

TOWN AND COUNTRY PLANNING ACT 1990

Appeal by South West Milton Keynes Consortium, comprising: Taylor Wimpey UK Ltd, Hallam Land Management Ltd, William Davis Ltd, Bellcross Homes and Connolly Homes

Against the Refusal by Milton Keynes Council of an application for the following proposed development:

Outline planning application for physical improvements to the Bottledump roundabouts and a new access onto the A421 (priority left in only) to accommodate the development of land in Aylesbury Vale District reference 15/00314/AOP (for Outline planning application with all matters reserved except for access for a mixed-use sustainable urban extension on land to the south west of Milton Keynes to provide up to 1,855 mixed tenure dwellings; an employment area (B1); a neighbourhood centre including retail (A1/A2/A3/A4/A5), community (D1/D2) and residential (C3) uses; a primary and a secondary school; a grid road reserve; multi-functional green space; a sustainable drainage system; and associated access, drainage and public transport infrastructure - EIA development)

At

Land At Buckingham Road, Tattenhoe Roundabout Standing Way To Bottle Dump Roundabout Milton Keynes

Planning Inspectorate ref: APP/Y0435/W/20/3252528

Local Planning Authority Ref: 15/00619/FUL

Rebuttal Proof of Evidence

of

James Bedingfeld

On behalf of

Buckinghamshire Council

28th April 2021

1. I submit this Rebuttal Proof of Evidence to respond to certain matters in the Highways / Transportation Proofs of Evidence by James McKechnie on behalf of MKC (13th April 2021) and Clive Burbridge on behalf of Newton Longville Parish Council and West Bletchley Town Council (April 2021). This Rebuttal should be read alongside my main proof of evidence dated 13th April 2021. My evidence is fully set out in my main proof and I do not repeat it here. I only deal with certain points from Mr. McKechnie's and Mr. Burbridge's evidence which will particularly benefit from comment in advance in writing and to assist the inquiry. I do rehearse wider points of disagreement, which are clear from my main proof. Where this rebuttal does not deal with any specific point raised in Mr. McKechnie's or Mr. Burbridge's proof of evidence, that should not be taken as acceptance of the point.

Adequacy of evidence base

2. Paragraphs 3.1.4-5 and 6.2.6 of Mr McKechnie's Proof states

3.1.4 The 2020 TA and subsequent TRN1-3 identify locations where significant queuing and delay are predicted, as described in detail in Section 6 of this proof of evidence. However, WSP argues that drivers would re-route to avoid those locations. Whilst that may be the case, there is no further detailed assessment of where that re-routing would occur, or what its impacts might be.

3.1.5 Given WSP's view that the MKMMM provides sufficient information, there is no analysis of that model within the 2020 TA or TRNs. This renders the 2020 TA and TRNs insufficient as an evidence base to support a development of this scale and level of predicted impact. The appellant cannot argue that its evidence over-predicts traffic impacts in some locations (e.g. the A421) without providing evidence as to where drivers may re-route / what the impact of that re-routing would be. That insufficiency of evidence is contrary to the requirements of the NPPF, NPPG and the EIA Regulations.

6.2.6 It is not for MKC to have to undertake that additional modelling work on behalf of the developer, whereas the appellant could have instructed AECOM to progress a scheme-specific assessment (it did not do so because it did not accept the validity of the model, for the reasons set out previously). Alternatively, WSP could have produced its own modelling which would be capable of assessing redistribution across the wider network - e.g., using microsimulation modelling. As set out in paragraph 1.4.1 of this proof, MKC has repeatedly requested WSP to undertake the work required to provide a comprehensive assessment of the extent and effect of traffic redistribution across the network.

3. Mr Burbridge raises similar arguments (e.g. the end of paragraph 2.8).
4. In respect of modelling, it was agreed at the commencement of the Transport Assessment (TA) scoping process, 15th January 2020 that neither the Milton Keynes Multi-Modal Model (MKMMM) or Buckinghamshire Council (BC) County Wide model would be appropriate in determining the outcome of the traffic impact on the whole network, as detailed in Section 7 (i) of my proof of evidence. It was agreed with all parties that the manual spreadsheet based junction modelling exercise would be the most appropriate methodology to provide a consistent approach across the network. Whilst it is accepted that this methodology only

considers those junctions that form part of the assessment process, these junctions and the extent of the network to be assessed were also agreed.

5. The methodology used provides a robust interrogation of the junctions under review, and is likely to represent a worst case scenario. It is accepted that this may result in movements to adjacent roads, however, as detailed in Mr. McKechnie's evidence (e.g. paragraph 6.2.3) AECOM modelling forecasts widespread congestion and delay across the highway network within Milton Keynes, as evidenced within the junction modelling with a number of junction already operating over capacity within the assessed network. By implementing the mitigation package, as detailed in TRN3, it has been shown that overall most junctions will operate at the same level or better than the current layout using the Do Nothing scenario. Although some arms may perform worse, when considering each junction as a whole across both peak periods improvements can be observed. It is the view of BC highways officers that the mitigation proposals along the A421 have the potential to attract greater use, drawing traffic away from currently congested roads, in addition to taking some movements away from the A421 to others following improvements to the local network, with the most likely outcome that this would balance across the surrounding network.
6. As noted, the AECOM modelling forecasts widespread congestion and delay across the highway network within Milton Keynes. The requirement to develop a calibrated microsimulation model is considered to be excessive for assessment purposes. The larger a microsimulation network, the greater the amount of data is required to ensure a robust model. This includes data for calibration and validation purpose and could be vast. This would result in an excessively complicated set of processes and subsequently the potential to lead to unrealistic or unreliable set of results. For a network of this scale the use of a strategic model would be more viable, but as detailed previously the use of the current strategic models were not deemed to be appropriate for the reasons as detailed in Section 7 (i) in my proof. The data collection and subsequent calibration of the junction models is considered to be a robust and accepted methodology.

Junction Model Updates: J6 Bottledump roundabout

7. Paragraph 6.3.3 to 6.3.5 of Mr McKechnie's Proof states:

6.3.3 Regarding Junction 6: Bottledump Roundabout, it appears that lane simulation has been used to model the entry to the junction with no flare ('widening on approach') which, given that the approach to the roundabout has a clear flare, is inconsistent with the mitigation drawings that have been provided.

6.3.5 TRN362 does not explain why lane simulation has been used in this way. The lane simulation feature within the model is primarily used to assess junctions where there is unequal lane usage (i.e., a higher proportion of vehicles in one lane than another), whereas in this case the percentage of vehicles using each lane has not been altered from the 50/50 default.

6.3.6 This removal of the flare effectively undermines the entry capacity formula by approximately 300 vehicles per hour (vph). There is consequently no robust model with which one can take a view as to the likely operation of the junction.

8. On this matter, the lack of flare is based on a requirement made by BC highways. There is a known issue in the Junctions 9 software in the lane simulation model where the double counting of flare will negatively impact on the results. An independent review by JCT Consultancy was performed in 2018 that demonstrated the issue in a number of examples, with the document provided in the core documents (CD13/L). This provides details of recommended methodology to overcome this issue and the Appellant was instructed to utilize this methodology to ensure good practice.

Junction Model Updates: J5 Tattenhoe roundabout

9. Paragraph 6.3.8 to 6.3.12 of Mr McKechnie's Proof states:

6.3.8 There is a fundamental flaw with the model construction, concerning the length of the carriageway 'links' between the stop-lines on the roundabout and their resulting capacity. This has previously been discussed with the appellant, and WSP has therefore provided an explanation at TRN3 paragraphs 5.2.11 and 5.2.12.

6.3.9 WSP implies that, as the longest Uniform Queue (UQ) at this location is 3.1 PCU (Passenger Car Units) before the lights turn green, this does not present an issue (Table 5.5 within TRN3).

6.3.10 3 PCU equates to approximately 17m of queuing from the stop line, and a corresponding stacking ('queuing') capacity of 16-20m has been provided. However, a fluctuation of one additional vehicle in the queue could cause blocking of the junction exits.

6.3.11 LinSig models queue lengths in three components, of which UQ is one. The Mean Max Queue (MMQ) is an average of those three components, and provides a more realistic indication incorporating measures of additional queuing ('random and oversaturated queues'). Lanes 1 and 2 on the west gyratory have a MMQ of 6.3 and 6.7 respectively, which would require in excess of 34m of queuing space (compared with the 16-20m available).

6.3.12 Similarly, an articulated HGV stopped at the lights would completely or partially block the exits of the roundabout as shown below:

10. On this issue, use of uniform queues (in place of Mean Max Queue (MMQ)) is considered to be appropriate. As the roundabout is and should be coordinated effectively and the arms remain below 80% DoS, random and oversaturated delay/queuing is not of concern on the internal arms. It is also likely that through the detailed design process further refinement and enhancement of the junction modelling is likely to occur that can further reduce the

possibility of partial blocking. BC highway officers are confident that the proposed scheme is feasible and that the proposed mitigation is appropriate and satisfactory.

Mitigation proposals: drawings adequacy

11. Paragraph 6.4.1 to 6.4.2 of Mr McKechnie's Proof states:

There is a general problem with many of the junction drawings provided by the appellant, which appear to be plans to inform modelling assessments, more than the type of General Arrangement plans required at planning stage. The plans lack details in relation to geometry, visibility, signage and other important matters which need to be confirmed before the granting of any planning consent.

At present, the pack of proposed mitigation drawings lacks the level of detail that would be required for the works to be conditioned. They are also based on Ordnance Survey (OS) mapping which needs to be qualified with on-site measurements or, preferably, topographical survey given the nature of some of the issues which have been identified.

12. On this issue, the drawings provided for assessment are feasibility stage drawings, used to determine whether the overall principle of the revised junction is achievable and acceptable. At this stage the use of CAD files is generally considered an acceptable method of developing designs, with subsequent detailed design to be based on future topographical surveys once the overall principle of the junction form and operation has been confirmed. BC highways consider that the drawings provided for review, along with the provided Road Safety Audits that include details of possible departure from standards, provide a suitable and acceptable level of detail for assessment purposes.

Junction 1: Buckingham Road/Sherwood Drive/Water Eaton Roundabout

13. Both Mr. McKechnie and Mr. Burbridge raise a number of concerns with the modelling and design of J1 Buckingham Road/Sherwood Drive/Water Eaton Roundabout.

14. Mr. Burbridge raises an issue with the use of the Lane Simulation tool, suggesting that in addition to the Lane Simulation model a traditional (core) ARCADY assessment should also have been performed. Based on current lane usage observed at the junction on both Buckingham Road arms a core model would have overestimated capacity on these approaches, resulting in underestimation of queues and delay, which would have then required significant capacity corrections to match observed data. Lane simulation was developed to allow the modelling roundabouts where unequal lane usage occurs and is considered the most appropriate tool / model to utilize in the assessment of the junction.

15. Mr. McKechnie raises a number of points in relation to relocation of street furniture to suit revised kerb lines or removal of verge. Whilst these points are raised in the Road Safety Audit, it is considered that details of this nature fall within the scope of the later detailed

design stage(s) and s278 review and discussions, and that mitigation could be identified at this stage to ensure appropriate lighting levels could be maintained.

16. Mr. McKechnie also raises concern over the relocation of the northern bus stop layby and distance from the existing pedestrian refuge island. The bus shelter would be approximately 40 m east of its current location and would be located at the end of the two lane section with a combined stacking space of 160 m (or 28 vehicles). Whilst there is a potential for blocking to occur back to the roundabout there is significant storage space to cater for waiting vehicles for what would likely be relatively short stay stopped buses. In regard to the distance from the crossing, it is not considered that the additional 40 m is an excessive distance to access a safe crossing location.
17. Mr. McKechnie also raised some comments on the geometric layout of the junction, specifically the entry path curvature on Buckingham Road (E) and visibility for Water Eaton Road. No issues were raised on either of these items in the Road Safety Audit, nor I am aware of any related collisions that relate to these geometric parameters. The collision review in the updated TA (2014 to 2019) shows that no collisions have occurred on Water Eaton Road and what appears to be two slight collisions on Buckingham Road (E).
18. Mr. Burbridge raises concern over the queuing that would occur at the junction taking into account the mitigation scheme. It is accepted that there would be slight worsening of results for Sherwood Drive in both peaks, and Water Eaton Road in the PM but overall the junction results would see an improvement considering both peaks compared to 2033 DN with Buckingham Road arms seeing the greatest capacity improvements, as detailed in paragraph 8.4.2 in my Proof of Evidence.

Junction 2: Buckingham Road / Shenley Road Mini-Roundabout

19. Mr. McKechnie raises several points in relation to Junction 2. The first relates to the loss of footway on the northern side of Buckingham Road, to the west of the junction. This is raised in my proof of evidence and that as a minimum a similar level of footway provision should be provided, with the possible conversion of the existing verge (within the highway), which could form part of the conditions for the junction and be incorporated as part of the s278 design and approval process.
20. Mr. McKechnie also raises the loss of the parking bay on Shenley Road and whether pedestrian refuge islands would be retained. Both items were raised within the Road Safety Audit, with what BC highways officers consider appropriate response / mitigation that would be implemented at the detailed design stage and could be covered as part of the s278 design and approval process.
21. Mr. McKechnie notes that on the approach from Newton Road (southern arm) aims drivers in the right-hand lane directly at the central island. This could make manoeuvring around

the island difficult and that the forward visibility to pedestrians waiting to cross on the eastern side of Newton Road is worsened by the proposals. Neither item was raised a potential issue within the Road Safety Audit, nor do BC officers consider these to be items of concern, in particular the location of the right-turn lane.

22. Mr. McKechnie makes several comments concerning the results of the modelling. It is accepted that there would be worsening of results for some arms but overall, the junction would see an improvement considering both peaks compared to 2033 Do Nothing, as detailed in paragraphs 8.45 to 8.48 in my Proof of Evidence.

Junction 5: Tattenhoe Roundabout

23. Mr. McKechnie and Mr. Burbridge raise several concerns with the modelling and design of J5 Tattenhoe Roundabout. They both raise concerns about lack of guide markings, vehicle tracking and relocation of street furniture. The vehicle tracking was raised in the Road Safety Audit with appropriate mitigation to resolve the concerns. I consider that this could be addressed as part of the s278 detailed design and approval process. Likewise, the relocation of street furniture and final lane markings are not considered to be essential elements as part of overall junction feasibility analysis and would be addressed through the s278 detailed design and approval process. The use of keep clear markings at part-time traffic signals can be incorporated into part-time signals and are a viable option as set out in the Traffic Signs Manual.

24. Mr. McKechnie also raises concerns over 85th percentile speeds and the impact on visibility this may have on the visibility of the traffic signals. It is BC officers' understanding that 85th percentile speeds on the approach to the junction on the A421 are below the 65 mph threshold as set out in DMRB CD116 Geometric Design of Roundabouts. In relation to visibility of the signal heads, these would be similar requirements for the existing priority controlled layout, and would continue to be so outside of peak times, and were presumably considered as being acceptable by MKC. As part of the detailed design process appropriate signing of the part-time signal operation will be incorporated highlighting the presence of signal control.

25. Mr. McKechnie also raises issues relating to the geometric layout of the junction, in respect to entry path radius on the NW approach and the sharp taper on V1 Snelshall Street. Neither item was raised in the Road Safety Audit as potential issues and BC highways officers consider that these should not lead to objection.

Junction 6: Bottledump Roundabout

26. Mr. McKechnie and Mr. Burbridge raise several concerns with the modelling and design of J6 Bottledump Roundabout. Mr. Burbridge in paragraph 3.23 raises concern over the

choice of the Lane Simulation mode within ARCADY to model the junctions. Lane simulation was used for several purposes, as detailed in paragraph 8.30 of my proof of evidence. This can be summarised as it being necessary to allow the exit restriction on Buckingham Road to be modelled and the uneven lane usage on A421 Standing Way to be taken into consideration, with the offside lane on the A421 Standing Way marked as straight ahead and carrying approximately 85% of all the arm movement, which the traditional Arcady model would not take into consideration. Therefore, the use of Lane Simulation is considered the most appropriate model to use.

27. Mr. McKechnie and Mr. Burbridge also query the vehicle tracking performed, specifically swept path analysis plan 70069442-004-ATR-002 in Appendix D of TRN3. Whilst the tracking drawing indicates that the vehicles are close, this was not raised in the Road Safety Audits as a potential issue. Furthermore, it is feasible that as part of the s278 design and approval process further minimal central island kerblines amendments could be implemented to accommodate additional circulatory carriageway width if deemed necessary. The issue of the nearside kerb on the A421 westbound approach, which is already over-run by large vehicles was also raised. This is considered to be an existing issue with no proposed changes to the kerblines on this approach. Whilst two straight-ahead movements will be possible as part of the mitigation proposal, which has been tracked, the changes in the circulatory carriageway would not impact current left-turn movements. A scheme does not have to remedy existing issues and there is no required mitigation for this arm.
28. Mr. McKechnie raises several concerns with regard to the proposed Pegasus crossing on Whaddon Road on the approach to the junction. These cover elements predominantly raised in the Road Safety Audit, in respect of which BC officers have accepted the proposed mitigation and will continue to review as part of detailed design process.
29. Mr. McKechnie and Mr. Burbridge both detail the proposed widening on A421 eastbound and Whaddon Road approaches, in particular the actual benefit of widening two lane entries and the new widths exceeding Design Standards. Whilst both approaches are already two lanes small increases in overall entry are likely to have a positive impact. The research performed by the Transport Research Laboratory (TRL) in developing the empirical models showed that the relationship between the width of entry and its capacity is continuous, in that capacity will always increase with an increase in entry width. A small increase in entry width can provide positive benefit because it can lessen the need for vehicles to align themselves laterally within the carriageway. Even a very small increase in width may help large vehicles, or inexperienced drivers etc., and so even if only a small number of vehicles are individually affected, the average overall capacity can increase.

30. Mr. Burbridge details in paragraphs 3.26-3.27 that the new 8.2 metre entry widths do not conform with design standards and referred to section 3.14.1 and 3.14.2 of DMRB document CD 116 Geometric Design of Roundabouts, set out below. This details (3.14.2) that lane widths between 3 and 3.5 metres **should** be used; it does not specify as **shall**. Section 3.14 of the CD 116 states that '*Lane widths at the give way line for normal and compact roundabouts shall be no less than 3 metres and no greater than 4.5 metres.*'. This implies that multilane entries shall be between 6 and 9 metres, which the revised mitigation scheme is at 8.2 metres. Furthermore, it was evident as part of the base model review that various geometric parameters at junctions throughout the network do fully comply with the DMRB and that presumably these variations have been accepted, and therefore that some variation is permissible and reasonable.

3.14.1 – At the give way line, a lane width value of 4.5m should be used at single lane entries.

3.14.2 – At the give way line, lane width values of between 3m and 3.5m should be used at multi-lane entries.

Junction 12: Kingsmead Roundabout

31. Mr. McKechnie raises concern over the position of Vehicle Restraint System (VRS) in proximity to the new kerb alignment and potential for side swipe collisions, as raised in the Road Safety Audit. The realignment / movement of street furniture are considered details that fall within the scope of the later detailed design stage(s) and s278 review and discussions, and that appropriate mitigation could be identified at this stage to ensure appropriate protection and lighting levels are maintained. The junction is being improved to slightly widen Chaffron Way; this should not cause any issues with vehicle movements with additional space provided to perform required movements.

Junction 14: Furzton Roundabout

32. Mr. McKechnie raises concern over street lighting and ADS signage relocation in paragraph 6.4.55. The realignment / movement of street furniture are considered details that fall within the scope of the later detailed design stage(s) and s278 review and discussions, and that appropriate mitigation could be identified at this stage to ensure appropriate protection and lighting levels are maintained.

33. In paragraph 6.4.56 Mr. McKechnie raises concern over the area of widened carriageway on Chaffron Way may be obscured from view on approach if a bus is using the bus stop immediately upstream. BC highway officers do not consider this to be a concern and it was not raised as part of the Road Safety audit.

Junction 15: Bleak Hall Roundabout

34. In paragraph 6.4.58-6.4.59 Mr. McKechnie raises concern over no indication being provided of lane allocations, vehicle tracking and circulatory traffic. This was raised by BC officers, with vehicle tracking provided in a letter 7th April 2021 and included in Appendix F of my Proof of Evidence that indicates the new entry lane on A421 Standing Way would be nearside lane left-turn only and thereby allowing for a narrower circulatory traffic provision as already exists for the current three lane entries.
35. In paragraphs 6.4.60 and 6.4.61 Mr. McKechnie raises concern over the entry angle on Standing Way right hand lane, and entry path curvature on all arms. Neither issue was raised as part of the Road Safety Audit process and I do not consider these to be an issue.
36. In paragraph 6.4.62 Mr. McKechnie raises concern over the widening on the north side of Grafton Street (NW approach arm), which appears to be partially on the subway structure. Also, the distance from the carriageway edge to the railings on the bridge would need to be reduced, as well as the distance to the lighting column in this location. The realignment / movement of street furniture are considered details that fall within the scope of the later detailed design stage(s) and s278 review and discussions, and that appropriate mitigation could be identified at this stage to ensure appropriate protection and lighting levels are maintained.
37. In paragraphs 3.32 to 3.33 Mr. Burbridge raises concern over the widened entry widths not being compliant to DMRB CD 116 Geometric Design of Roundabouts. This has been considered in paragraph 30 of my rebuttal above.
38. Mr. McKechnie and Mr. Burbridge both raise concern over the extent of queues and blocking of upstream junctions. This is discussed in paragraphs 8.98 to 8.101 in my Proof of Evidence.

Junction 16: Elfield Park Roundabout

39. In paragraph 6.4.72 - 6.4.74 Mr. McKechnie raises concern in relation to no indication being provided of lane allocations, vehicle tracking and circulatory traffic. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021 and included in Appendix F of my Proof of Evidence that indicates where a new third entry lane has been provided. These would be left-turn only with what I consider to be acceptable vehicle tracking.
40. In paragraphs 6.4.74 – 6.4.75 Mr. McKechnie raises concern over non-tangential road markings and flatter entry paths increasing vehicle speeds through the roundabout. A high level review of the collision review in the updated TA details the collision record from 2014 to 2019 does not indicate a current high speed issue or that this may lead to increases in collisions, nor was the potential impact raised in the Road Safety Audit process.

41. In paragraphs 3.38 to 3.39 Mr. Burbridge raises concern over the Watling Street exits, in that these continue to be designed as single lane exits and that the revised layouts do not comply with DMRB CD116 Geometric Design of Roundabouts in taper length and insufficient merge length. It is my understanding that these exits would continue to function as single lane exits, as per their current use exits and not as dual lane exits, thereby there is no requirement to provide a longer merge.
42. Mr. McKechnie and Mr. Burbridge both raise concern over the extent of queues and blocking of upstream junctions. This is discussed in paragraphs 8.103 to 8.107 in my Proof of Evidence.

Junction 17: Emerson Roundabout

43. In paragraph 6.4.78 of Mr. McKechnie raises concern over the revised approach geometry on Shenley Road which reduces deflection with the potential to increase vehicle entry speeds. Shenley Road is a 30 mph speed limit approach until approximately 35 metres from the junction. If the entry deflection is reduced, I do not consider that this would result in a significant increase in vehicle speeds on the final approach to and into the roundabout based on the approach road layout and speed limit.
44. In paragraphs 6.4.79 to 6.4.81 Mr. McKechnie raises concern about relocation of street furniture. The relocation of street furniture is not considered to be an essential element of overall junction feasibility analysis and would be addressed as part of the s278 detailed design and approval process, with appropriate mitigation to allow for placement of furniture, roadside protection and lighting levels.
45. In paragraphs 6.4.79 to 6.4.81 Mr. McKechnie raises concern over flare entry tapers on both A421 Standing Way arms. BC highways have no specific concern over the tapers at these locations.
46. In paragraph 6.4.80 Mr. McKechnie raises concern over the potential impact on the adjacent highway trees due to the addition of an extended flare. BC officers' review of the widening on this arm indicates that no tree removal would be required, with satisfactory distance from the edge of the main carriageway and tree trunks.
47. In paragraphs 6.4.82-6.4.83 Mr. McKechnie raises concern over no indication being provided of lane allocations, vehicle tracking and circulatory traffic. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021 and included in Appendix F of my Proof of Evidence that indicates the new entry lane on Shenley Road would be nearside lane left-turn only, with the remaining nearside lanes on A421 remaining as left-turn only, thereby allowing for a narrower circulatory traffic provision as already exists for the current three lane entries.

48. In paragraph 6.4.84 Mr. McKechnie raises concern over flatter entry paths increasing vehicle speeds through the roundabout. A high level review of the collision review in the updated TA details the collision record from 2014 to 2019. This review of the results did not indicate that entry speed through the entry path to be a significant contributor to the existing collisions, nor was the potential impact raised in the Road Safety Audit process.
49. In paragraphs 3.38 to 3.39 Mr. Burbridge raises concern over the Fulmer Street and Shenley Road exits, in that these continue to be designed as single lane exits and that the revised layouts do not comply with DMRB CD116 Geometric Design of Roundabouts in taper length, in particular Shenley Road. It is my understanding that the these exists would continue to function as single lane exits, as per their current use, and not as dual lane exits. Furthermore on review on the provided drawings the actual lane width of the exit on Shenley Road would appear to near identical to the existing provision. Whilst the central traffic island is being altered, this is predominantly on the entry side with the exit width being approximately 7.2 m in the existing and mitigation layouts. The central markings follow the line of the now shortened traffic island alignment to tie into to the existing marking, a distance of approximately 19 metres. Therefore, the measurement of 3.5 metres as detailed in Mr Burbridge's proof will be as per the current arrangement. The lane reduction taper will be near identical to the current arrangement.
50. Mr. McKechnie and Mr. Burbridge both raise concern over the extent of queues and blocking of upstream junctions. This is discussed in paragraphs 8.110 to 8.117 in my Proof of Evidence.

Junction 18: Windmill Hill Roundabout

51. In paragraph 6.4.90 Mr. McKechnie raises concern about relocation of street furniture. The relocation of street furniture is not an essential element of overall junction feasibility analysis and would be addressed as part of the s278 detailed design and approval process, with appropriate mitigation to allow for placement of furniture, roadside protection and lighting levels.
52. In paragraphs 6.4.91-6.4.92 Mr. McKechnie raises concern over no indication being provided of lane allocations, vehicle tracking and circulatory traffic. This was raised by BC officers with vehicle tracking provided in a letter 7th April 2021 and included in Appendix F of my Proof of Evidence that indicates the new entry lanes on Tattenhoe Street and would be left-turn only, with the remaining nearside lanes on A421 remaining as left-turn only, thereby allowing for a narrower circulatory lane provision as already exist for the current three lane entries.
53. In paragraph 6.4.93 Mr. McKechnie raises concern over entry paths. A review of the collision review in the updated TA details the collision record from 2014 to 2019. This review

of the results did not indicate the entry speed through the entry path to be a contributor to the existing collisions, nor was the potential impact raised in the Road Safety Audit process.

54. Mr. McKechnie raises concern over the extent of queues and blocking of upstream junctions. This is discussed in paragraphs 8.119 to 8.122 in my Proof of Evidence.

Buckingham Road Site Access

55. Mr. Burbridge in paragraph 3.59 raises concern over the entry width provided and modelled on the Grid Road Reserve, Site Access and Buckingham Road (W) arms, in that these exceed the DMRB requirement of 4.5 metres for a single lane entry. A review of the existing provision at numerous roundabouts assessed has shown that many of these do not comply with the DMRB requirements and that presumably these have been accepted, and therefore that some variation is permissible and reasonable.

56. Mr. Burbridge in paragraph 3.60 raises concern over the modelling of the junction, based on entry widths (responded to above) and lack of interaction with J5 Tattenhoe Roundabout. I have performed reviews of both junction models and consider that these represent future operation that indicates no interaction between the two in terms of blocking and therefore a linked model is not necessary.

57. Mr. McKechnie in paragraph 5.3.3 raises concern over the proposed location of the new Toucan crossing to the west of the roundabout. I confirm that the proposed location is the most suitable, in my view, taking into account existing crossing provisions and that any minor amendments in relation to the proximity of Old Buckingham Road can be dealt with as part of the s278 design and review process.

58. Mr. McKechnie in paragraph 5.3.5 raises concern over visibility from and onto vehicles emerging from New Leys. Whilst no formal assessment from this private access has been performed, it is considered that this will not be detrimentally impacted by the presence of the new roundabout. The speed reduction that would be present due to the introduction of a new roundabout may aid in improving visibility requirements for the access.

A421 left-in only Site Access

59. Mr. McKechnie in paragraph 5.2.4 to 5.2.7 raises concern over the A421 left-in site access. I consider that these points, where necessary, are addressed in my Proof of Evidence in paragraphs 8.13 to 8.15.

Additional Issues

60. Mr. Burbridge in paragraph 3.62 raises concern over the internalization of school trips. The methodology for secondary school trips was agreed as part of the 2015 / 2016 Transport Assessment, as agreed between BC and MKC. I consider that the methodology used to be appropriate and there is not an underrepresentation vehicle trips.

61. Mr. Burbridge in paragraph 3.63 raises concern over the use of the Do Something (DS) 2 scenario and that a 12% reduction is not realistic for what is being offered/proposed within the Framework Travel Plan on the basis that some of the TRICS sites would already have travel plans. Mr. McKechnie raises a similar point at paragraph 3.2.7. The TRICS data used in the trip generation is based on person total trips, which are not affected by sites that may include a travel plan. The use of the TRICS data and trip generation was approved by BC and MKC. Lastly, in the main the determination of whether mitigation is required has predominately been based on Do Something 1 scenario, with DS2 and DS3 (Shenley Park) acting as sensitivity tests. Mr. McKechnie also questions the reliability of the Travel Plan proposals in paragraphs 3.2.1 to 3.2.8. The Travel Plan was reviewed by Sustainable Transport Lead Officer whose comments detailed that overall, the submitted Framework Travel Plan generally meets the standards set out in the Buckinghamshire Council (BC) Travel Plan Guidance for residential employment and education uses. There are some areas that would require improvement and would be addressed as part of the formal Travel Plan adoption process.
62. In paragraph 3.64 Mr. Burbridge makes reference to a lack of traffic flow information on the Buckingham Road access, in that flow diagrams provided within the 2020 TA classify the proposed site access on Buckingham Road as a 3-arm roundabout, whereas within the modelling this changes to a 4-arm roundabout. The updated traffic diagrams in TRN2 and TRN3 provided an insert detailing movements to and from each of the site access roads.
63. Mr. Burbridge in paragraph 3.65 states that the removal of already occupied dwellings for committed developments of Kingsmead South and Tattenhoe Park has been overestimated, based on his conversation with marketing suite personnel, whilst the assessment made use of official MKC Housing Trajectory. I am content that the use of the MKC Housing Trajectory provides an acceptable level of formal data and that the subsequent alterations to TEMPRO provide a robust assessment methodology.
64. Mr. Burbridge in paragraph 3.66 raises concerns over the geometries used in the modelling and that site visits have shown a variation between the two. I have reviewed the information provided by the Appellant and have raised several issues with measured geometries across the network, which have been resolved and I am content that the base models provide an acceptable basis for the junction assessment process.
65. Mr. Burbridge in paragraph 3.67 raises concerns that the traffic survey data utilized in the model is not representative. I am content that the traffic survey data collection is representative of the existing conditions and that the higher level of data collection (compared to previous submissions) has provided robust values to allow sufficient analysis of the projected traffic impact.