Proof of Evidence of
Neil Benison, BSC (Hons) IEng MICE

Town and Country Planning Act 1990

by Over Whitacre Parish Council

Daw Mill Colliery, Daw Mill Lane, Arley, Warwickshire

Planning Inspectorate reference: APP/R3705/W/16/3149827

North Warwickshire Borough Council’s reference: PAP/2014/0339

January 2017
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Rule 6 Statement under Rule 6(6) The Town and Country Planning
by Over Whitacre Parish Council

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Rule 6 Statement by Over Whitacre Parish Council
Daw Mill Colliery, Daw Mill Lane, Arley, Warwickshire

January 2017

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1.0 QUALIFICATIONS AND EXPERIENCE

1.1 My name is Neil Benison and I am Associate Director for Transportation of Mewies Engineering Consultants Ltd (M-EC). I am a Member of the Institute of Civil Engineers (MICE), registered as an Incorporated Engineer with the Engineering Council and I hold a Bachelor of Science Degree (with Honours) in Environmental Engineering.

1.2 In my role as an Associate Director, I am responsible for overseeing all operational aspects of the Transportation Teams within the company, including managing and coordinating the teams, general day to day management and the development and growth of the business. My expertise principally lies within Traffic and Transportation where I have over 20 years’ experience.

1.3 Prior to joining M-EC, I was the Principal Development Management Engineer in Warwickshire County Councils Planning, Development and Flood Risk Management Group.

1.4 To date I have spent my career working within the Public and Private Sector providing a wide range of professional engineering advice to developers, landowners, Local Planning Authorities, Councillors, and members of the public on a diverse range of issues.

1.5 I am familiar with the site, its surroundings and the Appeal scheme.

1.6 The evidence which I have prepared and provide for this appeal reference APP/R3705/W/16/3149827 (in this proof of evidence) is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.
2.0 SCOPE OF EVIDENCE

2.1 An outline application, PAP/2014/0339 was submitted to North Warwickshire Borough Council (NWBC), by Harworth Estates, for Application for outline planning permission for the redevelopment of the site for a maximum of 24,652 square metres (265,345 sq ft) of built floor space for employment uses comprising either wholly B2 (General Industry) development or part B2 (General Industry) and a rail distribution depot for the purposes of maintaining rail infrastructure, comprising the stabling of trains and the storage, handling and processing of railway related materials; ancillary open storage areas, associated car parking, servicing yards, gantry crane, infrastructure and utilities, retention and use of existing infrastructure including rail head and sidings, site vehicular access, grid connection, electricity sub-station and reconfigured surface water drainage infrastructure. Approval of Access details requested now with all other matters reserved. The Application was refused on 4th November 2015.

2.2 Although Highways and Transportation was not a reason for refusal a number of concerns have been raised relating to Highways. To that end M-EC were instructed to review the transport case submitted to support the applications.

2.3 My evidence will demonstrate that the highways evidence submitted as part of the planning application is unsound, often contradictory and misrepresents the potential highway implications of the proposed development. I will also demonstrate that the available transport documents does not allow for any evidenced conclusions on highways and transportation to be made and highlight where the proposed mitigation, that the Appellants Highways Case relies upon, either cannot, and has little prospect, of being delivered or will not deliver the improvements required to make the development acceptable in highways terms.

2.4 I can confirm that I have visited the appeal site and I am familiar with the location and adjacent areas.
3.0 REVIEW OF TRANSPORT EVIDENCE SUBMITTED

Transport Assessment

3.1 The review of the Transport Assessment (TA), is based on the final version of the document submitted to NWBC on 28th July 2015, Version 7 of the document which was completely revised for the 24,652m2 B2 Application.

Traffic Generation

3.2 Paragraphs 4.2 to 4.8 of the Appellants TA deals with the “existing use traffic generation” of the Appeal site. In these chapters the Appellants seek to build a case to show that the existing use was a considerable traffic generator and supplies daily traffic flows to compare with the proposals traffic generation, including the discounting of trips from the network diagrams that appear in Appendix D of the Appellants TA.

3.3 Firstly, there is no extant use on the site, the site is Green Belt and all parties to the Appeal are agreed on this matter. Once the Colliery use ended on the site, in 2013, the site was cleared, with only a handful of structures remaining. Any use, including the Colliery use, would require a planning permission to come forward, therefore, there is no fall-back position for this site, and the existing traffic generation is limited to a handful of maintenance vehicle movements. It is therefore not appropriate to compare or discount the Colliery traffic to the proposed developments potential traffic generation or its distribution on the surrounding rural highway network.

3.4 Even though the existing traffic figures are not relevant a number of errors or non-evidenced assumptions have been made by the Appellants. Interestingly the year chosen by the Appellant to measure vehicle movements is 2008 and not 2012 or 2013 the latest years of operation from the site. In 2008, as stated in paragraph 4.2 of the Appellants TA, was the colliery's busiest year in terms of production, this is not disputed, however, the bullet points in 4.2 are not agreed. In 2008 the site employed over 800 staff, not 667 as stated. It is agreed that the majority of the workers worked on the surface, either supporting the working of the mining operation, the preparation and processing of the coal and finally the operation of exporting the coal from the site via the rail head. The final bullet point of 4.2 states that buses for the employees were phased out in the early 1990’s.

3.4 In preparation for the Appeal, Over Whitacre Parish Council has undertaken extensive research of the site including interviewing former employees. One such witness, an Overseer, confirmed that employees were bused in for all shifts working on the 24 hour a day operation. The bulk of the work force being from Coventry, Nuneaton, Dordon and Polesworth and Dordon, these skilled workers being re assigned to Daw Mill as the other mines in the area were closed down.
3.6 In paragraph 4.3 the Appellants, despite there being no records, have made some assumptions on the travel patterns to the site. As previously pointed out the employee figure is incorrect, but this pattern also assumes that there would be 75 employees working underground with no support staff working over ground which is not feasible. The Appellant states that these figures are an underestimate as the figures do not include trips in and out of the site during the day. However, even with the quantum of employees set too low, incorrect working patterns and the underestimation of daily movements, the figures quoted by the Appellant could not be catered for within the site, as stated in Paragraph 3.2 of the Appellants TA the site had 520 marked car parking. The parking accumulation which would occur could not be catered for with this many spaces, the carpark needing to service multiple shifts. This gives more credence to the assertion that large numbers of the employees were bused into the site.

3.7 As stated above, 2008 was a record year in terms of coal production for the site. However, the proceeding and following years were a different story. The seam of coal utilised at the site suffered from a geological fault, and the loss of face, the face of the coal seam, was experienced a number of times, which meant equipment had to be dismantled and new working areas created. This often led to weeks or months of little or no production. A collection of BBC news stories can be found in Appendix 1, which evidences that 800 were employed at the site prior to 2012, the fall of production at the site and the announcements that the site would have been closed by 2014 as it was not profitable. Taking this into account it could be said that the vehicle movements to and from the site during 2008 were not typical of the sites trip potential.

3.8 Paragraph 4.4 of the Appellants TA details HGV movements for exporting Coal from the site, some 500,000 tonnes per annum. No evidence is presented to back up this claim, and no evidence can be found to support the stated 240 HGV movements a day this kind of operation would require. The colliery produced high quality coal which was used almost exclusively in power generation. The coal was brought to the surface, prepared and exported through a high speed rail loader. The aerial photographs provided by the appellants, Figure 3 and 10, show that the site did not have loading areas for HGV’s, layover facilities or any of the infrastructure required to cater for that level of HGV movement.

3.9 With regards to paragraphs 4.5 and 4.7 of the Appellants TA, it is accepted that the Colliery operation would have generated HGV movements for materials for the site, and without any further evidence the HGV figures given in paragraph 4.5 are not disputed. Similarly the exportation of waste from the site is also agreed, although the quantum of this would be fixed to the coal production rather than a flat rate. The removal of waste from the site, was
controlled by the relevant authorities, and occurred two to three times a year. In highways terms this is considered an extraordinary event and managed accordingly.

3.10 Taking the above into account, little or no weight can be given to either the Appellants estimate of vehicle or HGV movements generated by the Colliery. Neither is it clear what relevance they would have to this Appeal.

3.11 Paragraphs 4.9 to 4.13 of the Appellants TA deals with the traffic generation of the Appeal Proposals.

3.12 Firstly paragraph 4.9 estimates that the employment density of the proposals and predicts that the site could cater for up to 685 employees, using the HCA’s Employment Densities Guide, this figure is not disputed.

3.13 Paragraphs 4.10 and 4.11, supported by Appendix C of the Appellants TA, details the methodology used to derive the trips associated with the proposed development. The Appellant has made use of the TRICS Database to inform the trip calculations for the site. TRICS is an industry standard tool, which uses regularly updated vehicle surveys and sorts them using a number of variables including, class use, size, location, survey days etc. etc. TRICS is generally a very good and robust tool for estimating the trip generation of a specific site. Users search for comparable sites and using the survey information the TRICS software produces trip rates that can be used in trip generation. For employment uses these trip rates are reported as trips per 100m2 of development.

3.14 There are drawbacks to using TRICS that need to be taken into account every time it is used. The user of the TRICS system is responsible for how the data in the system is used and must ensure that the sites being used are comparable to the site they are assessing. Any experienced user of TRICS would have identified at an early stage that the use of the software in this instance would be challenging.

3.15 Section 2 of Appendix C of the Appellants TA contains the following table:
3.16 The quality of the table is not very good, the Appellant including elements of the TRICS report rather than the report itself. However, the Table does show the available sites suggested after some search criteria had been applied. Of the 11 sites selected all but one, WS-02-C-01, is either based in a suburban area, a neighbourhood centre or on the edge of town. None of these uses match the Appeal site and should have been discounted immediately, sites in and around urban areas will include much greater access to public transport opportunities and would produce an artificially low trip rate.

3.17 Despite this the Appellant included all 11 sites within their analysis. Section 3 of Appendix C of the Appellants TA contains the following table, ranking the sites in the 8-9 peak period:

3.18 As this is an employment site the Appellant is seeking trip rates for the AM and PM weekday peaks, the peaks traditionally effected by employment trips. It is therefore not clear why DC-02-C-06 has been included in the analysis as this survey was taken on a Sunday. In addition it can be seen that all of the sites are significantly smaller than the Appeal site, including the median site being a 300m2 development as opposed to the 24,652m2 of the Appeal proposal. Large differences in sample size can lead to very large variations in trip rates.
3.19 In Section 5 of Appendix C of the Appellants TA, a justification is provided for choosing an 85th% trip rate, however in this analysis the 85th% site is different between the AM and PM peak periods, therefore, the 2nd ranked site has been selected to provide a so called ‘extremely robust’ trip rate, the site in question being WS-02-C-01, an aviation company based in a rural area of Horsham. Although WS-02-C-01 is a freestanding site with limited public transport opportunities there are still two major flaws with the methodology employed by the Appellant.

3.20 Firstly the use of 85th% figures is a recognised statistical method of selecting robust rates from standard sets of data. However, certain criteria needs to be met for this method to be used. In this instance the TRICS Good Practice Guide 2013, states the following at paragraph 11.6:

“TRICS® recommends that users have at least 20 surveys in a rank order list before 85th and 15th percentile highlighted trip rates are quoted. A warning message to this effect is displayed in the rank order list screen whenever less than 20 surveys are included in the data set. This figure is based on the experience of TRICS® system developers. The TRICS® Consortium will not endorse any 85th or 15th percentile quotations from data suppliers if less than 20 survey days have been included in the selected set. Nonetheless, such quotes may indeed be valid, but it is the data supplier’s responsibility to prove the robustness of the figures quoted.”

3.21 85th% Trip rates of data sets of less than 20 are not recommended, as figures from small sets are liable to variation and be unrepresentative. As previously pointed out the majority of the sites are not appropriate in any case leaving a data set of one, site WS-02-C-01. TRICS will not allow users to produce 85th% figures in data sets less than 6. No evidence that the sample site is indicative of the Appeal site or that a robust sample has been provided.

3.22 It is also not clear why the Appellant chose to use WS-02-C-01. This site was redeveloped in 2012 and had a travel plan in place which required two travel surveys to be completed. The first survey being, WS-02-C-01 in January 2013 and the second survey, WS-02-C-02 in January 2014 and added to the TRICS database March 2014. The Appellants TA was produced in July 2015.

3.23 Despite the assertion in Section 5 of Appendix C of the Appellants TA, the 2013 survey WS-02-C-01 had 302 employees on site rather than the 322 stated in the TA. The 2014 survey WS-02-C-02 had 372 employees, on the exact same site, same parking levels and same travel Plan in place. This represents a 23% increase in employee numbers. The effect on the trip generation in the AM Peak is an uplift of 18% between the two surveys. Another
interesting difference between the 2013 and 2014 surveys is the OGV element, in the latter survey trip rates for HGV movements are provided in both the AM and PM peak, where they are not in the 2013 survey. By using the earlier survey the Appellant has been able to remove HGV movements from both peak periods.

3.24 Data sheets, taken directly from TRICS, for both of the surveys can be found in Appendix 2 of this document.

3.25 The Appellant has used a flawed methodology to select a site, then used a survey of it only being partially occupied. Despite multiple assertions the trip rates used in the TA are robust, even if the single site analysis were to be accepted there is still a significant underestimation of the potential trips generated. This key error has been used to predict the vehicle and HGV movements for the Appeal proposals and carried forward into all of the associated modelling in the remainder of the supporting documents rendering the results unrepresentative of the true potential impact of the site on the surrounding highway network.

3.26 On this occasion TRICS is not a suitable tool for estimating the trips for the appeal site and a donor site, a survey of an agreed similar development, should have been considered. With the evidence submitted by the Appellants themselves, it is not clear why the Highway Authority agreed to such a methodology or low trip rates for the site.

Traffic Distribution and Assignment

3.27 Section 5 of the Appellants TA details distribution, the gravity model method of distribution of the development traffic is agreed. However, it is not clear what point the Appellants are making in paragraph 5.8 of the TA. Routing HGV’s based on the distribution of cars is not feasible, particularly on the network surrounding the appeal site, with a number of routes not capable of catering for HGV traffic.

3.28 Due to the issues, detailed above, the network diagrams discussed in paragraphs 5.6 to 5.10, and found in Appendix D of the Appellants TA, are not agreed or realistic representations of traffic on the network.

Assessment Years, Background and Total Traffic

3.29 Paragraph 6.4 details the TEMPRO rates applied to the surveyed traffic flows. TEMPRO is the industry standard for calculating growth to the background traffic for future year assessments. The methodology used is agreed.

3.30 In paragraph 6.5 the Appellants have made an error in their calculations and state that in the 2014 traffic survey 4361 vehicles were recorded going past the site in the morning peak hour.
and that by applying the TEMPRO Growth Rates, 12.62% adds 550 vehicles to Tamworth Road where as the Appeal proposals will only add 214 vehicles. Firstly as shown in paragraph 6.8 of the Appellants own TA the 4361 figure relates to a 24 hour flow recorded on Tuesday 3rd June 2014. The 550 increase therefore relates to the entire 24 hour period not the AM Peak. In the peak periods alone the proposed development will add 413 trips to the West of the Appeal Site, over 24 hours 1445 trips would be added to Tamworth Road almost three times the background growth. It should also be remembered the trip rates have been demonstrated to be seriously underestimating the trips generated by the site.

3.31 The Appellants assertion that congestion is caused by the rise in background traffic is based on the above calculation error. The principle of the statement is also flawed, the capacity of a highway network is governed by the capacity of the junctions on that network, and it is simply not possible to suggest that congestion in the study area is caused by background growth on Tamworth Road.

Highway Impact

3.32 The study area of the TA included:

- B4098/B4102 (Fillongley crossroads);
- B4098 Tamworth Road/B4114 Nuneaton Road junction;
- B4098/B4114/B4116 (Furnace End crossroads);
- B4114/B4117 (Coleshill crossroads).

3.33 The above junctions form part of the Appellants mitigation strategy and are discussed in the next section. However, the Appellants make a number of assertions in this section which require response.

3.34 Paragraph 7.1 reasserts the incorrect premise that it is acceptable to discount the Colliery traffic from the future year assessment. This paragraph also includes a table that seeks to show the percentage impact on three of the key junctions in the study area. The way the results are presented is not representative of the developments impacts on the junction, or the correct way of demonstrating the percentage impact of the development.

3.35 For example, reading from the table, the Appellant is suggesting that the percentage impact of the development on the Furnace End crossroads in 11.4%. However, this methodology is not correct, background growth is applied to all arms of the junction, whereas the development traffic is applied by using the distribution factors. Therefore, in this example the amount of traffic turning right from Coleshill Road to Nuneaton Road, at the Furness End Cross Roads, stands at 116 vehicles in 2024, the addition of the development traffic sees
this flow increase 239 vehicles. The percentage impact of the development traffic is therefore 106%.

Travel Plan

3.36 Paragraph 9.5, of the Appellants TA, discusses WCC’s Practice Note on Travel Plans for Developers in Warwickshire. This guidance note states that any development significant enough to require a Transport Assessment should also provide a Travel Plan.

3.37 9.5 continues by quoting the minimum requirements of the Practice Note which states:

“the developer will be required to enter into a S106 Agreement that will normally include as a minimum:

- a requirement to produce a Travel Plan;
- a requirement to appoint a travel plan coordinator;
- the target;
- the contribution;
- the monitoring requirements;
- provisions in relation to speculative development, multi occupations and future occupiers where applicable.”

3.38 It is appreciated that the end users of the site are unknown at this time, therefore, the Appellant has created an initial or framework travel plan, which is based on the WCC template. However, no target has been agreed nor has a Section 106 been produced or agreed which is the only way the Travel Plan, as it stands, could be implemented, the S106 Agreement being essential to operate the contribution element of the plan. Without this the plan cannot be enforced.

3.39 The remainder of Section 9 discusses the setting of a target, the standard practice is to assume the Warwickshire Average single occupancy rate and apply modal shift target to it to produce a target of 65% single occupancy vehicles travelling to and from the site. The Appellants argue that the unsustainable nature of the site makes this impossible and it is agreed that the alternative method of a base line survey and a modal shift target of 10% be applied.

3.40 However, in paragraph 9.15 the Appellant states that the topic of targets needs to be discussed with WCC but sets the car/employee ratio target at 95% as a starting point. A target of 95% does not meet the WCC’s standards, as a 10% modal shift has not been applied.
3.41 Turning to Paragraph 2.1 of the Travel Plan the Appellants are now stating that this 95% target is now agreed with the County Council.

3.42 As pointed out in paragraph 2.1, the target of 95% means that 95 car journeys will result for every 100 employees.

3.43 Paragraph 4.9 of the Appellants TA estimates that the site will employ 685 employees. Assuming the Appellants can hit their Travel Plan target that would equate to 651 single occupancy car movements.

3.44 The trip rates for the site, as previously discussed were shown on the table in paragraph 4.10 of the appellants TA. Although the rates stated are not agreed, you can see a recognisable pattern in the trips that you would expect to see in an employment sites, namely the largest arrivals and departures, associated with the traditional AM peak, 08.00 to 09.00, and PM peak, 17.00 to 18.00.

3.45 Although the end users of the site are unknown, it is not unreasonable to assume any future occupier might operate a flexible start and finish time, meaning the trips associated with the employees themselves would generally be in the three hour peak periods, which is the peak hour and the shoulder peaks, one hour either side, which would be 07.00 to 10.00 and 16.00 to 19.00.

3.46 Using the above time periods and the trips from paragraph, in the morning period the Appellants traffic figures show 466 vehicles entering the site, in the afternoon period this figure would be 461. These figures show a shortfall of 185 vehicles in the morning and 190 in the afternoon if the employee assumptions from the Appellants Travel Plan is taken into account, which provides further evidence that the Appellants have significantly underestimated the trip generation potential of the site.
4.0 REVIEW OF THE PROPOSED MITIGATION

4.1 This section contains a further review of the transport information submitted as part of the Appeal sites planning application but specifically the junctions identified in the study area, the assessment of these junctions and the proposed mitigation submitted by the Appellants to support their site coming forward.

4.2 It should be noted, as discussed above, the traffic figures used by the Appellants has been demonstrated to be significantly underestimating the traffic generation of the appeal site. As such little weight can be attached to the modelling submitted in the TA.

B4098/B4102 (Fillongley crossroads)

4.3 Paragraph 7.7, of the Appellants TA summarises the modelling of the junctions using the TRL’s PICADY Software. Modelling of this nature is an industry standard and the modelling methodology employed is agreed.

4.4 The table, in Paragraph 7.7, gives the results of a number of modelling scenarios. Comparing the 2019 and 2024 with and without development figures it clearly demonstrates the impact of the development on the operation of the junction.

4.5 In Paragraphs 4.9 and 4.10 the Appellants highlight that the junction, particularly the Meriden Road which reports an RFC, the ration of flow over capacity, at 1.38, is operating over capacity. This arm experiences a delay of 559.1 seconds and a vehicle queue of 41 vehicles.

4.6 What the Appellants fail to highlight is that the introduction of development traffic causes the RFC to rise to 1.77, with delay at 1212.99 seconds and a queue of 82 vehicles. That’s a 20 minute delay in the peak hour and a queue of over half a kilometre.

4.7 To mitigate the capacity problems at this junction the Appellant is proposing to provide a signalised junction, submitted as drawing number ADC1085/004C.

4.8 An initial check of the drawing highlights a number of potential problems. Junction Intervisibility, the visibility between drivers at each stop line, is blocked on all arms of the junction, and passes over 3rd party land. DMRB TD 50/04 the Geometric Layout of Signal Controlled Junctions and Signalised Roundabouts, has junction intervisibility as a black box item, namely a mandatory requirement. Paragraph 2.16 of TD 50/04 states:
“2.16 At new signalised junctions [See paragraph 1.3] major obstructions to intervisibility within the junction intervisibility zone, such as that caused by buildings should be avoided. Under these conditions each obstruction to visibility shall be considered as a Departure from Standard and measures shall be taken to mitigate the effects on intervisibility”.

4.9 The pedestrian crossing over Nuneaton Road has been staggered, due to the length of the crossing distance. This is the correct procedure for long crossing points, however the crossing over Tamworth and Meriden Roads, 13.8m and 13.6m respectively, remain as straight crossings.

4.10 Local Transport Note 2/95 the Design of Pedestrian Crossings, states at paragraph 5.2.3:

"Where the road is more than 15 metres wide a staggered layout should be provided. If the road width is greater than 11 metres a staggered layout should be considered“.

4.11 The Tamworth Road Crossing, despite being straight, includes a refuge island, paragraph 5.2.2 of LTN 2/95 states:

“The use of a refuge at a non-staggered crossing is not recommended. They can be confusing for pedestrians and drivers and there is often insufficient space, particularly for prams and push chairs. They should, therefore, only be used if the road width cannot be increased locally to accommodate a staggered crossing. If used the refuge should be provided with push button(s) and signals as required.”

4.12 There is sufficient room on Tamworth Road, within the Highway Boundary to provide sufficient width for a staggered crossing.

4.13 Other areas of the junction have been widened. The radius turn out between Coventry and Meriden Road has been widened almost to the edge of the highway boundary. The highway boundary for this junction can be found in Appendix 3.

4.14 Although within the highway boundary, the verge in question rises away from the carriageway level and retains 3rd party land. It is not clear how the road can be widened to this extent and support a retaining structure without straying onto 3rd party land.

4.15 The level difference in question can be seen in the site photograph labelled as figure 3 below.
4.16 The signal layout has been modelled using JCT’s LINSIG3 Software. This is an industry standard tool used for the design and assessment of signalised junctions.

4.17 When examining the modelling, modelling report included in Appendix E of the Appellants TA, a number of problems are identified, the first is the cycle times used. The proposed junction has wide pedestrian crossings on each arm. In the AM peak the modelling uses a 90 second cycle time but in the PM peak a 120 second cycle time. In the UK the maximum cycle time is usually 120 seconds, however this is lowered to a maximum 90 seconds where pedestrian facilities are present. Only in exceptional circumstances can the cycle time be raised above 90 seconds with full pedestrian facilities.

4.18 Examining the modelling the additional cycle time, in the PM Peak, seems to have been used exclusively on Stage one of the signals, Allowing Tamworth and Coventry Road to run longer and have a larger throughput of vehicles per cycle. Coventry Road is the worst performing arm of the junction in the PM peak hitting 87.5% saturation, 90% saturation being considered capacity for a signal junction design. In the current layout the Coventry Road forms part of the main route with only the right turn movement blocked by opposing traffic. With the introduction of the signals the lane is opposed by Meriden Road and Nuneaton Road during Stage 2, and pedestrians in Stage 3. The original blocking of the right turning traffic from Coventry Road continues in Stage 1 but is exacerbated by the introduction of the development traffic. It is assumed that the extended cycle time is to keep the saturation levels below 90%, which can not be considered an exceptional reason to increase the cycle time above 90 seconds.
4.19 Looking at the Network Layout Diagram in the modelling, the additional lanes provided by the widening to Tamworth and Meriden Road have been modelled as Long Lanes. This means LINSIG think the lanes stretch back to the next junction, the modelling assumes the lanes to be a minimum of 450m long. In reality the widening allows two lanes of full width of 35m to Tamworth Road and 46m on Meriden Road. LINSIG is assuming that both lanes, on either approach are able to feed a constant flow of traffic into the junction, and removes delay from the lane which would occur as traffic sorts itself into their respective correct lanes on approach to the junction.

4.20 The Signals Timing Diagram, in both the AM and PM peak, shows the phase bar for the 3rd, pedestrian, stage as yellow, meaning the software is being forced to run it at minimum timings. In this model this has been set at 5 seconds, the green man and clearing the junction period covered within this 5 seconds.

4.21 Table 2 of Traffic Advisory Leaflet 5/05 part 4 Pedestrian Facilities at Signal Controlled Junctions, shows the standard fixed periods for pedestrian crossings, and is shown in Figure 4 below:
Looking at the second bullet point of the table, pedestrian walking speed being 1.2m/s, and applying it to the longest crossing point of the junction, the 13.8m crossing over Tamworth Road, the period covered by section 5 and 6 of the table should be no shorter than 16.56 seconds. However, this is based on an average walking speed and does not cater for vulnerable road users such as the elderly or children. It should be noted the Bournebrook Church of England Primary School is in very close proximity of the junction.

Increasing the pedestrian stage to a reasonable level will affect the performance and capacity of the junction as presented in the Appellants TA.

The Appellants had an earlier version of the proposed mitigation undergo a Stage 1 Safety Audit. This audit raised 8 problems, the majority of the issues were dealt with by the production of the current layout being considered, or by undertaking to look at the issues in the
detailed design phase. However, two of the issues raised need to be considered further before the scheme can satisfy the audit process.

4.25 Problem 2.1 highlighted the issue relating to the Junction intervisibility was raised by the auditors, the Appellants response highlights that the visibility zone crosses land outside of the Appellants control and is physically blocked in a number of places. In line with the standards laid out in the Design Manual for Roads and Bridges a departure from standards needs to be raised and approved by the Overseeing Organisation, WCC. No departure has been raised and the mandatory sign off from WCC is yet to take place.

4.26 Problem 2.6 highlights that the proposed widening could lead to cars travelling behind an existing restraint system and collide with a gas installation. The safety audit recommend that a risk assessment is carried out and a new restraint system be provided if required. The Appellants have responded that it would be looked at in the detailed design phase. However, at this stage it is not clear whether sufficient space will be available to cater for any new restraint system. Failure to deal with this issue compromises the feasibility of being able to deliver it, and whether the junction can be provided remains unknown.

4.27 It is appreciated that the Stage 1 Road Safety Audit looks only at the feasibility of providing the junction at this location. However, it is not clear how the auditors did not pick up on or present as a problem the long pedestrian crossings and the need for a stagger to be provided.

4.28 A number of issues have been raised regarding the feasibility of the proposed signal junction which casts doubt on whether it can be delivered. In addition the methodology employed for the modelling of the junction is flawed and does not comply with current advice. Even if the junction could be delivered it is far from certain what the actual impact of the development would be and whether any betterment or mitigation is achieved.

B4098 Tamworth Road/B4114 Nuneaton Road junction

4.29 A review of this junction has been undertaken and generally the principal of this junction is agreed. The scheme has undergone a Stage 1 Safety Audit, the findings and recommendations of which is also agreed.

4.30 However, as previously stated the traffic figures used by the Appellant are not agreed and have demonstrated that trips from the development site have been underestimated. As such the modelling associated with this junction needs to be carried out with more realistic traffic figures prior to being approved.
The table, in Paragraph 7.20, of the Appellants TA, gives the results of a number of modelling scenarios, for the Furnace End Crossroads. Comparing the 2019 and 2024 with and without development figures it clearly demonstrates the impact of the development on the operation of the junction.

4.32 To mitigate the capacity problems at this junction the Appellant is proposing to provide a signal junction, submitted as drawing number ADC1085/003D.

4.33 An initial check of the drawing highlights a number of potential problems. Junction Intervisibility, the visibility between drivers at each stop line, is blocked on all arms of the junction, and passes over 3rd party land.

4.34 The pedestrian crossing over Coleshill Road is 13m wide, as stated above, current design standards require that if the road width is greater than 11 metres a staggered layout should be considered.

4.35 The radius turn outs between Nuneaton and Coleshill Road, and Coleshill and Tamworth Road have been widened, to the edge of the highway boundary. The highway boundary for this junction can be found in the Appellants submitted Designers response to a Road Safety Audit of the junction.

4.36 The widening between Nuneaton and Coleshill Road passes outside of the highway boundary adjacent to Jessema Cottage. The widening continues along Nuneaton Road, and cuts through an earth embankment, and steps, up into an adjacent property.

4.37 The primary offside signal head for the Nuneaton Road approach is positioned outside of the highway in third party land, in a retained earth bank, which is unacceptable.

4.38 The widening between Coleshill and Tamworth Road goes right up to the highway boundary. However, the Appellants have failed to take into account the fact that a 1.5m wide retaining wall runs along the edge of the highway boundary. It is still marked as highway on the plan, as it is a highway structure retaining the garden of the adjacent lane.

4.39 The banked verge on Nuneaton Road and the retaining wall, between Coleshill and Tamworth Road, can be seen in the site photographs labelled as figure 5 and 6 below.
4.40 The widening on the proposed drawing is impossible to provide and the mitigation cannot be delivered.

4.41 Despite widening on Nuneaton Road, the exit lane provided is only 2m wide, this does not meet design standards and would be a huge safety risk to users of the junction should it be provided.
4.42 The Furnace End Crossroads are not street lit, except for one pedestrian light on the Atherstone Road Arm, yet the Appellant is providing two pedestrian crossings as part of the mitigation. Signalised pedestrian crossings need to be lit, LTN 2/95. States:

“2.8.2 Good road lighting will reduce the majority of the problems related to extraneous light sources. An experienced lighting engineer should ensure that the level recommended in the appropriate part of BS 5489(12) is used at all pedestrian crossing sites. BS 5489 also gives details of lighting column positions and spacings, in relation to crossings. Reference should also be made to the current version of Technical Report No. 12, ‘Lighting of Pedestrian Crossings’(13).

2.8.3 At night drivers may not be able to see pedestrians waiting to cross unless the road lighting is to the standard recommended above. If there is still doubt about the visibility of pedestrians then supplementary lighting can be provided to illuminate the crossing.”

4.43 Before the mitigation can be considered feasible an initial street lighting design would need to be produced and approved by WCC and the Street Lighting Authority, be that WCC or Shustoke Parish Council. The lighting scheme would need to assess the lighting of the junction as a whole and ensure that areas of light and dark do not affect the operation of the junction at night.

4.44 The signal layout has been modelled using JCT’s LINSIG3 Software.

4.45 When examining the modelling, modelling report being included in Appendix E of the Appellants TA, it is noted that the cycle times in both, the AM and PM are greater than 90 seconds, both being set at 96 seconds. Although not to the recommended standard it is felt that such a minor increase would not cause any material issue.

4.46 Looking at the Network Layout Diagram in the modelling, the additional lanes provided by the widening to Nuneaton and Coleshill Road, unlike the Fillongley model, have been coded correctly as Short Lanes and reasonable lengths applied to the additional lanes.

4.47 However, looking at the Lane Input data, errors have been included on the Coleshill Road Arms, the widths of the lanes are stated to be 3.4m for the ahead/left lane and 3.0m for the right turn lane. The drawing of the proposed signal junction clearly states that the dimensions are 3.0m for the ahead/left lane and 2.9m for the right turn lane. A gradient of 3 has been applied to the ahead/left lane but no gradient is given for the right turn lane which runs
alongside it. These changes may appear to be minor but can have a significant effect on the model outputs, producing additional capacity on the junction which could never be delivered.

4.48 The Signals Timing Diagram, in both the AM and PM peak, shows the phase bar for the 4th, pedestrian, stage as yellow, meaning the software is being forced to run it at minimum timings. Again in this model this has been set at 5 seconds, which covers the green man and clearing the junction period.

4.49 As before looking at the second bullet point of the Table 2 in figure 3, and applying it to the longest crossing point of the junction, the 13.0m crossing over Coleshill Road, the period covered by section 5 and 6 of the table should be no shorter than 15.6 seconds. However, this is based on an average walking speed and does not cater for vulnerable road users such as the elderly or children.

4.50 Increasing the pedestrian stage to a reasonable level will affect the performance and capacity of the junction as presented in the Appellants TA.

4.51 The Appellants had an earlier version of the proposed mitigation undergo a Stage 1 Safety Audit. This audit raised 7 problems and three minor issues, the majority of the issues were dealt with by the production of the current layout being considered, or by undertaking to look at the issues in the detailed design phase. However, four of the issues raised need to be considered further before the scheme can satisfy the audit process.

4.52 Problem 2.1 highlighted the issue relating to the Junction intervisibility, the Appellants response highlights that the visibility zone crosses land outside of the Appellants control and is physically blocked on all arms due to the junction constraints. In line with the standards laid out in the Design Manual for Roads and Bridges a departure from standards needs to be raised and approved by the Overseeing Organisation, WCC. No departure has been raised and the mandatory sign off from WCC is yet to take place.

4.53 Problem 2.4 highlights to the Appellants that there is not sufficient highway land to provide the widening required on Nuneaton Road. The Appellants designers response states there is, referring to the highway boundary plan, however, this plan confirms that there is insufficient width on Nuneaton Road to cater for the proposed design.

4.54 Problem 2.6 states that the footway to the West of Coleshill Road is too narrow and the provision of the signal pole will create a pinch point, the signal pole requiring a minimum of 450mm clearance from the carriageway edge. The Appellants designers’ response is to
provide widening for a 2m wide footway. As discussed above this is not possible in this location due to a retaining structure bounding the narrow footway.

4.55 Problem 2.7 highlights the lack of a footway to the North of Tamworth Road, this is incorrect and it is assumed the auditor meant the South side of Tamworth Road. The Appellants Designers response is to direct the auditor to the highway boundary plan highlighting the available highway land. As discussed above the highway land highlighted by the Appellants is actually a highway retaining structure and it would not be possible to provide a footway in this location as shown on the current design.

4.56 It is not clear how the Auditors did not pick up on the lack of street lighting, the excessive pedestrian crossing distance or the 2m lane width on Nuneaton Road.

4.57 Three out of the four issues raised in the Road Safety Audit cannot be resolved and due to the constrained nature of the junction there is no prospect of the design, as shown in the Appellants mitigation drawing, being delivered. Even if the design could be delivered a number of flaws in the modelling means the actual impact of the development and whether any betterment or mitigation is achieved is unknown.

B4114/B4117 (Coleshill Crossroads).

4.58 The final mitigation scheme being offered by the Appellants is the Coleshill Crossroads, this is detailed in Section 8 of the Appellants TA and in a separate Technical Note received by the LPA in October 2015.

4.59 Much of Section 8 discusses the current problems experienced at the Crossroads. This is a known issue to WCC and they asked the Appellants to model the junction and any potential mitigation using the Coleshill Town PARAMICS Model.

4.60 PARAMICS is a microsimulation modelling package able to model multiple junctions simultaneously and, unlike traditional modelling techniques, the interaction between the junctions of a network. The microsimulation element of the model allows dynamic route selection for vehicles passing through the model, meaning vehicles will react to queues and delay and find the easiest routes through the network.

4.61 WCC have produced the Coleshill PARAMICS model to be used in the Local Plan process. A number of options are being considered, for the Crossroads. However, it must be stressed that no option has been looked at in any detail by WCC.
4.62 The Appellants have drawn up a mitigation scheme taking an element of one of WCC’s ideas for the cross roads. Namely to seek to relive the Crossroads Junction by banning right turns from High Street to Blythe Road and diverting the traffic through the Church Hill Conservation area.

4.63 This proposed mitigation is shown on drawing ADC1085/007B.

4.64 When using PARAMICS it is necessary to create a base model using current traffic surveys. The base model goes through a validation process where the base model is run and checked against independent traffic data to ensure that the model was replicating current conditions. This work is detailed in a report known as the Local Modal Validation Report (LMVR), it is standard practice for this report to be submitted for scrutiny if it is being used. In a traffic study.

4.65 However, the model was created by WCC, themselves and the work independently verified. Therefore, in most cases an LMVR report is not produced. Therefore, in this instance the lack of an LMVR is acceptable.

4.66 The next stage of the process is to create a reference case, WCC have also created a future year model of 2021 and applying growth factors to the flows within the model, similar to traditional modelling techniques.

4.67 The Appellants have taken the 2021 reference case and made changes to the modelling to cover the introduction of the development traffic then a number of mitigation schemes. No details of how they have applied the traffic, the numbers of vehicles added to the model, the distribution of these additional vehicles, changes to the network and the parameters used to implement the mitigation, have been provided. This information is normally presented in a Model Development report. No such report has been produced or submitted to support the modelling carried out, which is against the DfT Transport Analysis Guidance, WEBTAG. As such it is not possible to check what changes have been implemented by the Appellants.

4.68 Paragraph 8.22 of the of the Appellants produce a table showing selected journey times within the model and two graphs showing queuing on the Crossroads during the AM and PM peaks. The Appellants go on to state that although the mitigation does not fully resolve the issues at the Crossroads, it more than mitigates the development impact.

4.69 The first thing that struck me was the lack of any verifiable data from the PARAMICS Model and the fact that the Appellants table only shows half of the available journey time measurements.
4.70 As the PARAMICS modelling was carried out on a model licensed from WCC, the model and results from it are under the ownership of WCC, with the results being a public document. As such I requested and received a copy of the results spread sheet associated with the PARAMICS modelling contained within the TA.

4.71 The results spreadsheet contains the following text relating to the mitigation tested.

<table>
<thead>
<tr>
<th>Sc3</th>
<th>2021 Ref + Dev (DS0)</th>
<th>DoSomething 0 – the mitigation scheme shown on ADC1085/007A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc4</td>
<td>2021 Ref + Dev (DS1)</td>
<td>DoSomething 1 - an alternative gyratory mitigation scheme shown on ADC1085/008</td>
</tr>
<tr>
<td>Sc5</td>
<td>2021 Ref + Dev (DS2)</td>
<td>DoSomething 2 – an alternative to DS1 with the crossroads signalised</td>
</tr>
<tr>
<td>Sc6</td>
<td>2021 Ref + Dev (DS0a)</td>
<td>DoSomething 0a - the proposed scheme, which is a tweak to DS0</td>
</tr>
</tbody>
</table>

4.72 It is interesting to note that the modelling is based on ADC1085/007A, not revision B as stated in the TA. The revision notes on the drawing state that it was changes to layout.

4.73 Looking at the journey time results, the eastbound journey times of Route 1 and Route 2 for the AM and PM peaks show little variance in the results. However, Route 3 westbound and Route 4 northbound show that in the PM peak not only does the development impact negatively on the journey times but also that the mitigation itself has a significant impact. The results are shown in figures 7 and 8 below.
4.74 Looking at the results of the Journey times the appellant failed to include in the report I am struggling to agree with the premise that the proposed mitigation more than mitigates the impact of the development, indeed figures 7 and 8 suggest the mitigation makes journey times 3 and 4 significantly worse.

4.75 With reference to the graphs shown in Paragraph 8.22, it is not surprising that queues reduce on Blythe Road in the AM peak, over 100 opposing right turn vehicle movements have been removed from the junction. Similarly in the PM peak the removal of the right turn traffic results
in a big improvement in the High Street figures, it's surprising that any queue at all is recorded, as the remaining straight ahead and left turn are unobstructed.

4.76 The real question that needed to be answered is what is the effect of displacing the traffic, onto Church Hill, the performance of the Church Hill junction itself and the surrounding highway network. However, no further PARAMICS results for these areas, despite being available, are included in the TA.

4.77 The mitigation being offered by the Appellants, materially changes the traffic patterns around the crossroads, particularly the Church Hill junctions. The Appellant has chosen not to provide any modelling relating to either of the Church Hill Junctions which is the critical component of the mitigation. It is not clear how this situation was acceptable to WCC.

4.78 With the information provided within the TA it is simply not possible to form an opinion on the effects of either the development or its proposed mitigation. The next stage was to review the additional technical note.

4.79 It appears that WCC shared some of concerns regarding the content of the TA as the technical note was produced. WCC were concerned regarding how the right turn ban into Blythe Road would be enforced, a right turn ban in Churchill is currently in place and can regularly be observed being ignored.

4.80 Other changes to the proposed mitigation include upgrading the existing Zebra Crossing on High Street to a Pelican Crossing.

4.81 A further concern of WCC was that the TA did not provide sufficient explanation on how the development or the mitigation suggested, effects traffic patterns around the network.

4.82 In Paragraph 11 of the Technical Note the Appellants state:

“The Paramics testing demonstrated that diverting traffic away from the crossroads and along Church Hill would have a beneficial effect. This is true not only at the crossroads, but on the wider network”.

4.83 I have already demonstrated in Figures 7 and 8 that not all parts of the junction or the wider network experienced a beneficial effect. Indeed in the results, the Appellants chose to leave out of the TA, the implementation of the mitigation was worse than the development being added with no mitigation scenario.
4.84 The easiest way to look at the effect of the entire network is to make use of the network statistics which are included in the PARAMICS results. Network Statistics use four measures to test the performance of the entire network, these measures include Mean Delay, i.e. the average amount of delay experienced by each vehicle within the network, Mean Distance, the average distance travelled by each vehicle, Number of Vehicles, the number of completed vehicle trips in the study period, Mean Speed, the average speed of vehicles in the study area.

4.85 The network statistics for the Coleshill Model, AM and PM peaks, can be found in figures 9 and 10 below.

<table>
<thead>
<tr>
<th></th>
<th>Mean Delay (s)</th>
<th>Mean Dist. (m)</th>
<th>No.of Vehs</th>
<th>Mean Speed (mph)</th>
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<tr>
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<td>4,156</td>
<td>30,123</td>
<td>34.2</td>
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</tbody>
</table>

Figure 9 AM Peak Network Statistics Coleshill Town Model.

<table>
<thead>
<tr>
<th></th>
<th>Mean Delay (s)</th>
<th>Mean Dist. (m)</th>
<th>No.of Vehs</th>
<th>Mean Speed (mph)</th>
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<td>4,123</td>
<td>30,837</td>
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<td>4,119</td>
<td>30,787</td>
<td>33.6</td>
</tr>
</tbody>
</table>

Figure 10 PM Peak Network Statistics Coleshill Town Model.

4.86 It needs to be remembered that the network statistics cover a wide area and that the development adds 124 total vehicles to the model in the AM Peak and 115 total vehicles in the PM Peak. Some of the changes in the figures seem small but we are talking about the effects of adding 124 and 115 vehicles respectively to a network containing over 30,000 vehicles.

4.87 In both the AM and the PM peak, Mean Delay increases, indicating increased congestion within the model, Mean Distance drops, meaning more time is spent queuing within the network and mean speed decreases as a result of congestion in the network.
4.88 Despite adding 124 vehicles to the network the number of vehicles only increases by 82 in the AM peak, meaning a proportion of trips are being held off the network due to congestion. In the PM peak this is replicated the development adding 115 vehicles to the network yet number of vehicles only increases by 60.

4.89 Even with the development adding a small number to the Coleshill Model the impact is clearly discernable and significant. I am struggling to see how the Appellants can claim a beneficial effect to the wider network.

4.90 Appendix B of the Appellants Technical Note deals with the mitigation schemes impact on the wider network, in paragraph B4 the Appellants assert that the mitigation reduces queueing. However, as stated in B2, the Appellants for ‘brevity’, have only supplied the AM peak figures. Figures 11-15, below, show the same junctions in the PM peak, with the exception of Junction 1 which was included in the original TA and was discussed above.

![Figure 11 Junction 2.](image-url)
Rule 6 Statement by Over Whitacre Parish Council
Daw Mill Colliery, Daw Mill Lane, Arley, Warwickshire

January 2017

![Figure 12 Junction 3](image1)

![Figure 13 Junction 4](image2)
4.91 With the odd exception the picture in the PM peak is that the Appellants proposals does not offer benefits to the wider network.
4.92 The junctions listed 1-6 within the PARAMICS Model are the standard junctions selected by WCC, for their purposes, and set up in the results spreadsheet. It is not clear why the Appellants have not supplied results for the Church Hill / Blythe Road junction, critical to their mitigation, particularly as this junction was modelled. The process for adding this junction to the result outputs is simple and would be standard practice in such modelling scenarios.

4.93 The PARAMICS model is not available for us to use, however the flow data, extrapolated from the PARAMICS model and used by the Appellants, is available. Therefore, a modelling exercise using traditional modelling software, Junctions 8, was used to model the Church Hill / Blythe Road junction. It should be noted that Junctions 8 cannot carry out microsimulation, will assume that no blocking back is occurring, that all inputs and outputs are of an infinite length, namely nothing will stop vehicles entering or exiting the junction other than opposed turning movements. The result of this, a weakness of traditional modelling techniques in congested networks, is that the modelling will simply calculate the theoretical ratio of flow over capacity or RFC, with an RFC of 0.85 the capacity of a junction. The full modelling report is included in Appendix 4, the arm labeling convention is shown in Figure 16 and a summary of the results is shown in Figure 17, below.

### Arms

<table>
<thead>
<tr>
<th>Name</th>
<th>Arm</th>
<th>Description</th>
<th>Arm Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Blythe Road East</td>
<td>A</td>
<td>A - Blythe Road East</td>
<td>Major</td>
</tr>
<tr>
<td>B - Church Hill</td>
<td>B</td>
<td>B - Church Hill</td>
<td>Minor</td>
</tr>
<tr>
<td>C - Blythe Road West</td>
<td>C</td>
<td>C - Blythe Road West</td>
<td>Major</td>
</tr>
</tbody>
</table>

Figure 16 Junction Arm Labels
Figure 17 Junctions 8 Output for Church Hill / Blythe Road Junction

4.94 Figure 17 demonstrates that the introduction of the mitigation has a detrimental effect on the right turn movement from Church Hill. In the PM peak a queue of less than one increases to just under six vehicles, with the RFC Reaching 0.88, namely beyond the theoretical capacity of the junction.

4.95 As stated above, for a number of reasons, the traditional modelling will underestimate the true impact of this movement, only a microsimulation model being able to show the full extent of the queuing and delay, in a constrained and congested network. Although the Appellants have not provided the PARAMICS results of this junction, the result spreadsheet does contain a screen shot of the junction during the PM peak, which is shown in figure 18 below.
4.96 The queue of vehicles seen on Church Hill is 27, queueing can also be seen on the High Street with vehicles being held up turning into Church Hill. It is appreciated that this is just a snap shot of the model running, however it would suggest that the Appellants have been able to demonstrate improvements, in certain periods, by displacing the queues onto other, less appropriate, areas of the nearby network.

4.97 The Appellants have also had the mitigation as shown on drawing ADC1085/007B undergo a Stage 1 Safety Audit. This audit raised 6 problems, the majority of the issues were dealt with by the production of the current layout being considered, or by undertaking to look at the issues in the detailed design phase. However, one of the issues raised needs to be considered further before the scheme can satisfy the audit process.

4.98 Problem 2.2 highlights the lack of visibility to the left at the Church Hill / Blythe Road Junction. The appellant’s assertion that visibility can be achieved, by measuring to the center line is not accepted. Access to informal parking takes place along this section and traffic accelerating away from the Green Man Crossroads can be observed overtaking vehicles waiting to pull off Blythe Road. The Appellants mitigation greatly increases right turns from this junction and the visibility will be critical. The assertion that overtaking is not possible due to queuing traffic is partially accepted, however this takes place mainly in the peak hours, and when queuing is happening it would fully obscure visibility from the junction. Drivers
emerging from the junction turning right, will need to do so with very little visibility and rely on the box junction being enforced. I therefore agree with the Auditor the visibility either needs to be improved or mitigation provided.

4.99 As a result of the Audit we are left with the current proposed mitigation scheme as shown in ADC1085/007C. The current mitigation has removed the right turn bans, removed or reduced widening to Church Hill and introduced a Pelican Crossing. Not only has the new proposed crossing not undergone a Road Safety Audit, but this layout is fundamentally different to ADC1085/007A which was used to produce all of the modelling submitted in the TA and this technical note.

4.100 The current proposals in ADC1085/007C will have a significantly different effect on travel patterns in and around the Crossroads. Effectively the Appellants are asking the Highway Authority, the Local Planning Authority and the Planning Inspectorate to accept a major mitigation scheme without being supported by any transport modelling.

4.101 Figure 19, below, shows the turning count diagram used in the 2021 Ref + Dev (DS0a), the modelling scenario used by the Appellant. The turning count is from the PM peak period.
4.102 As seen in the above figure, a large proportion of vehicles on High Street are now turning right onto Church Hill. Looking at drawing ADC1085/007C we can now see that the right turn bans have been removed from the mitigation, the mitigation for High Street simply being the provision of new directional signs, which exclude HGV’s. It is difficult to see how these non-standard signs can be enforced.

4.103 PARAMICS Models dynamically assign vehicles to routes, namely a vehicle will take the cheapest and fastest route to its destination. For High Street traffic, wishing to go onto Blythe Road, this means going through the Crossroad junction, as this entails one single right turn maneuver. The alternative route, Church Hill, requires a right turn, travel along a road with restricted width, numerous side accesses and parking, before making a final right turn onto Blythe Road through a junction with limited visibility to the left and susceptible to blocking back from Blythe Road Traffic trying to get through the Crossroads junction itself.

4.104 It is accepted that when the Crossroads junction becomes congested and begins to queue back down the High Street the alternative Church Hill Route becomes more attractive and rerouting will occur. However, a direct result of the rerouting would be an improvement on the Crossroads thus making this route attractive again. So within the peak hours, traffic will dynamically route and reroute between the Crossroads and Church Hill. However, as previously stated the PARAMICS modelling is not based on the mitigation being offered by the Appellants, but is based on drawing ADC1085/007A, which has right turn bans in place and widening to Church Hill. PARAMICS struggles to replicate this scenario, it is not possible to provide a right turn for HGV’s only and ban cars, vehicles will always find the easiest route. So the only way the Appellants could force traffic to use Church Hill was to completely remove the right turn from the Crossroads to Blythe Road. This can be seen in Figure 19 above. In the PARAMICS model submitted by the Appellants even HGV traffic is forced to turn right into Church Hill, this is both unrealistic and physically impossible, due to the restricted nature of the road.

4.105 A demonstration of what happens in the PARAMICS model when the right turn movement is in place in the model is shown in the screen shot in figure 20, which was taken in the exact same time frame as the screen shot shown in figure 18 and shows a lot less traffic on Church Hill.
As stated above, ADC1085/007C, has removed the proposed widening on Church Hill. An inset on the drawing shows two cars being tracked around the tight bend on Church Hill. This drawing clearly shows that for two cars to pass at the pinch point, the vehicle track of the car on the inside of the bend crossing over the kerbline, which would put any pedestrian in that area at risk of being struck by a vehicle. It should be noted that Church Hill, as well as serving the church serves a number of residential and business properties, which would trigger movements from larger vehicles for deliveries waste collection etc. If two cars cannot pass at the pinch point, a car and a refuse truck would be even worse. It is acknowledged that this is an existing situation, but the quite nature of Church Hill allows drivers to give and take at this pinch point. The introduction of more vehicles on this route, as planned by the Appellants, will lead to greater vehicle conflicts in this area which would be detrimental to both vehicle and pedestrian safety.
5.0 HIGHWAY AUTHORITY RESPONSES TO THE PLANNING APPLICATION

5.1 This section of my proof will review the responses made by WCC, acting as Highway Authority, during the progression of the application.

5.2 Three responses were made to the LPA, these being:

- Letter of Objection dated 24th August 2015;
- Letter of No Objection dated 7th October 2015,
- Letter of No Objection dated 16th October 2015.

5.3 The letter of Objection, sets out the concerns of WCC in relation to the work carried out in the TA and states:

"The justification for the Highway Authority's objection to the development proposals are based on the modelling exercises which have been undertaken. The applicants and their consultants have not been able to demonstrate a suitable set of mitigation measures to resolve the identified impact that the development will have upon the safe and efficient operation of the highway network".

5.4 Although the main area of concern, detailed in the remainder of the response, is the impact upon Coleshill, it is clear there are concerns for all of the mitigation put forward.

5.5 The response goes on to say:

"The applicants consultants have been working with the Highway Authority to identify a suitable solution with four different mitigation schemes being identified and tested. However none of the schemes tested adequately resolved the Highway Authority's concerns about the developments impact upon the safe and efficient operation of the highway network".

5.6 The four mitigation schemes, referred to are detailed in Paragraph 4.71 of this proof, and for ease are repeated below.
5.7 The response goes on to detail the Authorities main concerns relating to the proposals for the Green Man Crossroads, namely the introduction of the right turn ban from High Street to Blythe Road. The main body of the response ends with the following:

“Due to the issues highlighted above the Highway Authority requests that the developers and their consultants reconsider the Green Man Crossroad Signalisation proposals, and provide clearer evidence on the impact of the mitigation measures on the operation of the highway network”.

5.8 The Objection concludes by stating:

“In conclusion the Highway Authority at present cannot guarantee the safe and efficient operation of the highway network, as the applicants has not been able to identify suitable mitigation measures to resolve their impact upon the highway network. Therefore the Highway Authority has no other option to object to the planning application at this time”.

5.9 In conclusion the Authority states the Appellant has not been able to demonstrate that the Appeal Proposals can be safely accommodated on the Highway Network.

5.10 In October 2015, the Highway Authority makes two further responses, both of No Objection. The main difference between the responses was that in the fist No Objection the Authority requested the following Section 106 Payment to the Council:

“Prior to commencement of either groundworks, remediation or built construction the Highway Authority will request the sum of £20,000 to carry out further studies into existing issues on the highway network in Coleshill, and identify further future improvements to the highway network”.

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<td>Sc5</td>
<td>2021 Ref + Dev (DS2)</td>
<td>DoSomething 2 – an alternative to DS1 with the crossroads signalised</td>
</tr>
<tr>
<td>Sc6</td>
<td>2021 Ref + Dev (DS0a)</td>
<td>DoSomething 0a - the proposed scheme, which is a tweak to DS0</td>
</tr>
</tbody>
</table>
5.11 The works identified by the Appellants for the Green Man Crossroads, were also conditioned. It is my understanding that concerns were raised regarding the request for the S106 payment and it was withdrawn, leaving us with the response of the 16th October.

5.12 It appears that the final response of WCC was made after reviewing the additional information submitted by the Appellants, which included the Coleshill Technical Note and the latest revision to the Green Man Crossroads scheme as shown on drawing number ADC1085/007 Rev C.

5.13 The response of the 16th October states that the Highway Authority revises its response to no objection subject to conditions and financial obligations. However, it should be noted that no financial obligations have been requested.

5.14 After some background information the response includes a section for the existing consented use of the site and states that the existing consented use for the proposed site is that of a Colliery. This is not the case, the consented use for the site is that of Green Belt, something which all of the parties to the appeal are in agreement with. It appears the Authority may have be operating under a miss apprehension when considering the site, which is apparent later in the response covering trip generation of the existing and proposed uses.

5.15 The Authority appear to lean heavily on the Appellants TA when discussing trip generation for the site, reproducing large sections of it in their response. No analysis has been undertaken on the Appellants historical data which is not supported by any evidence. Section 4 of this proof has demonstrated areas of serious doubt on the figures used by the Appellants TA, including traffic movements and employee numbers.

5.16 In summary the Highway Authority concludes it has considered the trip rates and trip generations and concludes that there are no justifiable reasons to object to this element of the TA. However, as raised in Section 4 of this proof the TRICS analysis included in the TA not only did not follow best practice, but also included a partially occupied single site to derive its trip rates, leading to a significant underestimation of the trips generated by the Appeal proposals. This is something which is immediately apparent on review and it is not clear how it was missed.

5.17 The response goes on to discuss mitigation. As previously state there are no major issues, bar the unsuitable traffic figures used in the modelling, with the B4098 Tamworth Road / B4114 Nuneaton Road Priority Junction.
5.18 The B4098 / B4102 Fillongley Crossroads is considered next, the modelling work for the existing junction is discussed before moving on to the mitigation scheme, a signalised junction, and the associated modelling. The Authority raises no concerns with the junction and states that this view is confirmed by the WCC Traffic Signals Team who raise no objection to the mitigation proposals. Section 4 of this proof, demonstrated that the modelling and the layout of the junction raised serious concerns relating to the modelling, cycle times, pedestrian crossing lengths and the ability to deliver the scheme on site. I find it very difficult to believe that the information submitted to the LPA has been reviewed by a Signals Engineer and even more so that no objections have been raised to such fundamental issues.

5.19 The Road Safety Audit is discussed and the response states that the Road Safety Team have advised that there are no highway safety concerns regarding the proposed mitigation scheme. The Audit itself raises 8 safety issues, two of which have outstanding actions including a departure from standard. If WCC's Road Safety Team have reviewed the Audit it is not clear why they are not following their own policy and signing off the departures from standards, which as stated above is a mandatory requirement.

5.20 These issues are replicated in the review of the B4098 / B4114 / B4116 Furnace End Crossroads, similar problems arise with the addition that the junction is not street lit, which should have thrown up major concerns for WCC’s Traffic Signals Team. The associated Road Safety Audit once again requires departures which appear to have been ignored by WCC’s Road Safety Team.

5.21 However, my greatest concerns arise with the analysis of the B4114 / B4117 Green Man Crossroads. The response details the existing situation and the mitigation scenarios assessed in the TA to which the Authority had previously Objected to.

5.22 The response goes on to describe the changes made to the proposed mitigation scheme as shown in drawing number ADC1085/007 Rev C, removal of the right turn bans, removal of the widening to Church Hill and the conversion of an existing Zebra Crossing to a signalised crossing.

5.23 After this description the response states the following:

“ADC have modelled this proposed mitigation scheme and the results for journey times of vehicles travelling through the Green Man Crossroads are demonstrated below”;

5.24 After the statement the table produced is the selected journey times, which is discussed in 4.68 of this document. The Appellant produced a table that only showed the Journey Times
that had reduced, ignoring those that demonstrated that the mitigation actually made the situation worse.

5.25 What is more concerning is that the Authority, believes that the Appellants have modelled the mitigation shown in drawing number ADC1085/007 Rev C, it has already been demonstrated that the modelling was carried out on a different scheme, which included total right bans from High Street to Blythe Road, carried out widening and other improvements to Church Hill and did not include a pedestrianised crossing. This is clearly shown in the evidence submitted by the Appellants and in my opinion shows how little analysis of the TA has been carried out by WCC.

5.26 The response goes on to say that WCC’s Road Safety and Signal Engineers have raised any objections or concerns based on their assessments.

5.27 Firstly no Road Safety Audit has been submitted for ADC1085/007 Rev C. This is a requirement of WCC Policy and national guidance Design Manual for Roads and Bridges HD 19/15, which sets Road Safety Audits as a mandatory requirement of any improvement scheme. Again it is not clear why WCC’s Road Safety Team have not raised this.

5.28 The response refers to the pedestrian crossing on drawing number ADC1085/007 Rev C as a Puffin Crossing, whereas the Appellants are proposing a Pelican crossing as shown on their drawing and supporting technical note. Although both are signalised crossings they are very different in design and operation.

5.29 Pelican Crossings were the original signalised pedestrian crossings, and rely on off side indication, namely the green man signal is illuminated on the far side of the road. A Pelican also includes a flashing amber phase which allows vehicles to enter the crossing if it is clear of pedestrians.

5.30 A Puffin crossing uses nearside indication, with the green man positioned on the push button controller. The Puffin crossing also makes use of pedestrian and vehicle detection and can increase crossing times, if pedestrians are still in the road, and do not include a flashing amber phase. The Puffin crossing was developed in a direct response to safety concerns with the operation of Pelican Crossings and their poor safety record. Although you can see Pelican Crossings still in place, they are gradually being phased out and no new ones have been installed for a number of years.
5.31 The lack of any design or timings relating to the proposed crossing and it being identified as a Pelican crossing makes it very surprising that WCC’s Signal Engineers have raised no concerns.

5.32 Looking at the quote in 5.3 above, from the original Objection submitted by the Highway Authority, it can be seen that their objection was based on the Appellants not being able to identify suitable mitigation measures in terms of both safety and capacity.

“The justification for the Highway Authority’s objection to the development proposals are based on the modelling exercises which have been undertaken. The applicants and their consultants have not been able to demonstrate a suitable set of mitigation measures to resolve the identified impact that the development will have upon the safe and efficient operation of the highway network”.

5.33 The only additional information submitted was the Road Safety Audits, which identified issues with the design and areas of departure from standards which required assessment and sign off. The modelling for the Fillongley and Furnace End is flawed, being based on unrealistic traffic figures and a signal cycle time which would be detrimental to pedestrian safety. In addition the designs proposed cannot be delivered. It is therefore difficult to see what has moved the Authority from its Objection.

5.34 With regards to the Green Man Crossroads, the modelling submitted by the Appellants is covered in the quote discussed in 5.5 of this document:

“The applicants consultants have been working with the Highway Authority to identify a suitable solution with four different mitigation schemes being identified and tested. However none of the schemes tested adequately resolved the Highway Authority’s concerns about the developments impact upon the safe and efficient operation of the highway network”.

5.35 It was the Highway Authorities position to Object to the application based on the Modelling submitted by the Appellants. No further modelling has been carried out, and the mitigation now proposed is some directional signs, realignment of parking bays on Church Hill and a signalised pedestrian crossing. The current mitigation for the Green Man Crossroads has not been modelled or Safety Audited. As demonstrated in Section 4 of this document the Appellants proposals, far from providing betterment, actually make the situation worse and is detrimental to highway safety. It is therefore difficult to understand why the Authority has removed its Objection.
5.36 The conclusion of the authorities original Objection was as follows:

“In conclusion the Highway Authority at present cannot guarantee the safe and efficient operation of the highway network, as the applicants has not been able to identify suitable mitigation measures to resolve their impact upon the highway network. Therefore the Highway Authority has no other option to object to the planning application at this time”.

5.37 As the Appellant has been unable to identify suitable, deliverable and safe mitigation it is my opinion that nothing presented to the LPA should have led the Authority to withdraw its Objection.

5.38 The Highway Authorities letter of No Objection is substantial, standing at 17 pages long. However, as demonstrated above, large sections of it simply reproduces information readily available in the Appellants submissions. No detailed analysis or review of the TA or other associated technical notes has taken place. Fundamental errors in the Appellants data have been missed and assumptions have been accepted with no evidence to substantiate them. The Highway Authority is also working under the false assumption that the mitigation before them has been modelled, which it has not.

5.39 As such little or no weight can be given to the No Objection submitted by the Highway Authority. Highways remains an outstanding issue with regards to the Appeal Application and needs to be fully assessed and considered as part of the Appeal decision.
6.0 SUMMARY AND CONCLUSIONS

6.1 Section 3 of this Proof, reviewed the TA submissions of the Appellants, bar the mitigation which was discussed in Section 4.

6.2 Throughout the documents submitted by the Appellants, multiple assertions are made regarding the existing traffic generation of the proposed site, despite the site being Green Belt.

6.3 A number of errors were highlighted in the assumptions made by the Appellants regarding both the traffic figures, cars and HGV movements, and the employment numbers of the former Colliery use.

6.4 In generating the trip rates for the Appeal Proposals, the Appellants made a series of errors, ignoring best practice guidance and only using a single site to set the rates. Unfortunately, the survey used was taken when the site was only partially occupied which led to a large underestimation of the potential traffic generation of the Appeal Site. This error was carried through all aspects of the modelling carried out in the TA.

6.5 The Appellants have submitted a Travel Plan for the site which does not follow national or WCC guidance. It is not clear how the plan will be enacted or enforced as no Section 106 Agreement, as recommended by WCC guidance, has been entered into. Even if the plan was successful, the target set is not particularly challenging. Assuming the Plan Works this would still mean that for every 100 employees there would be 95 single occupancy vehicle trips to and from the site.

6.6 The TA and TP contradict each other with regards to vehicle generation and parking requirements.

6.7 Section 4 of the Proof deals with the mitigation being proposed by the Appellants, namely:

- B4098/B4102 (Fillongley Crossroads);
- B4098 Tamworth Road/B4114 Nuneaton Road junction;
- B4098/B4114/B4116 (Furnace End Crossroads);
- B4114/B4117 (Coleshill Crossroads).

6.8 The Fillongley Crossroads design includes a number of errors and departures from design standards, such as Junction Intervisibility and pedestrian crossing facilities. The design
presented and modelled cannot be delivered within the highway boundary and requires 3rd party land.

6.9 The Fillongley Crossroads Modelling has not been carried out to the required standard and makes unrealistic assumptions regarding pedestrian crossing times. As a result the modelling submitted by the appellants is significantly overestimating the capacity of the mitigation junction.

6.10 The Tamworth Road/Nuneaton Road junction did not raise any particular concerns, however, the modelling used to assess the junction was undertaken using the Appellants flawed trip generation, so conclusions on whether the priority of the junction needs changing are difficult to make.

6.11 Furnace End Crossroads produced the same design errors seen in the Fillongley Assessment. The design creates departures from standard, which have not been addressed and the scheme cannot be delivered without land outside of the Appellants control. The mitigation has also failed to take into account that the junction is currently not street lit. Signalised pedestrian crossings need to be lit, so the street lighting design for the whole junction needs to be assessed.

6.12 The Furnace End Crossroads Modelling has not been carried out to the required standard and makes unrealistic assumptions regarding pedestrian crossing times. As a result the modelling submitted by the appellants is significantly overestimating the capacity of the mitigation junction.

6.13 With regards to the Coleshill or Green man Cross roads the Appellants carried out a PARAMICS Modelling exercise on a number of mitigation options. No associated documents to the PARAMICS Modelling were submitted to the LPA so checks to the future year model and the assumptions made cannot be checked or verified.

6.14 In the TA he Appellants assert that there mitigation would significantly reduce both queues and delays. However, the Appellants only produced a partial set of results, and only the results which showed their mitigation in a positive light. When all of the results are looked at together it demonstrates that the mitigation in fact has a significant detrimental impact on the surrounding network.

6.15 The Appellants provided a further set of modelling results in a Technical Note regarding the Crossroads. Unfortunately, once again they only supplied modelling results that showed the mitigation scheme to provide benefits. Section 4 of this document includes the results the
Appellants left out which shows the true, negative, impact of the development on the network.

6.16 The mitigation schemes considered by the Appellants, forces traffic to use the Church Hill/Blythe Road Junction. Despite carrying out modelling of this junction, the results were not extracted from PARAMICS. However, extrapolating the traffic figures from the model it was possible to use a traditional junction model to demonstrate the impact on the junction, which was supported by a screen shot from the PARAMICS model showing significant queuing on the junction, Church Hill and on the High Street.

6.17 Section 5 of the Proof reviews the Highway Authorities responses to the Appeal Application. Initially the Authority objected to the scheme, however, despite none of the reasons for the objection being satisfied, the Authority lifted its objection to the scheme.

6.18 Fundamental flaws have been identified in the Highway Authority’s review and analysis of the submitted documents, and it has been highlighted that the final response was made under the incorrect assumption that the final mitigation had been modelled.

6.19 Not only did the Appellants provide misleading partial results, the final mitigation scheme being offered for the Crossroads has not been modelled or passed through a Road Safety Audit, which is not acceptable for an application of this size particularly when it effects a congested part of the highway network.

6.20 The only reasonable conclusion that can be drawn from this is that there are serious question marks over the transport submission to the application and the response of the Highway Authority, therefore, Highways remains a material consideration in the determination of the Appeal, despite not being a reason for refusal.

6.21 The major test for Highways and Transport, in planning terms, is the National Planning Policy Framework Paragraph 32 which states;

‘All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether;

• The opportunities for sustainable transport modes have been undertaken depending on the nature and location of the site, and to reduce the need for major transport infrastructure;
• Safe and suitable access to the site can be achieved for all people; and,

• Improvements can be undertaken within the transport network that cost effectively limit the significant impact of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of the development are severe.’

6.22 With regards to the first bullet point, the Appellants themselves state that due to the location of the site no pedestrian, cycling or public transport issues have been considered. A Travel Plan has been produced, but not to the required standard of WCC and at best would still mean that 95% of people arriving at the site would do so, travelling alone in a car.

6.23 The second point deals with safety, a number of issues have been raised with regards to the safety of the mitigation being offered. Including departures from standards in design which, despite being a mandatory requirement, have not be assessed and signed off. The access to the site has not even been considered, either in design or modelling.

6.24 This proof has also demonstrated that far from providing mitigation, the major improvement, suggested by the Appellants, for the Green Man Crossroads not only does not mitigate the impact of the development but in areas makes it significantly worse.

6.25 The Appeal application and the mitigation as proposed is detrimental to highway safety, particularly to vulnerable pedestrians and is considered to have a severe impact. When held up against Paragraph 32 of the NPPF the Appeal application is found wanting.

6.26 It is appreciated that the reasons for refusal did not include a Highways reason, however reason for refusal 1, Green Belt, did include the following:

“There is also considered to be moderate highway impact as a consequence of whether the mitigation proposed has a reasonable prospect of being implemented”.

6.27 The NWBC Members were quite right in this assumption, this Proof having demonstrated that three of the four proposed mitigation measures cannot be implemented.