car trips per person has occurred between 2002 and 2019

2 Evidence prepared by the Royal Town Planning Institute prepared in June 2020 which concluded that 39% of people in employment reported in April 2020 compared to 6% in the same month of 2019.

3 A survey undertaken by the Department for Transport (DfT) which concluded up to 63% of people were willing to make changes to reduce their contribution to climate change.

3.7.3 Taking the first point into consideration, the travel surveys upon which the trip rates for the trip generation has been derived were undertaken in July 2014 and therefore some of the 13% reduction from 2002 has already been accounted for with the trip rates. Taking data between 2014 and 2019 demonstrates that only 1% of the total 13% change occurred in this period.

3.7.4 Regarding point two, the evidence presented was collected at the height of the COVID-19 pandemic when a work from home order was in place. This is therefore not conclusive proof of how people will work from home in the future.

3.7.5 Finally, point three does not consider the impacts on transport and is a round observation about general attitudes towards climate change. It can therefore not be relied upon to reach the conclusion made within the TA.

3.7.6 A further 5% reduction has also been applied on the assumption that the associated Travel Plan would deliver a mode shift. Again, there is no consideration, as is required through the Decide and Provide methodology, as to how the additional impacts could be mitigated against if this 5% is not achieved.

3.7.7 If the assumptions outlined above were not to be achieved, a total of 87 additional vehicle trips could occur in the AM

peak and 104 in the PM peak, which would have the potential to require additional mitigation.

3.8 Traffic Distribution and Assignment

Distribution

3.8.1 The TA has sought to distribute the trips utilising 2011 Census data derived from the Method of Travel to Work. Whilst the National Travel Survey suggests that the proportion of peak hour trips for commuting/business has fallen, these remain a significant part of trip purposes by car, thus this method is considered reasonable

3.8.2 The methodology utilised will have some impact on shopping and personal business trips external to the site, which would in the large part be expected to route towards the centre of Chichester. Its therefore possible that the assessment may underpredict the impact of the development proposals on Westgate.

Assignment

3.8.3 Assumptions regarding the assignment of vehicular trips are considered reasonable.

3.9 Junction Assessment

Junction Model Results

3.9.1 The operational capacity of the eight junctions surrounding the site have been modelled for the following 4 scenarios:

b Year 2021 Baseline Scenario

c Year 2035 Baseline Scenario

d Year 2035 + Phase 1 Development

e Year 2035 + Full Development – including both Phases

3.9.2 The assessment of the junctions is completed using a simulated peak period to reflect a build-up of demand before the peak hour peaking at the mid-point of the hour (known as O-D Tab).

3.9.3 Using O-D Tab allows the assessor to consider the build-up of demand over the peak hour to judge the effect on queues and delays at an individual junction. It does not however take account of queues from upstream junctions nor the effect of residual queues from earlier time periods.

3.9.4 In recent decades this pattern has changed as inter-urban travel requires people to travel earlier/later in the AM/PM

periods, particularly in areas where the network is congested, highlighting the sensitivity of the A27 on junction and network capacity.

3.9.5 The results of the junction modelling under scenario d highlighted above are provided in Table 3-1.

3.9.6 It is evident from Table 3-1 that most of the assessed junctions are anticipated to operate within practical capacity (RFC = 0.85), suggesting that these junctions would not experience significant congestion. The Sherborne Road/Via Ravenna/A259 Cathedral Way Roundabout is expected to exceed its practical capacity with an RFC of 0.95 in the AM peak, although the TA concludes that the development proposals would not result in any increase in RFC from the 2021 baseline flows. As this junction is also affected by congestion and delays from the A27 Fishbourne Roundabout it is likely that queues and delays are under-estimated.

3.9.7 It is worth noting that the future year traffic flows have been derived from the application of various assumptions relating to traffic growth. The key assumption being that a 7% reduction in vehicular trips will be achieved in line with WSCC's Local Transport Plan aims.

Table 3-1: Summary of Junction Capacity Results (Year 2035 + Full Development)

Junction	Ratio of Flow to Capacity (RFC)	
	AM Peak	PM Peak
B2178/Salthill Road/Hunters Race	0.70	0.43
Proposed Northern Access (Old Broyle Road)	0.66	0.65
B2178/Norwich Road/Sherbourne Road	0.69	0.42
Sherbourne Road/Newlands Lane	0.03	0.04
Sherbourne Road/Neville Road	0.03	0.04
Proposed Southern Access/Bishop Luffa Access	0.18	0.16
Southern Access Road	0.83	0.57
Sherborne Road/Via Ravenna/A259 Cathedral Way	0.95	0.62

3.9.8 Whilst this assumption may be a reasonable approach to take under a decide and provide methodology, whereby mode shift and resulting vehicular travel are considered under a range of differing scenarios, the supporting measures and possible outcomes should be defined. The aim being that a Transport Assessment incorporating a scenario without a reduction in baseline trips is likely to require other mitigation. For example, the Sherbourne Road South (AM) forecasts 645 PCU/hr in the baseline condition, resulting in RFC = 0.73; without a 7% reduction in flow (690) would result in an RFC = 0.78.

3.9.9 All junction assessments undertaken within the Transport Assessment consider the junctions in isolation only and do not consideration the operation of the network as a whole. For example, a queue of 7 vehicles at the Westgate junction or 66 vehicles at the A27 Fishbourne roundabout, could affect the operation of the A259 (College) Roundabout.

3.9.10 The report prepared by Peter Brett Associates in support of the Local Plan Review, identifies that improvements to the Fishbourne Roundabout are required to support the Local Plan proposals and that improvements to the Fishbourne Roundabout are required, as traffic flows at Sherborne Road/Via Ravenna/A259 Cathedral Way Roundabout are likely to increase. This result is also reflected within the Jacobs modelling report prepared in support of the Local Plan.

3.9.11 It is therefore reasonable to conclude that existing congestion issues at the Fishbourne Roundabout is holding traffic back from the Sherborne Road/Via Ravenna/A259 Cathedral Way Roundabout at peak times and removal of this congestion constraint will affect the A259. This is again reinforced by the recently adopted West Sussex Local Transport Plan that highlights a key issue for the area being congestion on the A27 and A259 during peak periods that is not limited to just the traditional AM and PM peaks.

3.9.12 Policy 15 of the Local Plan requires the development proposals to provide improved access to the A27 and therefore delivery of the Fishbourne Roundabout improvements is fundamental in accommodating the developments impact on the local highway network. Delivery of improvements at the Fishbourne Roundabout and the consequential impact on traffic flows through the Sherborne Road/Via Ravenna/A259 Cathedral Way Roundabout have not been considered in the Transport Assessment. It is therefore likely that traffic flows will be higher than those assumed within the junction model for the Sherborne Road/Via Ravenna/A259 Cathedral Way Roundabout under the 2035 Base + Development scenario.

3.9.13 With higher traffic flows it is likely that the roundabout would operate above capacity and therefore some form of mitigation will be required to manage residual cumulative effects both in terms of congestion and delay as well as safety.

3.9.14 It should also be noted that the models presented within the TA rely on standard traffic profiles which ramps vehicle flows up across the hour, reaching an absolute peak before dropping off again. Given the capacity constraints identified it is highly likely that a micro-simulation model is required to inform the operational effects of this part of the network,

with(out) the completion of the SAR and A27/Fishbourne Roundabout. The development of such a model should therefore achieve some efficiency when comparing different forecast scenarios.

Sensitivity Testing

3.9.15 A sensitivity test was carried out within the Transport Assessment to assess the likely impact of the new SAR on the existing traffic along the local highway network between the B2178 west, Westgate and the A259. The following assumptions were made:

- 50% of the forecast Year 2035 baseline traffic travelling between the B2178 West and Sherborne Road via the Sherborne Road/Old Broyle Road Junction will divert through the strategic allocation site and re-join the Westgate/A259/Sherborne Road junction via the SAR.

3.9.16 Application of sensitivity test may be reasonable with the addition of traffic calming on Sherborne Road, but it is questionable whether this would achieve a 50/50 split of traffic between Sherborne Road and the SAR. This assumption contradicts the assumption made by Jacobs in their 2014 modelling work which found that the SAR would have negligible impact on the surrounding road network. What's more, the 50% figure is neither explained nor justified, thus rendering the modelling results unreliable.

3.9.17 As the Transport Assessment has sought to adopt a Decide and Provide approach to assessment, it would be considered more reasonable to have considered a range of potential traffic splits to determine the impact of the SAR on the potential mitigation requirements.

3.10 Summary

3.10.1 The Transport Assessment embraces elements of the Local Plan evidence and uses this to support proposals for the development, the SAR and access onto Westgate.

3.10.2 Many of the assumptions and forecasts are unsubstantiated such that the associated assessments are, at best, questionable, not least that conditions are forecast to improve with little or no mitigation.

3.10.3 Case law has contributed to PINS guidance when exploring forecast (un)certainty and cumulative effects of both development and mitigation. Indeed, the Department for Transport, considers a similar approach in 'TAG Unit M4: Forecasting and Uncertainty'. Given the material changes

that have occurred since the Local Plan, supporting SEA and Transport evidence closely tied to the completion of the A27 improvements, and guidance on active travel, it is essential that a range of sensitivity tests and scenarios are provided so that proportionate mitigation measures can be delivered.

4 Design Review

4.1 Overview

4.1.1 The purpose of this section of the report is to provide comment on the proposed design of the Southern Access Road with reference to design guidance and documents relevant to the proposals, which includes the Design Manual for Roads and Bridges, Manual for Streets (MfS) 1 and 2 and LTN 1/20 Cycle Infrastructure Design.

4.1.2 The review considers the following design considerations:

- ✓ Highway Geometry and Design Speeds
- ✓ Proposed Speed Limits
- ✓ Junction Design and Visibility
- ✓ Cycle Infrastructure Proposals
- ✓ Pedestrian Facilities and Crossings
- ✓ Stage 1 Road Safety Audit and Designers Response
- ✓ Consultation

4.2 Local Plan

4.2.1 Highway or Transport Improvement Lines can be identified and/or protected under various statutory Powers. In more recent years, local planning authorities have used planning powers to identify an indicative improvement line, as part of the Local Plan process, as has been the case with the SAR.

4.2.2 The allocation of Strategic Development Locations (SDLs) enables an authority to develop broad principles that can be considered as part of a Strategic Environmental Assessment and considered through the scrutiny of the Local Plan EiP.

4.2.3 As part of the Local Plan planning authorities will prepare an Infrastructure Delivery Plan (IDP, noted in the Inspectors Report), to clarify what is to be delivered by development and the planning or highway/transport authority.

4.2.4 Responding to challenges for additional housing, the Inspector also noted "…housing provision within the Plan period cannot exceed 415 because an increase above this level would require reassessment of all the evidence on transport impacts and mitigation."

4.2.5 It is generally sufficient for these proposals to be developed appropriate to the stage in planning, so the soundness of these proposals can be examined at EiP.

4.2.6 Through the Local Plan EiP the developers completed a Statement of Common Ground, indicating:

- ✓ …the West of Chichester SDL is supported by detailed and robust evidence of highway infrastructure planning."
- ✓ It is agreed that the evidence accompanying the Local Plan addresses the issues of funding, viability and timing of the A27 junction improvements."

4.2.7 The supporting evidence base did assess forecast traffic flows but the submitted and finally adopted Local Plan did not explain:

a the function or purpose of the link road

b the horizontal alignment, length, or design speed

c the width of the road, provision for pedestrian/cyclists adjacent

d the form of junctions within or adjacent the SAR

4.2.8 Responding to representations the Inspector explored the evidence associated with highway infrastructure and concluded (84) that "…masterplanning for the development is underway and this is the appropriate forum to address these concerns…"

4.2.9 It might be reasonable to assume therefore that the Inspector anticipated that the SDL masterplan would be developed in consultation with a range of interested parties and captured in a Supplementary Planning Document (SPD) like many other planning authorities. Chichester District Council did not.

4.3 Highway Geometry and Design Speeds

4.3.1 The local highway network surrounding the site is subject to a 20mph zone, consequently the first 350m (eastern section) of the SAR is to be provided with a 20mph speed limit. Beyond this point, the speed limit is proposed to increase to 30mph, past the roundabout access to the Bishop Luffa School. Given the context in which the SAR is located and the proximity to the school, a 20mph speed limit is considered suitable.

4.3.2 For roads subject to 85th percentile speeds of 37mph and below, guidance set out within MfS 1 and 2 is considered appropriate.

4.3.3 Guidance set out within Manual for Streets 1 suggests that a carriageway width of 5.5m is generally sufficient for accommodating all traffic movements within low-speed environments. Generally, the supporting research found that a correlation between road widths and speeds (typically +/- 1m = +/-2mph)

4.3.4 Buses in Urban Development (CIHT) recommends an unobstructed carriageway width of 6.5 metres are necessary for two-way traffic with buses.

4.3.5 A series of Traffic Advisory Leaflet, recording research on speed and safety are consolidated into Local Transport Note 1/07 et al. These broadly show that the spacing between features will support the following design speeds and highlights there are gaps between features in the existing environment:

- <20mph 40-50m centres
- <25mph 50-80m centres
- <30mph 80-100m centres

4.3.6 In the 'Streets for a Healthy Life' guidance document (2022) suggestions of 'no centre line markings, occasional rumble strips, car parking bays and architectural detailing, variable carriageway widths or elements to help visually narrow the street' are used to keep traffic speeds low. However, none of these are implemented in the design and hence it can be presumed speed limits are likely to be exceeded.

4.3.7 Given that the access will serve as a primary access to a school and accommodates a national cycle route, it is therefore likely to accommodate a large number of pedestrians and cyclists from the school it is important that the road is design appropriately to reflect the proposed speed limit. Roads with a 20mph speed limit are not normally enforced by the Police and therefore it is critical that any proposals are designed to be self-enforcing. It is therefore recommended that the design be revisited to consider the following:

4.3.8 The proposals for the SAR, included in **Appendix B**, show a 7.3m straight section of carriageway with no traffic calming features between the junction with Sherborne Road and the Bishop Luffa School roundabout. From observations of the exodus in the afternoons it apparent that pedestrians spill into the road space. Whilst MfS acknowledges that shared use of space can occur up to 100 vehicles per hour, given the combination of speed and flows it may be necessary to complete Fruiin analysis of some pedestrian spaces near the bus terminus.

4.3.9 It is accepted that meeting the needs of safe routes to school whilst accommodating buses, which may have passengers moving forward in the bus to alight, will create a challenging environment for any designer. It is apparent however that the proposals fail to meet the principles of MfS thus it may

be appropriate to develop the design along with a quality audit.

4.4 Junction Design and Visibility

4.4.1 The visibility splays drawn in Appendix A of the Jubb 2022 SAR Design Report and provided in **Appendix C** of this document, details the roundabout geometry proposed.

4.4.2 In this report, Jubb state that the following DMRB guidance documents have been used to inform the standards used:

- CD 116: Geometric Design of Roundabouts
- CD 109: Highway Link Design
- CD 195: Designing for cycle traffic

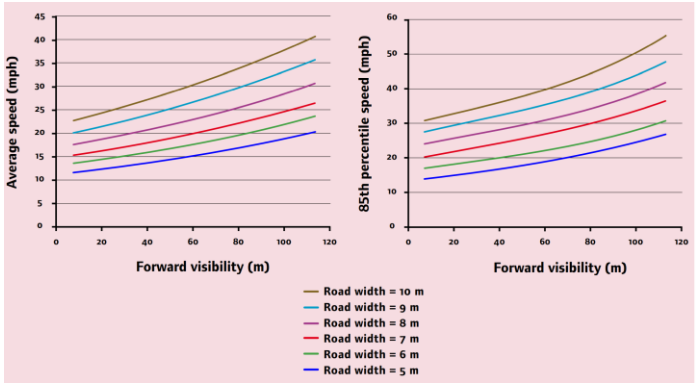
4.4.3 They go on to state that, the desirable minimum stopping distance for a minor road is 70m for 50kph, which aligns with requirements set out within the DMRB for a road designed to accommodate a 30mph speed limit in a rural location. As has been highlighted, the road is to be subject to a 20mph speed and as such should follow the principles set out within MfS.

4.4.4 MfS sets out its own requirements for visibility, suggesting that a stopping sight distance of 25m is appropriate for a speed of 25mph. Contrastingly, the 30mph stretch of the SAR is described as designed to follow MfS standards, including features such as speed plateaus, designed for comfortable bus travel.

4.4.5 Evidence set out within MfS and reproduced in Figure 4-1 below, suggests that as visibility increases, so to do vehicular speeds and was also found to be applicable to junctions. This is particularly important in the context of the design of the Bishop Luffa School roundabout.

4.4.6 Excessive visibility splays have been shown to support higher approach speeds and therefore contribute to increase levels of fail to stop/give way and shunt collisions at or approaching junctions.

Figure 4-1: The Influence of Visibility on Vehicular Speeds (MfS)



4.5 Active Travel Infrastructure Proposals

Flow Volume

4.5.1 Due to the merging of National Cycle Network (NCN) Route 88, the Centurion Way, with NCN Route 2 adjacent to the site, cycle flow volumes have the potential to be high along the SAR, where NCN Route 2 heads east towards Chichester town centre.

4.5.2 The TA refers to the relatively high cycle mode share in the Chichester 011 MSOA from data taken from the 2011 census. These are 9.1% for residential trips and 4.8% for employment trips. These are expected to have risen in the past decade, too, following demand management measures and smarter choices introduced by WSCC. A targeted mode share for cyclists of 10.1% of residential trips and 5.8% of employment trips is sought through the implementation of the site-specific travel plan.

4.5.3 Provision along the SAR is made for segregated cycle and pedestrian flows along the southern side of the road. This provision meets LTN 1/20 requirements, however further consideration is required to confirm that the facilities to the northern side of the road are appropriate. Whilst LTN 1/20 doesn't contain a requirement to provide segregated facilities, it is highly recommended that shared use be used as a last resort. In the context of the northern footway, it is likely that there will be significant peak periods where the footway will be subject to high pedestrian and cycle flows associated with school children. Consideration to segregation may therefore be necessary and could potentially be accommodated through the narrowing of the proposed carriageway.

4.5.4 Section 3 notes efforts to reduce the number and length of single occupancy car trips. A significant part of the success of these efforts will translate into material increases in active travel trips and yet little or no effort has been made in the Transport Assessment to survey baseline pedestrian/cycle movements nor forecast likely changes.

4.5.5 It is accepted that much of the network should not require detailed assessment, however where routes are 3.0m or less and combined pedestrian and/or cycle flows are likely to exceed 300 per hour, these should be examined in more detail.

4.5.6 Should the 85th percentile speed exceed the 20mph speed limit by more than 10%, protected space for cyclists would be required regardless of traffic flow volume.

4.5.7 Beyond the SAR, no plans have been submitted for proposed cycling improvements works along Westgate. The TA suggest that traffic flows of 631 two-way vehicle movements are anticipated in the AM peak hour in the with development scenario. Utilising NTS table NTS0501, it is evident that the AM peak accounts for 12% of daily traffic volumes and therefore it can be estimated that Westgate accommodates in the region 5,259 vehicles per day.

4.5.8 Following LTN 1/20 guidance, a traffic flow in excess of 4,000 vehicles is unlikely to be suitable for mixed traffic flows for most users thus existing and forecast traffic would suggest it is necessary to provide segregated cycle infrastructure.

4.5.9 The proposed development seeks to exploit the potential for active travel trips and highlights the benefit of the existing NCN through Westgate. Whilst it must be acknowledged that traffic flows already compromise the quality of this route, proposals that rely on reductions in traffic by increasing cycle travel necessitate proposals to mitigate conditions for cyclists.

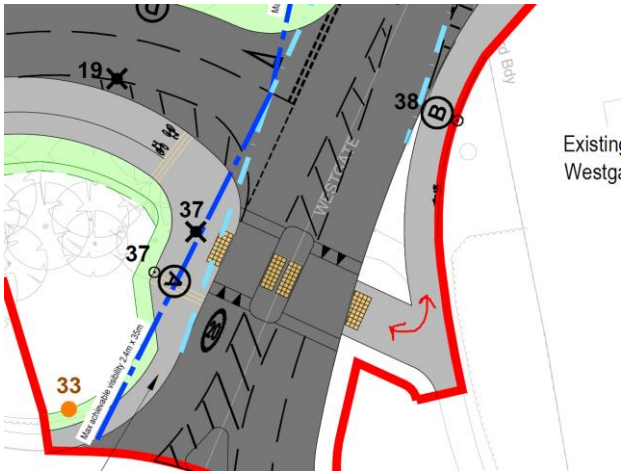
Cycleway Crossings

4.5.10 Following LTN 1/20 guidance, the uncontrolled 'flat-topped road hump' is not advised for traffic flows in excess of 4000 PCUs with two or more lanes of traffic which is the case for Sherborne Road. In this situation a parallel, signal or grade separated crossing is advised.

4.5.11 The current junction arrangement has the segregated cycleway on the southern extent of the SAR. This then directs cyclists to cross using the unsuitable uncontrolled crossing point. An optimised arrangement could see the junction pulled closer to the Cathedral Way roundabout to permit space on the northern extent of the SAR for the segregated cycleway to be accommodated. This arrangement would see cyclists crossing Sherborne Road routed northwards using the superior parallel crossing included in the design. East of the parallel crossing on the SAR, cyclists using the Centurion Way would be guided to cross at the parallel crossing proposed along the SAR.

4.5.12 In addition to providing a safer crossing arrangement, this would avoid cyclists having to negotiate the difficult and tight turn proposed on the eastern side of Sherborne Road (see Figure 4-2) and would avoid cyclists utilising the narrow section of footway.

Figure 4-2: Difficult and Tight Turn for Cyclists Proposed.



4.6 Uncontrolled Crossings

4.6.1 Section 2 of Chapter 6 of the Traffic Signs Manual (Ch6TSM) replaces earlier LTN's associate with the assessment and design of pedestrian/cycle crossings.

4.6.2 Ch6TSM outlines a methodology for assessing the need for a controlled crossing.

4.6.3 Similar to DBRB (LA112) uncontrolled crossings can be considered using a simple assessment of an pedestrians or cyclists' ability to cross can be completed as follows:

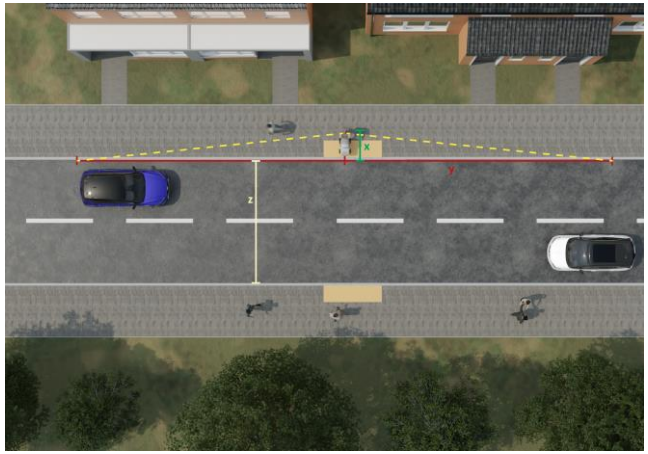
- ✓ Pedestrian crossing speed – 1.0-1.2 metres/second
- ✓ Width of Crossing (e.g. 7.3m / 1.2 = 6 seconds)
- ✓ Gap acceptance (3600 seconds / traffic flow -e.g. 3600/500 = 7.2 seconds (acceptable))

4.6.4 Whilst recommended distances for pedestrian visibility are offered in guidance (Table 15-1, CH6TSM) these are actually based on the time for a pedestrian to cross (e.g. 30mph = 13.4 metres/second; thus 40m recommended visibility, allows 3 seconds to cross).

4.6.5 In practice a pedestrian will need to observe a gap to cross before making the decision to cross, requiring greater visibility from the crossing position – depicted in Figure 4-3. In MfS the driver hazard reaction time is 1.5 seconds.

4.6.6 Where the alignment of proposals considers uncontrolled crossings particularly where these are close to bends or junctions, with/without a refuge, the Transport Assessment should consider flows and approach speeds to inform the need to either reduce traffic flows or propose controlled crossings.

Figure 4-3: Uncontrolled Crossings



4.7 Consultation

LHA Consultation

4.7.1 A scoping note was submitted to the Local Highway Authority (LHA) by Jubb on 17th June 2021 which set out the scope of assessment relating to the proposals.

4.7.2 It is noted that whilst the D&P approach was the approach agreed with the LHA, the required methodology has not been followed to fulfil this commitment. An MEP is necessary for appropriate implementation.

4.7.3 It has also been argued that whilst it was agreed with the HA that 2014 data could be used, insufficient assumptions and adjustments have been applied to this data to produce reliable results for 2021 baseline use.

Public Consultation

4.7.4 An Infrastructure Steering Group (ISG) was set up, which included community representation, to help inform off-site highways proposals related to phase 1.

4.7.5 A Statement of Community Involvement was produced by Tetra Tech Planning Ltd. in May 2022 for the Land West of Chichester Phase 2. This addressed the outcome of a virtual public exhibition meeting which was held with members of the Community Liaison Group (CLG) to discuss the southern access road on the 8th July 2021.

4.7.6 Overall, 46% of respondents were not supportive of the SAR and only 24% were supportive. There were a high number of comments that expressed concern but did not categorically object.

4.7.7 Only 7% indicated that they thought the SAR struck the appropriate balance between pedestrians, cyclists and car users and those accessing Bishop Luffa School.

4.7.8 Several comments concerned the safety of school children and elderly residents crossing the road that would potentially be impaired due to an increase of traffic movement.

4.7.9 It must be noted that resident concerns of 'rat running' along Westgate and Sherborne Road are not addressed in the TA for the site where traffic turning east on Westgate are not modelled due to the traffic calming measures on this route.

4.7.10 Concerns were raised around the fact that Sherborne and Westgate Road are 20mph residential roads intended for low traffic flows. If indeed traffic volumes do increase on these roads, they would likely require redesign or other interventions to prevent rat running. A suggestion was put forward for a 'no right turn' off Sherborne Road into Westgate. However, these are not included in the submitted proposals.

4.7.11 Concern regarding whether the data relied upon by the project team was relevant and in date in respect of relying on 2014 data for modelling and traffic flow

4.7.12 In the 'Public Consultation' section of the TA all responses to the comments received relate to the Centurion Way and no consideration has been given to addressing comments relating to the Westgate/Sherborne Road junction and related concerns.

4.7.13 "There was a recurring comment that the other options presented on the boards were more favourable and that the proposed chosen option raised safety concerns". This suggests that the chosen design is not popular with existing residents but that residents could well be supportive of an alternative design for the SAR.

4.7.14 Many of the concerns regarded safety and it is noted that "Overall, respondents stated that the proposed SAR connection with Sherborne Road was previously rejected by CDC and WSCC on safety grounds".

4.7.15 Some respondents wanted to see a zebra crossing for school children and a subway for pedestrians and cyclists. Residents were concerned with the staggered junction and the uncontrolled pedestrian crossing to the north of the Cathedral Way Roundabout and having to cross two lanes of traffic. Residents were not supportive of the locations of the crossings from a safety perspective and the residents of 78 Westgate did not support the proposed parallel crossing location.

4.8 Summary

4.8.1 The highway design does not sufficiently adhere to the vision set out in the West Sussex County Council Cycle Design Guide and misses opportunities to adhere with national guidance to support the levels of mode shift and traffic reduction that are claimed elsewhere.

4.8.2 The Applicants might be forgiven for misunderstanding the objectives for the SAR and connections at Westgate as these were not detailed in the Local Plan, Development Brief, or a Supplementary Planning Document. If the planning/highway authority expected the developers to determine the SAR objectives through public consultation, it therefore places an increased onus to respond positively to community feedback.

4.8.3 Whilst the Statement of Community Involvement captures responses, it is not clear to what extent changes address these concerns. It might be easy for the applicants to disregard these responses as an effort to frustrate development, but most responses express concerns rather than objections, as they reflect an acceptance development will proceed (as allocated) but concerns remain as to the residual cumulative effect as defined in the National Planning Policy Framework.

4.8.4 There are numerous short-coming in the design evolution, many of which have attracted concerns, representations and now more frequent objections. If the development is to achieve forecast reductions in traffic the quality of the (existing and proposed) infrastructure must be assessed and a proportionate package of mitigation measures developed to deliver the cumulative residual effects forecast.

4.8.5 To reduce traffic flows on Westgate it would be possible to introduce a modal filter so that traffic flows remain <4,000vpd and therefore preserve the quality of the NCN.

Figure 4-4: Example Modal Filter

5 Alternative Options

5.1 Overview

5.1.1 This report has provided a review of the proposed design and assessment work undertaken in support of the Phase 2 West Chichester application along with the remaining section of the SAR. It concludes that various assumptions made within the assessment have potentially resulted in an underestimation of potential traffic flows on the highway network and has resulted in a design that is unlikely to achieve the design expectations of the SAR.

5.1.2 Considering the concerns raised, this section of the report sets out some of the alternative approaches that could be considered to address concerns raised by local residents and interest groups, including CCC.

5.1.3 As has been highlighted throughout the report, a key capacity constraint exists at the Fishbourne Roundabout and as has been highlighted within documents supporting the Local Plan and Local Plan Review, delivery of these improvements will be required to support the full delivery of the scheme.

5.1.4 This section therefore also considers the options for Fishbourne Roundabout and a suitable delivery mechanism for the development that takes this into account.

5.2 Alternative Options for the Southern Access Road

5.2.1 The requirement for the Southern Access Road was set out within the Local Plan, however the road has had a very limited planning brief and is not supported by a supplementary planning document or design code. This has led to the design of a road that supports the ambitions of the development but delivers little to preserve use by existing highway users nor support sustainable potential of future occupiers.

5.2.2 Of particular concern is the provision for pedestrians and cyclists and the conflict that they are required to negotiate through the currently proposed staggered crossroads on Sherborne Road. The design of this junction is particularly key given that it accommodates the Centurion Way cycle route as well as school children arriving and departing from the Bishop Luffa School.

5.2.3 Whilst the current scheme does provide infrastructure to accommodate pedestrian and cyclists, it is felt that the

current arrangement fails to strike the right balance between promoting sustainable travel options and accommodating the necessary highway infrastructure.

5.2.4 Following a workshop with CCC, this review considers other options raised by community and specific interest groups. PJA have considered potential alternative options, which include:

- **Option 1**: West-facing slip roads from the A27 to Clay Lane, located to the west of Fishbourne Roundabout. This could provide an alternative access direct from the A27 and would remove traffic from the Fishbourne Roundabout.
- **Option 2**: Reconfiguration and extension of the A259/Sherbourne Road roundabout to incorporate the SAR/Westgate. This would require signalisation of the roundabout.
- **Option 3**: Introduction of modal filter at the junction between the SAR/Westgate/Sherbourne Road or alternatively on Westgate, to prevent traffic using Westagate as a through route.

5.2.5 Further details of each of the options is provided in Table 5-1, including the key advantages and disadvantages of each option.

Table 5-1: Alternative SAR Design Options

Option	Description	Advantages	Disadvantages	Conclusion
1. West Facing Off-Slip from the A27 to Clay Lane	Addition of slip roads leading from the A27 to Clay Lane. Traffic would route via Clay Lane and on to an alternative SAR that would avoid the need for any connection to Westgate, effectively offering an alternative for local traffic to avoid Fishbourne Roundabout.	• Minimal impact to existing environment around the SAR and existing residents • Potentially reduces traffic on the Fishbourne Roundabout. • Would remove a significant amount of traffic from outside the Bishop Luffa School if no connection to Sherborne Road provided. This would reduce traffic flows alongside the Centurion Way cycle route, benefiting cyclists.	• Clay Lane inadequate width to support heavier traffic flows. • Requires land acquisition to deliver slips • Requires improvements to Fishbourne Road (east) to preserve the NCN corridor • Would significantly increase traffic through Fishbourne which may necessitate other improvements • Additional capacity could lead to induced demand • Some of loss vegetation	Likely to be difficult to deliver due to land ownership constraints and may not deliver benefits to Westgate and the SAR.

Option	Description	Advantages	Disadvantages	Conclusion
			• If a connection to Sherbourne Road is maintained, the proposals could encourage more traffic to route along Westgate.	
2. Reconfiguration and extension of the A259/Sherborne Road roundabout	Alter design of existing Cathedral Way roundabout to extend northwards and include SAR as an arm on the roundabout. This is likely to require signalisation of the roundabout and could include the provision of a hamburger style through route for the A259. This would require the parcel of land between the SAR and A259 roundabout to deliver.	• Reduced level of land acquisition compared with slip roads • Signalisation of the A259 Cathedral Way Roundabout has the potential to improve capacity on the A259 arms • Provides a direct route using existing highway network • Permits all traffic movements and therefore does not negatively impact accessibility for existing residents. • Signalised crossings could be incorporated into the arrangement to provide safer crossing facilities for pedestrians and cyclists.	• Higher costs • Most disruption during construction • Additional capacity could lead to induced demand • Loss of trees within and around existing roundabout • Does not discourage traffic from routing along Westgate. The addition of traffic light control for traffic approaching from Sherborne Road and the development has the potential to encourage more traffic to use Westgate.	Has the potential to address capacity issues at the roundabout but is contingent on third party land
3. Introduction of modal filter at the junction between the SAR and Westgate/Sherborne Road	Introduce a modal filter either at the junction between Westgate and Sherborne Road or at a point along Westgate.	• Low cost • Minimal infrastructure required and no acquisition of new land • Improved pedestrian and cycle route between site and Chichester that could lead to a reduction in car trips from the site. • Reduces rat-running by forcing traffic to use more appropriate routes • Would not result in any additional capacity which could induce additional demand. • Redistribution of traffic from Sherbourne/ Parklands Road to the SAR.	• Redistribution of traffic which may affect congestion elsewhere resulting in the need for additional mitigation • Modal filters can be unpopular in some areas. • Will result in longer-journeys for existing residents	Simple and easy implementation but could be contentious

5.2.6 As has been highlighted throughout this report, whilst the arrangements of the SAR have been shown to accommodate the current traffic flows, the Fishbourne Roundabout remains a capacity constraint on the local highway network. As has been demonstrated within the studies supporting the Local Plan and Local Plan Review, the congestion at the Fishbourne Roundabout causing significant queuing not only in the traditional AM and PM peak hours, but also either side of the peaks. This suggests that the level of congestion at the Fishbourne Roundabout is holding traffic back from reaching the A259 Cathedral Way Roundabout during the traditional peak periods.

5.2.7 Due to this capacity constraint, the modelling provided within this report, is likely to underestimate the total peak hour flows that may be required to be accommodated at the A259 Cathedral Way Roundabout once improvements have been delivered at the Fishbourne Roundabout. Furthermore, the profile of traffic flows used within the modelling have the potential to have eliminated options for the SAR junction by overestimating the full peak flow, although this may change should congestion at the Fishbourne Roundabout be addressed.

5.2.8 Consequently, as A27 improvements are a critical part of the forecast certainty, it is concluded that further understanding of National Highways intentions for a scheme at Fishbourne Roundabout is required before any appropriate scheme for the SAR and the A259 Cathedral Way Roundabout can be concluded.

5.3 Options for Fishbourne Roundabout

5.3.1 Within the Chichester LP, it is a stated element of the vision to:

"Support and promote initiatives to mitigate the impacts of congestion and manage traffic flows on the road network, especially the A27"

5.3.2 As is stated in Section 2.3, the upgrade of the A27 Chichester bypass is a potential National Highway's RIS3 scheme which has been contested for several years.

5.3.3 The modelling work conducted by Jacobs in 2014 identified significant traffic flows along the A27 and recommended modifications to the Fishbourne Roundabout. This has been echoed in subsequent reports.

5.3.4 Modelling presented within the Jacobs and PBA reports demonstrates that the Fishbourne roundabout is already operating above capacity. For this reason, upgrades to the Fishbourne roundabout and the A27 would be needed to

support the Chichester District Council Local Plan, including the Land West of Chichester development.

5.3.5 It is therefore evident that the development proposals will need to contribute proportionally to improvements at the Fishbourne Roundabout, although it is acknowledged that any impact at the Fishbourne Roundabout would form a cumulative impact and any scheme would be the responsibility of National Highways to deliver.

5.3.6 Whilst any scheme at the Fishbourne Roundabout is outside of the control of the applicant, the wider mitigation scheme will need to take account of the changes to traffic flows and consequently mitigation measures that may be influenced by changes in traffic flows that may be delivered by any improvement scheme. It is reasonable for this to be done, given that the Local Plan requires contribution from the site towards such a scheme.

5.3.7 Whilst it is acknowledged that until National Highways bring forward a scheme the development proposals cannot fully assess the impact, it is considered reasonable that the mitigation package does adequately consider the potential impacts.

5.3.8 Given the need to consider the impacts that changes to the Fishbourne Roundabout may have, PJA have provided some consideration to the options that National Highways may consider. Three options are presented overleaf for the Fishbourne Roundabout:

- 'Hamburger' Style Roundabout Configuration
- Partial Grade Separation
- Full Grade Separation.

Table 5-2: Alternative Options for Fishbourne Roundabout

Option	Description	Advantages	Disadvantages	Conclusion
'Hamburger' Style Roundabout Configuration	Originally proposed within the Jacobs 2014 Link Road Modelling for the Chichester LP for the Cathedral Way roundabout, Utilising the existing roundabout as a signalised gyratory for turning traffic and giving priority to A27 traffic	• Enhanced 'Buildability' and delivery timescales • Balanced cost benefit compared to the deliverability of other A27 junctions • Minimal land take • Reduced delay to through-traffic • Better management of queuing • Fewer adverse environmental effects	• Unlikely to accommodate corridor traffic demands • Greater collision risk due to potential conflicts in traffic movements • Does not allow for the free flow of traffic on the A27 • Would not resolve issues on the A259	• proposals should improve A27 (east/west) journey times but will create delays influencing local route choice • Likely to offer A27 capacity for around 4-4,500vph and therefore comparable to other junction options.
Partial Grade Separation	Creation of a fly-over for a single lane of traffic in both directions along the A27. This would effectively create a by-pass of the A27.	• Enhanced 'Buildability' • Reduced delay to traffic on the A27. • Would require less land take than the full grade separation. • Reduced delay to through-traffic • Enhanced management of queuing at Roundabout • Lower cost than the full grade separation	• More expensive than 'Hamburger' option. • Will result in lane weaving on the approach as vehicles try to enter the fly-over, affecting direct access and need for accommodation lanes • Similar arrangements have been removed as proven unsuccessful in the long-term.	• May be more beneficial for traffic flows along the A27. However, has associated disadvantages.
Full Grade Separation	Creation of a grade-separated roundabout with associated slip roads from the A27. This would allow A27 traffic to avoid the junction entirely.	• No delay for A27 traffic. Traffic can flow freely. • Less weaving required compared with the partial grade separation option	• Cost • Will require substantially more land take • Delivering excessive capacity risks inducing demand. • Effect on the wider network (A259/A286) may require mitigation also.	• Likely to create the most capacity but has significant costs associated.

5.4 Delivery Strategy

5.4.1 The Chichester LP asserts that public funds cannot be relied upon for road network improvements. As such, Section 7.19 states:

"To address this position, development contributions will be used to help fund a package of proposed improvements to the six junctions on the A27 Chichester Bypass, linked to further measures to reduce congestion and promote sustainable modes of travel in and around Chichester city. Phasing of development in and around Chichester city will need to be coordinated in conjunction with delivery of these proposed transport improvements"

5.4.2 As A27 corridor appears to have created a network constraint for around twenty years the scale of improvements at A27/Fishbourne Roundabout creates significant uncertainty over plans to deliver mitigation for development but crucially for the SAR and its connection to the existing highway network, including the A259 College Roundabout and Westgate (due to its function as an NCN).

5.4.3 Having greater certainty over the Fishbourne Roundabout would ensure that the mitigation package can be designed to accommodate the changes caused, ensuring that the impacts of the development proposals are suitably accommodated.

5.4.4 With this in mind and understanding the obligations on the highway and planning authorities, to support housing delivery and economic growth, without compromising National Highways obligation to respond constructively to their duties to the Secretary of State, it seems reasonable that National Highways could direct a planning condition to limit development to no more than 150 dwellings (being the EIA Regulation threshold).

5.4.5 Such a proposition might necessitate the withdrawal of the current application. It might be possible however to hold the current application in abeyance and submit a duplicate application for development of less than 150 dwellings (below the EIA Regulations) so that the lesser application can be scrutinised through the planning process and determined positively whilst additional information is prepared to support the (current) larger application.

5.4.6 At this juncture it seems unlikely that all of Phase 2 of the West Chichester development could be delivered and/or the SAR completed before the A27/Fishbourne Roundabout improvement is delivered. It might be possible however to

support a significant proportion of the planned development if some certainty can be achieved, as to the nature of the A27 Fishbourne Roundabout, such that complimentary improvements might be developed to mitigate the effects of development.

5.4.7 To constructively advance proposals to enable the positive determination of a planning application it seems the following evidence would be necessary:

- ✓ Conduct extensive surveys to establish baseline demands
- ✓ Develop a Decide & Approach to travel forecasts (correctly farmed within an MEP)
- ✓ Explore Transport Interventions for existing trips and explore their forecast effect, so supplementary measures can be implemented if unsuccessful
- ✓ Develop a micro-simulation model of the local area so that various scenarios can be tested, with/without:
  - Development(s) – ideally based on travel demands established from the Phase 1 development, Travel Plan monitoring report
  - SAR (complete)
  - Westgate Modal filter

5.4.8 Once complete it should be possible to revisit the assessment, including Environmental effects, and weigh uncertainties and likely outcomes to refine SAR proposals and the balance of residual cumulative effects.

6 Summary

6.1.1 PJA has been commissioned by Chichester City Council to evaluate the design of the proposed Southern Access Road intended to support the development of Land West of Chichester.

6.1.2 This report has identified several issues with the data used in analysis which informed the design of the SAR and its junction with Sherborne Road. In general, analysis would benefit from being drawn from a more robust, evidentiary base and applying the Decide and Provide methodology appropriately.

6.1.3 It appears that the Local Plan did not provide a development brief as to the purpose/function of the SAR. It seems the Planning Inspector anticipated a Supplementary Planning Document/Design Code would follow but it is unclear if it was anticipated that the Councils or the developers would initiate work on these. What is abundantly clear is that material changes, both in terms of the A27 improvements and design guidance, have affected proposals in West Chichester and risk compromising the delivery of this site.

6.1.4 It seems possible, indeed likely, that the Pandemic compromised the applicant's ability to undertake additional traffic surveys, such that proposals have advanced based on a combination of available data to support the application.

6.1.5 PJA consider the use of 2014 data as a basis for the assessment unreasonable to form the basis of the assessment, without further validation against current traffic flows to demonstrate their suitability.

6.1.6 There has been a material change in standards/guidance (LTN1/20 et al) highlighting other constraints in the National Cycle Network. This show that the existing 'mixed traffic' (Westgate) will become less attractive to cyclists and undermine the potential for the development to achieve mode shifts in the longer-term. The prospect of model filter could therefore support Local Cycle Walking Infrastructure Plans with only modest levels of traffic redistribution.

6.1.7 The Transport Assessment is littered with assumptions that traffic flows/growth will fall and that behavioural changes will support reductions, however little or no evidence is provided to justify these assumptions or the prospect that residual travel demands could be materially higher.

6.1.8 The proposals for access onto Westgate appear to adopt greater weight for highway design standards and ignore a range of guidance documents intended to support existing and future

non-car movements. As little or no assessment has been undertaken to assess active travel it can be concluded that the traffic forecasts are woefully inadequate as they rely on mode shifts that would not be achieved due to the inadequacy of active travel infrastructure.

6.1.9 Clearly the interested parties have a vested interest in supporting housing and economic growth thus it is necessary to find a way forward to address these issues to enable the authorities to positively determine the application.

6.1.10 As the application has not completed an appropriate assessment in accordance with the EIA Regulations, any consent would risk judicial review/legal challenge. Given the willingness to support housing delivery and economic growth in the area it seems reasonable for the applicants and planning authority to find mutual compromises so that appropriate solutions can be found. We have therefore outlined initial thoughts in Section 5.4 of this report to enable the delivery of development and appropriate infrastructure.

Appendix A Appendix Title

Appendix B Another Appendix Title