Appendix 5

WBC Consultation Response and HTp Response

WARRINGTON
Borough Council

Economic Regeneration, Growth & Environment Internal Memorandum

To: Mike Davies **From:** Andy Oates

Date: 05/12/2016 **Ref:** 2016/28492

Land at Peel Hall; Land South of M62 bounded by, Elm Road: Birch Avenue; Poplars Avenue; Newhaven Road; Windermere Avenue, Grasmere Avenue; Merewood Close, Osprey Close Lockerbie Close, Ballater Drive and Mill Lane, Poplars & Hulme, Warrington

Highways Response: Objection Raised (Insufficient Information)

We understand the application is an outline planning application for a new mixed use neighbourhood comprising residential institution (residential care home - Use Class C2); up to 1200 dwelling houses and apartments (Use Class C3); local centre including food store up to 2000 square metres (Use Class A1); financial & professional services; restaurants and cafes; drinking establishments; hot food takeaways (Use Classes A2-A5 inclusive); units within Use Class D1 (non-residential institution) of up to 600 sq m total with no single unit of more than 200 sq m; and family restaurant/ pub of up to 800 sq m (Use Classes A3/A4); employment uses (research; assembly and light manufacturing - Use Class B1); primary school; open space including sports pitches with ancillary facilities; means of access and supporting infrastructure. (All detailed matters other than access reserved for subsequent approval.) (Application is accompanied by an Environmental Impact Assessment).

The following response from the Highways Development Control team addresses the Transport Assessment (TA) submitted as part of the application, and the details of the site layout and supporting infrastructure.

General
The submitted TA was part 1 of the overall assessment that was to eventually include network modelling information on which the final assessment was to be undertaken. As the inclusion of the network model traffic data is critical to allowing a full and comprehensive assessment to be undertaken, the Highways comments herein should be seen as a review of part 1 of the TA alone.

In early August 2016, the applicant agreed to submit, by 14th October, an Addendum TA which would detail, amongst other things, the impact of the development traffic and the full extent of proposed mitigation. The Planning Authority agreed to extend this deadline until 18th November and again, finally, until 2nd December.

The current position is that there is no agreed base year model, forecast year models, Local Model Validation Report or mitigation measures and this falls very short of what is required for Highways to make informed transport comments

1 - Comments on Transport Assessment:

The TA states the assessment is presented for the agreed assessment year of 2019, assuming the full build-out of the site. However, in Section 5.2 (Development Phasing & Construction Traffic) the TA states "*It is anticipated at this stage that the development will come forward in 12 phases over a 12 year period with typically around 100 residential units being constructed each year, with the relocated sports pitches in year 1, the local centre and care home opening at the end of year 2, the primary school by the end of year 10 and the distributor road being completed by the end of year 9.*"

Highways would raise two concerns relating to this. Firstly; if the assessment assumes the full build out, the assessment year should be 2028, rather than 2019. Using a 2019 assessment year would exclude a significant amount of background traffic growth and would possibly under report operational levels. Secondly, it is noted that there is no reference in the TA to the assessment of any other years, or indeed of any other scenarios. Typically, an assessment of a +5 or +10 year after opening is required, but no information appears to have (yet) been included.

Furthermore, as the build period is so elongated, with several elements of the overall scheme programmed to be completed at the latter stages of the build, there is a clear impact on other key assumptions made in the TA and a clear need for intermediate assessments.

Highways will therefore require additional assessments to be undertaken on the most likely scenario(s). Highways will confirm these scenarios following submission of the second TA.

Highways note that the scheme proposes no internal area to internal area movements as there will be no physical means of doing so. In latter sections of the TA the concept of internal trips is discussed and the resultant discounting of trip rates to reflect the likely internal trips (i.e. home to school or home to local centre). The lack of internal linkages means that any trip starting in one area and travelling to another area must therefore utilise the external highway network. This undermines the principle of the discounting assumptions and means these trips must therefore be included in the assessment as they will impact on the highway.

Proposed Bus Access
The TA presents proposals for the internal bus routes which will link the various areas of the site, but will introduce a bus gate to control this interlinkage. Highways note that as the application is outline, the detail of the internal area is indicative at this time and is likely to change as the scheme develops.

Trip Generation & Trip Rates
Technical Note 02 presents the assumptions used to derive the trip rates for the different elements of the scheme.

The residential trip rates used have been derived based on 85th percentile rates from the TRICs database. However, the remaining trip rates appear to be average trip rates. Justification of this trip rates particularly in relation to other similar developments will be required to be provided to support the use of non-85th percentile rates.

Whilst the TA states a robust set of assumptions have been adopted, the following stages of the assessment appear to downscale any robustness. Hence, starting with 85th percentile ensures at least a robust starting point.

Trip Discounting
TN06 details the assumptions made on trip discounting. Firstly on this aspect, we would comment that no evidence has been provided to support these key assumptions. Secondly, we would also note that without any certainty of where the key internal facilities will be located within the scheme (given this is an outline application), we would question whether these assumptions can be made without further information (e.g. the 10% external pass-by trips for the food-store may not be realistic if it is inconveniently located or of more concern, if it were located on the periphery of the development, it may attract trips from the external area).

We note that the discounting of trip rates has been done for both the residential trip *AND* the attractors, and would question whether this is correct. We would expect the residential trip rates to remain at 100% and the other elements that might be associated with a trip to / from the residential origin / destination to be discounted.

The TA states that the full-build out of the site may extend to a 10-year period. Given this length of construction period, Highways would require a phased based assessment to determine the intermediate impacts on the local network and sensitivity tests on the trip generation and discounting. This is important because of the length of build and the risk that full-build out will not be achieved. The operation of the network must be safeguarded therefore against any mid-build out changes.

Related to this, we also note that the school is not proposed to be developed until Year-10 and the internal estate road not completed until Year 9. Highways would also require some form of sensitivity assessment to identify what the short / medium term impact of the scheme would be without these two elements. As the school will not be operational until year 10, the sensitivity test must address how the network would operate without the school and with residents travelling to / from other schools in the area.

Similarly, the lack of internal connectivity will significantly affect the assumptions on discounting as there will be a need for development traffic to utilise the external network. These trips must therefore be included as new trips and not unilaterally removed from the network.

Trip Distribution
Highways understand the trip distribution component of the TA has been updated and the submitted information has now been superseded. However, notwithstanding this, Highways would request clarification of what the A49 zone that has been referred to represents. It is unclear whether this refers to the north / south / central as other zones exist in the model that could duplicate this.

It is noted that a number of the destination zones would share similar routes. Highways request clarification on how has this been allowed for?

Section 7.6 states this is the manual interpretation of the gravity model results. It would be helpful to see the model results to allow Highways to review this interpretation.

It would be beneficial if a drawing / figure could be provided that illustrates the routes that have been assumed to be taken between the zones and the development.

Traffic Flows
Traffic flows are only provided for the immediate site access junctions. No information is provided to identify how the development traffic travels onwards from the site to the wider area (and vice-versa). This is a fundamental omission as there is no way for the LHA to understand the routing of traffic to / from the site access points. For instance in Figure 8.7, the majority of the traffic movements are to / from the east. There is no way

of identifying where the traffic that turns left out of the site then goes to or indeed whether this is reasonable.

Highways will therefore require an overall flow diagram to be provided, showing the forecast traffic flows for the full area, rather than junction specific diagrams, which are of limited value without the wider context.

Assessment Periods
Given the extensive and significant retail activity on the A49 corridor, the TA should include consideration of the Saturday peak period.

Further to comments made on the assessment year that has been presented in the TA, Highways will require the following scenarios to be assessed, either by use of sensitivity tests, or by revising the main case:

- AM, PM and Saturday* Peak periods
- Do-Minimum (background traffic + growth + committed developments)
- Do-Something (Do-minimum + development trips)
- DM and DS Year of Opening
- DM and DS year of Opening +5yrs

**Unless it can be demonstrated the Saturday impact would be no worse than the weekday day peak period.*

Highways note there may be technical reasons that prevent or limit the modelling of the future year scenario (+5 years). Whilst the reasons for this are understood, Highways will still require the assessment of a future year (possibly by applying additional background growth to the 2028 assessment) to have surety of the future operation of the network with the scheme in place.

Capacity Assessments
The TA presents the results of capacity based assessments for the site access junctions. These assessments are based on existing traffic flows growthed to 2019 and with development traffic added based on manual assumptions. Whilst these results provide an indication of how the site access junctions may operate, there is no certainty that the final model flows will generate similar traffic flows. The value of these assessments is therefore limited.

As stated earlier, Highways will / may require assessments to be undertaken and provided for further, additional locations, where traffic flows are predicted to increase in excess of an agreed threshold. As with many other aspects, the full range of required junction capacity assessments will not be known until the network model data is available. Highways will therefore require 'difference plots' (or similar) to be provided when the modelled data is available to allow this review to take place.

As stated elsewhere in this note, the assessment of a 2019 scenario is at odds with the statements elsewhere that the scheme is unlikely to be fully complete for 12-years. Any assessments should therefore in theory take account of the equivalent period of background traffic growth.

2 - Comments on Proposed Access Junction Arrangements

Junction Proposals - General
Splays demonstrating satisfactory visibility will be required for each new junction / access.

All new junctions / accesses should be provided with dropped kerbs and tactile paving.

Across the scheme there are numerous locations where existing street furniture and / or service or telecoms apparatus will need to be relocated to facilitate the proposals. Any relocation of such equipment must be undertaken at the applicant's expense at nil cost to the Council.

Poplars Avenue (Western Access)
Highways are concerned with the proposal to modify the Cotswold Road / Poplar Avenue bend. This modification is a relaxation of the curve rather than widening and may encourage greater speeds around this corner where forward visibility is already constrained by parked vehicles – a situation that appears likely to be exacerbated by the proposal to introduce a parking bay. Highways also note that the footway in the location of the proposed changes to the kerb appears to contain utilities and / or telecoms apparatus and that this may therefore need to be diverted (at the applicant's expense at nil cost to the Council).

The area around the Cotswold Road / Poplars Avenue bend is extremely heavily parked, with significant on-street and on-verge parking. The introduction of a new junction in this location will have a significant impact by removing a large amount of space currently used for parking. To compensate for this the proposals include the provision of new parking areas. However, the number of re-provided spaces would not appear to off-set the lost parking area. A row of parking bays are shown in the stub-end on the western side of the bend. The ability of vehicles to safely enter and exit these bays and re-join the carriageway in a forward gear will need to be demonstrated as the layout of this parking area in relation to the carriageway appears onerous.

A parking layby is proposed on the southern kerb of Poplars Avenue. Highways are concerned that vehicles parked in this layby would affect the forward visibility around the bend and would also affect visibility from the proposed access arm. Highways will therefore require satisfactory forward visibility to be demonstrated.

It should be noted that parking spaces must be designed to the minimum dimensions of 2.5m x 5m with a minimum aisle width of 6m.

Parking prohibition Traffic Regulation Orders (TROs) are proposed around the new access junction. Whilst the reason for these TROs is understood, Highways are concerned about the impact these restrictions will have on parking and that this may force parking to occur in more unsuitable locations. Furthermore, the introduction of such TROs would be subject to public consultation and given the significant impact these restrictions would have on parking, public objection is likely to be high.

It is also noted that the TROs are shown along the front edge of the proposed parking bays. This would mean vehicles could not legally park in the bays as the TRO is effective to the back of the footway.

Poplar Avenue Central (Residential, Care Home and Local Centre Junction)
Poplar Avenue in the vicinity of Brathay Close and the proposed new access junction (residential, care home and local centre junction) is heavily parked on the northern kerb as a result of the adjacent apartment blocks having no off-street parking. The junction proposals will impact on existing parking and the relocated bus stop and may impact of the operation of both.

Highways are concerned the proposals may lead to an increase in parking on the verge / grassed area. It is noted that a new parking bay is proposed on the southern side of the carriageway, but we are concerned this is unlikely to be used given the location in relation to the apartments.

The right turn movement into the new access road will be provided with a ghost island right turn bay. Highways would require the right turn lane to be of sufficient width such that a large vehicle could wait in the right turn bay and a large vehicle could safely pass either side of the waiting vehicle. The plans of this location do not show the resultant lane widths and we would request the plan be annotated to show this information.

We also note that the hatching for the ghost island on the western side of the junction overlaps with the junction of Brathay Close. Whilst such carriageway marking can be crossed (where necessary) this overlap is not ideal as it could result in driver confusion and will result in accelerated wear of the markings and increased maintenance costs.

The proposals involve the widening of Poplars Avenue to incorporate the ghost island right turn. This widening and the introduction of the parking layby appear to impact on existing services / telecoms apparatus in the southern verge.

The proposed relocated signal controlled (Pelican) crossing appears to be incorrectly shown, with the traffic stop-lines too close to the crossing studs. This should be revised accordingly.

Mill Lane Access (150 residential dwellings)
The scheme plans indicate that the existing alignment of Mill Lane is to be stopped up. A Section 278 agreement will therefore need to be entered into to stop-up the existing highway and a Section 38 agreement entered into to adopt the realigned highway. The highway must therefore be designed to adoptable standards.

It is not clear what the shared surface concept as referred to on the scheme plans is. Highways preference would be for a conventional junction, with a raised table (as shown), with defined priority to one of the arms - preferably the new access having priority over the northern section of Mill Lane.

The northern realigned section appears very narrow considering it *may* need to accommodate 2-way traffic movements, particularly turning through the bend. Highways would require this section to be provided to meet adoptable standards and to accommodate all potential vehicles that may use it up to and including refuse vehicles and articulated HGVs.

Mill Lane New Roundabout
The layout of the proposed roundabout may be subject to change pending the results of the capacity assessments in the second TA, however Highways have the following comments on the proposed layout:

The deflection through the roundabout from the northern arm (in a southbound direction) should be increased. The single lane approach southbound and the angle of approach mean drivers may be tempted to ‘straight-line’ the junction.

The alignment and positioning of the new development (northwestern) arm means that the northwest to north movement may be onerous given the radius of the turn, particularly for large vehicles. Swept path assessment will be required to demonstrate that all vehicles can negotiate the roundabout in a safe manner.

The new roundabout would also significantly affect the visibility of northbound vehicles for drivers waiting to turn out of the Mill Lane junction, given the acute angle exiting the roundabout.

The capacity modelling of the junction does not appear to have taken account of the unequal lane usage that is likely to occur on each arm. On each arm there is a strong bias in traffic movements which if not modelled correctly can lead to the model

overestimating available capacity. This aspect should be addressed when the junction model is re-run with the final model flows.

Birch Avenue Access
The proposals for this access involve the provision of two replacement parking bays. The access road is shown as 4.8m width. This will need to be a 6m minimum width as the access road will need to act as the aisle to accommodate manoeuvers from the parking bays.

Satisfactory visibility splays will need to be demonstrated for this junction. Highways are concerned that the proposed parking area on Birch Avenue will significantly restrict the visibility from the new access arm.

Confirmation should also be provided of what purpose the "proposed shared surface access" to the east will provide.

Proposed Access Junctions – Road Safety Audit (Stage 1)
It is noted that the safety issues identified in the Stage 1 Road Safety Audit appear not to have been incorporated in the scheme proposals. It is also noted that at the time of writing no Designers Response reports have been prepared by the applicant's consultants.

Until the matters raised within the audit have been addressed to the satisfaction of the audit team (separate to the Highways Development Control team), the scheme proposals cannot be accepted.

Summary:

This Highways response presents the review of the submitted Transport Assessment (TA), which was part 1 of the overall assessment that was to eventually include network modelling information on which the final assessment was to be undertaken. As the inclusion of the network model traffic data is critical to allowing a full and comprehensive assessment to be undertaken, the Highways comments herein should be seen as a review of part 1 of the TA alone.

The review of this initial TA has identified a number of matters that require clarification or amendment. To date no formal response has been received on these points.

In early August 2016, the applicant agreed to submit, by 14th October 2016, an Addendum TA which would detail, amongst other things, the impact of the development traffic and the full extent of proposed mitigation. The Planning Authority agreed to extend this deadline until 18th November and again, finally, until 2nd December.

The current position is that there is no agreed base year model, forecast year models, Local Model Validation Report or mitigation measures and this falls very short of what is required for Highways to make informed transport comments. Highways have no alternative therefore, but to formally object to the scheme proposals due to insufficient information.

Andy Oates
Team Leader - Transport Development Control

HTp RESPONSE TO WBC HIGHWAYS CONSULTATION DATED 05/12/16 AND BASED ON WBC COMMENTS DATED 21/09/16

PROJECT: Peel Hall, Warrington

REF.: 2016/28492

Land at Peel Hall; Land South of M62 bounded by, Elm Road: Birch Avenue; Poplars Avenue; Newhaven Road; Windermere Avenue, Grasmere Avenue; Merewood Close, Osprey Close Lockerbie Close, Ballater Drive and Mill Lane, Poplars & Hulme, Warrington

Highgate Tp response appears as italics

General

The submitted TA was part 1 of the overall assessment that was to eventually include network modelling information on which the final assessment was to be undertaken. As the inclusion of the network model traffic data is critical to allowing a full and comprehensive assessment to be undertaken, the Highways comments herein should be seen as a review of part 1 of the TA alone.

In early August 2016, the applicant agreed to submit, by 14th October, an Addendum TA which would detail, amongst other things, the impact of the development traffic and the full extent of proposed mitigation. The Planning Authority agreed to extend this deadline until 18th November and again, finally, until 2nd December.

The current position is that there is no agreed base year model, forecast year models, Local Model Validation Report or mitigation measures and this falls very short of what is required for Highways to make informed transport comments.

We were surprised that officers decided to issue their consultation response on 5th December 2016 as work was in progress to respond to what they had asked us to carry out relating to the wider highway network. Officers were fully aware of the time taken for each iteration of the VISSIM model that they had requested. The agreed approach was to mirror the process carried out for the OMEGA application and on that basis the understanding was that the transportation assessment work would be carried out through to late spring if necessary.

Officers had been advised during the VISSIM review process that their comments on the first part of the transport assessment would be wrapped up within the next iteration of the Transport Assessment, and that generally the comments would either be allowed for or had been superseded by subsequent work. In this context, we comment on the points raise below.

Subsequently, a pre application meeting was held with officers in March 2017 and it was agreed that we would switch our assessment from VISSIM to SATURN.

1 - Comments on Transport Assessment:

1.1 The TA states the assessment is presented for the agreed assessment year of 2019, assuming the full build-out of the site. However, in Section 5.2 (Development Phasing & Construction Traffic) the TA states *"It is anticipated at this stage that the development will come forward in 12 phases over a 12 year period with typically around 100 residential units being constructed each year, with the relocated sports pitches in year 1, the local centre and care home opening at the end of year 2, the primary school by the end of year 10 and the distributor road being completed by the end of year 9."*

Highways would raise two concerns relating to this. Firstly; if the assessment assumes the full build out, the assessment year should be 2028, rather than 2019. Using a 2019 assessment year would exclude a significant amount of background traffic growth and would possibly under report operational levels. Secondly, it is noted that there is no reference in the TA to the assessment of any other years, or indeed of any other scenarios. Typically, an assessment of a +5 or +10 year after opening is required, but no information appears to have (yet) been included.

Furthermore, as the build period is so elongated, with several elements of the overall scheme programmed to be completed at the latter stages of the build, there is a clear impact on other key assumptions made in the TA and a clear need for intermediate assessments.

Highways will therefore require additional assessments to be undertaken on the most likely scenario(s). Highways will confirm these scenarios following submission of the second TA.

The approach in the TA is the approach that was agreed at the HE/WBC scoping meeting in January 2016. We always envisaged that once the assessment parameters had been agreed, sensitivity tests for additional years with phased build-out would be carried out.

At the pre-app meeting in March 2017 it was agreed that a 10 year build-out programme would be suitable for the transport assessment work. It was also agreed that the 2019 assessment would become 2021, and that an intermediate assessment would be carried out for 2025 with a final assessment in 2030. This has been reflected in the subsequent SATURN modelling.

1.2 Highways note that the scheme proposes no internal area to internal area movements as there will be no physical means of doing so. In latter sections of the TA the concept of internal trips is discussed and the resultant discounting of trip rates to reflect the likely internal trips (i.e. home to school or home to local centre). The lack of internal linkages means that any trip starting in one area and travelling to another area must therefore utilise the external highway network. This undermines the principle of the discounting assumptions and means these trips must therefore be included in the assessment as they will impact on the highway.

Highway officer's did not realise that the local centre car park can be accessed from anywhere in the development by car without resorting to the external network (apart from Mill Lane and Birch Avenue). However these two areas are connected to the rest of the site through sustainable links.

Proposed Bus Access

1.3 The TA presents proposals for the internal bus routes which will link the various areas of the site, but will introduce a bus gate to control this interlinkage. Highways note that as the application is outline, the detail of the internal area is indicative at this time and is likely to change as the scheme develops.

Trip Generation & Trip Rates

1.4 Technical Note 02 presents the assumptions used to derive the trip rates for the different elements of the scheme.

The residential trip rates used have been derived based on 85th percentile rates from the TRICs database. However, the remaining trip rates appear to be average trip rates. Justification of this trip rates particularly in relation to other similar developments will be required to be provided to support the use of non-85th percentile rates.

Whilst the TA states a robust set of assumptions have been adopted, the following stages of the assessment appear to downscale any robustness. Hence, starting with 85th percentile ensures at least a robust starting point.

85% percentile trip rates are not available for every use class and it is a matter of judgement as to how robust the trip rates are. 85% percentile rates are only available for residential use, which is of course the predominant use proposed.

The residential and care home trip rates mirror that agreed for use with the Omega site.

Furthermore, although average trip rates were used for the B1(c) land uses, sensitivity tests were carried out and these rates were used as they were higher. Also, higher trip rates for the food store were used in the Peel Hall assessment than compared to the Omega application.

Trip Discounting

1.5 TN06 details the assumptions made on trip discounting. Firstly on this aspect, we would comment that no evidence has been provided to support these key assumptions. Secondly, we would also note that without any certainty of where the key internal facilities will be located within the scheme (given this is an outline application), we would question whether these assumptions can be made without further information (e.g. the 10% external pass-by trips for the food-store may not be realistic if it is inconveniently located or of more concern, if it were located on the periphery of the development, it may attract trips from the external area).

Although illustrative at this stage, realistically the retail centre will be located in a convenient location, and the assumptions include for trips from the area external to the Peel Hall site.

1.5 We note that the discounting of trip rates has been done for both the residential trip *AND* the attractors, and would question whether this is correct. We would expect the residential trip rates to remain at 100% and the other elements that might be associated with a trip to / from the residential origin / destination to be discounted.

There are two ways of approaching this, both are valid, and the above is the approach we have taken.

However, a sensitivity test was carried out and showed no material difference. Nevertheless, we have proceeded on the basis of the highway officer's preference.

1.6 The TA states that the full-build out of the site may extend to a 10-year period. Given this length of construction period, Highways would require a phased based assessment to determine the intermediate impacts on the local network and sensitivity tests on the trip generation and discounting. This is important because of the length of build and the risk that full-build out will not be achieved. The operation of the network must be safeguarded therefore against any mid-build out changes.

This was always envisaged as part of the sensitivity testing, and as agreed at the pre-app meeting we have proceeded with modelling for an intermediate year of 2025, for part build-out (600 dwellings) with no internal linkages to the local centre.

1.7 Related to this, we also note that the school is not proposed to be developed until Year-10 and the internal estate road not completed until Year 9. Highways would also require some form of sensitivity assessment to identify what the short / medium term impact of the scheme would be without these two elements. As the school will not be operational until year 10, the sensitivity test must address how the network would operate without the school and with residents travelling to / from other schools in the area.

A sensitivity test using 100% residential trips would address the above, and this will be included within the updated Transport Assessment as set out above.

1.8 Similarly, the lack of internal connectivity will significantly affect the assumptions on discounting as there will be a need for development traffic to utilise the external network. These trips must therefore be included as new trips and not unilaterally removed from the network.

This is addressed above.

It should be noted that internal connectivity for sustainable travel modes i.e. walking, cycling and bus travel is shown within the illustrative masterplan and would be secured through future reserved matters applications.

Trip Distribution

1.9 Highways understand the trip distribution component of the TA has been updated and the submitted information has now been superseded. However, notwithstanding this, Highways would request clarification of what the A49 zone that has been referred to represents. It is unclear whether this refers to the north / south / central as other zones exist in the model that could duplicate this.

This comment was superseded by subsequent work.

1.10 It is noted that a number of the destination zones would share similar routes. Highways request clarification on how has this been allowed for?

This comment was superseded by subsequent work.

1.11 Section 7.6 states this is the manual interpretation of the gravity model results. It would be helpful to see the model results to allow Highways to review this interpretation.

It would be beneficial if a drawing / figure could be provided that illustrates the routes that have been assumed to be taken between the zones and the development.

This comment was superseded by subsequent work.

Traffic Flows

1.12 Traffic flows are only provided for the immediate site access junctions. No information is provided to identify how the development traffic travels onwards from the site to the wider area (and vice-versa). This is a fundamental omission as there is no way for the LHA to understand the routing of traffic to / from the site access points. For instance in Figure 8.7, the majority of the traffic movements are to / from the east. There is no way of identifying where the traffic that turns left out of the site then goes to or indeed whether this is reasonable.

Highways will therefore require an overall flow diagram to be provided, showing the forecast traffic flows for the full area, rather than junction specific diagrams, which are of limited value without the wider context.

It was made clear within the Transport Assessment that this was to be addressed in further reports.

Assessment Periods

1.13 Given the extensive and significant retail activity on the A49 corridor, the TA should include consideration of the Saturday peak period.

A review of the weekend peak periods will form part of the sensitivity testing.

1.14 Further to comments made on the assessment year that has been presented in the TA, Highways will require the following scenarios to be assessed, either by use of sensitivity tests, or by revising the main case:

- AM, PM and Saturday* Peak periods
- Do-Minimum (background traffic + growth + committed developments)
- Do-Something (Do-minimum + development trips)
- DM and DS Year of Opening

**Unless it can be demonstrated the Saturday impact would be no worse than the weekday day peak period.*

- DM and DS year of Opening +5yrs

Highways note there may be technical reasons that prevent or limit the modelling of the future year scenario (+5 years). Whilst the reasons for this are understood, Highways will still require the assessment of a future year (possibly by applying additional background growth to the 2028 assessment) to have surety of the future operation of the network with the scheme in place.

This is in part superseded however the thrust of what is being asked for forms part of the continuing work.

Capacity Assessments

1.15 The TA presents the results of capacity based assessments for the site access junctions. These assessments are based on existing traffic flows growthed to 2019 and with development traffic added based on manual assumptions. Whilst these results provide an indication of how the site access junctions may operate, there is no certainty that the final model flows will generate similar traffic flows. The value of these assessments is therefore limited.

1.16 As stated earlier, Highways will / may require assessments to be undertaken and provided for further, additional locations, where traffic flows are predicted to increase in excess of an agreed threshold. As with many other aspects, the full range of required junction capacity assessments will not be known until the network model

data is available. Highways will therefore require 'difference plots' (or similar) to be provided when the modelled data is available to allow this review to take place.

As stated elsewhere in this note, the assessment of a 2019 scenario is at odds with the statements elsewhere that the scheme is unlikely to be fully complete for 12-years. Any assessments should therefore in theory take account of the equivalent period of background traffic growth.

This is in part superseded, however the thrust of what is being asked for forms part of the continuing work.

2 - Comments on Proposed Access Junction Arrangements

Junction Proposals - General

2.1 Splays demonstrating satisfactory visibility will be required for each new junction / access.

All new junctions / accesses should be provided with dropped kerbs and tactile paving.

Across the scheme there are numerous locations where existing street furniture and / or service or telecoms apparatus will need to be relocated to facilitate the proposals. Any relocation of such equipment must be undertaken at the applicant's expense at nil cost to the Council.

This is a comment that typically would be expected to be received during the consultation process and a full set of access drawings modified to reflect the Road Safety Audit and highway officer comments will be provided as part of the next iteration of the Transport Assessment as previously advised.

Poplars Avenue (Western Access)

2.2 Highways are concerned with the proposal to modify the Cotswold Road / Poplar Avenue bend. This modification is a relaxation of the curve rather than widening and may encourage greater speeds around this corner where forward visibility is already constrained by parked vehicles – a situation that appears likely to be exacerbated by the proposal to introduce a parking bay. Highways also note that the footway in the location of the proposed changes to the kerb appears to contain utilities and / or telecoms apparatus and that this may therefore need to be diverted (at the applicant's expense at nil cost to the Council).

The area around the Cotswold Road / Poplars Avenue bend is extremely heavily parked, with significant on-street and on-verge parking. The introduction of a new junction in this location will have a significant impact by removing a large amount of space currently used for parking. To compensate for this the proposals include the provision of new parking areas. However, the number of re-provided spaces would not appear to off-set the lost parking area. A row of parking bays are shown in the stub-end on the western side of the bend. The ability of vehicles to safely enter and exit these bays and re-join the carriageway in a forward gear will need to be demonstrated as the layout of this parking area in relation to the carriageway appears onerous.

A parking layby is proposed on the southern kerb of Poplars Avenue. Highways are concerned that vehicles parked in this layby would affect the forward visibility around the bend and would also affect visibility from the proposed access arm. Highways will therefore require satisfactory forward visibility to be demonstrated.

It should be noted that parking spaces must be designed to the minimum dimensions of 2.5m x 5m with a minimum aisle width of 6m.

Parking prohibition Traffic Regulation Orders (TROs) are proposed around the new access junction. Whilst the reason for these TROs is understood, Highways are concerned about the impact these restrictions will have on parking and that this may force parking to occur in more unsuitable locations. Furthermore, the introduction of such TROs would be subject to public consultation and given the significant impact these restrictions would have on parking, public objection is likely to be high.

It is also noted that the TROs are shown along the front edge of the proposed parking bays. This would mean vehicles could not legally park in the bays as the TRO is effective to the back of the footway.

Poplar Avenue Central (Residential, Care Home and Local Centre Junction)

2.3 Poplar Avenue in the vicinity of Brathay Close and the proposed new access junction (residential, care home and local centre junction) is heavily parked on the northern kerb as a result of the adjacent apartment blocks having no off-street parking. The junction proposals will impact on existing parking and the relocated bus stop and may impact of the operation of both.

Highways are concerned the proposals may lead to an increase in parking on the verge / grassed area. It is noted that a new parking bay is proposed on the southern side of the carriageway, but we are concerned this is unlikely to be used given the location in relation to the apartments.

The right turn movement into the new access road will be provided with a ghost island right turn bay. Highways would require the right turn lane to be of sufficient width such that a large vehicle could wait in the right turn bay and a large vehicle could safely pass either side of the waiting vehicle. The plans of this location do not show the resultant lane widths and we would request the plan be annotated to show this information.

We also note that the hatching for the ghost island on the western side of the junction overlaps with the junction of Brathay Close. Whilst such carriageway marking can be crossed (where necessary) this overlap is not ideal as it could result in driver confusion and will result in accelerated wear of the markings and increased maintenance costs.

The proposals involve the widening of Poplars Avenue to incorporate the ghost island right turn. This widening and the introduction of the parking layby appear to impact on existing services / telecoms apparatus in the southern verge.

The proposed relocated signal controlled (Pelican) crossing appears to be incorrectly shown, with the traffic stop-lines too close to the crossing studs. This should be revised accordingly.

Mill Lane Access (150 residential dwellings)

2.4 The scheme plans indicate that the existing alignment of Mill Lane is to be stopped up. A Section 278 agreement will therefore need to be entered into to stop-up the existing highway and a Section 38 agreement entered into to adopt the realigned highway. The highway must therefore be designed to adoptable standards.

It is not clear what the shared surface concept as referred to on the scheme plans is. Highways preference would be for a conventional junction, with a raised table (as shown), with defined priority to one of the arms - preferably the new access having priority over the northern section of Mill Lane.

The northern realigned section appears very narrow considering it *may* need to accommodate 2-way traffic movements, particularly turning through the bend. Highways would require this section to be provided to meet adoptable standards and to accommodate all potential vehicles that may use it up to and including refuse vehicles and articulated HGVs.

Mill Lane New Roundabout

2.5 The layout of the proposed roundabout may be subject to change pending the results of the capacity assessments in the second TA, however Highways have the following comments on the proposed layout:

The deflection through the roundabout from the northern arm (in a southbound direction) should be increased. The single lane approach southbound and the angle of approach mean drivers may be tempted to 'straight-line' the junction.

The alignment and positioning of the new development (northwestern) arm means that the northwest to north movement may be onerous given the radius of the turn, particularly for large vehicles. Swept path assessment will be required to demonstrate that all vehicles can negotiate the roundabout in a safe manner.

The new roundabout would also significantly affect the visibility of northbound vehicles for drivers waiting to turn out of the Mill Lane junction, given the acute angle exiting the roundabout.

The capacity modelling of the junction does not appear to have taken account of the unequal lane usage that is likely to occur on each arm. On each arm there is a strong bias in traffic movements which if not modelled correctly can lead to the model overestimating available capacity. This aspect should be addressed when the junction model is re-run with the final model flows.

Birch Avenue Access

2.6 The proposals for this access involve the provision of two replacement parking bays. The access road is shown as 4.8m width. This will need to be a 6m minimum width as the access road will need to act as the aisle to accommodate manoeuvers from the parking bays.
Satisfactory visibility splays will need to be demonstrated for this junction. Highways are concerned that the proposed parking area on Birch Avenue will significantly restrict the visibility from the new access arm.

Confirmation should also be provided of what purpose the "proposed shared surface access" to the east will provide.

All the above will be addressed to reflect the points raised in the Road Safety Audit and highway officer comments in the next iteration of the Transport Assessment as previously advised.

Proposed Access Junctions – Road Safety Audit (Stage 1)

2.7 It is noted that the safety issues identified in the Stage 1 Road Safety Audit appear not to have been incorporated in the scheme proposals. It is also noted that at the time of writing no Designers Response reports have been prepared by the applicant's consultants.

Until the matters raised within the audit have been addressed to the satisfaction of the audit team (separate to the Highways Development Control team), the scheme proposals cannot be accepted.

All the above will be addressed to reflect the points raised in the Road Safety Audit and highway officer comments in the next iteration of the Transport Assessment as previously advised.

Dated: 2nd October 2017