



Department for
Communities and
Local Government

APPENDIX 1

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10 Stratton Street
London
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Our Ref: (A) APP/J0405/A/12/2181033
(B) APP/J0405/A/12/2189277
(C) APP/J0405/A/12/2189387
(D) APP/J0405/A/13/2197073

Barton Willmore LLP
Beansheaf Farmhouse
Bourne Close
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RG31 7BW

26 January 2015

David Lock Associates Ltd
50 North Thirteenth Street
Milton Keynes
MK9 3BP

Dear Sirs,

**TOWN AND COUNTRY PLANNING ACT 1990 – SECTION 78
PLANNING APPEALS AT (A) FLEET MARSTON FARM, FLEET MARSTON,
AYLESBURY; (B) LAND SOUTH EAST OF AYLESBURY (HAMPDEN FIELDS); and
(C) & (D) LAND NORTH OF WEEDON HILL MDA, AYLESBURY**

1. I am directed by the Secretary of State to say that consideration has been given to the report of the Inspector, David M H Rose BA(Hons) MRTPI, who held a public local inquiry on dates between 25 June 2013 and 9 December 2013 into your clients' appeals against the refusal by Aylesbury Vale District Council ("the Council") to grant outline planning permission in respect of Appeals A and D and the failure of that Council to determine the applications in respect of Appeals B and C.
2. The developments proposed in the respective planning applications are set out on pages 1-2 of the Inspector's Report (IR), and the main elements are:

A – Application ref: 10/01504/AOP dated 19.07.2010 by Barwood Land and Estates Limited, and refused on 25.07.2012, for 2,745 dwellings, 30,000m² employment space, school, care home, railway station;

B – Application ref: 12/00605/AOP by the Hampden Fields Consortium, dated 12.03.12 and amended on 02.11.12. The appeal was against the failure of the Council to determine the application for up to 3,000 dwellings, care home, land for a Park & Ride

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facility and a waste recycling facility, employment land, 2 schools, mixed-use local centre, and multi-functional green infrastructure;

C – Application ref: 12/00739/AOP by Hallam Land Management Limited, dated 30.03.12. The appeal was against the failure of the Council to determine the application for up to 120 dwellings, employment development and Park & Ride facility;

D – Application ref: 12/02850/AOP by Hallam Land Management Limited, dated 19.12.12 and refused on 12.04.13 for up to 220 dwellings and a Park and Ride facility on the same site as (C).

3. On 9 August 2012, the Secretary of State recovered Appeal A for his own decision and he similarly recovered Appeals B and C on 29 January 2013 and 21 May 2013 respectively. The reason for recovery of each case was that it involves proposals for residential development of over 150 units and on a site of over 5 hectares, which would significantly impact on the Government's objective to secure a better balance between housing demand and supply and create high quality, sustainable, mixed and inclusive communities. Appeal D was recovered on 29 January 2013 because it would be most efficiently and effectively decided with Appeals A, B and C.

Inspector's recommendation and summary of the decision

4. The Inspector recommended that the appeals be dismissed. For the reasons given below, the Secretary of State agrees with the Inspector's conclusions and recommendations. A copy of the IR is enclosed, and all references to paragraph numbers, unless otherwise stated, are to that report.

Procedural matters

5. In reaching his decisions the Secretary of State has taken into account the Environmental Statements (ESs) which were submitted with the applications relating to each of the appeals under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and the Inspector's comments at IR1.15. The Secretary of State is content that the ESs comply with the above regulations and that sufficient information has been provided for him to assess the environmental impact of the appeal proposals.

Matters arising following the close of the Inquiry

6. Following the close of the Inquiry, the Secretary of State received the following correspondence on substantive issues:

17 Dec 2013	Aylesbury Vale DC	Submission re HS2
10 Feb 2014	Barton Willmore	Implications of withdrawal of LP ¹
12 Feb 2014	Chilmark Consulting on behalf of Barwood Land and Estates Ltd	Implications of withdrawal of LP
4 April 2014	Aylesbury Vale DC	Implications of withdrawal of LP
16 April 2014	Chilmark Consulting	Response to above letter from Council
22 Aug 2014	Bucks CC	Archaeological significance

The Secretary of State is satisfied that none of this correspondence raised new issues on which he needed to seek further information to assist in making his decisions. However, copies can be obtained on written request to the address at the foot of the first page of this letter. The Secretary of State also received a request, dated 14 February

¹ Vale of Aylesbury Plan (LP)

2014 on behalf of Arnold White Estates (Rule 6 Party) seeking an extension of the period for comment following the withdrawal of the LP (referred to in paragraph 7 below); and a communication on their behalf dated 18 January 2015 drawing his attention to recent publications relating to the HS2 land scheme.

Policy considerations

7. In deciding these appeals, the Secretary of State has had regard to section 38(6) of the Planning and Compulsory Purchase Act 2004 which requires that proposals be determined in accordance with the development plan unless material considerations indicate otherwise. In the case of these appeals, the development plan consists of the saved policies of the Aylesbury Vale District Local Plan (AVDLP), adopted in January 2004 for the period to 2011. The two policies of the South East Plan which were retained as part of the development plan when the Regional Strategy was revoked on 23 March 2013 are not relevant to the consideration of these appeals. The Council submitted the LP for Examination in August 2013 but, following the Examining Inspector's conclusion that that plan had failed to assess objectively the full housing needs for the district and the duty to co-operate had not been fulfilled, they formally withdrew the plan in February 2014. Work on a new plan is still at an early stage, and the Secretary of State gives it little weight.
8. Other material considerations which the Secretary of State has taken into account include the *National Planning Policy Framework* (The Framework) and the subsequent planning guidance – upon which each of the main parties was invited by the Planning Inspectorate to comment (IR1.73); as well as the *Community Infrastructure Levy (CIL) Regulations 2010* as amended.
9. In accordance with section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 (the LB Act), the Secretary of State has paid special regard to the desirability of preserving those listed structures potentially affected by any of the appeal schemes or their settings or any features of special architectural or historic interest which they may possess.

Main issues

10. The Secretary of State agrees with the Inspector that there are two principal preliminary matters in relation to Appeals A and B (IR1.68) and that the individual main considerations are those set out at IR1.69 (Appeal A), IR1.70 (Appeal B) and IR1.71 (Appeals C and D).

Preliminary main consideration: housing land supply

11. For the reasons given at IR9.7-9.10, the Secretary of State agrees with the Inspector that the evidence relating to the preparation of the LP has diminished in materiality following its withdrawal so that the critical matters to be determined with regard to housing land supply are those listed at IR9.10. The Secretary of State has gone on to give careful consideration to the Inspector's arguments with regard to those matters at IR9.11-9.45; and agrees with his conclusion at IR9.46-9.48 that, for the purpose of these appeals, a more realistic level of housing provision would be in the order of at least 1,000 dwellings per annum before any uplift for previous under-delivery. He therefore also agrees that the Appeal A site and the Appeal B site would each only go part way to fulfilling the need for additional housing in the short term. Like the Inspector, the Secretary of State has therefore gone on to consider whether there are any material considerations to outweigh the provision of housing on each of the appeal sites.

Preliminary main consideration – financial contribution to Thames Valley Police

12. Having carefully considered the Inspector's exposition and discussion at IR9.49-9.75, the Secretary of State agrees with his conclusion at IR9.76 that, in the case of Appeals A and B, Thames Valley Police has not made out a convincing, site-specific case for the funding which it seeks so that the lack of developer contributions does not justify the refusal of planning permission.

APPEAL A: FLEET MARSTON

Landscape and visual effects

13. The Secretary of State has given very careful consideration to the Inspector's consideration of landscape character at IR9.78-9.109, visual affects at IR9.110-9.129, design iteration and primary mitigation at IR9.130-9.137 and the relevant saved policies of the AVDLP at IR9.138.144. He agrees with the Inspector's reasoning therein, and with his conclusions at IR9.145-146. Hence, the Secretary of State agrees with the Inspector that the proposal offers benefits including the retention, enhancement and reintroduction of trees and hedgerows consistent with the grain of the character area, community green infrastructure and the management of watercourses; whilst also agreeing with him that the proposal would have an adverse impact on the character and appearance of the landscape, contrary to the development plan and which would not be adequately mitigated by the design philosophy for the scheme. On balance, therefore, the Secretary of State agrees with the Inspector that the landscape and visual effects would cause significant harm.

Effect on heritage assets

14. For the reasons given at IR9.147-9.184, the Secretary of State agrees with the Inspector's conclusion at IR9.186 that the proposed development would have an adverse impact on the setting of the grade II* listed building at Saint Mary's church, Fleet Marston, amounting to less than substantial harm. He agrees that the claimed benefits of a wider use for the church and funds for repair and maintenance would not offset the harm to a material degree even if they could be guaranteed by a robust funding mechanism. The Secretary of State therefore agrees with the Inspector that significant weight attaches to the harm that would be caused to the setting of the church.
15. The Secretary of State also agrees (IR9.185) that the proposed development would not result in substantial harm to the setting of the grade II listed Fleet Marston farmhouse but that the removal of the large sheds and their replacement with more appropriate new buildings would allow a more fitting setting and better reveal the significance of the heritage asset.

Sustainability in terms of highways and transportation

16. Having carefully considered the Inspector's discussion at IR9.187-9.231, the Secretary of State agrees with him at IR9.232-9.235 that there are two elements which call into question the ability of the appeal scheme to provide the substantial sustainability benefits which the appellants claim. The first of these is the limited width of the railway bridge over the A41 which results in a significant constraint to achieving a high quality route for pedestrians and cyclists in the direction of Aylesbury and the adverse impact which this is likely to have on sustainable travel patterns; and the second is the extent to which bus provision would be capable of being realised and operated viably in the manner envisaged by the appellants. The Secretary of State agrees with the Inspector (IR9.235) that these two factors, in combination, go to the heart of achieving travel by sustainable modes, outweigh the important benefits which would otherwise have been

realised by the project and undermine the expressed vision of creating a connected, sustainable urban extension.

Effect of the HS2 proposals

17. For the reasons given at IR9.236-9.242, the Secretary of State agrees with the Inspector's conclusion at IR9.243 that, as things currently stand, the proposals for HS2 neither add support to, nor undermine, the Appeal A proposals. He gives them no weight.

Conditions and obligations

18. The Secretary of State has considered the proposed conditions and the Inspector's comments on them at IR9.244-9.303 and 9.347-9.348. He is satisfied that the conditions recommended by the Inspector at Annex D(ii) to the IR are reasonable and necessary and meet the tests of the Framework and the guidance. However, he does not consider that these overcome his reasons for refusing the appeal.

19. Furthermore, having carefully considered the Inspector's points at IR9.304-9.346, the Secretary of State agrees with his conclusion at IR9.349 that the undertaking would fail to mitigate the impacts of the development and make it acceptable in planning terms; and with his reservation at IR9.346 and IR9.350 about the extent to which the bus provision is capable of being realised and operated viably. The Secretary of State does not therefore consider that the provisions of the obligations are sufficient to overcome his concerns with the proposed scheme as identified in this decision letter.

Overall planning balance

20. For the reasons given at IR9.351-9.390, the Secretary of State agrees with the Inspector that, as the Council accept that they cannot demonstrate a five-year supply of deliverable housing sites, the terms of the Framework imply that permission should be granted for the Fleet Marston scheme unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies of the Framework taken as a whole. The Secretary of State also agrees with the Inspector at IR9.355 that the proposed development would be consistent with the economic and social roles of sustainable development by facilitating growth and providing homes.

21. However, for the reasons given at IR9.356-9.367 and IR9.383-9.384, the Secretary of State agrees with the Inspector at IR9.369 that the proposed urban extension would fail to contribute to the protection and enhancement of the natural and historic environment and so would not be consistent with the environmental dimension of sustainable development. He also agrees with the Inspector at IR9.375 and IR9.385-9.386 that the lack of clarity and certainty about bus service provision and the quality of the singular route to Aylesbury – particularly for pedestrians and cyclists – are inherent weaknesses which outweigh the transport related benefits which the development would deliver and count against the project as a whole.

APPEAL B: HAMPDEN FIELDS

Landscape and visual effects

22. The Secretary of State has carefully considered the Inspector's points on the Southern Vale Landscape Character Area (IR9.398-9.403, adjacent Landscape Character Areas (IR9.404-9.406), views from the Chilterns AONB (IR9.407-9.414), views towards the Chilterns AONB (IR9.415-9.418) and the impact on visual amenity for local residents (IR9.419-9.425); and he agrees with the Inspector's conclusions at IR9.426-9.429 that

the only significant adverse impact to be carried into the overall planning balance is the harmful effect on the character of the Southern Vale Landscape Character Area as an entity, with no material impact on adjacent character areas.

Coalescence and settlement identity

23. Having given careful consideration to the Inspector's discussion and reasoning at IR9.433-9.461, the Secretary of State agrees with his conclusions at IR9.462-9.472 and IR9.627-9.630. In particular, the Secretary of State agrees that, while the appeal site can properly be regarded as an intended garden suburb for Aylesbury, its impact would be greater on Stoke Mandeville and the focus of new recreation facilities between Stoke Mandeville and Weston Turville would draw the appeal site together with those two established settlements. This would result in a fundamental change to the eastern part of Stoke Mandeville through coalescence and some weakening of the northern edge of Weston Turville, with the wider loss of open countryside as part of its setting (IR9.462-468). He therefore also agrees (IR9.469) that the appeal scheme would conflict with Policy RA.2 of AVDLP and would be at odds with the Landscape Character Area guidelines (IR9.470). The Secretary of State further agrees with the Inspector (IR9.472) that local opposition to the scheme and the significant value of the appeal site to the local community are also matters to be considered in the overall planning balance.

Heritage assets

24. For the reasons given at IR9.473-9.486, the Secretary of State agrees with the Inspector at IR9.487-9.488 and IR9.631-9.632 that the appreciation of the intrinsic value of the field boundaries of Hampden Fields as an element of historic and social change would be seriously compromised and the fundamental nature of West End Ditch would be diminished; and that both of these weigh against the development in the overall balance. However, the Secretary of State also agrees with the Inspector (IR9.489 and IR9.633) that the limited loss of ridge and furrow would be neutralised by the benefit of securing protection and management for the greater part of the feature.

Best and most versatile agricultural land

25. The Secretary of State agrees with the Inspector (IR9.490-9.494 and IR9.636) that the scheme would involve loss of some of the best and most versatile agricultural land within the site and that much of the Appeal A site is of lower quality. He agrees with the Inspector that this is a negative matter to be applied in the overall planning balance for the Appeal B scheme.

Highways and Transportation

26. The Secretary of State has given very careful consideration to the Inspector's analysis of the impacts of the Appeal B scheme on highways and transportation issues at IR9.495-9.580, and agrees with his conclusions at IR9.581-9.586 and IR9.637-9.645. In particular, he agrees that financial contributions for improving road conditions and the attractiveness of public transport are material considerations. He also agrees that the appeal scheme would compound the difficulties and delays currently experienced on part of the network which is already subject to considerable stress, so that mitigation would be essential in order to make the development acceptable, especially with regard to the Walton Street gyratory.

27. Like the Inspector, the Secretary of State has taken account of the fact that a scheme of mitigation has evolved for the Walton Street gyratory, but that its final form leaves a number of matters uncertain and any such scheme could only be implemented, and any prior planning permission for the Appeal B scheme realised, consequent on the

confirmation of a Traffic Regulation Order which would be subject to its own consent regime. The Secretary of State agrees with the Inspector at IR9.586 that the benefits of such a scheme would be substantial. However, he also agrees (IR9.645) that it would not make sound planning sense to approve a major urban extension with known highway deficiencies, an incomplete solution and uncertainties about deliverability until it can be demonstrated that the full effects of the appeal scheme can be mitigated, managed and implemented.

Conditions and obligations

28. The Secretary of State has considered the proposed conditions and the Inspector's comments on them at IR9.587-9.596 and IR9.646. He is satisfied that the conditions recommended by the Inspector at Annex E(ii) to the IR are reasonable and necessary and meet the tests of the Framework and the guidance. However, he does not consider that these overcome his reasons for refusing the appeal.
29. With regard to the planning obligations, the Secretary of State agrees with the Inspector (IR9.617-9.622) that the provisions are compliant with the Community Infrastructure Levy Regulations 2010. However, and having particular regard to the uncertainties surrounding the timing of the Walton Street Gyrotory, the Secretary of State does not consider that they are sufficient to overcome his concerns with the proposed scheme as identified in this decision letter.

Overall planning balance

30. For the reasons given at IR9.623-9.657, the Secretary of State agrees with the Inspector (IR9.652) that the benefits of the project would be very substantial and sufficient to outweigh the shortcomings of all but one of the main considerations, both individually and cumulatively. However, he also agrees (IR9.653) that the single issue of highways and transportation needs to be balanced against the advantages of a project which would deliver homes and jobs in a manner consistent with government policy. As the Inspector concludes, the key element of the Walton Street gyrotory would be subject to a separate consenting regime, the successful outcome of which could not be guaranteed and, without which, any planning permission for the appeal scheme could not be fulfilled. The Secretary of State therefore agrees with him (IR9.657) that these drawbacks are considerable and provide a telling balance against what would otherwise be an acceptable scheme.

APPEALS C & D: WEEDON HILL

The landscape and visual effects

31. Having given careful consideration to the Inspector's analysis at IR9.658-9.684, the Secretary of State agrees with him at IR9.685 that Buckingham Park has a clearly defined and robust boundary with the open countryside and that, even with the proposed mitigation measure, the proposed developments (whether those included in Appeal scheme C or D) would have significant impacts on the character of the landscape and cause identifiable harm to its appearance. The Secretary of State therefore also agrees with the Inspector that, insofar as AVDLP Policy GP.35 is a landscape protection policy, the proposal would be in conflict with the development plan.

Conditions and obligations

32. The Secretary of State has considered the proposed conditions and the Inspector's comments on them in respect of Appeal C at IR9.686-9.692 and in respect of Appeal D at IR9.693-9.694. He is satisfied that the conditions recommended by the Inspector at

Annex F(ii) to the IR in respect of Appeal C and at Annex G(i) in respect of Appeal D are reasonable and necessary and meet the tests of the Framework and the guidance. However, he does not consider that these overcome his reasons for refusing these appeals.

33. With regard to the planning agreements with Aylesbury Vale District Council (IR9.695-9.703), the Secretary of State agrees with the Inspector that all the provisions except that relating to the policing contribution are compliant with the Community Infrastructure Levy Regulations 2010. The Secretary of State also agrees with the Inspector that the planning agreements with Buckinghamshire County Council (IR9.704-9.707) are similarly compliant. However, the Secretary of State does not consider that the provisions set out in these agreements are sufficient to overcome his concerns with the proposed Appeal C and D schemes as identified in this decision letter.

Overall planning balance

34. For the reasons given by the Inspector at IR9.708-9.713, the Secretary of State agrees with his conclusions therein. In particular, the Secretary of State agrees that, with either Appeal scheme C or D, the proposed development would spill out beyond the generally effective containment and natural outline of Buckingham Park and climb, prominently, to an undefined ridgeline boundary which would require deep, uncharacteristic buffer planting to form a delineating feature (IR9.708). It would be at odds with one of the key characteristics of the Northern Vale Landscape Character Area and manifestly intrusive (IR9.709). The Secretary of State also agrees that the proposed park and ride facility would sit in isolation without physical connection, or even close association with the built-up area, belittling the low lying vale landscape of the Hulcott Vale Landscape Character Area and having an insensitive impact on the appearance of the landscape (IR9.720).
35. However, like the Inspector, the Secretary of State has weighed these against the benefits of the scheme, particularly the delivery of much needed homes and jobs, as well as the other benefits referred to at IR9.711; and he agrees with the Inspector's conclusions (IR9.712-9.713) that the significant benefits of either scheme are far outweighed by the harm identified. Each scheme would be in conflict with AVDLP Policy GP.35 and would not be sustainable development in the terms of the policies of the Framework when read as a whole.

Overall conclusion

36. Overall, while recognising the important contribution which each of the appeal schemes would make to the social and economic wellbeing of the area, particularly through the provision of much-needed housing, the Secretary of State considers that, in each case, there are adverse factors which significantly and demonstrably outweigh the benefits of the particular scheme. In the case of Appeal A, the proposed development would not contribute to the environmental role of sustainable development and would fall short on the promotion of sustainable transport. In the case of Appeal B, the drawbacks of being dependent on a separate consenting regime to resolve the serious implications for the highway network outweigh the benefits that would be provided if the scheme were able to proceed on a timely basis. And in the case of Appeals C and D, the Secretary of State considers that the significant impacts on the character of the landscape and the harm to its appearance outweigh any benefits as well as bringing it into conflict with the development plan.

Formal Decision

37. Accordingly, for the reasons given above, the Secretary of State agrees with the Inspector's recommendations. He hereby dismisses your clients' appeals in respect of:

A – Application ref: 10/01504/AOP dated 19.07.2010 by Barwood Land and Estates Limited, and refused on 25.07.2012, for 2,745 dwellings, 30,000m² employment space, school, care home, railway station;

B – Application ref: 12/00605/AOP by the Hampden Fields Consortium, dated 12.03.12 and amended on 02.11.12. The appeal was against the failure of the Council to determine the application for up to 3,000 dwellings, care home, land for a Park & Ride facility and a waste recycling facility, employment land, 2 schools, mixed-use local centre, and multi-functional green infrastructure;

C – Application ref: 12/00739/AOP by Hallam Land Management Limited, dated 30.03.12. The appeal was against the failure of the Council to determine the application for up to 120 dwellings, employment development and Park & Ride facility;

D – Application ref: 12/02850/AOP by Hallam Land Management Limited, dated 19.12.12 and refused on 12.04.13 for up to 220 dwellings and a Park and Ride facility on the same site as (C).

Right to challenge the decision

38. A separate note is attached setting out the circumstances in which the validity of the Secretary of State's decision may be challenged by making an application to the High Court within six weeks from the date of this letter.

39. A copy of this letter has been sent to the Council. A notification e-mail / letter has been sent to all other parties who asked to be informed of the decision.

Yours faithfully

Jean Nowak

JEAN NOWAK

Authorised by Secretary of State to sign in that behalf



The Planning Inspectorate

Report to the Secretary of State for Communities and Local Government

by David M H Rose BA (Hons) MRTPI

an Inspector appointed by the Secretary of State for Communities and Local Government

Date: 1 September 2014

Town and Country Planning Act 1990

Aylesbury Vale District Council

Appeal A: Barwood Land and Estates Limited

Fleet Marston Farm, Fleet Marston, Aylesbury, HP18 0PZ

Appeal B: The Hampden Fields Consortium

**Land at south east Aylesbury, located to the east of A413 Wendover Road
and south west of A41 Aston Clinton Road, Aylesbury, HP21 9DF**

Appeals C & D: Hallam Land Management Limited

**Land north of Weedon Hill Major Development Area,
Adjoining A413 Buckingham Road, Aylesbury, HP22 4DP**

Inquiry (Appeals A, B and C) opened on 25 June 2013 and closed on 9 December 2013

Inquiry (Appeal D) opened on 15 October 2013 and closed on 9 December 2013

File references:

APP/J0405/A/12/2181033; APP/J0405/A/12/2189277; APP/J0405/A/12/2189387; &
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APPEAL A

File Ref: APP/J0405/A/12/2181033

Fleet Marston Farm, Fleet Marston, Aylesbury, HP18 0PZ

The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant outline planning permission with all matters reserved for later approval.

The appeal is made by Barwood Land and Estates Limited against the decision of Aylesbury Vale District Council.

The application, reference 10/01504/AOP, dated 19 July 2010, as amended on 26 January 2012, was refused by notice dated 25 July 2012.

The development proposed is a mixed-use sustainable urban extension to Aylesbury, comprising:-

- o 2,745 dwellings;
- o 30,000 sq m of employment (Use Classes B1/B8) floorspace;
- o a primary school and a reserve second primary school;
- o up to 3,050 sq m of retail (Use Class A1 – A5) floorspace;
- o a 60-bed care home with 20 close-care apartments;
- o 1,300 sq m of multi-functional community space (Use Class D1);
- o a doctor's surgery;
- o a gym;
- o a community recycling facility;
- o multi-functional green infrastructure (106.8 ha) including parkland, sports pitches, children's play areas, informal open space, interpretation facilities and centres, allotments, community orchards, woodland, surface water attenuation and land remaining in small scale, low intensity, productive agricultural use;
- o vehicular access from up to five locations along the A41;
- o internal roads, streets, lanes, squares, footpaths and cycleways; and
- o a railway station.

Summary of Recommendation: The appeal be dismissed

APPEAL B

File Ref: APP/J0405/A/12/2189277

Land at south east Aylesbury, located to the east of A413 Wendover Road and south west of A41 Aston Clinton Road, Aylesbury, HP21 9DF

The appeal is made under section 78 of the Town and Country Planning Act 1990 against the failure of the Aylesbury Vale District Council to determine an outline planning application with all matters reserved.

The appeal is made by the Hampden Fields Consortium.

The application, reference 12/00605/AOP, was dated 12 March 2012, and was amended on 2 November 2012.

The development proposed is a mixed-use sustainable urban extension comprising:-

- o up to 3,000 dwellings and a 60 bed care home/extra care facility (Use Class C2/C3);
- o provision of land for a Park and Ride site and a Waste Recycling Facility adjoining the A41 Aston Clinton Road;
- o a total of 9.45 ha of employment land (comprising of up to 40,000 sq m B1/B2/B8 uses);

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- link road between A413 Wendover Road and A41 Aston Clinton Road;
- provision of two primary schools (both 3 form entry);
- a mixed-use local centre (4.09 ha) comprising of a 1,200 sq m (GFA) food store, further retail (including a pharmacy), restaurants and café units, a doctor's surgery, gym, public house with letting rooms, professional services, and a multi-functional community space and day nursery;
- multi-functional green infrastructure (totalling 103.13 ha) including parkland, sports pitches, sports pavilion, children's play areas, informal open space, allotments, community orchards, woodland, landscaping and surface water attenuation; strategic flood defences; vehicular access points from New Road, Marroway, A413 Wendover Road and A41 Aston Clinton Road; and
- internal roads, streets, lanes, squares, footpaths and cycleways.

Summary of Recommendation: The appeal be dismissed and planning permission be refused

APPEAL C

File Ref: APP/J0405/A/12/2189387

Land north of Weedon Hill Major Development Area, Adjoining A413 Buckingham Road, Aylesbury, HP22 4DP

The appeal is made under section 78 of the Town and Country Planning Act 1990 against the failure of the Aylesbury Vale District Council to determine an outline planning application with all matters, other than access, reserved for later approval.

The appeal is made by Hallam Land Management Limited.

The application, reference 12/00739/AOP, was dated 30 March 2012.

The development proposed is B1 employment development, residential development of up to 120 units and a park and ride facility.

Summary of Recommendation: The appeal be dismissed and planning permission be refused

APPEAL D

File Ref: APP/J0405/A/12/2197073

Land north of Weedon Hill Major Development Area, Adjoining A413 Buckingham Road, Aylesbury, HP22 4DP

The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant outline planning permission with all matters, other than access, reserved for later approval.

The appeal is made by Hallam Land Management Limited against the decision of Aylesbury Vale District Council.

The application, reference 12/02850/AOP, dated 19 December 2012, was refused by notice dated 10 April 2013.

The development proposed is up to 220 residential units and a park and ride facility.

Summary of Recommendation: The appeal be dismissed

1. Introduction

Procedural matters

- 1.1 The evidence for appeals A, B and C was presented on 25 - 28 June; 2 - 5 July; 9 - 12 July; 30 July - 2 August; 6 - 9 August; 13 - 16 August; 29 October - 1 November; and 5 - 8 November 2013.¹
- 1.2 The evidence for appeal D was given on 15 and 16 October 2013. Closing submissions for all four appeals were heard on 9 December 2013. Given the overlapping nature of the two Inquiries reference in the report to 'the Inquiry' covers both events.
- 1.3 Accompanied site visits for appeals A and B took place on 12 November 2013 and those for Appeals C and D were held on 17 October 2013. Extensive unaccompanied site visits were made before and during the course of the Inquiry.
- 1.4 Proofs of evidence as originally submitted are included as Inquiry documents; but their content may have been affected by oral evidence, concessions and corrections. Full written closing submissions are also available and these were supplemented by oral summaries and responses.
- 1.5 Each appeal site will be referred to in short form throughout this report:- appeal A ('Fleet Marston'); appeal B ('Hampden Fields'); appeal C ('Weedon Hill mixed-use'); and appeal D ('Weedon Hill residential'). 'Weedon Hill' will be used when referring to both proposals in common.
- 1.6 Similarly, each of the promoters will be referred to as 'Barwood'; 'the Consortium'; and 'Hallam' respectively.
- 1.7 During the course of the Inquiry a number of oral rulings (recorded in a subsequent written note) were made. Particular attention is drawn to:-
 - (a) submissions in relation to the progress of proposals for the High Speed 2 rail route (HS2) and potential impacts on the Fleet Marston scheme;²
 - (b) submissions concerning the Statement of Common Ground on Highway and Transport Matters (Hampden Fields);³
 - (c) submissions relating to Grampian conditions: Saint Mary's church, Fleet Marston;⁴
 - (d) the appearance at the Inquiry of Buckinghamshire County Council's Consultant Lead Development Management Officer, Highways and Transportation;⁵ and
 - (e) the arrangements for closing submissions.⁶

¹ The landscape evidence for Appeal C was heard with Appeal D

² Document X2

³ Documents X4; X8

⁴ Document X5

⁵ Document X10

⁶ Documents X11; X12

APPENDIX 2

WESTON TURVILLE PARISH COUNCIL – COMMENTS 07.09.17

Dear Neil

The Parish Council's Planning Committee discussed the latest traffic analysis for Hampden Fields (16/00424/AOP) and have the following questions in relation to the data provided:

1. The Parish Council is concerned that the trip rates used in the transport model are underestimated and thus the amount of traffic on the network is underestimated by about 10%. This will have a major bearing on the validity of the Transport Assessment and should be updated with the correct trip rates - have the developers been asked to carry out this work?

2. Even using the wrong figures and using the applicants own numbers the impact on the gyratory is not mitigated at all. The gyratory is forecast to get 40% more traffic in 2034 than in 2013 and the current Transport Assessment only claims to reduce this by less than 1%. This is also clearly contrary to BCC's stated objective of reducing traffic and congestion on the Primary Congestion Management Corridor and was a key reason that the application was refused in 2015 by the Secretary of State. Have the developers been asked to carry out further mitigation works?

3. Why have the figures shown by the Transport Assessment Addendum and the Cumulative Assessment Report not been reconciled?

I understand that the applications for Hampden Fields and Woodlands are likely to go to AVDC Committee at the end of October and would be grateful for a response before then if possible please.

Kind regards

Sarah

Sarah Copley

Clerk to Weston Turville Parish Council

Tel: 01296 531432

Mobile: 07584 040264

Postal Address: Weston Turville Parish Council, PO Box 1062 Aylesbury HP22 9PD

Further Comments dated – 8th May 2017

The Parish Council welcomed the traffic calming scheme proposed for Weston Turville village but maintains its objection to the application. The Council has serious concerns that the link roads proposed by this and the Woodlands development would not ease the traffic congestion in the area, particularly in view of the lack of commitment to extend the link road any further at this time. The addition of 3000 houses will only compound the congestion experienced by local residents and commuters.

Should the District Council approve the application the Parish Council would welcome a discussion with AVDC and the developer regarding the ongoing maintenance of communal/public areas within the development and may be willing to take on responsibility for these subject to the commuted sum for ongoing maintenance being made available to the Parish Council.

Consultee Comments for Planning Application 16/00424/AOP

Application Summary

Application Number: 16/00424/AOP

Address: Land Between Wendover Road And Aston Clinton Road Weston Turville
Buckinghamshire

Proposal: Outline planning application (with all matters reserved) for a mixed-use sustainable urban extension comprising: up to 3,000 dwellings and a 60 bed care home/extra care facility (Use Class C2/C3); provision of land for a Park and Ride site; a total of 6.90ha of employment land (comprising of up to 29,200 sq.m. B1c/B1/B2/B8 uses); provision of two primary schools (one 2 form entry and one 3 form entry); a mixed use local centre (3.75ha) with provision for a foodstore of up to 1,200 square metres (GFA), further retail (including a pharmacy), restaurant and café units, a doctor's surgery, gym, public house with letting rooms, professional services, multi-functional community space and a day nursery, and live work units; multi-functional green infrastructure (totalling 108.43ha) including parkland, sports pitches, sports pavilions, children's play areas, mixed use games areas, including a skate park/BMX facility, informal open space, allotments, community orchards, landscaping; extensions to domestic gardens at Tamarisk Way (0.22ha); strategic flood defences and surface water attenuation; vehicular access points from New Road, Marroway, A413 Wendover Road and A41 Aston Clinton Road; a dualled Southern Link Road between A413 Wendover Road and A41 Aston Clinton Road and a strategic link road between the Southern Link Road and Marroway; internal roads, streets, lanes, squares, footpaths and cycleways and upgrades to Public Rights Of Ways (PRoWs); and car parking related to the above land uses, buildings and facilities.

Case Officer: Miss Clare Gray

Consultee Details

Name: Parish Aylesbury Town Council

Address: Aylesbury Town Council, Town Hall, 5 Church Street Aylesbury, Buckinghamshire HP20 2QP

Email: J.Eden@aylesburytowncouncil.gov.uk

On Behalf Of: Aylesbury Town Council

Comments

Aylesbury Town Council OBJECT this application.

The committee have a number of concerns over the facilities and infrastructure of the proposed development at Hampden Fields.

Education

There is provision for two new primary schools which is welcomed, but the issue over secondary school places must be addressed.

The potential to provide new secondary on Kingsbrook is something that has to be taken forward if

this application is to gain approval, without the expansion of education Aylesburys current secondary schools will struggle to provide the required extra spaces, even with significant investment, they simply do not have the land to expand and meet the potential need of the expanded population.

The committee decided that the provision of a new secondary school is therefore a must have for the town of Aylesbury for this application to be sustainable.

Roads

The committee have great concern over the road network, particularly to the east of the town, the provision of the southern link road is a must, but this road must also be fit for the future, in short the Southern Link Road HAS to be a dual carriageway from day one, an option to upgrade this provision will simply not work and would make congestion worse.

The committee accepts that the provision of new capacity and routes onto the town's road network should help to ease congestion, but there is scepticism as to whether this provision will be enough to offset the introduction of 3000 homes at Hampden Fields as well as the development at Kingsbrook and potentially at Woodside.

The poor narrowing design of the Stocklake extension into the center of the Kingsbrook development is a cause for concern as that may reduce the attractiveness of the route to motorists who may wish to use that road to travel into Aylesbury.

We note that the road network capacity increase is projected to reduce poor air quality in some of the town's air quality management areas, notably Tring Road and the Gyratory, after so many years of inaction this improvement is welcome, but the committee remain sceptical that the required improvements in air quality materialise.

The proposed Park & Ride scheme must be fully funded or the provision of that land is simply a waste, the Park & Ride at Buckingham Park has never had funding and is now a derelict eyesore gathering fly tipped waste, that cannot be allowed to happen again.

Healthcare

The provision of a dedicated healthcare facility is welcomed but again this facility needs to meet all the needs of the new development and the existing community, the facility must be fully committed under a 106 agreement, we cannot have the situation that exists on other developments where health facilities are stuck in portacabins many years after completion with seemingly no hope of a permanent facility.

Summary

It is the view of the Aylesbury Town Council Planning and Licensing committee that the Hampden Fields development will only be sustainable if the caveats above are met in full.

The town and wider vale, if it is to be developed sustainably must have the increased capacity in Education, better Transport links and Healthcare to lessen the burden on our already stretched infrastructure, the Town Council Planning and Licensing committee reserve the right to reassess our position on this application if the proposed infrastructure does not materialise.

If the application is considered by Committee, Parish Council will speak at the Management Committee Meeting.

Comments for Planning Application 16/00424/AOP

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Case Officer: Mr Neil Button

Customer Details

Name: Parish Aylesbury Town Council

Address: Aylesbury Town Council, Town Hall, 5 Church Street Aylesbury, Buckinghamshire HP20 2QP

Comment Details

Commenter Type: Parish Council

Stance: Customer objects to the Planning Application

Comment Reasons:

- Residential Amenity
- Traffic or Highways

Comment: Aylesbury Town Council continue to Object to this application.

The committee have a number of concerns over the facilities and continue to insist that infrastructure is key to this proposed development. The committee would also like to raise concerns regarding S106 money and the need to ensure that any agreement be enforced robustly and penalties be issues if deadlines are missed.

Following recent compensation agreements between developers and residents, the committee would like to ask that no property that would normally be a freehold be offered as a leasehold property.

Given the sheer scale of developments proposed for the eastern flank of Aylesbury, the committee would like to see a comprehensive overview plan produced on the impact of Kingsbrook, Woodside and Hampden Fields on the infrastructure, there is great concern about the impact of these developments on our transport, education and health services.

Education

There is the proposed provision of two new primary schools, one with a 2 form entry and one with a 3 form entry. The Committee have concerns that this may not be enough to sustain this development and if permission given, allow for future growth.

The potential to provide a new secondary school on Kingsbrook is something that has to be taken forward if this application is to gain approval. The committee want guarantees that this will materialise and would like to see more robust action if S 106 money timelines are not met. This is an essential piece of infrastructure that is desperately needed for the town and for this development to be sustainable.

Roads

The committee welcome the proposal of a dual carriage way through the development linking to other routes and that this will be in place from the start. However the committee have the following concerns

The committee would like to see landscaping being considered at every stage of this development and be in keeping with Aylesbury's Garden Town status.

The proposed Park & Ride scheme must be fully funded or the provision of that land is simply a waste, the Park & Ride at Buckingham Park has never had funding and is now a derelict eyesore gathering fly tipped waste, that cannot be allowed to happen again. The committee have serious concerns that a Park and Ride facility is really sustainable or is it being used by the developer to alleviate the concerns around congestion and traffic build up.

The committee have concerns for the safe independent cycle/walk routes for children travelling to the proposed secondary school in Kingsbrook from Hampden Fields. Has it been considered how they would cross the Tring Road ? BCC proposal to develop safer cycle routes needs to be considered and implemented. Current drawings show cycle route switching from either side of the road, not a safe and usable route for cyclists.

The committee would like to ask if there are any bus lanes proposed to encourage this form of transport around the town.

Healthcare

The provision of a dedicated healthcare facility is welcomed but again this facility needs to meet all the needs of the new development and the existing community, the facility must be fully committed under a 106 agreement, we cannot have the situation that exists on other developments where health facilities are stuck in porta cabins many years after completion with seemingly no hope of a permanent facility, given the pressure on Stoke Mandeville Hospital the facility also needs to be able to expand its services when required in the future.

If the application is considered by committee, Aylesbury Town Council will speak at the committee meeting.

APPENDIX 4

07.06.2017

Dear Neil

Please find below consultee comments from **Aston Clinton Parish Council** for uploading to the portal.

RE: 16/00424/AOP Land Between Wendover Road And Aston Clinton Road Weston Turville

Aston Clinton Parish Council objects to this application on the following grounds:

There are too many unanswered questions in the traffic proposals with the symbiotic relationship with Hampden Fields and Woodlands and the lack of any concrete plans for the A418 link gives great cause for concern that the assumptions concerning the ring road will not hold up without this vital piece of the North-East link. In addition, the proposal for single rather than dual carriageway is of great concern due to the potential for bottlenecks.

Coalescence with neighbouring Parishes. NPPF para 17 states that planning should take account of the different roles and character of different areas.

There are no plans to mitigate the impact on the main London/Aylesbury Road running through Aston Clinton. With the anticipated increase in traffic movements from the A41 east towards the Woodlands roundabout and undoubtable tail backs at peak times, the obvious rat run route is through Aston Clinton which is the most direct route. If the development were to go ahead, it is fundamental that this is addressed through the provision of traffic mitigation as outlined in the Aston Clinton Traffic proposals as presented to and accepted by BCC Highways. These are deemed by Aston Clinton Parish Council to be required and proportionate as a direct result of the increases in traffic movements if this development were to go ahead. Although we would expect that a proportion should be provided for by the Woodlands development with the remainder from this development.

There should be a requirement for the A41 bypass to conform to its original specification as having a quiet road surface. The increase in traffic along this corridor is substantial, in the region of 1000 vehicles per hour. Buckland and the northern and eastern fringes of Aston Clinton are already suffering road traffic noise that is incompatible with the right of enjoyment of one's house and garden. This added noise factor will be intolerable for existing residents and must be mitigated in accordance with para 123 NPPF (noise mitigation).

Sent on behalf of Aston Clinton Parish Council Planning Committee.

Elaine Barry
Assistant Clerk
Aston Clinton Parish Council
01296 631 269

Consultee Comments for Planning Application 16/00424/AOP

Application Summary

Application Number: 16/00424/AOP

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Buckinghamshire

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Case Officer: Miss Clare Gray

Consultee Details

Name: Parish Stoke Mandeville PC

Address: Community Centre, Eskdale Road, Stoke Mandeville, Buckinghamshire HP22 5UJ

Email: smparishcouncil@btconnect.com

On Behalf Of: Stoke Mandeville Parish Council

Comments

Stoke Mandeville Parish Council raised no objections to this application subject to the following :

The land reserved for employment should be light industry / commercial use only.

The development should be mixed use to incorporate home/work units.

The development should include extra care housing for elderly and also disabled people

Green buffers between the development and existing communities should be retained and/or strengthened.

Any development proposed close to existing homes along Wendover Road should be single storey.

Key infrastructure should be in place as early as possible to minimise impacts elsewhere.

8th March 2016

Environment Services

Service Director – Martin Dickman

Buckinghamshire County Council
Highway Development Management
Transport Economy Environment
6th Floor, County Hall
Walton Street, Aylesbury
Buckinghamshire
HP20 1UA
Telephone 0845 230 2882
www.buckscc.gov.uk

Development Control
Aylesbury Vale District Council

Date: 13th October 2017
Ref: 16/00424/AOP

DX4130 Aylesbury

FAO Neil Button

Dear Neil

HIGHWAY AUTHORITY COMMENTS TOWN AND COUNTRY PLANNING ACT 1990

Application Number: 16/00424/AOP

Proposal: Outline planning application (with all matters reserved) for a mixed-use sustainable urban extension comprising: up to 3,000 dwellings and a 60 bed care home/extra care facility (Use Class C2/C3); provision of land for a Park and Ride site; a total of 6.90ha of employment land (comprising of up to 29,200 sq.m. B1c/B1/B2/B8 uses); provision of two primary schools (one 2 form entry and one 3 form entry); a mixed use local centre (3.75ha) with provision for a foodstore of up to 1,200 square metres (GFA), further retail (including a pharmacy), restaurant and café units, a doctor's surgery, gym, public house with letting rooms, professional services, multi-functional community space and a day nursery, and live work units; multi-functional green infrastructure (totalling 108.43ha) including parkland, sports pitches, sports pavilions, children's play areas, mixed use games areas, including a skate park/BMX facility, informal open space, allotments, community orchards, landscaping; extensions to domestic gardens at Tamarisk Way (0.22ha); strategic flood defences and surface water attenuation; vehicular access points from New Road, Marroway, A413 Wendover Road and A41 Aston Clinton Road; a dualled Southern Link Road between A413 Wendover Road and A41 Aston Clinton Road and a strategic link road between the Southern Link Road and Marroway; internal roads, streets, lanes, squares, footpaths and cycleways and upgrades to Public Rights Of Ways (PRoWs); and car parking related to the above land uses, buildings and facilities.

Location: Land Between Wendover Road And Aston Clinton Road Weston Turville Buckinghamshire

I refer to the Council's previous comments regarding this application, which were dated 31st May 2016, 24th May 2017 and 7th June 2017. You will be aware from those previous comments that there were a number of highway matters that required further consideration, particularly in relation to the cumulative impacts of this development alongside the Woodlands Development.

We are aware of the significant public interest in the highways aspects of this planning application including the comments of local Parish Council's and the Hampden Fields Action Group. Many of the objections that we have seen centre on the validity of the use of the Council's strategic transport model for Aylesbury, in principle, along with more detailed comments regarding input assumptions and the outputs from this model that are then used for local junction assessment modelling of the impacts of the proposal and the design of highway mitigation measures.

Strategic Modelling

Buckinghamshire County Council (BCC) commissioned a review of the validity of the strategic model for the assessment of this application, which covers the processes used, the development assumptions and outputs from the model. We have responded to you separately enclosing this modelling review on 4th October 2017, but set out below a summary of the findings with respect to Hampden Fields in the following paragraphs. It should be noted that the modelling review has been undertaken by Jacobs using strategic modelling experts from their London office. The purpose of this was to ensure that the reviewers were not personnel that operate the strategic model in Buckinghamshire and are therefore detached from the work undertaken for the planning applications currently being assessed.

Trip Generation

One of the main criticisms of the Action Group relates to the traffic generation inputs to the strategic model and alleged discrepancies between the agreed trip generation and the network matrix totals. Section 5.1 of the Jacobs "Forecast Methodology Review – Technical Note" dated 4th October 2017 sets out the trip generation for the Hampden Fields development as follows;

"The agreed trip generation estimates as supplied by the developers, and agreed by Buckinghamshire County Council, result in a 2034 AM peak hour Hampden Fields trip generation of:

- **Origin:** 1,222
- **Destination:** 940
- **Total two-way:** 2,162"

Appendix E of the Hampden Fields Transport Assessment (February 2016) (TA) included a modelling approach note that was dated August 2015. That note confirms at paragraph 1.1.5 that "the travel demand assumptions used in support of the original 2012 TA continue to be used" and that "these were based upon the SE Aylesbury Travel Demand Technical Note – TfB Assumptions (December 2011)".

This document formed the basis for the trip generation of the scheme that was subject to the previous Public Inquiry and was not disputed in the Planning Inspectors Decision. Table 6.1 of the trip generation document "Vehicular Travel Demand – TfB Assumptions" dated December 2011 is set out below from which it can be seen that this data is consistent with the input data for the strategic modelling. It should be noted that the trip generation is based on 3200 dwellings rather than the 3000 currently proposed.

Land-use	AM Peak		PM Peak	
	Arr	Dep	Arr	Dep
Residential	386	1065	1092	639
Employment	534	144	105	463
Local Centre	0	0	0	0
Retail	20	13	33	34
Total External	940	1222	1230	1136

Source: Consultant Calculated

Table 6.1 above, presents the adjusted trip generation potential of the site allowing for some internalisation of uses such as the school and retail facilities consistent with the approach previously accepted for the site and the Council's approach to other strategic development sites across the County. Jacobs confirm in their model review that the zone loadings associated with the Hampden Fields development are as follows;

Table 1: Hampden Fields Forecast Zones AM Origin Trips

Zone Number	Zone Name	Total Origin Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121204	HF3	78	7	63	2	1
60121205	-	182	17	147	5	3
60121605	HF5	58	6	36	1	1
60121606	HF4	1	1	14	0	0
60121607	HF6	230	22	144	4	3
60121618	-	8	10	122	0	0
		556	63	528	13	7

Total modelled origin trips: 1,167

Table 2: Hampden Fields Forecast Zones AM Destination Trips

Zone Number	Zone Name	Total Destination Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121204	HF3	8	1	41	3	2
60121205	-	19	2	96	8	5
60121605	HF5	7	1	27	2	1
60121606	HF4	18	3	28	0	0
60121607	HF6	27	3	105	8	5
60121618	-	184	31	295	0	0
		263	42	592	22	13

Total modelled destination trips: 932

For ease of reference, I summarise again the agreed trip generation and the modelled zone loadings side by side below;

	Agreed Trip Generation	Modelled Development Zone totals	Difference
Origin (Departures)	1222	1167	-55
Destination (Arrivals)	940	932	-8

It can be seen from the above that the modelled zone totals are very similar to the agreed trip generation levels. The minor difference is due to calculations relating to the loading of individual zones and reflect the nature of strategic modelling.

On the basis of the above, it is considered that the traffic generation allowed for in the strategic model from this site is a reasonable and robust basis for assessment.

Matrix Total differences

The Hampden Fields Action Group and other objectors have commented further that the matrix totals from the model which represent total traffic on the network within the town wide model area, with and without development, do not correlate with the increased traffic levels associated with the development.

Jacobs explain in detail in section 5.3 and 5.4 of their Technical Note the reasons why the matrix totals do not increase directly in line with the additional traffic associated with the development proposal. A summary of Section 5.4 of Jacobs Technical Note is set out below by means of a simplified explanation.

“With regards to apparent discrepancies in overall demand matrix totals, our review has noted that a proportion of some types of trip (including shopping and leisure) will be diverted from other similar destinations elsewhere. Whilst these trips will be included in the trip generation for the sites in question, they will not increase the overall size of the matrix. Furthermore, where the number of production and attraction trip ends differ, there needs to be some form of mathematical balancing which can also lead to apparent decreases (or increases) in the overall number of trips. The methodology used to do this is recommended by WebTAG, the industry-standard guideline for appraising schemes.

As outlined in Section 5.3 and 5.4, the perceived shortfall in trips within the Do Something scenario demand matrices is therefore due to the agreed trip-making assumptions outlined in Section 5.3 and not through any error in the production of the matrices as suggested by Transport Planning Practice (TPP) on behalf of the Hampden Fields Action Group.

It is therefore our conclusion that the methodology used to create the development matrices is in line with WebTAG advice for this type of model. We have subsequently concluded that the model forecasts are considered suitable for assessment of the development impacts and for proposing mitigation measures at key junctions.”

For the reasons given above, Buckinghamshire County Council (BCC) concludes that;

- That the traffic generation associated with Hampden Fields is consistent with that agreed with the Council;
- That the development zone loadings as modelled are consistent with the agreed traffic generation levels; and
- The Council’s strategic model advisors are satisfied that the modelling is consistent with best practices and that the model is fit for the purposes of assessing the strategic traffic implications of the planning application.

Planning Policy Context

LTP4 (2016-2036)

Buckinghamshire’s fourth Local Transport Plan (LTP4) was adopted in April 2016 and sets out the Council’s policies and strategies to address transport related issues and challenges over the plan period. A total of 19 policies have been proposed in LTP4 to address these transport challenges. Relevant to this application are policies 2 and 7.

Policy 2 relates to improvement in connectivity:

“We will work to improve the connectivity and reliability of Buckinghamshire’s transport network, stimulate economic growth and promote safer more sustainable travel”.

Policy 7 discusses the importance of reliable road travel:

“We will work with partners to find ways to improve the reliability and connectivity of Buckinghamshire roads. We will work to give Buckinghamshire’s people and businesses the certainty of journey times they need.”

“To provide a reliable road network we will:

- *Develop robust business cases for reducing congestion in areas and corridors that are most severely affected by delays.*
- *Work with developers and district councils to ensure that new developments are integrated with the existing road network and that potential congestion caused by the site is properly managed and mitigated (including through Section 278 and Section 106 agreements). “*

Aylesbury Transport Strategy (ATS)

The Aylesbury Transport Strategy was commissioned in 2016 by BCC to set out the improvements needed to support the planned growth of the town between 2016-2033. The ATS was adopted by BCC on the 13th March 2017. This strategy is the key policy document for both the County Council and Aylesbury Vale District Council in order to address the current and future issues affecting the transport network of Aylesbury town centre and all its immediate urban areas.

The six objectives of the ATS are as follows:

- Improve transport connectivity and accessibility within Aylesbury town;
- Improve accessibility to other urban centres and net growth areas outside Aylesbury town;
- Contribute to air quality by minimising the growth in traffic levels and congestion;
- Improve journey time reliability;
- Reduce the risk of death or injury on the transport network; and
- Make it easier and more attractive to travel by active and public transport modes.

The Transport Strategy clarifies the main transport issue affecting Aylesbury in paragraphs 4.2.1 to 4.2.3:

“Aylesbury is a focal point of BCC’s road network. The town is connected to the wider highway network via the A41, A418 and A413 and only the A4157 currently provides an internal semi-circular road around the north of the town. Due to this radial highway network structure, high volumes of through traffic are an issue through the town centre.”

Arterial routes to/from Aylesbury are congested during the morning and evening peak hours, particularly along the A41 and the southern links, based on results from the Countywide model. This will continue to worsen if the significant amount of growth expected in new developments around the town goes ahead without any mitigation measures to the transport network.”

Paragraph 4.2.4 therefore acknowledges the need of the new link roads in order to support this growth and states that:

“Associated with this growth are already a number of new link roads proposed outside the town centre which would together form part of an external circular ring road and redirect through-traffic to peripheral routes rather than through the town centre, also providing the opportunity for a more pedestrian and cycle friendly town centre and space for additional bus priority and shared paths closer to the town centre.”

Emerging Vale of Aylesbury Local Plan (VALP)

The draft plan for consultation was issued in 2016. The plan includes a Spatial Vision:

“By 2033 Aylesbury Vale will have seen an appropriate amount and distribution of sustainable growth, which will contribute to creating a thriving, diverse, safe, vibrant place to live, work and visit, and where all residents enjoy a high quality of life.”

Relevant for this application is Paragraph 1.18 of the emerging draft local plan:

“An essential part of the new infrastructure will be the provision of new transport infrastructure. The main focus for road improvements will be in relation to Aylesbury, to improve the circulation of traffic around the town. There will also need to be a focus on improving north / south connectivity to enable the district to function better in relation to national highway networks.”

Section 4 of the Draft Plan discusses the strategic delivery action plan required for the town to meet its objectives of growth and development. Paragraph 4.8 includes a vision for an Aylesbury Garden Town by 2033 and states that:

“Road improvements linking new developments to the town, will create a series of link roads around the town. “

Paragraph 4.20 refers to the Aylesbury Transport Strategy and states:

“The Transport Strategy will build on previous and currently planned improvements to transport infrastructure. The initial work has identified a list of potential transport interventions for Aylesbury which will enable growth and meet the strategic objectives identified above. These will be based on:

- *completing a series of outer link roads that will take traffic away from the town centre and allow public transport priority improvements to take place on the main radial roads closer to the town centre, improving public transport journey time reliability.*
- *implement an overarching strategy to connect new developments, with each other, to key destinations and to the town centre by active travel and public transport;*

Policy D1 relates to delivering Aylesbury Garden Town and states that:

“All development in Aylesbury should contribute to meeting the Aylesbury Transport Strategy.”

The proposals currently being considered therefore provide an essential part of the necessary infrastructure identified to allow current traffic conditions in the Town to be managed, whilst meeting the emerging needs for housing growth identified in the draft VALP.

Link Road Design

Paragraph 2.1.3 of the modelling specification note at Appendix E of the 2016 TA explains that the design approach to the link road through the Hampden Fields site has changed from the previous application to incorporate a dual carriageway throughout its length. The note explains that;

Of note are the continued proposals for a new multi-modal road link between the A413 and the A41 running through the Hampden Fields development. However, from the latest consultation with BCC, the status of this road as both a multi-functional high street and link road has been subject to change. By focusing on the strategic role of the Main Street, its through-route characteristics have been ‘elevated’ so that it provides a continuous higher capacity link road between the two radial corridors into Aylesbury.

The main TA explains at section 6.2 that the proposed link road will connect the A413 to the A41. It will add capacity to the network for traffic wanting to travel between the two corridors without having to otherwise travel towards the town centre and use existing east-west connectors such as Bedgrove, King Edward Avenue or on the outer edge of town, Weston Road and Main Street.

Paragraph 6.2.7 states that *“public opinion gathered from the public exhibitions...suggested that there would be strong support for the Southern Link Road (SLR) to be delivered as a dual carriageway from the outset”*. The framework plan for the road that has been submitted includes its provision as a dual carriageway. The Council originally queried the commitment to the delivery of a dual carriageway given that the text in the original TA suggested that the dual vs mixed single/dual commitment would be subject to further discussions in relation to S106 obligations.

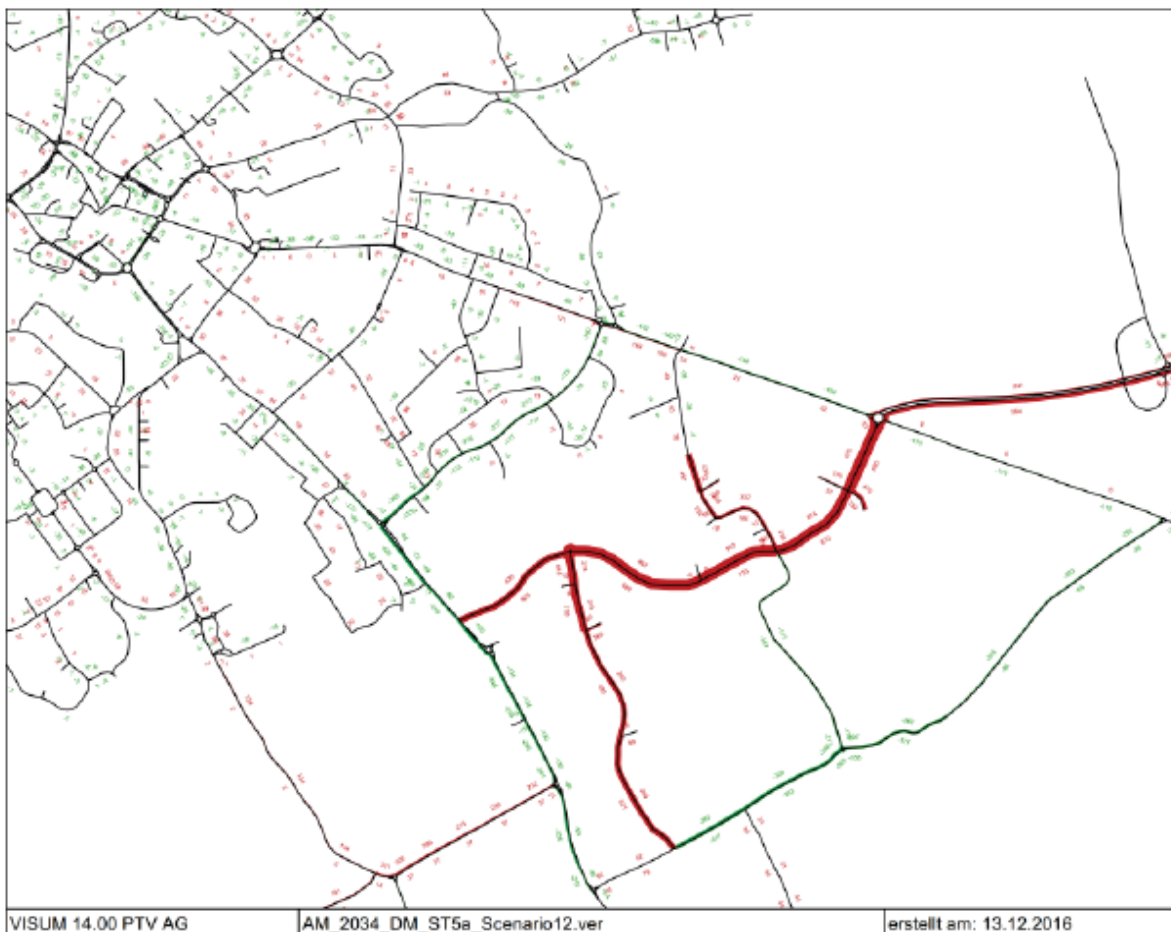
In April 2017 an Addendum Transport Assessment (ATA) was submitted by the applicants in response to comments raised by the Council. Under the heading 'Additional Changes' at paragraphs 1.2.4 onwards, the treatment of the design of the SLR through the Hampden Fields site was clarified. It stated that the strategic modelling that informed the original 2016 TA was on the basis of a mixed single/dual carriageway arrangement for the SLR. The ATA included revised Strategic modelling and stated that "it is with a view to understanding the merits of the dual carriageway in transport terms that alternative standalone (modelling) scenarios have been assessed with and without the full length dualling..."

The ATA set out the comparative modelling results which compared traffic loadings for mixed single/dual carriageway vs full dual carriageway. Paragraph 2.4.8 states;

The comparison of the 2034 Do Something (Scenario 11 or 12) conditions against the 2034 Do Nothing (Scenario 10) scenario shows a shift of traffic onto the new roads, with a decrease in traffic on the existing radial arms including the A413 Wendover Road and A41 Tring Road/Aston Clinton Road.

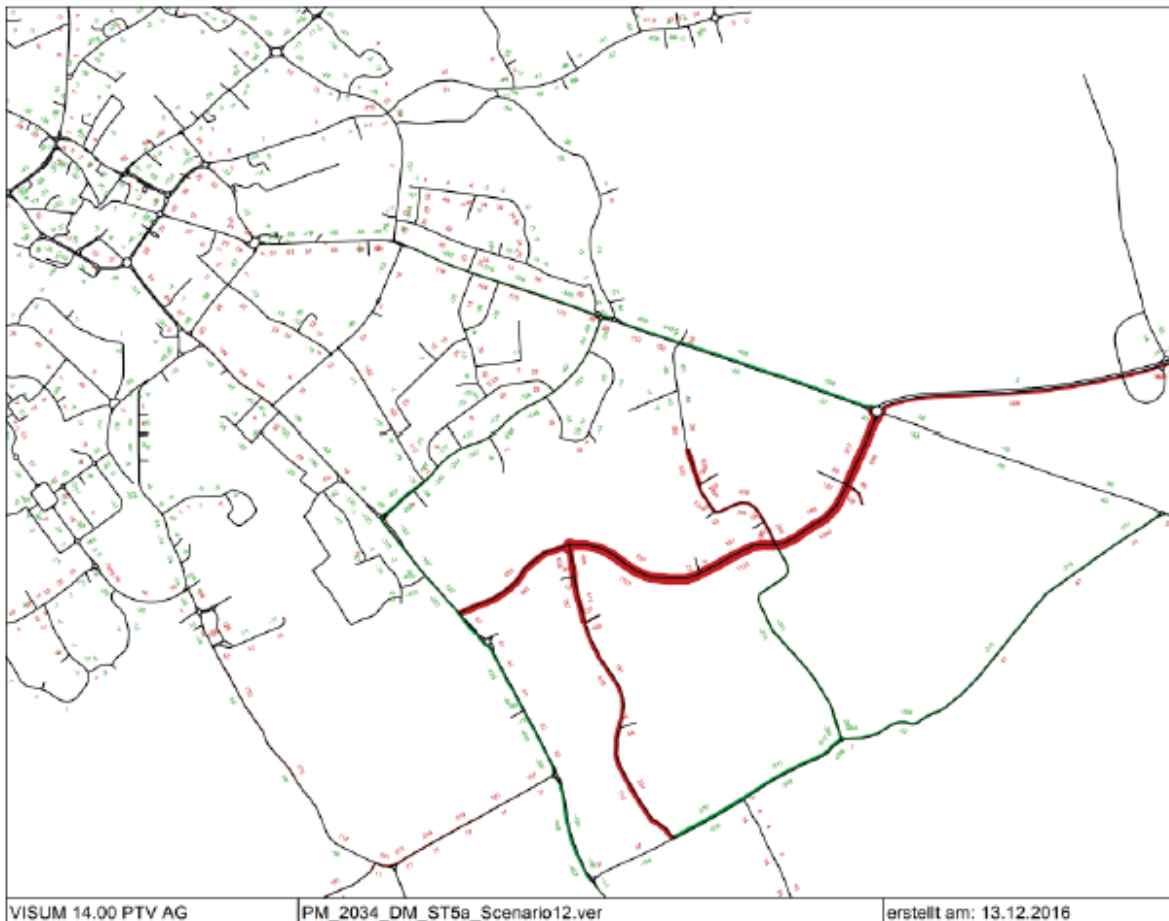
The following difference plots extracted from the ATA highlight in red increases in traffic and green decreases in traffic. It can be seen that there are positive benefits along parts of the A413 and A41 as well as through Aston Clinton and Weston Turville resulting from the development proposal, including the dualling of the SLR. The figures below show the difference between Do Minimum and Do Something (including the dual carriageway).

Figure 2-3 Changes in link flows between 2034 Do Nothing (Scenario 10) and 2034 Do Something (Scenario 12, Dual SLR) – AM peak



Source : Modelling from Jacobs using the Aylesbury Town Strategic Model – 13 December 2016

Figure 2-4 Changes in link flows between 2034 Do Nothing (Scenario 10) and 2034 Do Something (Scenario 12 - Dual SLR) – PM peak



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Source : Modelling from Jacobs using the Aylesbury Town Strategic Model – 13 December 2016

The ATA went on to state that the dual carriageway option led to a greater shift of traffic on to the new link road when compared to the mixed single/dual option. This was set out in paragraph 2.2.7 as follows;

Analysis of these scenarios demonstrated that the delivery of the fully-dualled SLR were positive in demonstrating the suitability of the development against the following tests:

- *The dual carriageway led to a greater re-routing of traffic via the SLR*
- *The range of off-site changes do not lead to any severe impacts*
- *The performance of the Walton Street gyratory shows a reduction in traffic and delay compared to the situation without the development*

Paragraph 2.5.2 of the ATA summarises the benefits of a dual carriageway through Hampden Fields vs a mixed single/dual carriageway as follows;

It is on the basis of the preceding subsections that Scenario 12 (with development and dual carriageway) supports the form of the masterplan that is being applied for through the planning submission. It is also the case from the assessment presented in subsection 2.4 that the benefits of providing a dual carriageway configuration outweigh those of providing a mixed-configuration route. This conclusion is arrived at because:

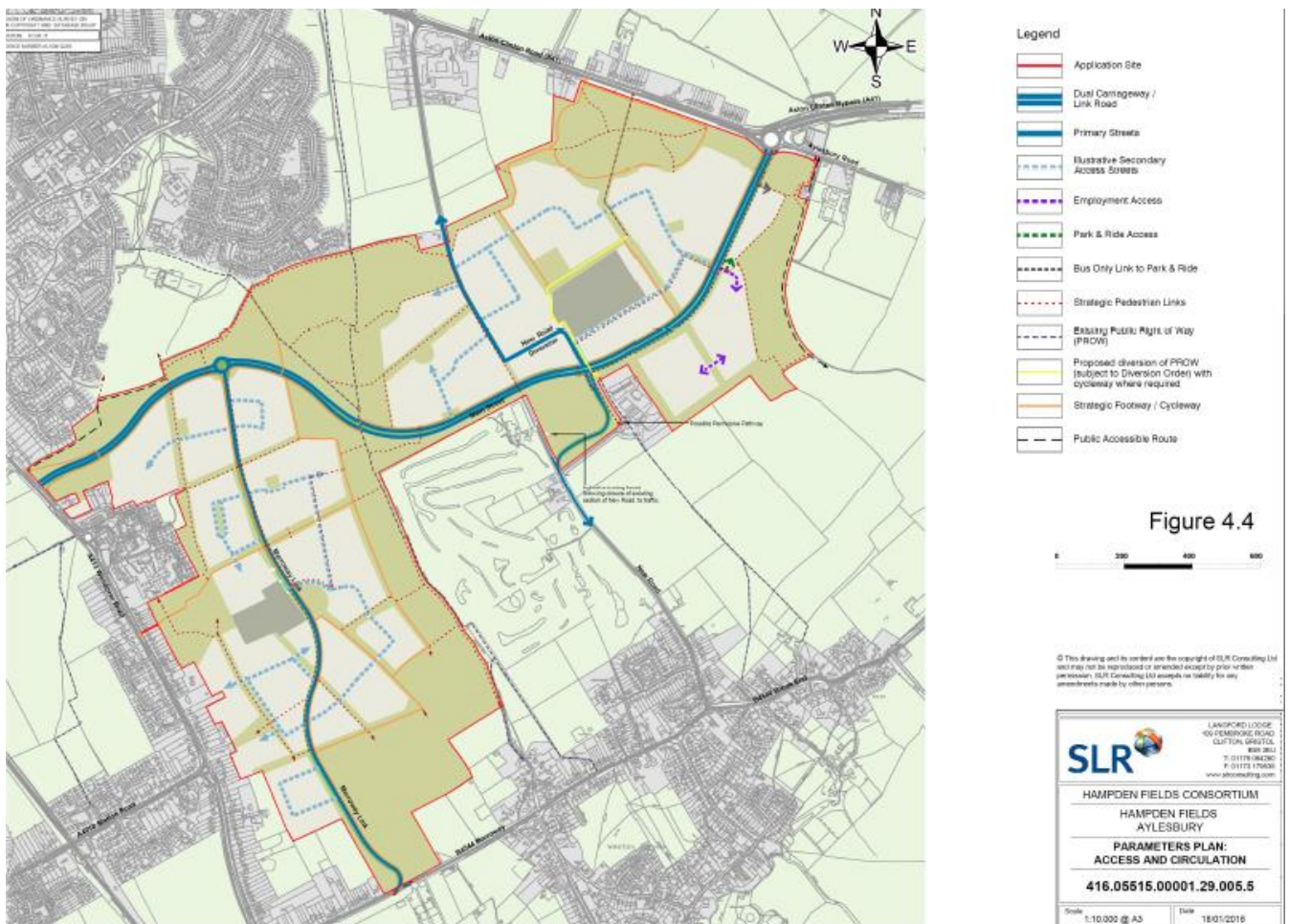
- *The reductions across the local road network, through Bedgrove and Weston Turville, are greater with the provision of a fully-dualled SLR.*
- *Consistent reductions in overall vehicular traffic at the Walton Street gyratory with the provision of a fully-dualled SLR, and better performance in the detailed off-site assessments.*

- Improved network-wide statistics, which demonstrate that provision of a fully-dualed SLR lessens the overall impacts of the development.
- Positive effects expressed in terms of the Walton Street gyratory's level of performance overall.

Paragraph 5.3.2 in the summary of the ATA confirms Hampden Fields' commitment to the delivery of the dual carriageway early in the development as follows;

When delivered early in the phasing, the dual-carriageway SLR will help to fulfil BCC's vision re-stated in the emerging ATS for orbital road connections around the town.

An extract from the updated Framework Masterplan is set out below for ease of reference;



Key issue in relation to traffic impact at the Gyratory

It is noted that many of the objections to recent strategic planning applications have identified the impact of developments on the operation of the Walton Street Gyratory as a significant area of concern, particularly in light of the previous Planning Inspectors comments in relation to the Hampden Fields application (12/00605/AOP).

The Council is clearly fully aware of the Inspectors findings and the reasons for that appeal being dismissed. In the case of the Hampden Fields standalone assessment, the impact on the gyratory has been fully considered. The ATA produced by the applicants, which uses outputs from the Council's Strategic Transport Model for Aylesbury, shows the following traffic changes at the Gyratory as a direct result of the Hampden Fields development and associated infrastructure proposals.

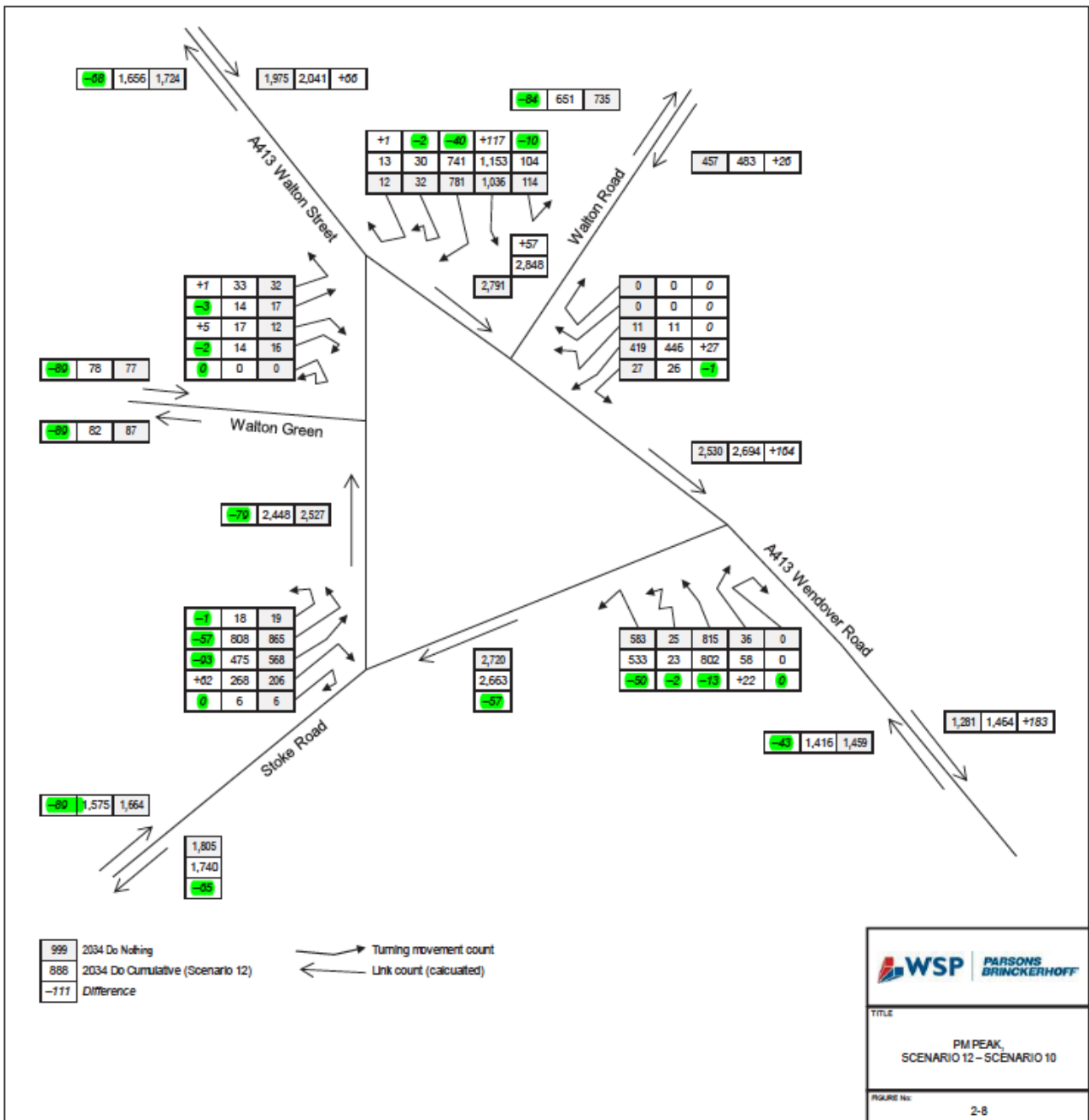
Table 2-6 AM and PM flows though the Walton Street gyratory

Peak hour	2034 Do Nothing (Scenario 10)	2034 Do Something (Scenario 11, Mixed SLR)		2034 Do Something (Scenario 12, Dual SLR)	
		Flow	Difference	Flow	Difference
AM	5,364	5,355	-9 -0.2%	5,321	-43 -0.8%
PM	5,631	5,572	-59 -1.0%	5,593	-37 -0.7%

The above table provides an overall snap shot of traffic changes across the junction. It can be seen that overall, whilst the development proposal loads more traffic on to the network, its associated infrastructure proposals including the SLR results in a reduction in traffic flows at the Gyratory when compared to the Do Minimum situation.

The applicants have considered the individual changes to turning movements during the AM and PM peak hours in greater detail as summarised in the following Figures extracted from the April 2017 ATA;

Figure 2-8 Changes in Walton Street gyratory movements between Do Nothing and Do Something (Scenario 12 - Dual SLR) – PM peak



Source : Modelling from Jacobs using the Aylesbury Town Strategic Model – 13 December 2016

We have highlighted in green for ease of reference individual turning movements that remain the same or reduce as a result of the development when compared to Do Minimum. It can be seen that the Stoke Road and the A413(S) entries to the Gyratory all show a reduction in traffic when compared to Do Minimum. This is an important consideration as it was the Stoke Road entry in particular that was of concern to the Inspector at the previous Inquiry.

Detailed capacity assessments have been undertaken of the operation of the Gyratory and the results are included at Section 3 of the ATA. These are summarised below for ease of reference. We have highlighted results in the scenario with development that are the same as, or better than, Do Minimum in green and those that have a small increase **but remain within capacity** in orange for ease of reference; (The first table is without development and the second with development)

Table 3-30 2034 Do Nothing (Scenario 10) Walton St Gyratory – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	Walton Street Ahead	81.3	12.2	123.1	119.0
1/3	Walton Street Ahead	81.3	12.4	123.2	112.0
2/1+2/2	Internal - Walton Street Stopline Right	68.6	6.6	88.3	8.5
3/1+3/2	Walton Road Ahead Left	80.7	7.0	64.5	4.8
4/1	Internal - Walton Road Stopline Left	29.1	4.9	48.4	5.9
4/2	Internal - Walton Road Stopline Ahead	69.2	4.1	67.9	4.4
4/3	Internal - Walton Road Stopline Right Ahead	70.4	4.4	69.6	5.0
5/1	Wendover Road Ahead	93.3	18.6	91.7	17.2
5/2	Wendover Road Ahead	93.4	18.7	91.7	17.2
6/1	Internal - Wendover Road Stopline Right	69.5	6.8	65.7	6.9
6/2	Internal - Wendover Road Stopline Right	82.3	8.9	74.0	8.3
7/1+7/2	Stoke Road Left	139.3	298.6	120.3	177.3
8/2	Internal - Stoke Road Stopline Right	89.9	11.0	84.6	10.7
8/3	Internal - Stoke Road Stopline Right	89.9	10.8	85.8	11.0
13/1	Walton Green Left Left	36.8	0.6	34.9	0.6
Overall PRC (%)		-54.8		-36.9	
Cycle time (seconds)		64		64	

Table 3-31 2034 Do Something (Scenario 12) Walton St Gyratory – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	Walton Street Ahead	81.3	12.2	124.2	126.3
1/3	Walton Street Ahead	81.4	12.4	124.1	118.9
2/1+2/2	Internal - Walton Street Stopline Right	68.9	6.5	88.9	9.1
3/1+3/2	Walton Road Ahead Left	85.6	8.1	67.8	5.1
4/1	Internal - Walton Road Stopline Left	29.9	5.1	45.3	6.6
4/2	Internal - Walton Road Stopline Ahead	69.1	4.1	72.6	4.9
4/3	Internal - Walton Road Stopline Right Ahead	70.5	4.4	74.2	6.0
5/1	Wendover Road Ahead	89.8	16.0	88.7	15.5
5/2	Wendover Road Ahead	89.7	15.9	88.6	15.4
6/1	Internal - Wendover Road Stopline Right	67.9	6.4	65.2	7.4
6/2	Internal - Wendover Road Stopline Right	82.1	8.6	73.0	8.7
7/1+7/2	Stoke Road Left	136.8	282.1	113.2	125.2
8/2	Internal - Stoke Road Stopline Right	86.7	9.4	84.8	10.8
8/3	Internal - Stoke Road Stopline Right	86.7	8.8	85.8	11.2
13/1	Walton Green Left Left	36.5	0.6	35.8	0.6
Overall PRC (%)		-52.0		-38	
Cycle time (seconds)		64		64	

It can be seen from the above, that many of the individual links improve (green) or experience minor increases that remain within capacity (orange). The only exception is the Walton Street entry (travelling from the County Hall roundabout). The increase in degree of saturation on these links is only 1% and queuing on these two links increases by only 7 vehicles. This needs to be viewed against an overall improvement to the junction and an overall reduction in traffic. In view of the overall improvement in conditions and reduction in traffic flows as set out in Table 2-6 above, we do not consider that the impact on the Gyratory is severe.

It should be noted that the National Planning Policy Framework (NPPF), against which developments are considered in transport terms states the following Paragraph 32 requires;

- 32 *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 taken up depending on the nature and location of the site, 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 impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.*

The third bullet point above, is an important consideration when determining whether mitigation measures are required. The highlighted text suggests that improvements are appropriate to limit the significant impacts of development. As such if there is no evidenced significant impact associated with a development proposal at a given junction then it would not be reasonable to require mitigation measures as it would immediately fail to meet this test.

With reference to the traffic flow changes set out above at the Gyratory and comparisons of the Do Something (with development) vs Do Minimum (without development) modelling runs, it can be seen that the proposal does not have a significant impact on the Gyratory. This is also in the context of the previous Inspectors decision as summarised in Paragraph 9.504:

9.504 *Although the increased percentage total flow within the junction would be less than 5% in the morning peak and less than 1% in the afternoon peak, the significance of such seemingly minor increases would be heightened by the sensitivity of the junction in its already congested operation and its enhanced susceptibility to breakdown. This would have consequences for both private and public transport and it could result in some vehicles seeking out alternative, less desirable, routes. [4.153]*

The Inspectors decision was based on an increase in traffic through the Gyratory in the order of 200 movements in each of the network peak hours and what he considered to lead therefore to an unacceptable impact. In the case of the current Hampden Fields development and associated infrastructure proposals, there is not indicated to be an increase in traffic through the Gyratory as a whole or on the key links which were of concern to the Inspector in his consideration of the previous appeal. It is for this reason that the Council concludes that the development will not have an impact on the operation of the Gyratory and does not therefore run contrary to the Inspectors previous findings.

Walking, Cycling and Public Transport

Existing Conditions – Sustainable Modes of Transport

When taking into consideration the location of the site it is reasonable to assume that the Bedgrove neighbourhood and Aylesbury Town will offer a range of facilities that will be important to residents of the proposed development in addition to proposed on site provision. Within walking and cycling distance of the site are a number of facilities including a hospital, train station, areas of employment, industrial areas, a range of shops and a number of schools.

Pedestrian and Cycle accessibility – The site is located on the urban edge of Aylesbury adjacent to an established residential neighbourhood resulting in the potential for convenient access to Aylesbury town centre via a number of routes. The TA includes walking and cycling isochrones that demonstrate the accessibility that the proposed development will benefit from. These isochrones are included within the TA at Figures 4 and 5 and a summary of what they show is included below.

3.3.3 Figure 4 shows that:

- Within approximately 15 -20 minutes' walk from the centre of the site, Weston Turville, Stoke Mandeville, the residential area of Bedgrove and numerous Primary and Nursery schools are accessible; from the closest edge of the site, Stoke Mandeville railway is located approximately 7-8 minutes' walk away;
- Within approximately 20 minutes' walk, much of the surrounding area can be accessed, including a doctors surgery, pharmacy, a few shops and a pub; From the closest edge of the site to the Bedgrove retail area, the walk time would be approximately 9 minutes.; and
- Aylesbury Railway Station and Central Bus Station are just outside a 45 minute walk time, from the centre of the site.

3.3.4 Similarly, Figure 5 shows that:

- Within approximately 5 minutes cycle from the approximate centre of the site the whole of Weston Turville and Stoke Mandeville (including Stoke Mandeville railway station) can be accessed as well as a several nursery and primary schools;;
- Within approximately 15 minutes cycle from the approximate centre of the site access to the majority of Aylesbury centre, and Aylesbury Railway and Bus Stations can be reached enabling access to retail and leisure facilities; from the north-western edge of the development, the town centre can be reached by bicycle in approximately 10 minutes; and
- Within approximately 30 minutes cycle from the centre of the development all of Aylesbury can be reached, as can Tring and Wendover.

In order to ensure that the proposed development provides safe and convenient access to all of the facilities referred to above it is important to ensure appropriate walking and cycling links are secured where required.

Pubic Rights of Way – The proposed development benefits from a number of established pedestrian, cycle and equestrian connections. It is noted that these public rights of way routes have a leisure function and are largely unsurfaced and liable to localised water ponding and areas of unevenness. It is however proposed to provide upgrades surfacing or alternative routes as part of the development. Please refer to comments submitted by the County Council's Strategic Rights of Way officer for further information.

Public Transport Accessibility – Arriva has been highlighted as the main bus operator within Aylesbury and currently operates Services 8, 50 61 and 500 on a 20, 30, 60 and 10 minute frequencies respectively. A route between Aylesbury and Leighton Buzzard (service 164) is also provided by Redine.

The nearest bus stops to the site are currently located at the Holiday Inn on the A41 (services 61, 500/501 & 164) and the Hampden Hall development, which is adjacent to the site, and is served by a bus stop on the A413 (service 50). Route 8 is served by a bus stop at Dorset Place to the north of the site and route 55 stops further along Wendover Road, south of its junction with Station Road.

The TA shows that parts of the site will be within a 5 minute walking time of the existing bus stops and it is considered that the site will be accessible for people looking to travel to Aylesbury town centre, Aston Clinton and Wendover. Furthermore, the Passenger Transport Strategy (PTS) outlines the opportunities for delivering new dedicated bus services to support the development.

In terms of existing rail access, Stoke Mandeville railway station is located approximately 2km from the centre of the site and 0.6km from its closet edge, making it a 5-10 minute cycle from the site. Aylesbury railway station is located 2.6km north west of the site, a five minute walk from the bus station. Both of these stations are operated by Chiltern Railways who encourage sustainable travel to and from their stations, including 'PlusBus' tickets allowing discounted onwards bus travel and a 'three for free' scheme allowing free parking when three or more people are sharing a car. It is therefore important that the proposed development makes good use of these rail facilities and encourages future residents of the development to use them.

It is expected that the construction of the East-West rail route will increase rail connectivity at Aylesbury by connecting Oxford with Milton Keynes and beyond to Bedford and Cambridge. While full details are yet unavailable, it is likely that this will also provide a new station at Winslow providing an opportunity for services to be extended to and from Aylesbury along with further works to be undertaken on the section of the route through Princes Risborough.

Existing Footway/Cycleway Links

A41 Tring Road/Aston Clinton Road Corridor – The section of the A41 adjacent to the site has an existing footway provision along the majority of the northern side leading from the Woodlands roundabout and into Aylesbury town centre. Along the southern side the footway provision is continuous leading to the west from the Holiday Inn bus stop but to the east of the bus stop, heading out of Aylesbury towards the Woodlands roundabout, there is a significant section where no footway is present.

A413 Wendover Road Corridor – In the vicinity of the site the Wendover Road has existing footways adjacent to both edges of the carriageway that lead both into and away from Aylesbury town centre. The footway on the western side of the carriageway is also a shared footway/cycleway. It is noted that the TA incorrectly identifies this provision as being on the eastern side of the carriageway.

New Road – The northern section of New Road benefits from an existing footway provision adjacent to the western edge of the carriageway, however as New Road heads south the road becomes more rural in nature and the footway provision terminates. The footway provision then starts again at the southern section on the road shortly after entering Weston Turville, where residential dwellings are present. The majority of this section of New Road benefits from a footway provision adjacent to both edges of the carriageway.

B4544 Marroway – From its junction with the A413, Marroway has an existing footway provision adjacent to its south eastern edge which continues all the way along it as the road enters Weston Turville where it continues on both sides of the carriageway.

Proposed Improvements

Improvements to walking and cycling connections were considered as part of the appeal process for the previous application. The Statement of Common Ground agreed between parties at that appeal contained the agreed walking and cycling improvements. The applicant is proposing improvements that are consistent with what was previously agreed and are summarised below for confirmation.

WTU/7/1 – The design of the Local Centre and the junction with New Road take account of this PRow and incorporates a signalised pedestrian crossing in the design of the Southern Link Road to accommodate it. The alignment of the footpath to the south of this point is subject to further agreement. Off-site the footpath will be retained and improved to provide a 2m pedestrian link to the eastern part of Western Turville, which also provides access to bus stops on the A41.

WTU/33/1, WTU/3/1, WTU/3/2 – This route will be retained with additional connecting routes linking the route to the wider development. An uncontrolled crossing facility will be provided where this PRow crosses the SLR. Upgrade to the North-South link within the development. Off-site the footpath to Weston Turville will be retained and improved. The Hampden Fields Consortium will contribute towards the upgrading of the current WTU/33/1 footpath to become a 3m wide bridleway.

Southern Link Road – A continuous footway/cycleway of 3m in width will be provided on either the southern or northern side of the Link Road. This will provide a continuous provision which, at its eastern end, will link the residential parts of the development with the local centre and employment area. A 2m footway will be provided on the alternative side of the SLR, opposite the footway/cycleway. This is consistent with the ELR(N) being constructed as part of the Kingsbrook development and ELR(S) proposed as part of the Woodlands development.

Primary School Accessibility – The proposed SLR would not be connected from the outset of the development, so a temporary pedestrian and cycle route will be provided to connect the eastern and western parcels. This will ensure that there is a connection for pedestrians and cyclists between the first phases of development to the east of the site, including a connection with the eastern primary school, which is expected to be delivered much earlier than the western primary school.

Traffic Free Route – This will run East-West across the development to provide a formal route to Wendover Road as well as to cater for more vulnerable users. It will take the form of a cycleway/footway and will stretch from the dedicated new pedestrian/cycle access off Wendover Road to the local centre and connection with PRow WTH/7/1. It will be delivered early in order to fulfil the requirements for a route linking the early phases of the development on the western part of the development to the first primary school being located within the Local Centre. It will also provide a largely uninterrupted means of cycle access to local railway stations via Wendover Road.

Round of Aylesbury Walk – This is a more direct route alongside the SLR to facilitate a walking route. The existing route through Bedgrove will be retained providing additional choice as part of any future promotion. A pedestrian crossing will be provided on the section of the SLR to the west of the Marroway Link/SLR junction.

There are further off-site measures to improve accessibility being proposed which are detailed below:

A4010 Station Road – A crossing is being proposed to improve accessibility to Stoke Mandeville Railway Station. Changes are also proposed to the Amber Way cycle route at the A413 Wendover Road/A4010 Station Road roundabout, which includes an on street cycleway on the A4010 Station Road. A section of new footway/cycleway is also proposed along Station Road to provide an off road facility that connects to the railway station via a new pedestrian crossing. The details are shown in principal on drawing 1769/SK/007 REV A attached to the Addendum TA.

Pedestrian crossing on A413 Wendover Road – To ensure people can progress along the southern section of the A413 Wendover Road to connect with A4010 Station Road, a new signalised crossing is proposed to be provided in conjunction with the western access to the development. It is considered beneficial to provide a crossing point along the A413 Wendover Road, between property number 108 and A4010 Station Road.

Link to Ambleside (across Bedgrove Park) and signposted cycle route on-street between Ambleside and Turnfurlong Road (the Amber Cycle Route) – A direct link between the development and the Amber Way cycle route is available from its connection at the western end of the SLR. An alternative access to the Amber Way cycle route will be across Bedgrove Park.

Improvements to the Bedgrove Linear Park – Improvements from Bedgrove Park to A41 Tring Road will include an improved granite-to-dust surface to the Bedgrove Linear Park footpath.

Improvements along A41 Aston Clinton Road – A 3m wide shared footway/cycleway is proposed along the southern side of the A41 Aston Clinton Road which will improve pedestrian and cycle links for the northern end of the proposed development. This footway/cycleway must extend as far as Bedgrove.

Improvements along New Road – A 3m wide shared footway/cycleway is proposed along its length.

It should be noted this is an outline application with all matters reserved except access, details of the cycle and pedestrian infrastructure within the site will need to form and be considered as part of any future reserved matters application.

Cycle Parking at Stoke Mandeville Station

In order to assess existing levels of cycle parking at the station a site visit took place where three main areas of cycle parking were observed. There was covered and uncovered cycle parking on the southbound platform which provided four stands and three stands respectively. There were also 10 uncovered stands in the car park. Each stand holds two bikes and therefore there is the existing capacity for 34 bikes. At the time of the site visit there were 12 bikes observed to be parked at the station.

The TA confirms that the whole site is accessible to the station by bicycle. The National Rail Travel Survey (2010) suggests that 4% of railway station trips in Aylesbury are made by bicycle. While it would appear that this level of demand can be accommodated at the station, the applicant is willing to make a further contribution to improve facilities at Stoke Mandeville Station. The level of contribution and type of improvements will be subject to further discussion as part of the S106 Agreement process.

Aylesbury Station currently has its own Travel Plan with actions to reduce car travel which have so far included passenger surveys and promotions of '3 for Free', a car sharing initiative, the 'Free bus travel for season ticket holders' initiative and improvements to cycle storage. In light of this the applicant is proposing that the contribution for delivering station improvements at Stoke Mandeville railway station is allocated to the Hampden Fields Travel Plan as the Travel Plan will:

- Cover the process through which partnership working can be established, including through the appointment of delivery partners on the Travel Plan steering group;
- Offer the ability to tie-in with the wider roll-out of Station Travel Plans across the County;
- Retain the funds for improvements so that these can be targeted at where they are considered to be needed most and offer best value; and
- Provide a mechanism through which the overall supply and demand for cycle parking at the station can be monitored and improvements can be facilitated.

Public Transport

As with the proposed walking and cycling improvements, the public transport improvements were considered as part of the previous application and also during the appeal process. As part of the Statement of Common Ground between parties, a Public Transport Strategy (PTS) was agreed. There has been a PTS submitted as part of this current application which proposes improvements that are consistent with what was agreed previously. We outline the proposed improvements below for confirmation:

Rail

In terms of the development impact on rail journeys it was agreed in the PTS for the previous application that the impact will be approximately 13 passengers per train, which was not considered to be significant. The PTS for this current application states that the impact will now be in the region of 22 passengers per train, which is an increase of nine passengers over that which was previously agreed. It is however considered that this increase is not considered to be significant.

Bus Service

After discussions concerning the type and timing of any improvements it has been concluded that a dedicated bus service to serve the new development will be provided from the outset. It has been recognised that the phasing of the services could be possible and the specification of the services may need to evolve prior to reaching an end state configuration. The County Council has confirmed that a flexible specification would be acceptable as it may seek to implement alternative end state bus routes which would concentrate the routing for the proposed bus service on the A41 corridor, achieved within the same level of subsidy funding.

It is proposed to provide the new services in three phases. Phase 1 would consist of two services, one serving the western area and the other serving the eastern area. Phases 2 and 3 will involve a combined service through the development as part of the first phase of development so that it will be available to support the implementation of phase 2.

In addition to a dedicated bus service to serve the development an allowance has been made within the Masterplan to facilitate the delivery of a Park and Ride facility. The car park would deliver approximately 450 spaces with an opportunity to expand in the future.

Section 7 of the PTS contains a Bus Revenue Forecast. The information shows that a cumulative subsidy of £1,676,916 will be required until such time as the service is expected to reach a breakeven point, which is shown to be achieved in year 12. The phasing of the payment will need to be agreed with the Council and set out in a Section 106 Agreement. It should be noted that if planning permission is granted for both the Woodlands and Hampden Fields developments, then the Public Transport Strategy will need to be reviewed accordingly to ensure that the most effective bus service is provided.

Other infrastructure contributions that the development will make towards improving accessibility to public transport for residents of the development and the surrounding community are as follows:

Bus Infrastructure – Four RTPI-enabled bus stops are to be provided within the development with a further two off-site bus stops along the A413 and A41 to serve the southern areas will be installed. An alternative commitment to a contribution of £45,000 will be made towards the implementation of the public transport strategy should alternative facilities/measures be identified. A contribution of £370,000 will be made to the Council towards hurry call transponders and/or operational management measures to improve capacity and operational efficiency along the bus route and at Aylesbury Bus Station.

Station Cycle Parking – A contribution of £34,100 towards accessibility and cycle parking at Stoke Mandeville railway station in light of forecast demand is proposed.

As referred to above, these proposed improvements were agreed as part of the Statement of Common Ground for the appeal relating to the previous application. These improvements remain acceptable to the County Council.

Internal Road Layout

As this is an outline application with all matters reserved except access, details of the internal road structure and design will be considered at a later stage. It is recommended that a suitably worded condition or obligation be included to require the submission and approval of details in the event that planning consent is granted.

Traffic Calming

Section 9.5.6 of the original Transport Assessment dated February 2016 stated that following the applicants' consultation process the general public and local councillors indicated concern over the existing level of traffic travelling through Weston Turville as a result of increasing delays along the A41 corridor. Whilst the proposed link road through the Hampden Fields development provides a strategic alternative connection between A413 and A41 to the route using Weston Road and Main Street through Weston Turville, the applicants agreed to investigate reinforcing the attractiveness of the use of the SLR through the development by introducing additional traffic calming measures.

Whilst the Hampden Fields consortium state in the original 2016 TA that the benefits of the SLR itself should be sufficient to improve conditions through Weston Turville, they undertook a consultation with Weston Turville Parish Council to consider where traffic calming improvements could be made through the village. Following this an overall strategy drawing was produced by WSP PB to inform discussions with the Parish Council. The TA states that the Parish Council indicated its agreement to the proposals identified and indeed this is confirmed by discussions that we have had direct with the Parish Council.

Whilst the TA remains neutral in its commitment to the scheme, further clarification was set out by the applicants in the Addendum TA, which was dated April 2017. The following drawings were appended to the Addendum TA;

- 2826/SK/133 REV B POTENTIAL WESTON TURVILLE TRAFFIC CALMING OPTIONS
- 2826/SK/135 REV B POTENTIAL WESTON TURVILLE TRAFFIC CALMING OPTIONS – ADDITIONAL MEASURES

The Addendum TA also included proposals for public realm improvements and a new signal controlled pedestrian crossing at Jansel Square on Camborne Avenue in Bedgrove, following discussions with the Local County Council Member at the time. The following drawing refers;

- 2826/SK/037 REV B POTENTIAL TRAFFIC CALMING IMPROVEMENTS -CAMBOURNE AVENUE

The Addendum TA explains at Section 4.5 under the heading "On Going Consultation";

- 4.5.1 The Hampden Fields Consortium's has and remains engaged in supporting and facilitating further consultation with the Weston Turville Parish Council, AVDC, BCC and other stakeholders in relation to:
- Traffic calming proposals for Weston Turville, including funding for the Parish Council to promote requisite Traffic Regulation Orders and introduce the measures (WSP | PB Drawings No 2826/SK/133 rev B and 2826/SK/135 rev B).
 - Public realm improvements and pedestrian safety measures at Jansel Square on Camborne Avenue/Bedgrove (WSP | PB Drawing No 2826/SK/037 rev B).
- 4.5.2 Strategy drawings (not forming part of the February 2016 TA) have been put forward by WSP | PB to inform the discussions over these potential improvements.
- 4.5.3 In both cases, any measures identified from the process would be delivered because they would secure or lock-in the benefits arising from the re-routing of traffic on the SLR, rather than because the transport strategy is reliant upon it.

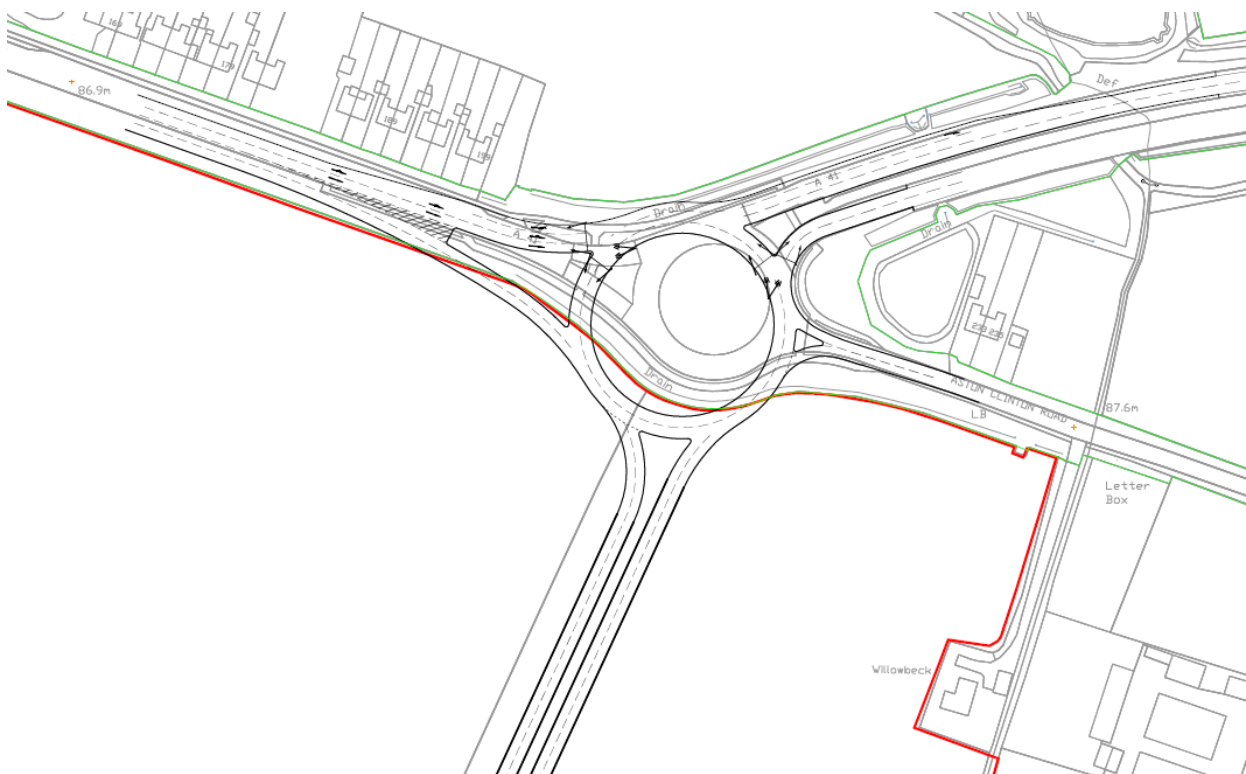
Despite the caveats set out above in para 4.5.3, the applicants have confirmed to the Council their commitment for funding for these works as part of the development proposals. As such the Council proposes to include the requirement as a S106 Obligation in the event that planning consent for the development is to be granted. It should be noted that we are aware of the local County member's desire to see the traffic calming in place as soon as possible following the opening of the link road and this is a matter which we will seek to address as part of the detail to be included in the Section 106 agreement.

Technical Assessment of the Impacts of Development

The following section provides information of each of the individual junctions that have been assessed in the Hampden Fields standalone assessment and identifies where additional mitigation measures are required and explains what the mitigation works are and how they assist in offsetting the material impacts of the proposal.

1. A41 Bypass/Aylesbury Road/A41 Aston Clinton Road (Woodlands Roundabout)

Two options are proposed for this junction. The first option is a four arm signal controlled roundabout with a fourth arm serving the Hampden Fields development to the south, shown on drawing WSP|PB 1769/SK/027 Rev B, an extract of which is below. This junction utilises the land available within the Hampden Fields site and the public highway without needing to rely on land within the Woodlands site, in the event that site doesn't gain planning consent.



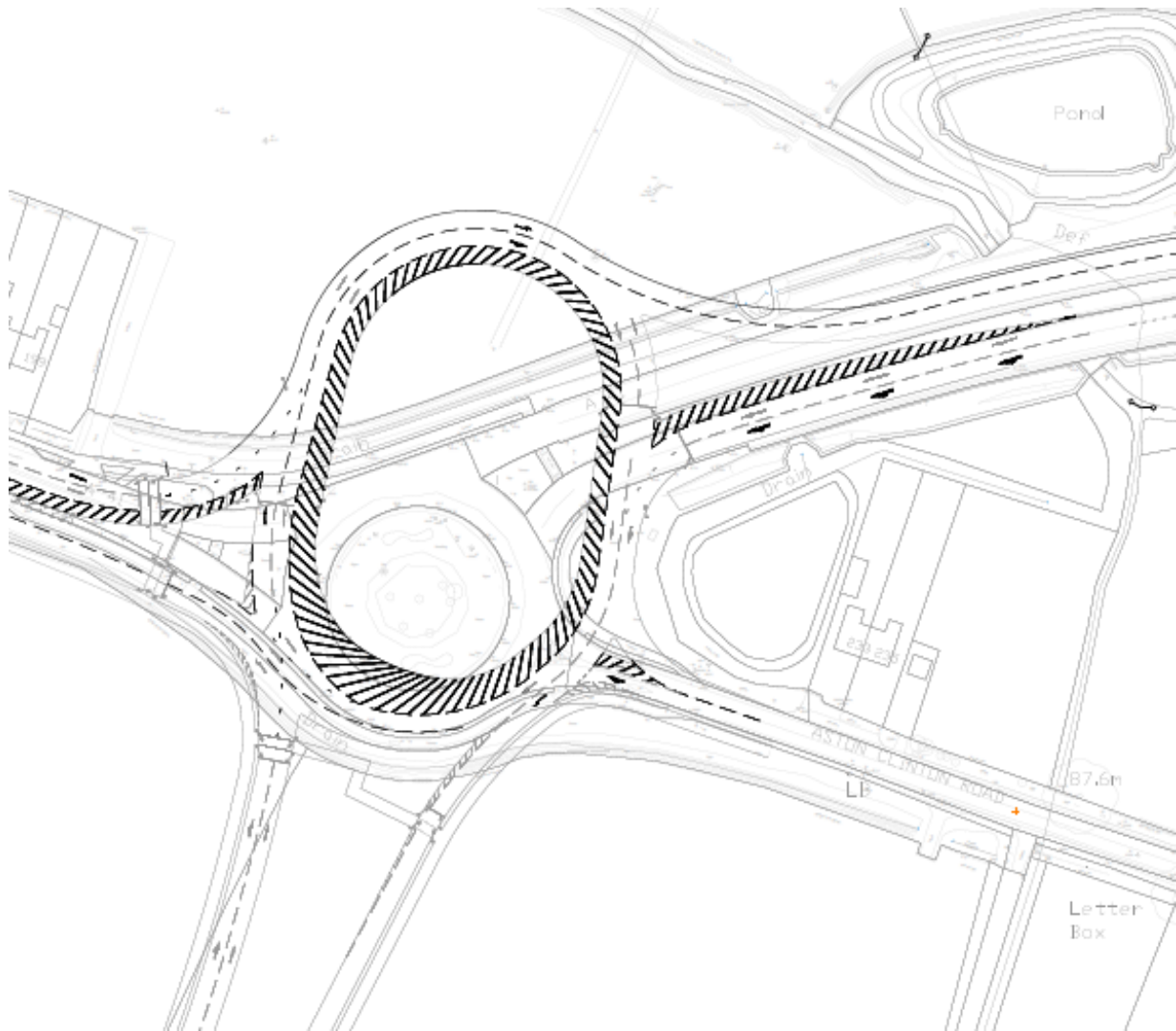
This layout will not accommodate the Aylesbury Woodlands development and the Council therefore sought clarification that this arrangement is consistent, as far as it can be within the available land, with the aspiration of a jointly delivered junction sufficient to serve both developments. The applicants issued a response in this respect dated 4th July 2017 in which it was stated;

The support for the general approach to delivering this junction incrementally, and against the comprehensive cumulative scheme with Aylesbury Woodlands and the southern section of the Eastern Link Road in place, is welcomed. This has been made possible by working in collaboration with Jacobs, BCC's retained highways consultant, who was commissioned by both parties to take forward the design and assessment of the A41 Woodlands roundabout proposals. The drawing submitted (Jacobs Drawing B12798C7-0000-D-048 Rev 1, included in Appendix F with the April 2017 TA Addendum) is the result of this joint commission.

The four-arm part-signal controlled roundabout presented as an interim layout in the April 2017 TA Addendum based on the comprehensive junction form is distinct from the alternative stand-alone position that relies only on either land solely inside the application boundary or that inside the existing adopted highway boundary. This stand-alone position is only relevant in the event that development at Aylesbury Woodlands does not proceed.

The WSP Drawing 2826/SK/137 rev B appended to this Technical Note shows the interim layout overlaid with the comprehensive junction form.

The second option is a four arm roundabout on the footprint of the cumulative scheme, as shown on WSP Drawing 2826/SK/137 rev B, an extract of which is below. It should be noted that this junction arrangement relies on land within the Woodlands site.



It is the intention of both the applicant to seek cooperation with the Woodlands development to ensure, if possible, that a junction arrangement on the footprint of the final cumulative scheme can be implemented even in the event that Woodlands doesn't achieve consent. However, as a fall back and to ensure that the Hampden Fields development operates without reliance on Woodlands then the junction design, as shown on Drawing 027 Rev B has to remain an option.

Both junction arrangements have been shown to operate within acceptable thresholds with the Hampden Fields development and associated infrastructure, as summarised in the following tables.

Option One -Drawing 027 Rev B

Table 3-1 2034 Do Something (Scenario 12) A41 Bypass/Aylesbury Rd/A41 Aston Clinton Rd – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	A41 Aston Clinton Road West Entry Ahead	86.6	9.5	84.8	8.6
1/3	A41 Aston Clinton Road West Entry Ahead	86.7	9.4	84.8	8.5
2/1	A41 West Int. Right	45.8	3.3	33.6	2.9
2/2	A41 West Int. Right	56.5	4.4	44.0	4.2
4/1	A41 Aston Clinton Bypass Entry Ahead Left	83.4	10.9	87.2	15.5
4/2	A41 Aston Clinton Bypass Entry Ahead	83.3	10.6	87.1	15.4
5/1	A41 Bypass Int. Ahead	6.6	0.2	19.4	0.6
5/2	A41 Bypass Int. Right	35.5	1.1	37.8	1.1
6/1	Aylesbury Rd Entry Ahead Left	42.5	1.6	36.8	1.5
8/1	SLR NB Ahead Left	65.3	1.9	71.5	3.8
8/2	SLR NB Ahead	46.9	0.4	50.5	0.5
Overall PRC (%)		3.8		3.3	
Cycle time (seconds)		40		50	

Option Two -Drawing SK/039 Rev B

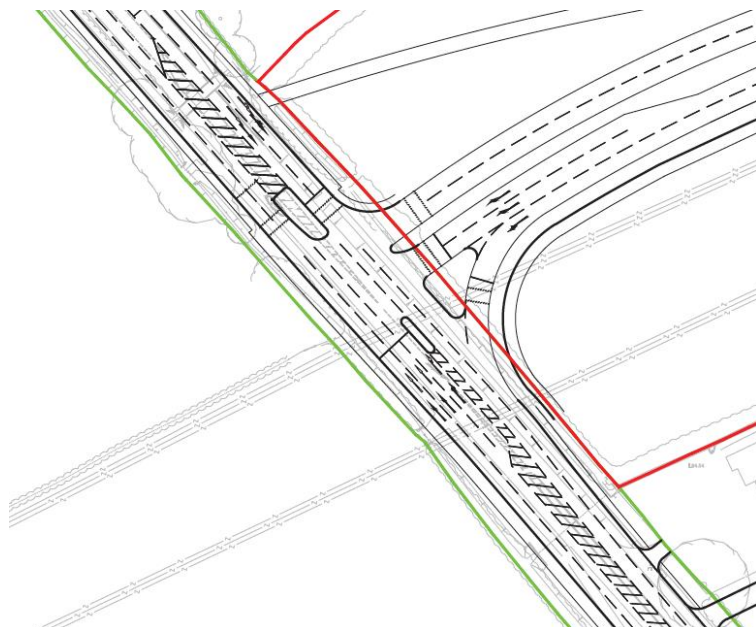
Table 3-2 2034 Do Something (Scenario 12) A41 Bypass/Aylesbury Rd/A41 Aston Clinton Rd – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A41 Aston Clinton Road West Entry Ahead	88.6	17.0	86.3	16.5
1/2	A41 Aston Clinton Road West Entry Ahead	88.7	17.1	86.3	16.5
2/1	A41 West Int. Right	68.9	4.4	40.9	3.2
2/2	A41 West Int. Right	84.5	5.3	53.0	4.8
4/1	A41 Aston Clinton Bypass Entry Ahead Left	58.5	7.2	58.6	8.1
4/2	A41 Aston Clinton Bypass Entry Ahead	87.9	18.4	89.5	25.2
5/1	A41 Bypass Int. Ahead	7.2	0.3	31.1	1.3
5/2	A41 Bypass Int. Right	38.8	2.1	60.5	2.9
6/1	Aylesbury Rd Entry Ahead Left	50.0	2.8	56.8	3.1
8/1	SLR NB Ahead Left	65.3	5.6	71.6	8.7
8/2	SLR NB Ahead	46.9	4.3	50.4	4.3
10/1	SLR SB Ped Crossing Ahead	69.7	5.6	69.6	8.5
11/1	SLR NB Ped Crossing Ahead	34.7	3.3	32.0	3.5
11/2	SLR NB Ped Crossing Ahead	34.7	3.3	32.0	3.5
12/1	A41 West Ped Crossing Ahead	53.5	3.0	54.3	4.0
12/2	A41 West Ped Crossing Ahead	53.3	3.0	54.3	4.0
Overall PRC (%)		1.5		0.6	
Cycle time (seconds)		60		80	

Both options will need to be secured as part of a S106 Agreement in the event that planning permission is granted. It remains the Council’s position that it will seek cooperation of both applicants to implement a scheme that is consistent with a junction footprint that can be easily amended to accommodate both developments, whilst minimising disruption to the travelling public.

2. A413 Wendover Road Western Access Junction

The standalone junction option promoted by the applicants is a signal controlled three arm junction, as shown in principal on drawing 1739/SK/031, appended to the Addendum Transport Assessment. An extract from the drawing is included below;



The assessment of the proposed junction shows that in the 2034 with the Hampden Fields development and associated infrastructure, the junction operates within acceptable thresholds, with spare degree of saturation (DofS) capacity of more than 10%, at a cycle time of 90 seconds, on any approach.

Table 3-3 2034 Do Something (Scenario 12) A413 Wendover Rd/SLR access – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A413 (SB) Left Ahead	71.5	13.2	64.6	10.5
1/2	A413 (SB) Ahead	73.7	15.5	66.9	12.6
2/1	SLR Left	33.2	4.7	58.7	10.2
2/2+2/3	SLR Right	51.9	3.8	66.7	6.2
3/1	A413 (NB) Ahead	44.2	7.4	40.4	6.5
3/2+3/3	A413 (NB) Ahead Right	54.3	4.5	50.5	6.6
Overall PRC (%)		22.1		34.5	
Cycle time (seconds)		90		90	

The Council's previous response to the planning application identified that following a successful Local Grant Fund bid through the Local Enterprise Partnership, Buckinghamshire County Council is developing proposals for the South East Aylesbury Link Road (SEALR) between the A4010 and the A413. This will form an extension to the Stoke Mandeville bypass to be constructed by HS2.

As part of the evolving plans for the South East Link Road, as set out in the agreed Strategic Outline Business Case, a roundabout is proposed on the A413. The Council advised that Hampden Fields must not prejudice the ability of the County Council to deliver this scheme; as such land should be safeguarded for the realignment of the Hampden Fields Link Road to accommodate the SEALR and its roundabout junction. Furthermore, to minimise abortive costs and disruption to the travelling public, where possible the applicant should work with the County Council to deliver the realignment to the SLR through Hampden Fields to tie in with the SEALR and to deliver the proposed roundabout junction as an alternative to the signalisation scheme.

In response the applicants stated in their submissions of 4th July 2017 that;

The Hampden Fields Consortium has agreed to set aside the land necessary to ensure the delivery of the South East Link Road (SELR) connections. The land to the east of the A413 has been designated as open space in the vicinity of the site access junction (up to approximately 200m back), which will be sufficient for this purpose. This is where the proposed Hampden Fields link road would connect to the A413, so there is no risk of any prejudice.

Until there is greater clarity on the form of the proposed SELR link road, the junction of the dual-carriageway Hampden Fields link road and the A413 Wendover Road would comprise a traffic signal controlled junction. Notwithstanding this, the Hampden Fields Consortium would be happy to work with BCC on delivering the proposed SELR junction with the development's link road, especially if this can avoid abortive work while ensuring a safe and secure access to serve early phases of development.

It is anticipated that the exact configuration of the SELR and its connections with the existing wider road network will form part of a sequenced design development process, starting with the re-confirmation of the Outline Business Case, detailed junction modelling and eventually the completion of a detailed design. Given that BCC is taking the lead on undertaking this work, the timescales for certainty emerging on the form of junction and land required to deliver this are dictated by its own priorities and ability to requisition other required land at the eastern and western side of the A413 Wendover Road for the purpose of delivering these highway works.

Given the requirement for the alignment of the proposed roundabout, its approaches and existing constraints to the north and south of the Hampden Fields-controlled land, it is anticipated that only minor road widening or flare increases would be involved specifically on the Hampden Fields link road, as currently proposed, and that much of the roundabout junction would occupy land to the west and south of the proposed site access and A413 corridor. The open space land being safeguarded by Hampden Fields is therefore sufficient to provide the confidence required by BCC.

It is in this context that the plan included in Appendix A shows the extent of open space foreseen at this interface (based on the February 2016 framework masterplan), taking cognisance of strategic drainage and other development constraints. This plan confirms that Hampden Fields does not compromise BCC's ability to deliver a connection to the SELR.

When the more detailed design exercise is completed, the Hampden Fields Consortium can re-confirm in this Technical Note its commitment to engaging with BCC regarding the precise allowances that need to be made in the Hampden Fields development to enable to safe delivery of any new A413 Wendover Road junction that helps to deliver the SELR. This can be secured by condition.

What is more, in the event that the Hampden Fields development is commenced prior to the completion of the SELR, for example, subject to BCC having completed the necessary processes involving the land required to deliver the SELR, it is also agreed it may be appropriate for the A413 works (or equivalent financial contribution) that had been envisaged to be delivered by Hampden Fields to be used to facilitate the delivery of the final SELR junction.

The response above from the Hampden Fields consortium to joint working with the Council, to deliver an alternative junction arrangement that serves both the Hampden Fields site and the continuation of the link road to the SELR is very much welcomed. This will ensure, subject to timings, that a comprehensive junction scheme that serves both links roads can be delivered from the outset avoiding abortive costs to both parties and disruption to the travelling public.

This is clearly an important matter that will need to be subject to appropriate S106 Obligations in the event that planning permission is granted.

3. Marroway(B4544)/Proposed Marroway Link Road

This proposed junction includes a new north-south link between the existing B4544 Marroway and the SLR enabling an additional route to be available for travel from the A413 Wendover Road across to the A41 Aston Clinton Road through Hampden Fields. The proposed junction arrangement is shown on drawing 1769/GA/002 Rev A, an extract from which is set out below.



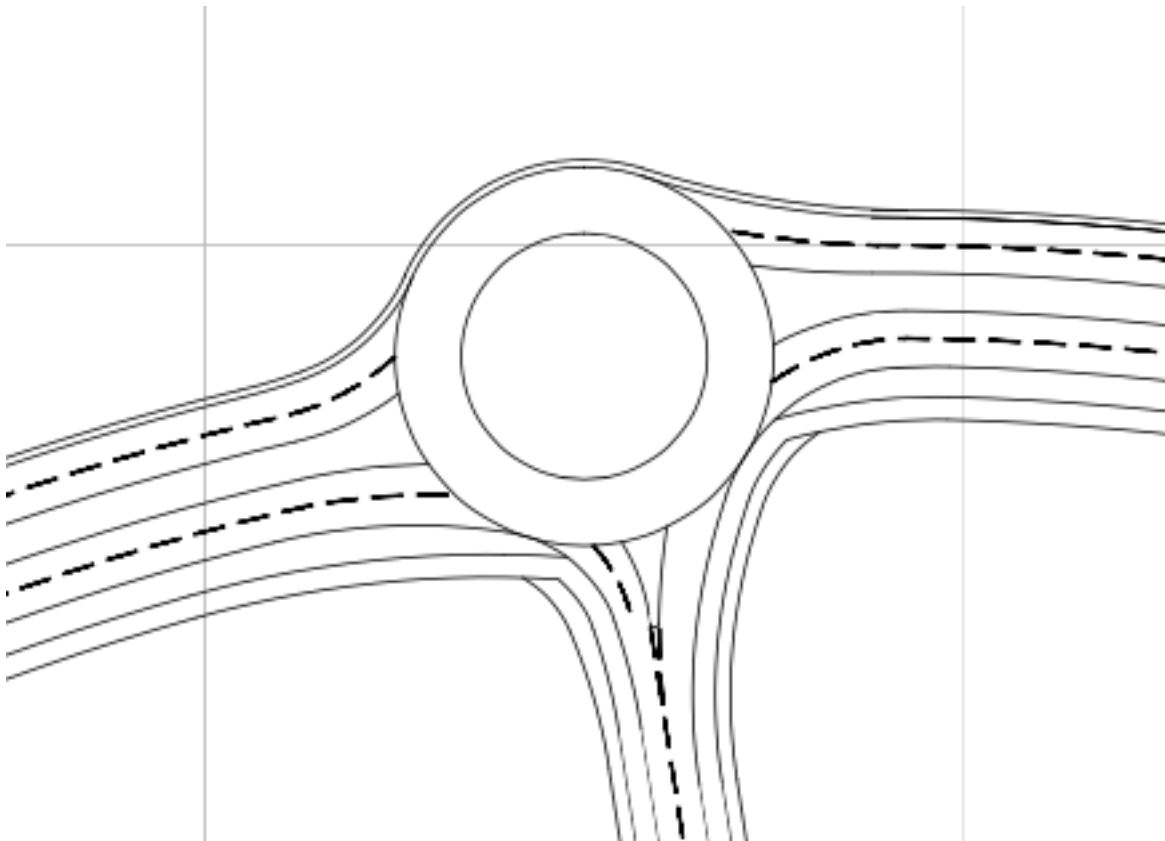
The assessment of the proposed junction shows that in 2034, with the Hampden Fields development and associated infrastructure, the junction operates well below its theoretical capacity with minimal queuing as summarised in the following table:

Table 3-4 2034 Do Something (Scenario 12) Marroway (B4544)/Proposed Marroway Link Rd – Junctions 9 Summary

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
B-C	A - Marroway Link Road	0.47	1	0.38	1
B-A	B - Marroway East	0.14	0	0.19	0
C-AB	C - Marroway West	0.42	1	0.33	1

4. SLR/Marrowway Link Road

The proposed junction takes the form of a roundabout as shown on WSP | PB Drawing 1769/SK/010 rev A, an extract from which is set out below;



The assessment of the proposed junction shows that in 2034, with the Hampden Fields development and associated infrastructure, the junction operates well below its theoretical capacity with minimal queuing as summarised in the following table.

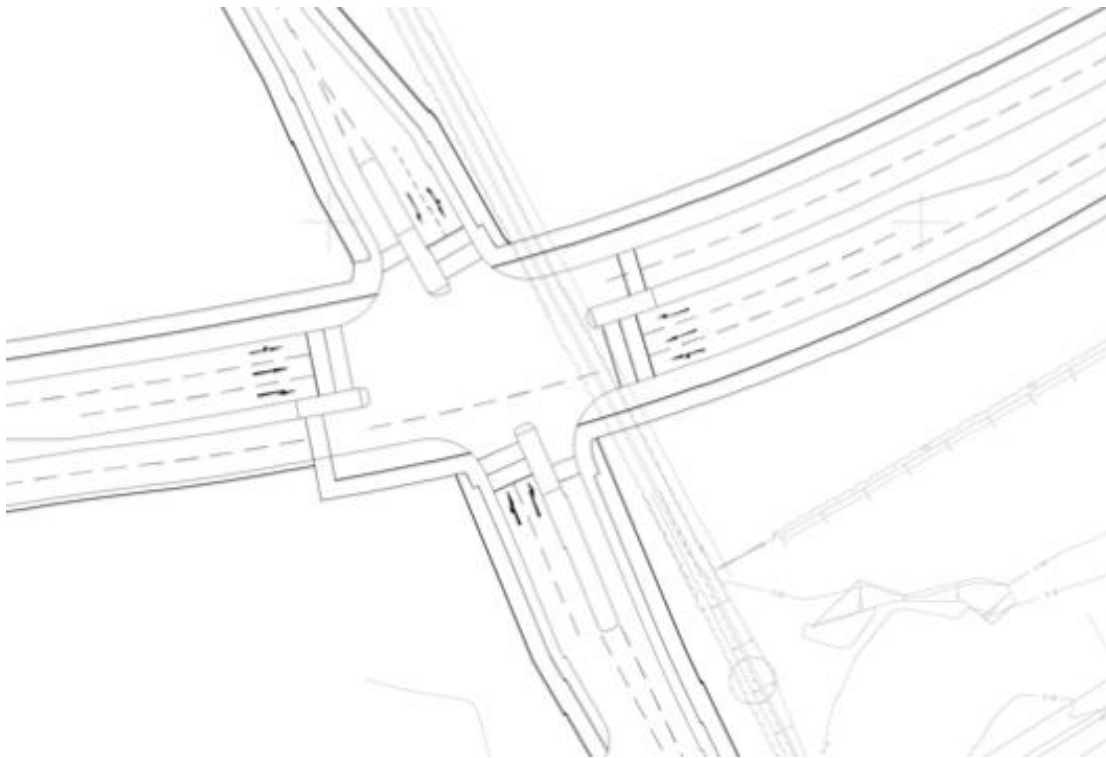
Table 3-5 2034 Do Something (Scenario 12) SLR/Marrowway Link Rd – Junctions 9 Summary

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	Southern Link Road (E)	0.35	1	0.58	1
B	Marrowway Link Road	0.64	2	0.75	3
C	Southern Link Road (W)	0.27	0	0.29	0

5. SLR/New Road Crossroads

This proposed junction is at the heart of the Hampden Fields development and connects the new dual-carriageway SLR to a diverted route for New Road so that it will form a signalised crossroads junction to the east of its current alignment. The purpose of the re-alignment is to maintain connectivity for local residents to access the A41 corridor while minimising any potential rat-running.

The proposed junction arrangement is shown in principal on drawing 1769/SK/012 Rev A, an extract from which is set out below;



The results of this junction assessment show that in 2034, with the Hampden Fields development and associated infrastructure, the junction operates within capacity with an overall reserve practical reserve capacity (PRC) of more than 10% at a cycle time of 90s on any approach, which is considered acceptable. The results of the capacity assessment are summarised below;

Table 3-6 2034 Do Something (Scenario 12) SLR/New Rd Crossroads – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	SLR (WB) Left Ahead	43.9	6.1	62.6	10.7
1/2+1/3	SLR (WB) Ahead Right	47.9	7.3	67.4	12.1
2/2+2/1	New Road South Right Left Ahead	40.5	3.9	53.4	5.0
3/1	SLR (EB) Ahead Left	59.0	9.1	47.5	7.1
3/2+3/3	SLR (EB) Ahead Right	63.4	10.4	52.4	8.6
4/2+4/1	New Road North Left Ahead Right	61.4	6.9	65.7	6.6
Overall PRC (%)		22.1		34.5	
Cycle time (seconds)		90		90	

6. New Road/Brook End(B4544)/Main Street (B4544)

The junction capacity assessments show that in both the 2034 with and without development scenarios, the junction will continue to operate within capacity. Furthermore, the results show that there is an improvement to the junctions operation as a result of the Hampden Fields development and therefore no targeted improvements are proposed.

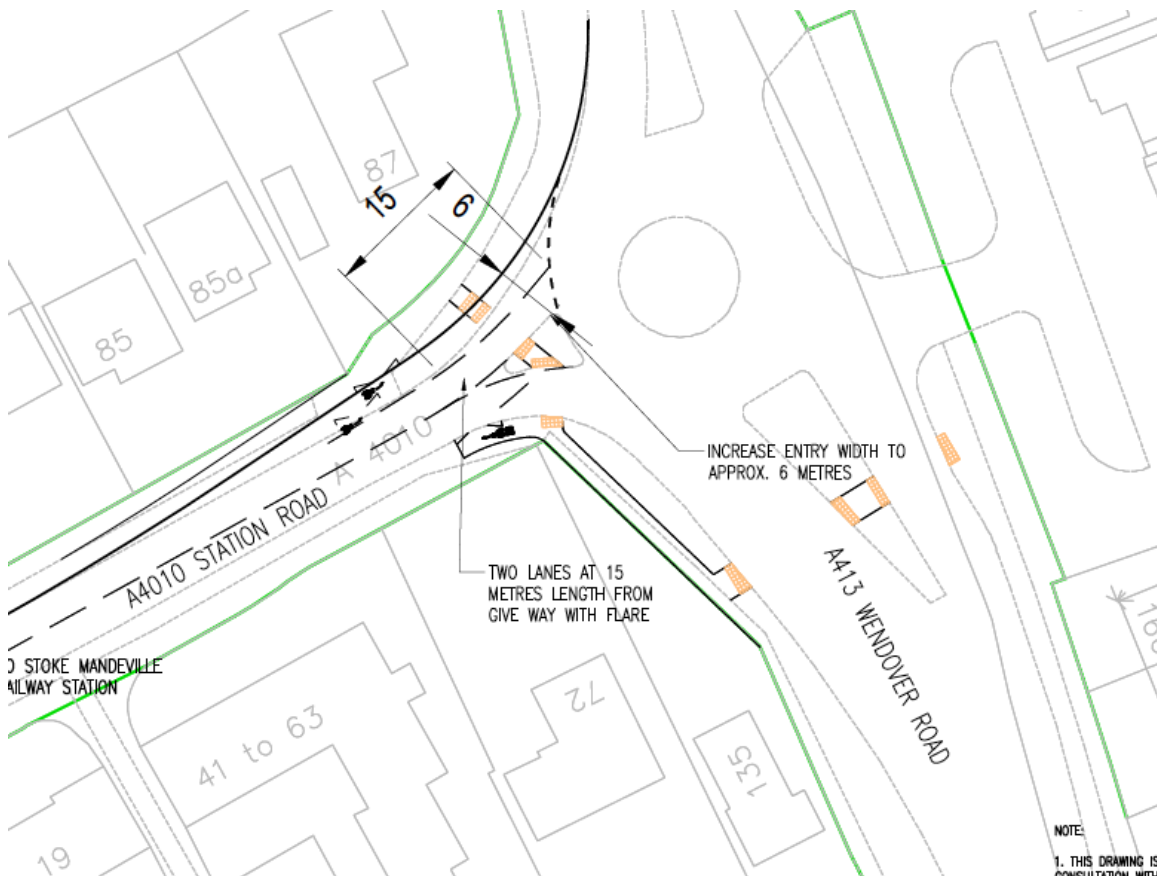
7. A413 Wendover Road/B4544 Marroway Roundabout

The junction capacity assessments show that in both the 2034 with and without development scenarios, the junction will continue to operate within capacity. Furthermore, the results show that there is an improvement to the junctions operation as a result of the Hampden Fields development and therefore no targeted improvements are proposed.

8. A413 Wendover Road/A4010 Station Road Roundabout Stoke Mandeville

The junction is shown to operate close to capacity in the future 2034 without development situation, and over capacity in the 2034 with development scenario. A proposed mitigation measure was shown on WSP|PB Drawing 2826/SK/021 rev A which involved increasing the entry width on the A4010 to 5m and increasing the flare length to 15 metres. The Council's previous comments in relation to this junction questioned the effectiveness of the geometry changes proposed on Station Road. The Council advised that this scheme should therefore be revised to provide two 3 metre lanes at the stop line and for the length of the 15m flare to ensure that there was a realistic increase in useable road space.

As a result of the Council's comments, the applicants revised the arrangements in their submission of the 4th July 2017, to be consistent with the Council's request. The revised proposals are shown on drawing 2828/SK/021 Rev C, an extract from which is below;



The tables overleaf summarise the operation of the junction in the 2034 without development situation and compares it with the 2034 with development scenario and the associated mitigation measure.

Table 3-1 2034 Do Nothing (Scenario 10) A413 Wendover Rd/A4010 Station Rd – Junctions 9 Summary

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	A413 Wendover Road S	0.91	9	0.94	14
B	Station Road	0.93	10	1.28	151
C	A413 Wendover Road N	0.71	2	0.56	1

Source: Repeating Table 3-11 from the April 2017 TA Addendum (p.29)

Table 3-2 2034 Do Something (Scenario 12) A413 Wendover Rd/A4010 Station Rd (Revised Mitigation) – Junctions 9 Summary

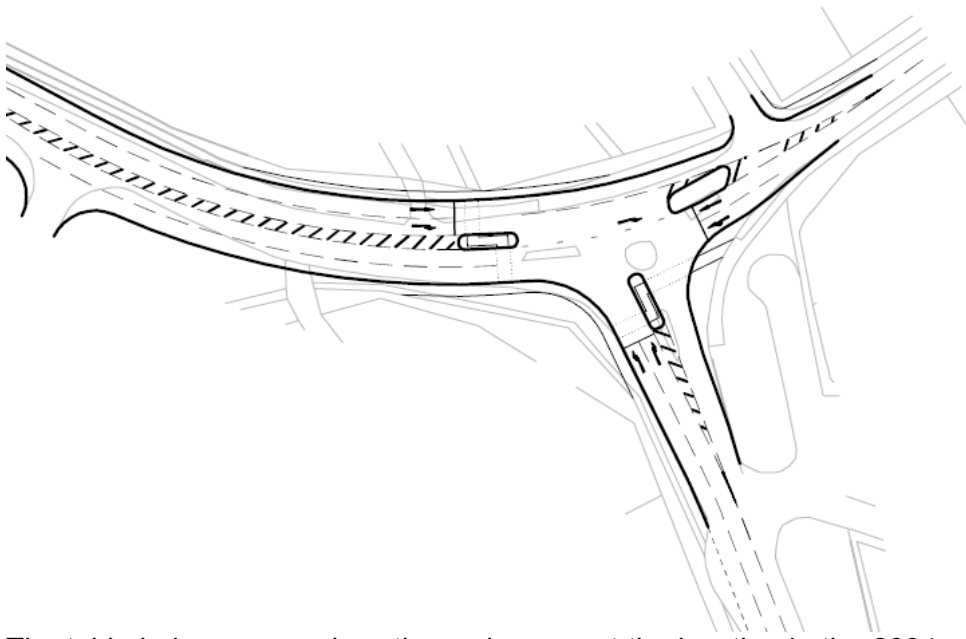
Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	A413 Wendover Road S	0.75	3	0.69	2
B	Station Road	0.67	2	0.74	3
C	A413 Wendover Road N	0.68	2	0.63	2

The capacity assessments show that in the 2034 with development scenario, the mitigation proposals results in an improvement to the junction’s operation with reductions in queueing. On this basis the impact of the development on this junction is considered to be acceptable subject to the implementation of the improvement scheme.

9. A4010 Station Road/A4010 Risborough Road/B4443 Lower Road mini roundabout Stoke Mandeville

This junction is shown to operate over capacity in the 2034 without development situation, with the existing layout (a three-arm mini roundabout). The modelling of the junction shows significant queuing on all arms in the morning peak and on Station Road (184 pcu) and Risborough Road (426) in the afternoon peak.

A signalisation scheme has been proposed by the applicant as shown on drawing WSP PB 1769/SK/038 Rev A, an extract of which is below.



The table below summarises the end queue at the junction in the 2034 without development situation and the 2034 with development scenario and the associated mitigation proposal. Overall the operation of the junction is shown to improve significantly, with notable decreases in queue lengths on all arms. On this basis the impact of the development on this junction is considered to be acceptable subject to the implementation of the improvement scheme.

Table 4-1 A4010 Station Road/A4010 Risborough Road/Lower Road B4443 – Summary of Queues

Road name	AM Peak			PM Peak		
	2034 DN	2034 DN	2034 DS	2034 DN	2034 DN	2034 DS
	Rbt	Rbt	Signals	Rbt	Rbt	Signals
	Standard ARCADY	ELA ARCADY	LinSig	Standard ARCADY	ELA ARCADY	LinSig
	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)
Station Rd	355	313	111	184	240	48
Risborough Rd	297	652	91	426	718	60
B4443 Lower Rd	154	535	75	37	338	24

Source: 2034 DN columns from Table 3-14 and Table 3-15 from the April 2017 TA Addendum (p.30)

10. A413 Wendover Road/Silver Birch Way Roundabout

The junction capacity assessments show that in both the 2034 with and without development scenarios, the junction will continue to operate within capacity. Furthermore, the results show that there is a minimal change to the junctions operation as a result of the development and therefore no targeted improvements are proposed.

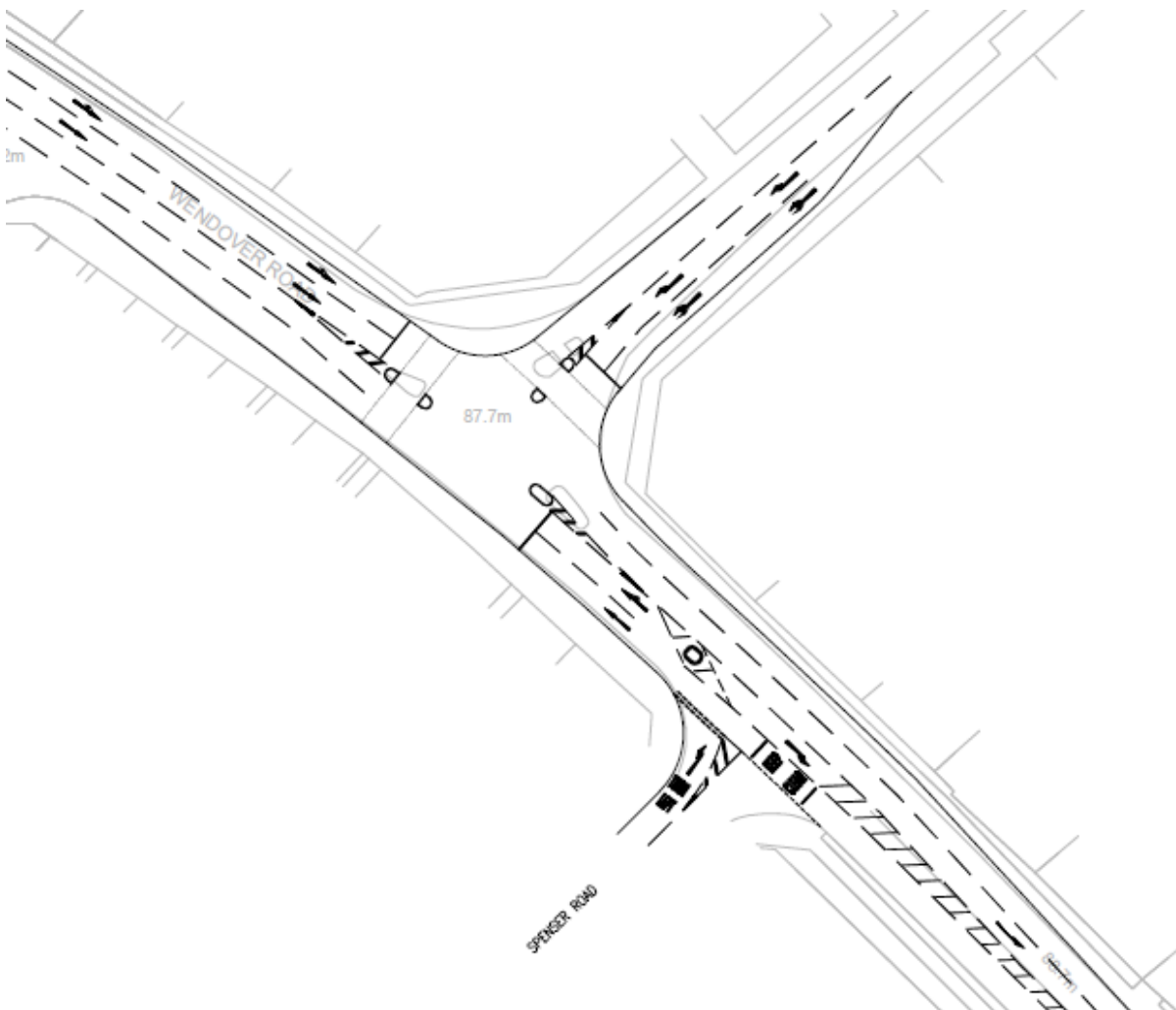
11. A413 Wendover Road/Camborne Avenue Roundabout

The junction capacity assessments show that in both the 2034 with and without development scenarios, the junction will continue to operate within capacity. Furthermore, the results show that there is an improvement to the junctions operation as a result of the Hampden Fields development and therefore no targeted improvements are proposed.

12. A413 Wendover Road/Wendover Way Mini Roundabout

Following the Council's previous comments, the approach to the assessment and mitigation of the impacts of the Hampden Fields development at this junction has been revised. Originally the applicants proposed to undertake widening works to the existing mini roundabout to mitigate the impacts of development. However, given the constraints of the highway at this location and the need to include two eastbound entry and exit lanes to accommodate the impacts of the development, it was not possible to achieve a suitable arrangement.

A signalisation scheme is now proposed as a form of mitigation for this junction as shown on WSP Drawing **1769/26/101/Rev C**, an extract of which is provided below.



The Council's signals team have advised that this form of junction will allow for improved traffic management, particularly given the proximity to the gyratory. The table below summarises the end queue at the junction in the 2034 without development situation and the 2034 with development scenario and the associated mitigation proposal.

Table 5-5 A413 Wendover Rd/Wendover Way – Summary of Queues

Road name	AM Peak			PM Peak		
	2034 DN	2034 DN	2034 DS	2034 DN	2034 DN	2034 DS
	Rbt	Rbt	Signals	Rbt	Rbt	Signals
	Standard ARCADY	ELA ARCADY	LinSig	Standard ARCADY	ELA ARCADY	LinSig
	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)
A413 Wendover Road N	29	456	15	10	389	21
Wendover Way	6	5	9	11	20	10
A413 Wendover Road S	122	463	30	127	541	15

Table 5-6 A413 Wendover Rd/Wendover Way – Summary of Delays

Road name	AM Peak			PM Peak		
	2034 DN	2034 DN	2034 DS	2034 DN	2034 DN	2034 DS
	Rbt	Rbt	Signals	Rbt	Rbt	Signals
	Standard ARCADY	ELA ARCADY	LinSig	Standard ARCADY	ELA ARCADY	LinSig
	Av. Delay (s/av. Veh)	Av. Delay (s/av. Veh)	Delay (s/PCU)	Av. Delay (s/av. Veh)	Av. Delay (s/av. Veh)	Delay (s/PCU)
A413 Wendover Road N	96	1,266	22	34	1,092	33
Wendover Way	64	47	87	107	145	66
A413 Wendover Road S	325	1,112	30	336	1,331	23

It is worth noting that the results of the 2034 without development scenario (2034 DN) are likely to fall between the standard ARCADY run and the Entry Lane Analysis (ELA) results, given that the standard ARCADY run will assume that traffic can use the full width of the entry. On this basis, the results show a significant improvement in junction operation as a result of the installation of the signals. The impact of the development on this junction is therefore considered acceptable subject to the implementation of the improvement scheme.

13. Walton Street Gyratory

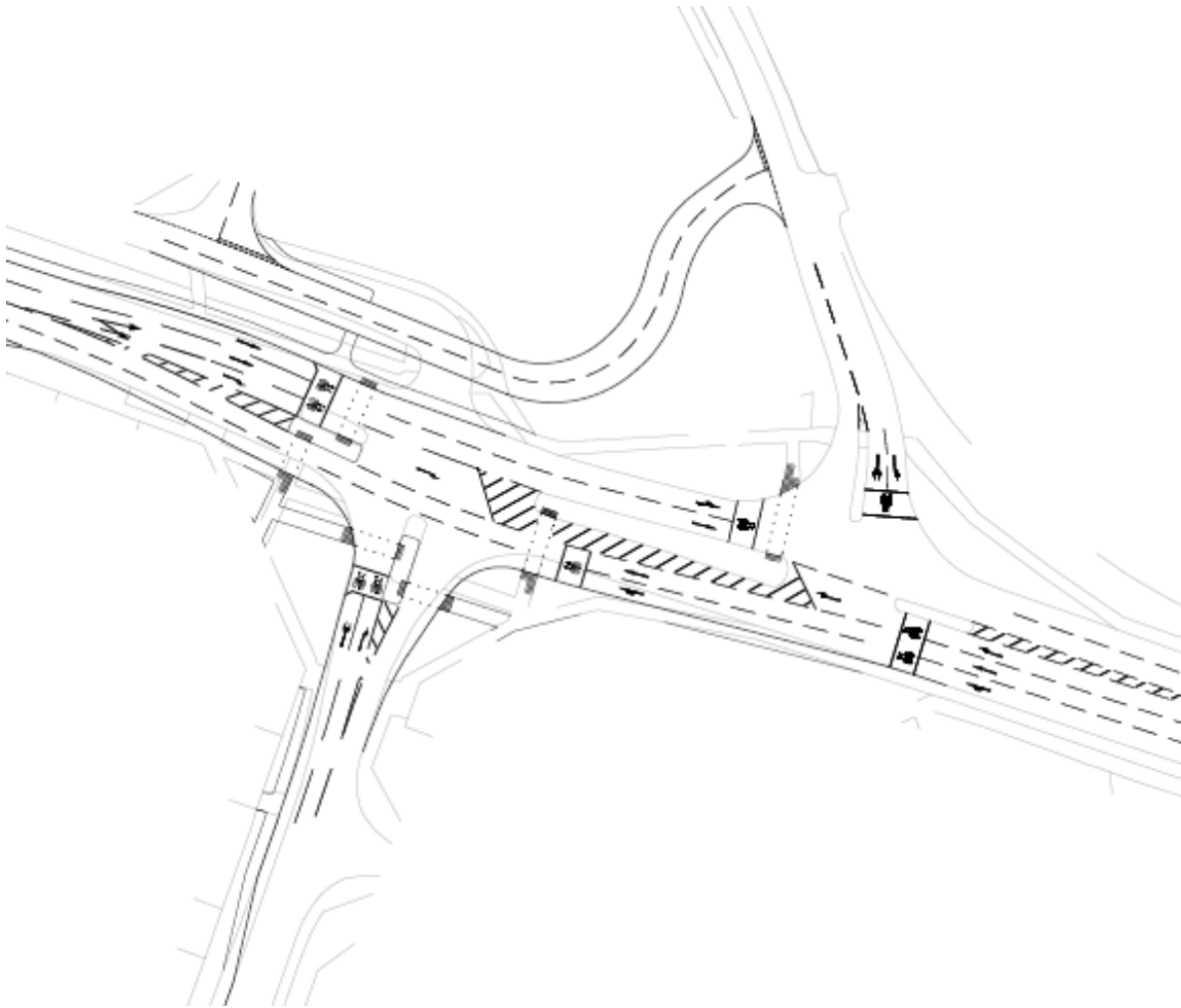
A detailed consideration of the impacts on the Walton Street gyratory is dealt with earlier in this response.

14. London Road/Weston Road/Aylesbury Road Roundabout, Aston Clinton

The junction capacity assessments show that in both the 2034 with and without development scenarios, the junction will continue to operate within capacity. Furthermore, the results show that there is a minimal change to the junctions operation as a result of the development and therefore no targeted improvements are proposed.

15. A41/Aston Clinton Road MDA/New Signalised Crossroads and A41/Bedgrove/Broughton Lane

The Bedgrove/Broughton Lane junction is a problematic junction on the network and this is in part due to the number of side roads competing for green time at the existing signals. A mitigation measure has been proposed making use of Council land, which forms part of the public highway, to the north of the junction. It is of interest to note that whilst researching the status of the land it was found that it was acquired in 1936 for a similar scheme to that now proposed by the developers. The scheme involves removing the northern arm of the Bedgrove junction (Tring Road local), linking it instead with Broughton Lane to the east by way of a priority junction as shown on WSP drawing **1969/SK/150 Rev F**.



The results of the LINSIG analysis are summarised below, copied from WSP Technical Note dated 28 September 2017.

Table 1-1 2034 Do Nothing (Scenario 10) A41 Aston Clinton Rd/New Rd/Bedgrove/MDA Access (Vectos Method of Control) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1: A41 Tring Road/Bedgrove Road					
1/1	A41 WB (Internal) Left Ahead	74.5	7.4	128.7	228.7
1/2+1/3	A41 WB (Internal) Ahead Right	83.5	11.1	153.8	19.7
2/2+2/1	Bedgrove Left Ahead Right	177.1	228.2	137.1	59.6
3/1	A41 EB Entry Left Ahead	59.3	14.7	55.6	12.5
3/2+3/3	A41 EB Entry Right Ahead	61.5	16.4	56.8	13.9
4/1	Tring Road Ahead Right Left	83.5	5.9	105.8	12.2
8/1	A41 WB Ahead	39.8	2.5	84.6	36.3
8/2+8/3	A41 WB Ahead Right	61.8	7.2	52.7	2.1
9/1	A41 EB (Internal) Left Ahead	74.1	12.7	67.3	7.7
9/2	A41 EB (Internal) Ahead	67.9	10.8	68.4	9.0
10/2 +10/1	Broughton Lane Right Left	180.0	135.4	311.7	244.8
J2: Aston Clinton Road/New Road/MDA Access					
1/1	A41 WB Entry Left Ahead	77.0	19.9	66.0	17.4
1/2+1/3	A41 WB Entry Right Ahead	79.1	22.3	69.9	20.3
2/1+2/2	New Road Right Ahead Left	85.4	16.3	214.0	199.3
3/1	A41 EB Ahead Left	81.6	18.6	95.6	29.8
3/2+3/3	A41 EB Ahead Right	89.4	38.5	169.9	87.4
4/2+4/1	MDA Site Access Left Ahead Right	45.0	2.9	40.8	2.6
Overall PRC (%)		-100.0		-246.3	
Cycle time (seconds)		120		120	

Source: Repeating Table 3-35 from the April 2017 TA Addendum (p.39)

Table 1-2 2034 Do Something (Scenario 12) A41 Aston Clinton Rd/New Rd/Bedgrove/MDA Access, Priority junction at Broughton Lane (WSP Drawing 1769/SK/150 rev F) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1: A41 Tring Road/Bedgrove Road					
1/1	A41 WB (Internal) Left Ahead	77.8	14.5	76.9	11.1
1/2	A41 WB (Internal) Ahead	65.6	13.7	55.2	4.4
2/2+2/1	Bedgrove Left Ahead Right	152.9	141.1	126.8	39.6
3/1	A41 EB Entry Left Ahead	47.0	9.6	39.4	6.5
3/2+3/3	A41 EB Entry Right Ahead	50.1	11.0	40.7	7.4
8/1	A41 WB Ahead	53.2	8.7	55.6	15.0
8/2+8/3	A41 WB Ahead Right	76.2	31.7	100.5	48.3
9/1	A41 EB (Internal) Left Ahead	69.7	13.0	55.0	9.1
9/2	A41 EB (Internal) Ahead	69.8	14.1	55.1	10.4
10/2 +10/1	Broughton Lane Right Left	142.9	110.4	189.8	179.2
6/1	Broughton Lane Southbound	25.2	0.2	29.6	0.2
7/1	Link Road Eastbound	25.0	0.2	27.1	0.2
J2: Aston Clinton Road/New Road/MDA Access					
1/1	A41 WB Entry Left Ahead	79.4	21.0	90.0	27.0
1/2+1/3	A41 WB Entry Right Ahead	81.3	23.0	90.7	28.6
2/1+2/2	New Road Right Ahead Left	87.7	18.1	92.9	21.6
3/1	A41 EB Ahead Left	76.8	25.5	63.1	15.9
3/2+3/3	A41 EB Ahead Right	85.5	37.9	75.3	23.8
4/2+4/1	MDA Site Access Left Ahead Right	48.8	3.2	71.2	5.2
Overall PRC (%)		-69.9		-110.9	
Cycle time (seconds)		120		120	

Although there are some very minor increases in queue length on the A41 Westbound ahead movements, overall the results of the analysis show a significant improvement in the operation of the junction. The junction is therefore acceptable with the development and the mitigation measure.

16. A41 Tring Road/King Edward Avenue/A4157 Oakfield Road Junction

A mitigation proposal involves the introduction of three full lanes eastbound between Oakfield Road and King Edward Avenue, with the outside lane for the right turn movement only. This is considered to be a significant benefit to the Council given the current imbalance between the use of A41 eastbound lanes 1 and 2 on the town side of the junction associated with the blocking of Lane 2 of the junction by vehicles waiting to turn right in to King Edward Avenue. The creation of a third dedicated and extended right turn lane in to King Edward Avenue is likely to have a real benefit on the ground given the blocking we regularly witness on site and through the Signal Control Centre CCTV system.

The pedestrian crossing between Oakfield Road and King Edward Avenue is also relocated to the east of King Edward Avenue and comprises a reverse stagger. The removal of this crossing from the centre of the junction will simplify the operation of the junctions and allow it to be staged more efficiently. The proposals are shown on WSP Drawing **70011769-SK-047 Rev B**, an extract of which is provided below.



It is also proposed to change the evening peak hour signal phasing, with the right turn from King Edward Avenue running every other cycle and the addition of an extra stage to allow the right turn from the A41 into Oakfield Road to run sooner.

The results of the assessment are summarised below, derived from WSP Technical Note dated 7 September 2017.

Table 1-1 2034 Do Nothing (Scenario 10) A41 Tring Rd/King Edward Ave/A4157 Oakfield Rd – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A41 Tring Road (EB) Ahead Left	375.6	387.7	105.1	77.7
1/2	A41 Tring Road (EB) Ahead	124.6	46.7	32.4	6.8
2/2+ 2/1	Oakfield Road Left Right	363.7	395.9	82.6	13.2
3/1	A41 Tring Road Internal (WB) Ahead	65.7	0.1	75.7	2.0
3/2	A41 Tring Road Internal (WB) Right	39.3	5.5	61.0	4.7
4/1	A41 Tring Road Internal (EB) Ped Ahead	20.2	0.0	71.6	4.0
4/2	A41 Tring Road Internal (EB) Ped Ahead	19.3	0.0	31.2	1.0
5/1	A41 Tring Road Internal (EB) Ahead	20.0	0.0	71.0	0.6
5/2	A41 Tring Road Internal (EB) Ahead Right	88.5	0.0	71.9	0.3
6/1	A41 Tring Road (WB) Ahead Left	86.2	31.3	91.5	36.8
6/2	A41 Tring Road (WB) Ahead	28.3	5.6	0.0	0.0
7/1+ 7/2	King Edwards Avenue Left Right	52.4	6.0	86.1	14.1
Overall PRC (%)		-317.4		-16.8	
Cycle time (seconds)		120		120	

Table 1-2 2034 Do Something (Scenario 12) A41 Tring Rd/King Edward Ave/A4157 Oakfield Rd (BCC Preferred Mitigation) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A41 Tring Road (EB) Ahead Left	213.0	166.0	64.7	15.8
1/2	A41 Tring Road (EB) Ahead	213.2	184.3	66.2	18.3
2/2+ 2/1	Oakfield Road Left Right	76.4	9.1	92.9	14.1
3/1	A41 Tring Road Internal (WB) Ahead	55.9	0.1	83.2	1.5
3/2	A41 Tring Road Internal (WB) Right	81.7	6.3	50.3	5.0
4/1	A41 Tring Road Internal (EB) Ahead	40.5	2.7	32.9	0.3
4/2	A41 Tring Road Internal (EB) Ahead	46.7	2.1	59.9	1.8
4/3	A41 Tring Road Internal (EB) Right	43.8	1.7	67.4	2.1
5/1	A41 Tring Road (WB) Ahead Left	192.4	277.8	94.1	42.5
5/2	A41 Tring Road (WB) Ahead	70.7	7.2	0.0	0.0
7/1+ 7/2	King Edwards Avenue Left Right	21.3	1.9	70.8	8.9
Overall PRC (%)		-136.8		-4.5	
Cycle time (seconds)		64		240	

The junction operation shows an overall significant improvement in comparison with the reference case situation, with the practical reserve capacity at the junction increasing, however the queue on the A41 Tring Road westbound, increases in the morning peak hour. The advice of the Council's signals team is that this queue will actually be reduced given that the adjacent lane is running with significant reserve capacity and minimal queuing and is also available for ahead traffic. On this basis the Council considers that the overall benefits to the junction are sufficient to offset the impacts of the development.

17. A41 Tring Road/Park Street/High Street/Walton Road Roundabout

The junction assessment shows that there is a small change in junction performance between the 2034 without development situation and 2034 with development scenario. The Tring Road approach appears to operate above capacity in both scenarios during the PM peak, however total junction delay is forecast to decrease from 157 seconds to 143 seconds in the AM peak and 283 seconds to 154 seconds in the PM peak hour. This overall betterment of the junction performance eliminates the requirements for mitigation works as a result of the proposed development.

18. A4157 Douglas Road/A4157 Oakfield Road/Stocklake Junction

No works to this junction are proposed as the operation is acceptable both with and without development.

19. A418 Bierton Road/A4157 Douglas Road/A4157 Elmhurst Road Roundabout

No works to this junction are proposed as the operation is acceptable both with and without development.

20. A418 Bierton Road/A418 Park Street/Cambridge Street mini roundabout

No works to this junction are proposed as the operation is acceptable both with and without development.

21. A41/Vale Park Drive/Exchange Street Roundabout

The junction modelling shows queues of 220 and 132 on the A41 High Street approach in the 2034 without development situation. The applicant has proposed a mitigation scheme that involves widening the A41 eastern approach to the junction. An extract from WSP|PB Drawing 2826/SK/042 rev A is shown below.

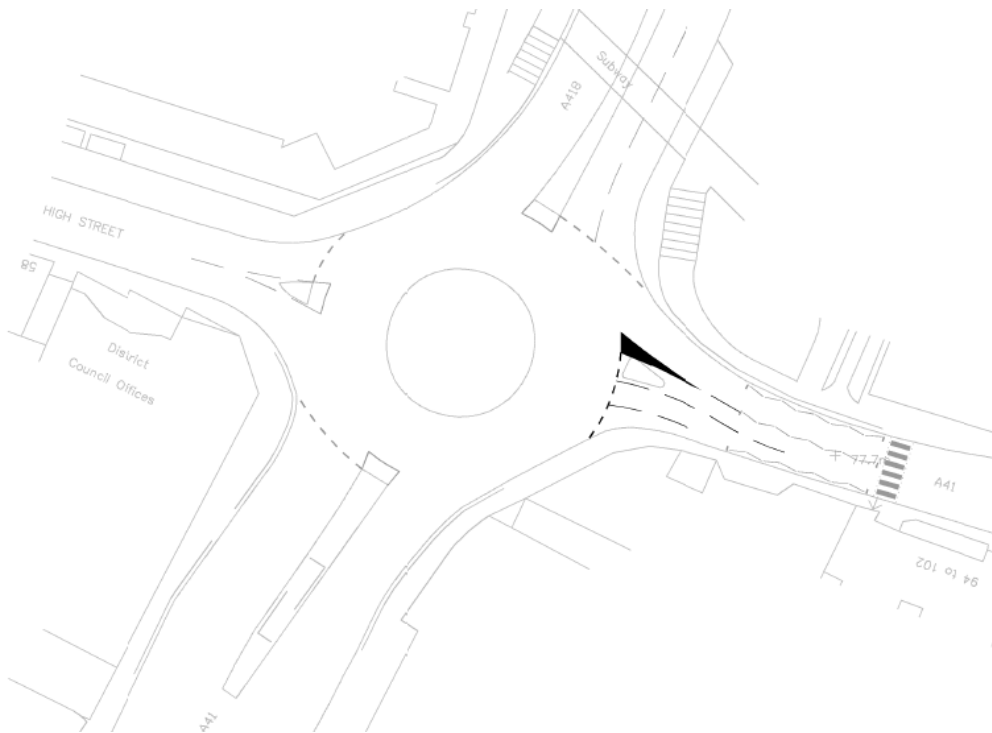


Table 3-55 2034 Do Nothing (Scenario 10) A418 Vale Park Dr/A41 High St/A41 Exchange St/High St – Junctions 9 Summary

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	A41 High Street	1.28	220	1.15	132
B	Exchange Street	0.74	3	1.04	67
C	High Street	0.06	0	0.94	7
D	Vale Park Drive	0.94	14	0.83	5

Table 3-59 2034 Do Something (Scenario 12) A418 Vale Park Dr/A41 High St/A41 Exchange St/High St (Proposed Mitigation) – Junctions 9 Summary

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	A41 High Street	0.83	5	0.81	4
B	Exchange Street	0.67	2	1.03	58
C	High Street	0.06	0	1.27	29
D	Vale Park Drive	0.92	11	0.86	6

The mitigation measure reduces the queuing on the A41 High Street approach to 5 pcu in the morning peak hour and 4 pcu in the evening peak. Whilst Exchange Street is shown to continue to operate over capacity in the 2034 with development scenario in the pm peak, queuing at this arm is reduced compared to the 2034 without development situation. During the pm peak, the results suggest that there will be increased queuing on the High Street as a result of the proposed development. It should however be noted that this is a relatively lightly trafficked road compared to the other arms of the junction, which perform a strategic function. Overall the junction has improved capacity as a result of the development works, particularly on the A41 High Street and Exchange Street. The impact of the development on this junction is therefore considered acceptable subject to the implementation of the improvement scheme.

22. A41 High Street/Walton Street/A41 Friarage Road

No works to this junction are proposed as the operation is acceptable both with and without development.

23. Eastern Link Road (N)/Stocklake (Rural) Roundabout

No works to this junction are proposed as the operation is acceptable both with and without development.

24. Proposed Eastern Link Road (N)/A418 Junction

No works to this junction are proposed as the operation is acceptable both with and without development.

Summary of Standalone Assessment

It is concluded in relation to the standalone assessment of the highways and traffic impacts of the Hampden Fields application that the significant adverse effects can be appropriately mitigated through planning condition and S106 obligations. It should be noted that it is the Council's intention to place an obligation on the developer to deliver the SLR link road by 2021, in line with the required completion date of the ELR(N).

Cumulative Assessment

As part of the submissions both Hampden Fields and Woodlands developers have commissioned and undertaken a comprehensive assessment of the cumulative impacts of the development proposals on the operation of the highway network. The design year for the cumulative assessment is 2034 and includes background traffic growth and other committed developments in the town. The assessment was undertaken on a sifting basis using the outputs from the strategic traffic model for Aylesbury to identify likely areas where the proposals would jointly have a material impact. On the basis of this information more detailed assessments of the operation on a total of 38 junctions across the town have taken place. It should be noted that the cumulative assessments include both the HS2 proposal for a Stoke Mandeville bypass given that HS2 received Royal Assent in 23rd February 2017.

Also included as an integral part of the Cumulative assessment is BCC's proposed SELR (also known as the Stoke Mandeville Bypass extension) which will connect the B4443 at Lower Road, Aylesbury to the A413 at the Hampden Fields junction. This scheme also forms part of the emerging Aylesbury Transport Strategy and will provide a further section of strategic link road. The SELR has been included as the Council have committed to its delivery following a Cabinet Member for Transportation Decision on 24th July 2017 which approved;

APPROVED progression of the South East Aylesbury Link Road project as a high priority, including further business case work, preliminary design and preparation of a planning application following successful award of £13.5m of Local Growth Funding from Buckinghamshire Thames Valley Local Enterprise Partnership

The accompanying Cabinet Member Report is appended to this consultation response for further information. However, in summary the report explained;

"The present requirement for the scheme has arisen through the HS2 realignment of the A4010 (Stoke Mandeville bypass). Extensive transport modelling has shown that the A4010 realignment causes significant congestion at the Aylesbury Gyratory caused by traffic reassignment at this junction that is already operating over capacity. This scheme is therefore required to relieve congestion and improve connectivity around Aylesbury.

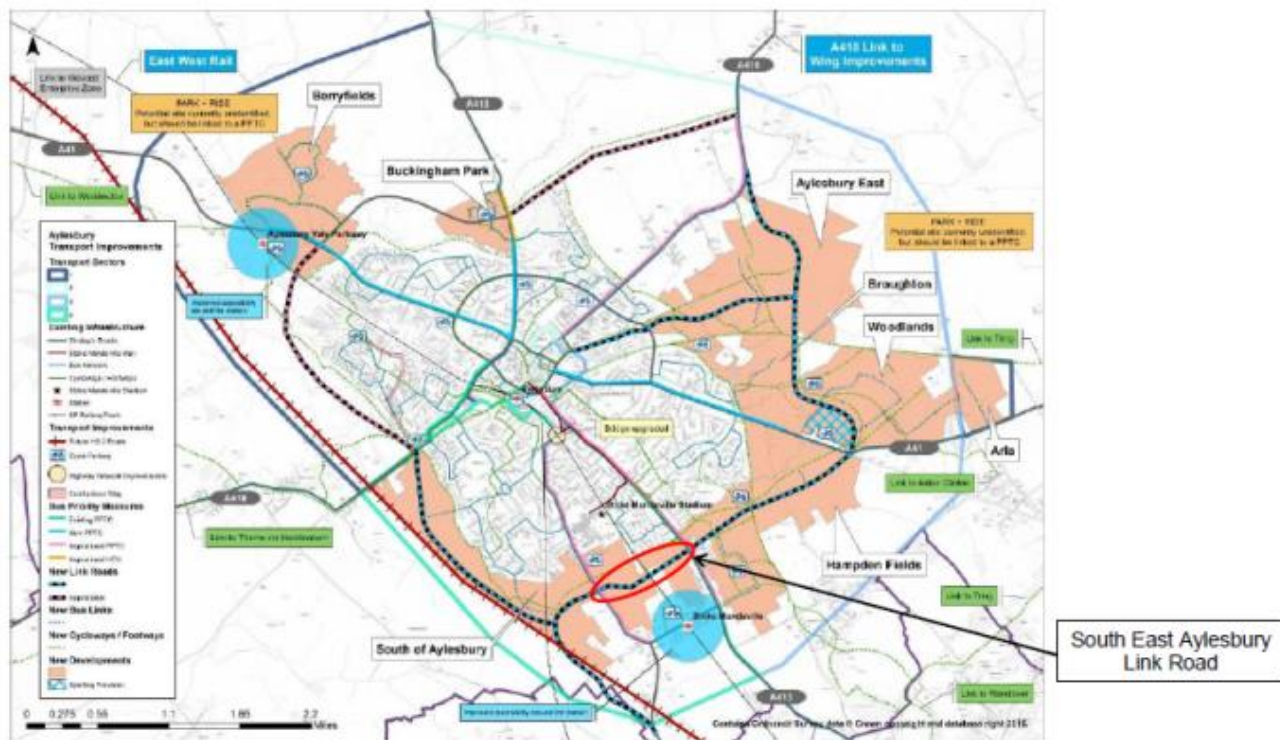
The link also contributes to the strategic ambition for a series of link roads providing a bypass for Aylesbury town centre, as featured in the adopted Aylesbury Transport Strategy (Report T05.17, see Appendix 1), and will help accommodate the planned housing and business growth across the town.

This report sets out the Council's commitment to deliver the scheme and seeks Cabinet Member approval to progress the scheme."

It goes on to explain that the project is subject to a tight delivery deadline "due to the need to align with construction of the A4010 Realignment by HS2. As such, some early works on the South East Aylesbury Link Road have already progressed". Given that the HS2 works to construct the Stoke Mandeville Bypass are currently programmed for 2020, it is the Council's intention to ensure that the construction of the SEALR is undertaken to a timetable to ensure that it is open at the same time. It is notable that this is in advance of the future years assessed by Hampden Fields and Woodlands planning applications and as such should ensure that it is in place to help mitigate their impacts. Both Woodlands and Hampden Fields have agreed to make significant financial contributions towards the SEALR scheme to assist in its delivery and given that it assists with mitigating the impacts of their developments. This will need to be secured by means of a Section 106 obligation in the event that planning consent is granted.

The following extract shows the Hampden Fields link road (SLR), the Woodlands link road (ELR(S)) and the SEALR proposed by BCC in the context of the link road strategy outlined in the Aylesbury Transport Strategy. It can be seen that all of these roads are essential components of the completed strategy for Aylesbury.

Appendix 1: Aylesbury Link Roads Programme (from adopted Aylesbury Transport Strategy)



The joint cumulative assessment reports submitted for both applications also helpfully summarise the strategic significance of the two development proposals and their infrastructure in meeting the housing and infrastructure needs for the town as follows;

The ELR(S) is a key piece of local infrastructure required to complete an orbital connection around the east of Aylesbury, and the draft ATS is supportive of the provision of the ELR(S) as part of overall transport improvements in Aylesbury. Therefore, the Woodlands development is a key facilitator in terms of this overall strategy. The completed ELR will link the A418 Berton Road to the north with the A41 Aston Clinton Road to the south. More widely the provision of the ELR(S) also forms a key part of BTVLEP’s wider economic objective to improve north-south connectivity between major settlements in the County, and particularly to improve connectivity between the M40 to the south and the M1 to the north.

As part of the Hampden Fields development, this will also directly facilitate the delivery of the Southern Link Road (SLR), which is a new dual carriageway proposed to link the A413 Wendover Road with the A41 Aston Clinton Road. The SLR will be serving as both the site access and as a cross-radial strategic link around the south of Aylesbury, again helping to fulfil BCC’s vision re-stated in the ATS for orbital road connections around the town.

Whilst objectors are uncertain of the benefits of the link road strategy being developed by the County and District Council’s to support the Aylesbury’s growth, it is identified in the policy section of this response that they are an integral part of the Aylesbury Transport Strategy. Select link analysis of the ELR(S) and SLR from the strategic cumulative modelling undertaken indicates that the link roads will carry in excess of 1000 vehicles per hour during the peaks. This demonstrates the importance of the proposed infrastructure to the town which is consistent with the adopted Aylesbury Transport Strategy.

The following section discusses each of the junctions assessed in the cumulative assessment and identifies where additional mitigation measures are required and explains what the mitigation works are and how they assist in offsetting the material impacts of the combined development proposals. All mitigation measures are expected to be fully funded by the developments and subject to a S106 requirement for a Joint Delivery Strategy which will set out which developer will implement the scheme and when it will be implemented.

Junction 2 - College Road North/A41 Westbound Overbridge

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 3 - College Road North/A41 Left In Left Out Junctions

No works to this junction are proposed as the operation is acceptable with cumulative development.

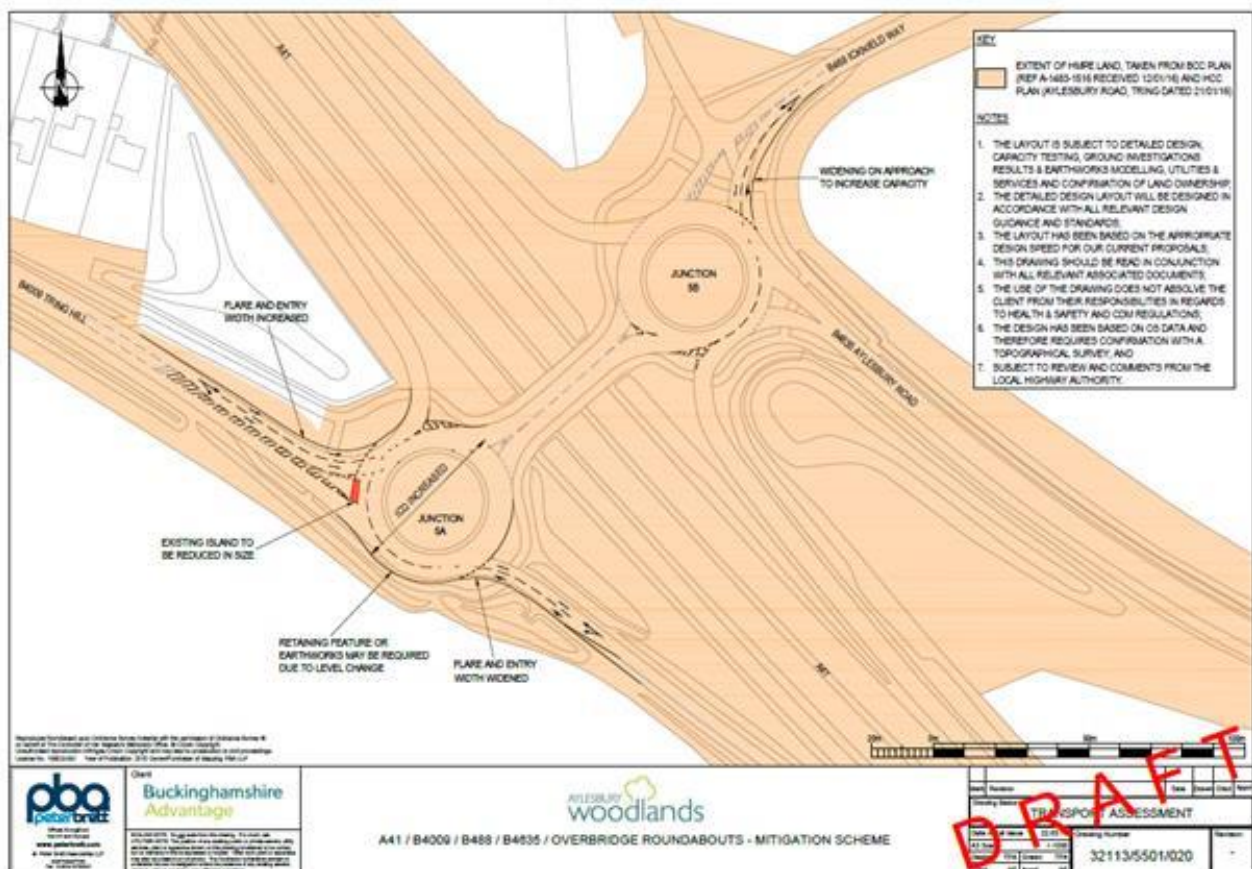
Junction 4 – London Road/Weston Road/Aylesbury Road Roundabout, Aston Clinton

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 5a – A41 Westbound Slips/B4009/Overbridge Roundabout (Southern Dumbbell)

A mitigation measure is proposed at this junction to reduce the significant impacts of development. The scheme involves increasing the size of the junction (ICD) to 52m, and providing two-lane approaches with increased flares on the A41 westbound off slip and the Tring Hill approaches, as shown on PBA Drawing 32113/5501/020, an extract of which is set out below. The scheme is the same as proposed in the Woodlands development standalone scenario.

Whilst the junction will continue to operate over capacity, the operation of the junction improves with the cumulative development, with queuing on Tring Hill to reduce by 45 vehicles and by 129 vehicles on the A41 westbound off slip in the PM peak. The operation of the junction with the mitigation measures is therefore considered to be acceptable and mitigates the impacts of the cumulative development proposals.



	2034 Reference Case				2034 Do Cumulative with Mitigation			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Max RFC	End Queue (veh)	Max RFC	End Queue(veh)	Delay (s)	Queue (veh)	Delay (s)	Queue (veh)
Overbridge (NE)	0.6	2	0.72	3	9	3	12	4
A41 WB Offslip	0.44	1	1.2	135	8	1	26	6
B4009 Tring Hill	1.11	97	1.21	145	325	87	429	100
A41 WB On Slip	EXIT ONLY				EXIT ONLY			
Junction Delay (s)	175		413					

Table 8 Junction 5A Northern Dumbbell ARCADY Results

Junction 5b - A41 Eastbound Slips/B488/B4635 Roundabout (Northern Dumbbell)

A mitigation measure is proposed at this junction to reduce the significant impacts of development. The proposed mitigation measure includes increasing the road width on the B488 approach to produce two formal lanes, as shown on **PBA 32113/5501/020** above. The mitigation measure is the same as that proposed for the Aylesbury Woodlands standalone development.

The analysis suggests that whilst there will still be considerable queuing on the Icknield Way approach to the junction, the level of queuing and delay will be less than in the reference case situation. In the AM peak queuing on the Icknield Way approach is found to reduce from 354 vehicles to 175 vehicles and overall junction delay reduces from 672 seconds to 214 seconds. Therefore, the impact of the cumulative proposals on this junction, with the mitigation measure, is acceptable.

	2034 Reference Case				2022 Do Cumulative with Mitigation			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Max RFC	End Queue (veh)	Max RFC	End Queue (veh)	Delay (s)	Queue (veh)	Delay (s)	Queue (veh)
B488 Icknield Way	1.51	354	1.19	153	483	175	398	130
B4635 Aylesbury Road	0.28	0	0.41	1	24	1	18	1
A41 Eastbound on-slip	EXIT ONLY				EXIT ONLY			
Overbridge (SW)	0.71	2	0.88	7	8	2	17	6
A41 Eastbound Off-slip	0.55	1	0.66	2	13	1	30	4
Junction Delay (s)	672		225		214		153	

Table 9 Junction 5B Southern Dumbbell ARCADY Results

Junction 6 – A41/Aston Clinton Road/Woodlands Roundabout

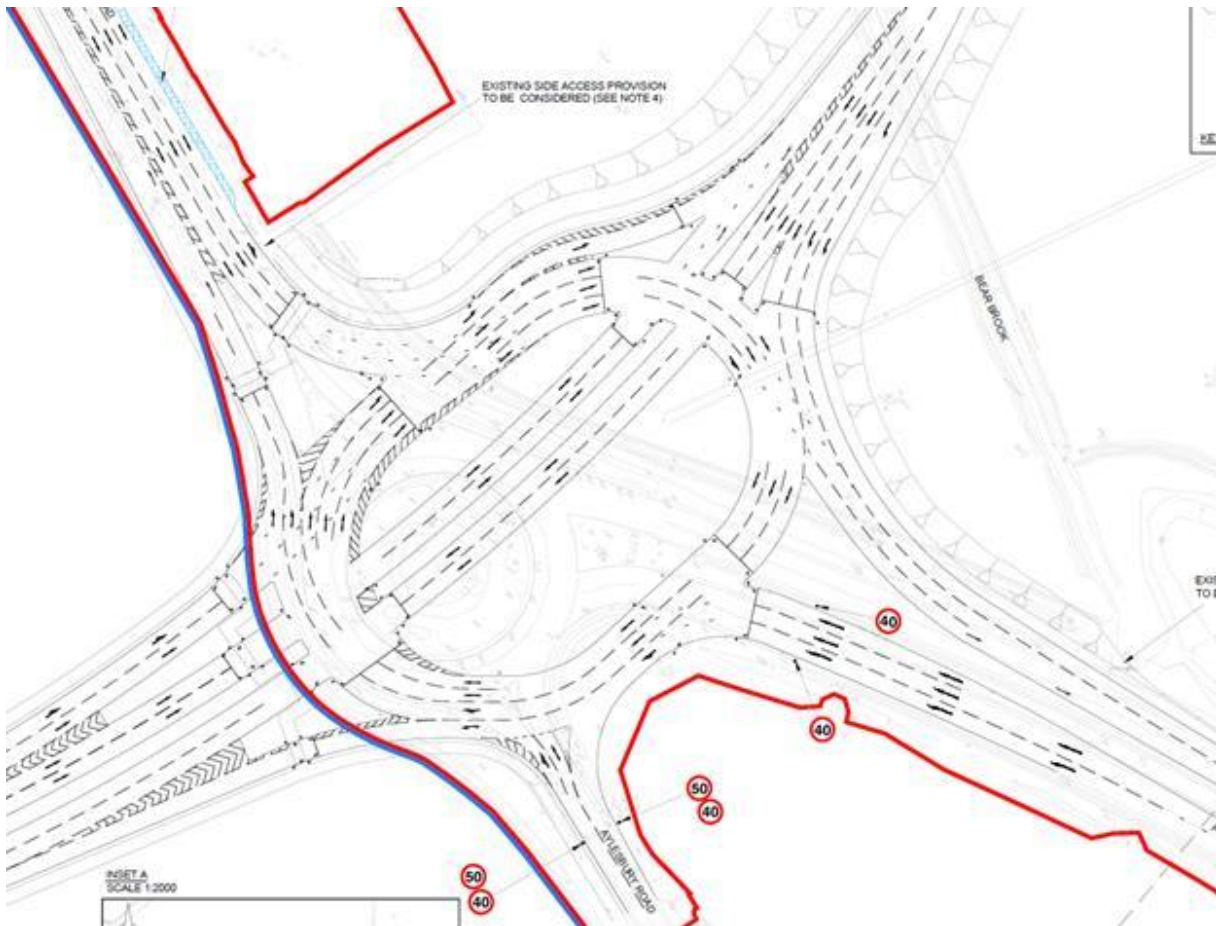
A junction design has been developed by Jacobs and is shown on drawing **B12798C7-0000-D-048 Rev 1**, an extract of which is included overleaf. The proposal is for a signalised hamburger with five approaches, one to serve the Hampden Fields development and one to serve the Eastern Link Road and Aylesbury Woodlands development. The design incorporates pedestrian crossings on the A41 western approach and the Southern Link Road approach. Earlier concerns expressed by the Council have been addressed through the provision of an increased flare northbound on the ELR and an increased two lane exit on A41 westbound towards Aylesbury.

The results of the capacity assessment are set out below;

Table 3-3 2034 Do Cumulative A41 Bypass/Aylesbury Rd/A41 Aston Clinton Rd – TRANSYT 15 Summary

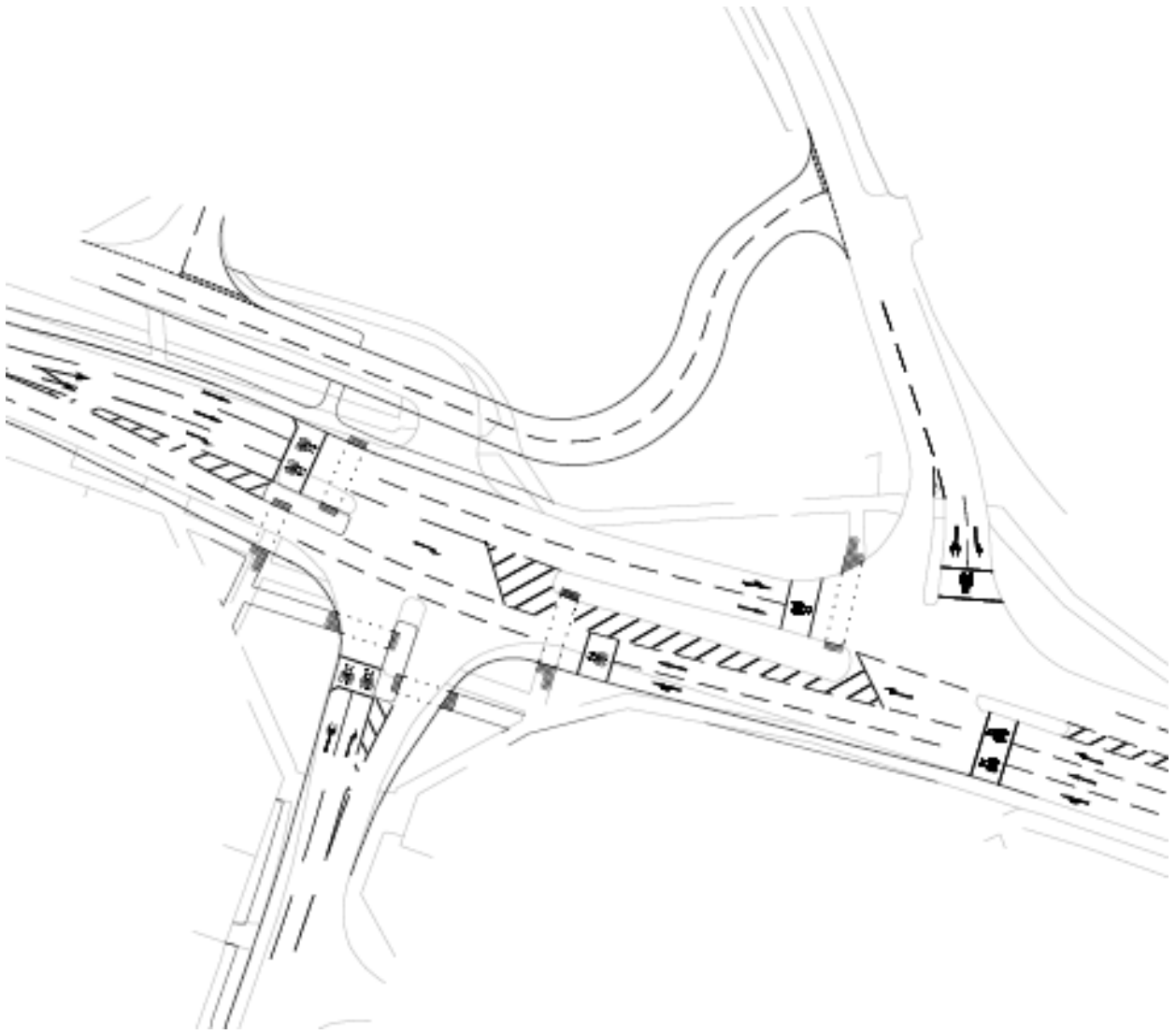
Road name	AM Peak		PM Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
ELR (N)	84	8.73	76	6.68
A41 (E)	49	6.15	63	10.84
Aylesbury Road (SE)	13	0.01	7	0
SLR (S)	60	5.89	78	9.08
A41 (W)	81	13.54	60	9.77
North bound cut-through	37	2.58	84	5.42
South bound cut-through	75	1.16	60	1.54
Circulatory @ ELR (N)	61	4.36	49	4.25
Circulatory @ A41 (E)	29	2.64	23	1.68
Circulatory @SLR (S)	56	7.23	62	6.88
Circulatory @ A41 (W)	35	5.49	40	5.85
Exit crossing (A41W)	44	1.24	51	3
Exit crossing (SLR(S))	50	3.08	51	0.57
Total Network Delay (PCU hr.)		57.54		64.68
Cycle time (seconds)		74		84

The assessment shows that the proposed junction can accommodate the cumulative development and is therefore acceptable. The proposed layout is below;



Junction 7/8 – A41/Aston Clinton Road MDA/New Signalised Crossroads and A41/Bedgrove/Broughton Lane

The Bedgrove/Broughton Lane junction is a problematic junction on the network and this is in part due to the number of side roads competing for green time at the existing signals. A mitigation measure has been proposed making use of Council land, which forms part of the public highway, to the north of the junction. It is of interest to note that whilst researching the status of the land it was found that it was acquired in 1936 for a similar scheme to that now proposed by the developers. The scheme involves removing the northern arm of the Bedgrove junction (Tring Road local), linking it instead with Broughton Lane to the east by way of a priority junction as shown on WSP drawing **1969/SK/150 Rev F**.



The results of the LINSIG analyses are summarised below, obtained from WSP|PB Technical Note dated 28 September 2017.

Table 1-1 2034 Reference Case (Scenario 10) A41 Aston Clinton Rd/New Rd/Bedgrove/MDA Access (Vectos Method of Control) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1: A41 Tring Road/Bedgrove Road					
1/1	A41 WB (Internal) Left Ahead	74.5	7.4	128.7	228.7
1/2+1/3	A41 WB (Internal) Ahead Right	83.5	11.1	153.8	19.7
2/2+2/1	Bedgrove Left Ahead Right	177.1	228.2	137.1	59.6
3/1	A41 EB Entry Left Ahead	59.3	14.7	55.6	12.5
3/2+3/3	A41 EB Entry Right Ahead	61.5	16.4	56.8	13.9
4/1	Tring Road Ahead Right Left	83.5	5.9	105.8	12.2
8/1	A41 WB Ahead	39.8	2.5	84.6	36.3
8/2+8/3	A41 WB Ahead Right	61.8	7.2	52.7	2.1
9/1	A41 EB (Internal) Left Ahead	74.1	12.7	67.3	7.7
9/2	A41 EB (Internal) Ahead	67.9	10.8	68.4	9.0
10/2 +10/1	Broughton Lane Right Left	180.0	135.4	311.7	244.8
J2: Aston Clinton Road/New Road/MDA Access					
1/1	A41 WB Entry Left Ahead	77.0	19.9	66.0	17.4
1/2+1/3	A41 WB Entry Right Ahead	79.1	22.3	69.9	20.3
2/1+2/2	New Road Right Ahead Left	85.4	16.3	214.0	199.3
3/1	A41 EB Ahead Left	81.6	18.6	95.6	29.8
3/2+3/3	A41 EB Ahead Right	89.4	38.5	169.9	87.4
4/2+4/1	MDA Site Access Left Ahead Right	45.0	2.9	40.8	2.6
Overall PRC (%)		-100.0		-246.3	
Cycle time (seconds)		120		120	

Table 1-2 2034 Do Cumulative (Scenario 13c-V4) A41 Aston Clinton Rd/New Rd/Bedgrove/MDA Access, Priority junction at Broughton Lane (WSP Drawing 1769/SK/150 rev F) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1: A41 Tring Road/Bedgrove Road					
1/1	A41 WB (Internal) Left Ahead	74.2	12.4	69.7	9.0
1/2	A41 WB (Internal) Ahead	65.5	8.3	66.2	9.6
2/2+2/1	Bedgrove Left Ahead Right	135.4	127.4	134.5	55.0
3/1	A41 EB Entry Left Ahead	44.4	9.5	40.5	6.9
3/2+3/3	A41 EB Entry Right Ahead	56.8	14.2	44.1	8.1
8/1	A41 WB Ahead	38.8	3.7	45.4	3.2
8/2+8/3	A41 WB Ahead Right	84.6	30.5	77.7	37.2
9/1	A41 EB (Internal) Left Ahead	72.0	13.8	59.8	10.3
9/2	A41 EB (Internal) Ahead	73.4	13.5	58.9	10.9
10/2 +10/1	Broughton Lane Right Left	155.0	141.4	171.7	158.1
6/1	Broughton Lane Southbound	29.7	0.2	29.0	0.2
7/1	Link Road Eastbound	22.1	0.1	24.0	0.2
J2: Aston Clinton Road/New Road/MDA Access					
1/1	A41 WB Entry Left Ahead	64.4	15.2	84.5	23.9
1/2+1/3	A41 WB Entry Right Ahead	67.5	16.8	87.0	26.8
2/1+2/2	New Road Right Ahead Left	81.3	14.7	92.4	20.0
3/1	A41 EB Ahead Left	78.3	13.6	65.0	8.2
3/2+3/3	A41 EB Ahead Right	82.5	9.9	67.4	33.9
4/2+4/1	MDA Site Access Left Ahead Right	50.8	3.3	59.6	4.1
Overall PRC (%)		-72.2		-90.8	
Cycle time (seconds)		120		120	

Although there are some minor increases in queue length in the morning peak hour, particularly on the A41 Westbound ahead movements and on Broughton Lane, overall the results of the analysis show an improvement in the operation of the junction. Overall junction capacity is significantly improved in the PM peak hour and the reconfigured junction will allow for a more efficient operation. The junction is therefore acceptable with the development and the mitigation measure.

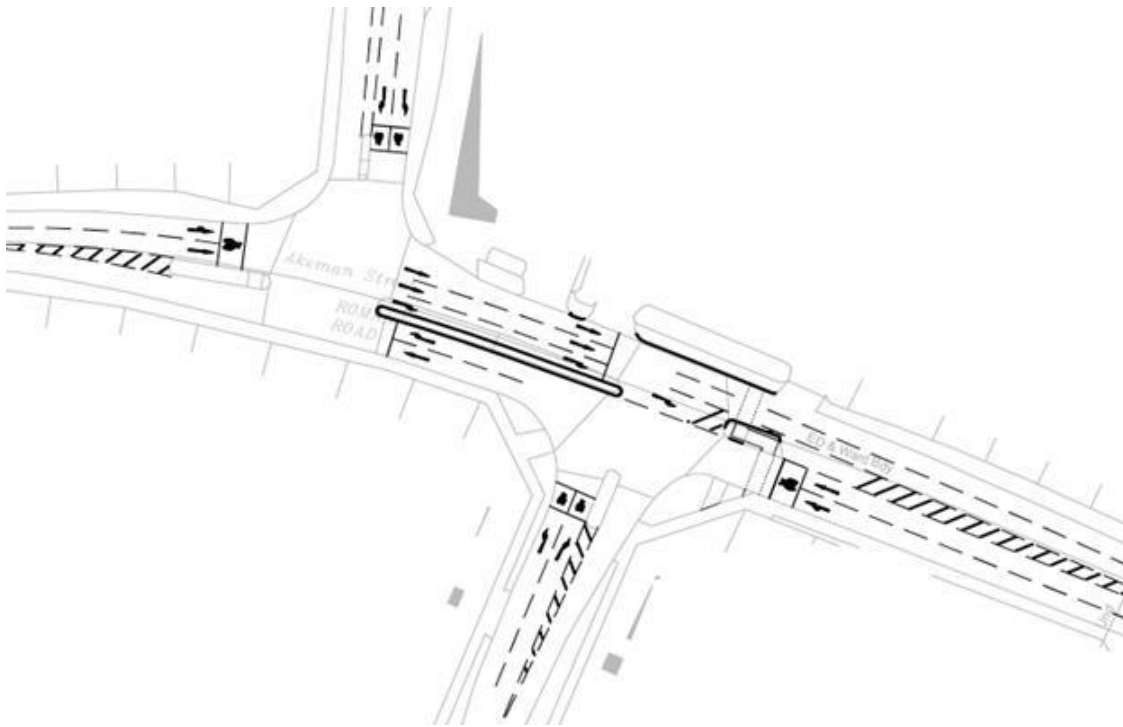
The County Council is aware of public concern about the rat running along Broughton Lane. Broughton Lane has been recently been severed by the Stocklake Rural, constructed as part of the Kingsbrook development. The junction with Stocklake Rural has been specifically designed to make the turning movements into and out of Broughton Lane difficult to avoid its use. Furthermore, signals are to be constructed on Broughton Lane over the canal bridge, which will add further delay and discouragement to through traffic.

The Council is of the view that the implementation of the link road system will be of benefit to Broughton Lane, providing an alternative route for traffic travelling between the north and west and the A41/A418. As such we are committed to reviewing the continued use of Broughton Lane once the ELR and SLR are open to traffic with a view to considering additional measures to deter the use of the road by strategic traffic. However, we cannot consider further restrictions to the Lane until such time that link roads are fully open. The review of the use of Broughton Lane will be subject to the Joint Delivery Strategy, secured as a S106 obligation in the event that planning consent for both developments is granted.

Junction 9 – A41/King Edward Avenue/Oakfield Road Junction

A mitigation proposal involves the introduction of three full lanes eastbound between Oakfield Road and King Edward Avenue, with the outside lane for the right turn movement only. This is considered to be a significant benefit to the Council given the current imbalance between the use of A41 eastbound lanes 1 and 2 on the town side of the junction associated with the blocking of lane 2 of the junction by vehicles waiting to turn right in to King Edward Avenue. The creation of a third dedicated and extended right turn lane in to King Edward Avenue is likely to have a real benefit on the ground given the blocking that is regularly witnessed on site and through the Signal Control Centre CCTV system.

The pedestrian crossing between Oakfield Road and King Edward Avenue is also relocated to the east of King Edward Avenue and comprises a reverse stagger. The removal of this crossing from the centre of the junction will simplify the operation of the junctions and allow it to be staged more efficiently. The proposals are shown on WSP Drawing **70011769-SK-047**, an extract of which is provided overleaf.



There have also been changes to the evening peak hour signal phasing, with the right turn from King Edward Avenue running every other cycle and the addition of an extra stage to allow the right turn from the A41 into Oakfield Road to run sooner.

The results of the analysis are summarised below, taken from WSP|PB Technical Note dated 22 September 2017.

Table 1-1 2034 Reference Case (Scenario 10) A41 Tring Rd/King Edward Ave/A4157 Oakfield Rd – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A41 Tring Road (EB) Ahead Left	375.6	387.7	105.1	77.7
1/2	A41 Tring Road (EB) Ahead	124.6	46.7	32.4	6.8
2/2+ 2/1	Oakfield Road Left Right	363.7	395.9	82.6	13.2
3/1	A41 Tring Road Internal (WB) Ahead	65.7	0.1	75.7	2.0
3/2	A41 Tring Road Internal (WB) Right	39.3	5.5	61.0	4.7
4/1	A41 Tring Road Internal (EB) Ped Ahead	20.2	0.0	71.6	4.0
4/2	A41 Tring Road Internal (EB) Ped Ahead	19.3	0.0	31.2	1.0
5/1	A41 Tring Road Internal (EB) Ahead	20.0	0.0	71.0	0.6
5/2	A41 Tring Road Internal (EB) Ahead Right	88.5	0.0	71.9	0.3
6/1	A41 Tring Road (WB) Ahead Left	86.2	31.3	91.5	36.8
6/2	A41 Tring Road (WB) Ahead	28.3	5.6	0.0	0.0
7/1+ 7/2	King Edwards Avenue Left Right	52.4	6.0	86.1	14.1
Overall PRC (%)		-317.4		-16.8	
Cycle time (seconds)		120		120	

Table 1-2 2034 Do Cumulative (Scenario 13c-V4) A41 Tring Rd/King Edward Ave/A4157 Oakfield Rd (BCC Preferred Mitigation) – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/1	A41 Tring Road (EB) Ahead Left	115.3	49.6	77.3	20.5
1/2	A41 Tring Road (EB) Ahead	115.4	55.0	79.3	24.4
2/2+ 2/1	Oakfield Road Left Right	66.7	7.3	71.1	7.1
3/1	A41 Tring Road Internal (WB) Ahead	55.7	0.1	78.0	1.7
3/2	A41 Tring Road Internal (WB) Right	85.3	3.6	34.6	5.1
4/1	A41 Tring Road Internal (EB) Ahead	39.7	0.1	26.2	0.0
4/2	A41 Tring Road Internal (EB) Ahead	69.2	2.1	54.4	0.6
4/3	A41 Tring Road Internal (EB) Right	46.2	1.8	70.9	4.7
5/1	A41 Tring Road (WB) Ahead Left	197.7	293.6	86.6	34.7
5/2	A41 Tring Road (WB) Ahead	35.8	3.0	0.2	0.0
7/1+ 7/2	King Edwards Avenue Left Right	29.5	2.4	85.9	10.2
Overall PRC (%)		-119.7		3.9	
Cycle time (seconds)		64		240	

The junction operation shows an overall significant improvement in comparison with the reference case situation, with the practical reserve capacity at the junction increasing, however the queue on the A41 Tring Road westbound, increases from 32 (link 6/1 in reference case) to 294 pcu (link 5/1) in the evening peak hour. The advice of the Council's signals team is that this queue will actually be reduced given that the adjacent lane is running with significant reserve capacity and minimal queuing (3 pcu) and is also available for ahead traffic. On this basis the Council considers that the overall benefits to the junction are sufficient to offset the cumulative impact of the developments.

Junction 10 – A41/Park Street/High Street/Walton Road Roundabout

No works to this junction are proposed. Whilst the junction will operate over capacity with the cumulative developments, the level of queuing and delay is **reduced** in comparison with the reference case situation. The impact of the cumulative development on the junction is therefore acceptable.

Junction 11 – A418 Bierton Road/A4157 Douglas Road/A4157 Elmhurst Road Roundabout

No works to this junction are proposed. There is a discrepancy in the input data for the PM peak but the impact of the development at this junction is not considered sufficient to require further analysis.

Junction 12 – A41/Vale Park Drive/High St/Exchange Street Roundabout

No works to this junction are proposed. Whilst the junction will operate over capacity with the cumulative developments, the level of queuing and delay is **reduced** in comparison with the reference case situation. The impact of the schemes on the junction is therefore acceptable.

Junction 13 – A41/A418/Exchange Street Roundabout

Model not included in cumulative assessment.

Junction 14 – A4157 Douglas Road/A4157 Oakfield Road/Stocklake Junction

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 15 – A413/Camborne Avenue Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 16 – A418/Burcott Lane. Brick Kiln Lane Junction

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 17 – Tringford Rd/Bulbourne Road/Wingrave Road/Icknield Way Roundabout

This junction is within Hertfordshire and is not within the remit of Buckinghamshire County Council.

Junction 18 - College Road North/Site Access/Arla Access Roundabout

The College Road North/Site Access/Arla Access roundabout has been assessed for the do something situation using ARCADY in Junctions 9 and indicates that it will operate within capacity.

Junction 19 – Eastern Link Road (N)/ Village 4 Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 20 – Eastern Link Road (N)/Stocklake (Rural) Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 21 – Proposed Eastern Link Road (N)/A418 Junction

This junction operates within capacity and the impact of the cumulative development is therefore acceptable.

Junction 24 – Walton Gyratory

No works to this junction are proposed. The junction operates over capacity in do minimum and do something situations, but there is an improvement with the cumulative development and therefore the impact is acceptable. The following table sets out the comparative capacity assessment results and shows a material improvement in the cumulative situation. We have highlighted green those links that show an improvement or are neutral and orange those that show an increase in queuing or degree of saturation but remain within acceptable thresholds.

Table 3-35 2034 Do Cumulative Walton St Gyratory – LinSig 3 Summary

Arm/ Lane	Road name	AM Peak		PM Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	Walton Street Ahead	75.3	10.4	107.9	56.2
1/3	Walton Street Ahead	75.2	10.5	107.9	56.4
2/1+2/2	Internal - Walton Street Stopline Right	62.9	3.5	71.8	8.2
3/1+3/2	Walton Road Ahead Left	65.9	4.9	65.4	4.8
4/1	Internal - Walton Road Stopline Left	30.4	5.0	38.8	4.9
4/2	Internal - Walton Road Stopline Ahead	60.9	4.3	70.7	3.2
4/3	Internal - Walton Road Stopline Right Ahead	62.3	4.7	72.7	4.3
5/1	Wendover Road Ahead	81.9	11.9	84.3	12.3
5/2	Wendover Road Ahead	81.9	11.9	84.2	12.3
6/1	Internal - Wendover Road Stopline Right	50.6	3.0	55.4	5.2
6/2	Internal - Wendover Road Stopline Right	61.5	3.9	63.8	6.5
7/1+7/2	Stoke Road Left	124.6	186.7	91.1	16.4
8/2	Internal - Stoke Road Stopline Right	87.2	7.5	88.7	8.8
8/3	Internal - Stoke Road Stopline Right	87.4	6.5	89.1	8.8
13/1	Walton Green Left Left	34.1	0.4	27.4	0.3
Overall PRC (%)		-38.4		-19.9	
Cycle time (seconds)		64		64	

Table 3-36 Walton St Gyratory – Summary of 2034 Total Junction Demand Flow Delays

Scenario	AM Peak			PM Peak		
	Delay (PCU hr.)	Flows (PCU/hr)	Ave. Delay (s/PCU)	Delay (PCU hr.)	Flows (PCU/hr)	Ave. Delay (s/PCU)
Reference Case	337.6	5,568	218	413.9	5,733	260
Do Cumulative	208.4	4,795	156	135.2	4,968	98
Delay difference (s/PCU)			-62			

Junction 25 – A418 Bierton Road/Park Street/Cambridge Street mini roundabout

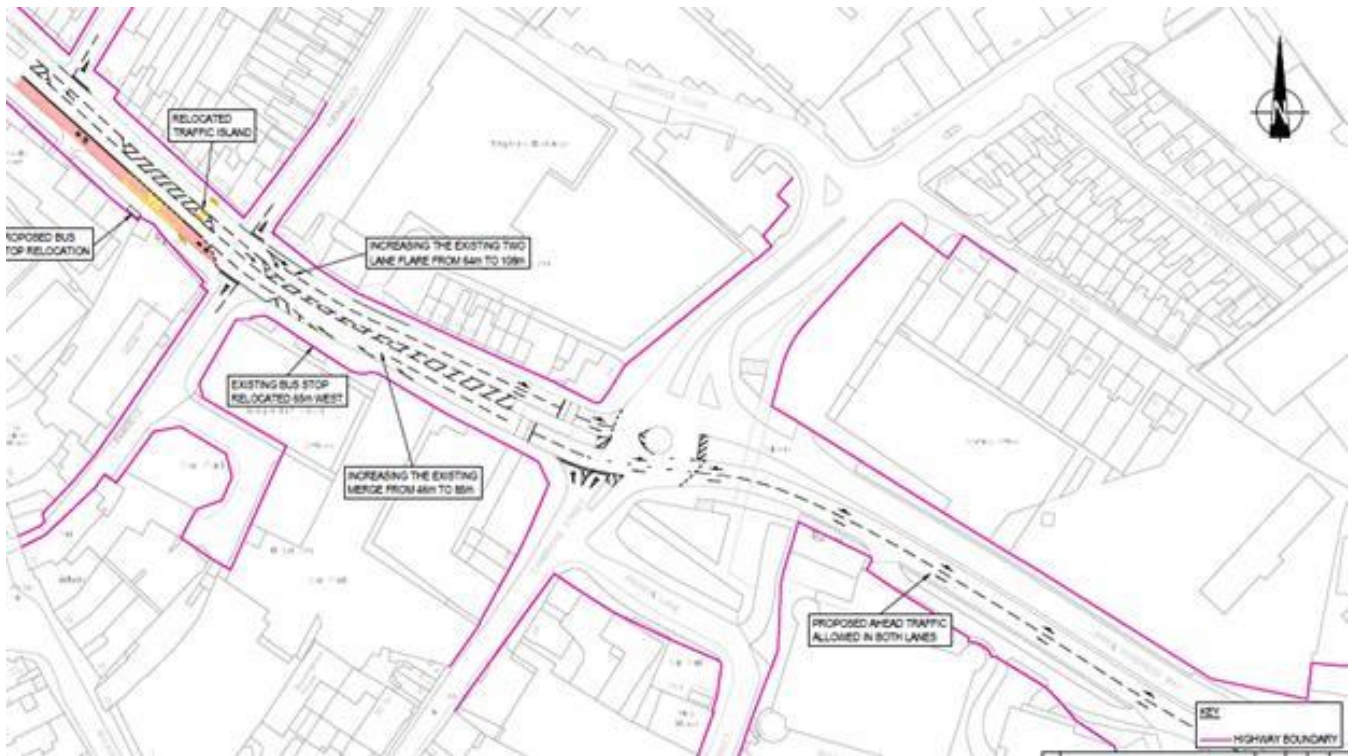
No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 26 – A418 Sapphire Way/Stocklake/Park Street/Vale Park Drive Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 27 – Cambridge Street/Upper Hundreds Way/New Street Roundabout

Mitigation works are proposed to this junction as a result of the cumulative impact. The mitigation proposals shown on PBA Drawing 32113/5501/022 Revision E involves changing the lane allocation on Upper Hundreds Way to allow ahead movements in both lanes, increasing the merge length on the A418 north exit, increasing the flare length on the A418 north approach and relocating bus stops on the A418 north. An extract of the drawing is given below.



The model has been run using standard ARCADY methods and also using the lane simulation option, to assess the impact of uneven lane usage. The results are summarised below, as taken from WSP|PB Technical Note dated 6 July 2017. They show that there is an improvement in the operation of the junction with the mitigation measure, in comparison with the reference case situation. The impact of the cumulative development on this junction is considered to be acceptable subject to the implementation of the improvement scheme.

Table 4-1 2034 Reference Case (Scenario 10) Cambridge Street/Upper Hundreds Way/New Street – Junctions 9 Summary (Standard ARCADY Assessment)

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	Cambridge St (N)	0.77	3	0.50	1
B	Upper Hundreds Way	0.70	2	0.76	3
C	Cambridge St (S)	0.26	0	0.58	1
D	New St	1.26	328	1.55	661

Table 4-2 2034 Reference Case (Scenario 10) Cambridge Street/Upper Hundreds Way/New Street – Junctions 9 Summary (Lane Simulation Sensitivity)

Arm	Road name	AM Peak		PM Peak	
		End Queue (vehicles)	Delay (seconds)	End Queue (vehicles)	Delay (seconds)
A	Cambridge St (N)	5	44	1	15
B	Upper Hundreds Way	475	1,281	558	1,319
C	Cambridge St (S)	1	11	2	15
D	New St	412	838	763	1,374
Junction delay (seconds)		861		1,137	

Table 4-5 2034 Do Cumulative (Scenario 13c-V4) Cambridge Street/Upper Hundreds Way/New Street (Proposed Mitigation) – Junctions 9 Summary (Standard ARCADY Assessment)

Arm	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
A	Cambridge St (N)	0.76	3	0.49	1
B	Upper Hundreds Way	0.72	3	0.79	4
C	Cambridge St (S)	0.20	0	0.55	1
D	New St	1.25	328	1.45	561

Table 4-6 2034 Do Cumulative (Scenario 13c-V4) Cambridge Street/Upper Hundreds Way/New Street (Proposed Mitigation) – Junctions 9 Summary (Lane Simulation Sensitivity)

Arm	Road name	AM Peak		PM Peak	
		End Queue (vehicles)	Delay (seconds)	End Queue (vehicles)	Delay (seconds)
A	Cambridge St (N)	9	82	2	18
B	Upper Hundreds Way	18	45	62	133
C	Cambridge St (S)	1	19	7	69
D	New St	405	802	668	1,199
Junction delay (seconds)		413		623	

Junction 28 – A413 Wendover Road/A4010 Station Road Roundabout Stoke Mandeville

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 34 – New Road/Brook End/Main Street mini roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 35 – A413 Wendover Road/Marroway Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 36 – A4010 Station Road/A4010 Risborough Road/B4443 Lower Road mini roundabout Stoke Mandeville

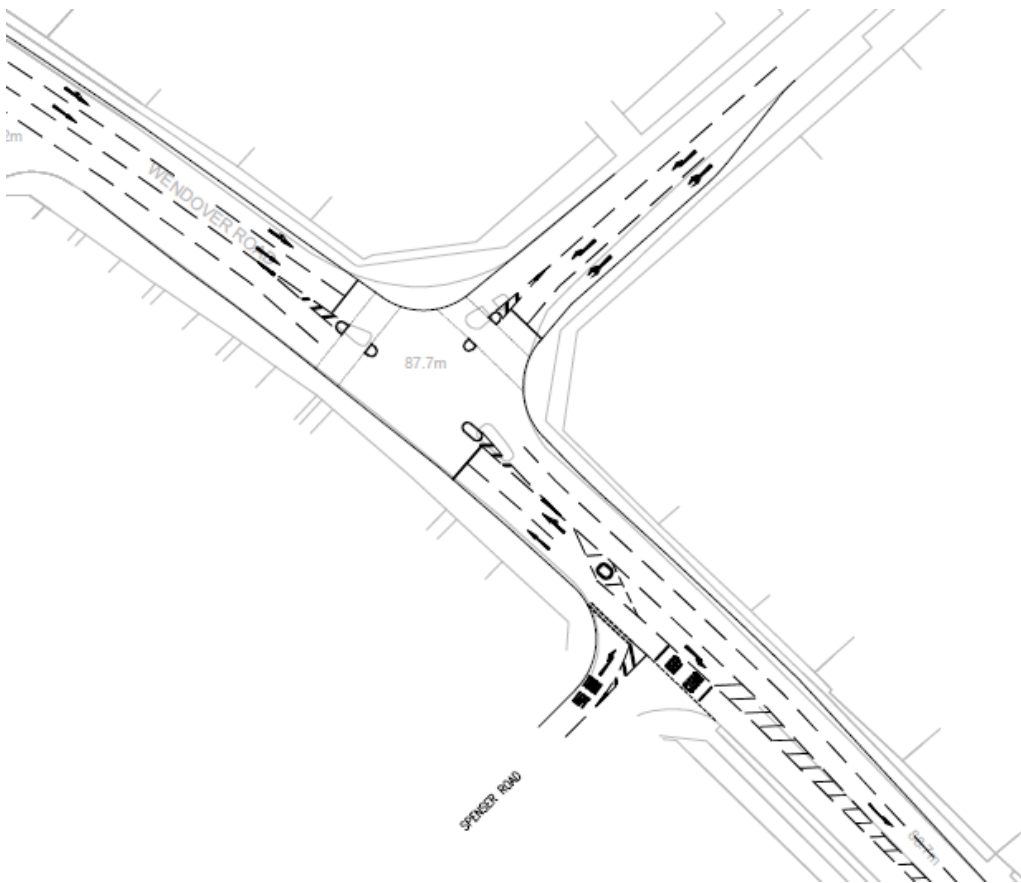
No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 37 – A413 Wendover Road/Silver Birch Way Roundabout

No works to this junction are proposed as the operation is acceptable with cumulative development.

Junction 38 – A418 Wendover Road/Wendover Way Mini Roundabout

Mitigation works are proposed to this junction as a result of the cumulative impact. A signalisation scheme is proposed as shown on WSP Drawing 1769/26/101/Rev C, an extract of which is provided overleaf.



The Council's signals team have advised that this form of junction will allow for improved traffic management, particularly given the proximity to the Gyratory. The results of the analysis are summarised below, as obtained from WSP|PB Technical Note dated 22 August 2017. They show an improvement over the do nothing situation in 2034.

Table 2-1 A413 Wendover Rd/Wendover Way – Summary of Queues

Road name	AM Peak			PM Peak		
	2034 DN	2034 DN	2034 DC	2034 DN	2034 DN	2034 DC
	Rbt	Rbt	Signals	Rbt	Rbt	Signals
	Standard ARCADY	ELA ARCADY	LinSig	Standard ARCADY	ELA ARCADY	LinSig
	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)	End Queue (veh.)	End Queue (veh.)	MMQ (PCUs)
A413 Wendover Road N	29	456	11	10	389	16
Wendover Way	6	5	6	11	20	10
A413 Wendover Road S	122	463	26	127	541	32

Table 2-2 A413 Wendover Rd/Wendover Way – Summary of Delays

Road name	AM Peak			PM Peak		
	2034 DN	2034 DN	2034 DC	2034 DN	2034 DN	2034 DC
	Rbt	Rbt	Signals	Rbt	Rbt	Signals
	Standard ARCADY	ELA ARCADY	LinSig	Standard ARCADY	ELA ARCADY	LinSig
	Av. Delay (s/av. Veh)	Av. Delay (s/av. Veh)	Delay (s/PCU)	Av. Delay (s/av. Veh)	Av. Delay (s/av. Veh)	Delay (s/PCU)
A413 Wendover Road N	96	1,266	17	34	1,092	26
Wendover Way	64	47	81	107	145	74
A413 Wendover Road S	325	1,112	22	336	1,331	35

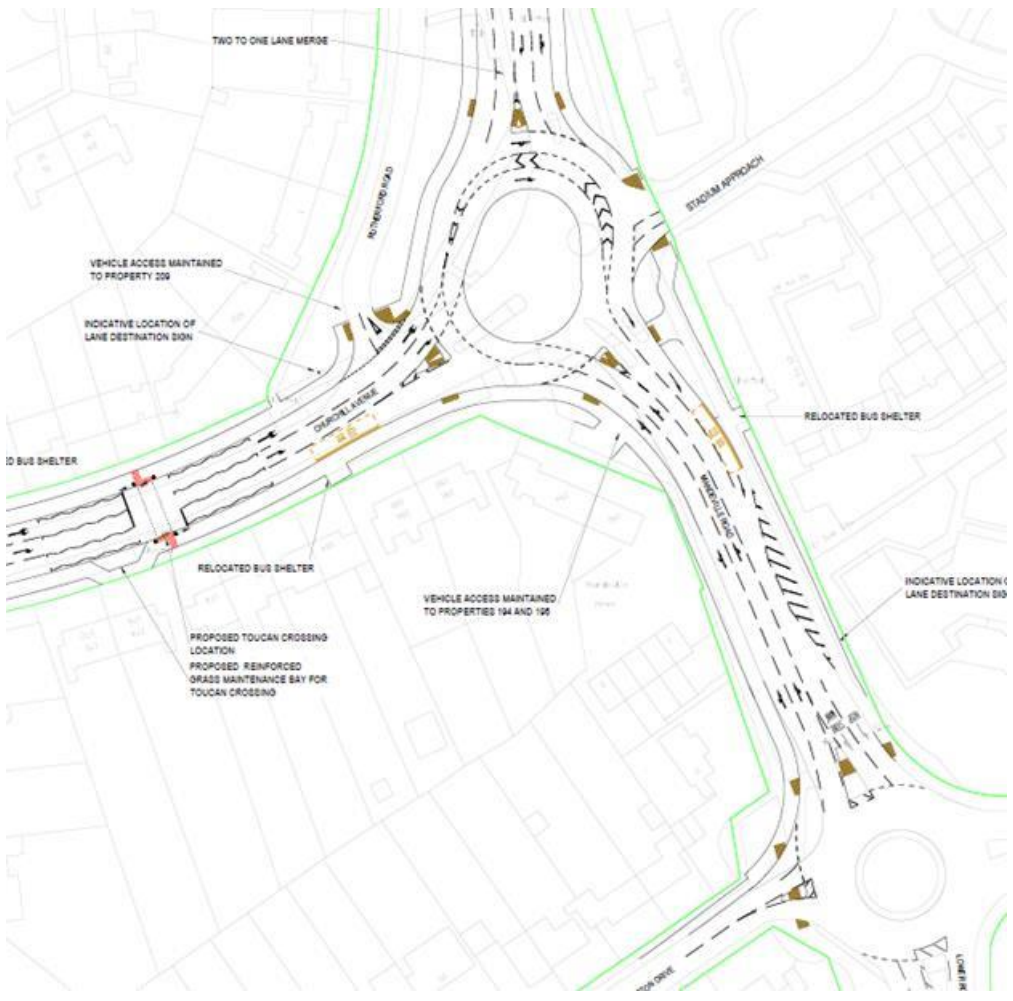
It is worth noting that the results of the 2034 without development scenario (2034 DN) are likely to fall between the standard ARCADY run and the Entry Lane Analysis (ELA) results, given that the standard ARCADY run will assume that traffic can use the full width of the entry. On this basis, the results show a significant improvement in junction operation as a result of the installation of the signals. The impact of the development on this junction is therefore considered acceptable subject to the implementation of the improvement scheme.

A41 High Street/Walton Street/A41 Friarage Road

No works to this junction are proposed as the operation is acceptable with cumulative development.

B4443 Mandeville Road/Stadium Approach/B4443 Lower Road/Churchill Avenue and B4443 Lower Road/Winterton Drive

A number of improvements are proposed at the two roundabout junctions as shown on PBA Drawing **32113/5511/004**. The impact of traffic on this corridor is not only a direct result of the cumulative impacts of Hampden Fields and Woodlands development proposals but a combination of the development proposals and the link roads, including the proposed SEALR. Pending the continuation of a link road system west towards the A418, traffic reaching the end of the SEALR and wanting to continue west needs to travel north then west via Churchill Avenue. The mitigation works include widening the B4443 Mandeville Road carriageway to two lanes northbound to allow two lane movements from the south to travel straight across both junctions, relocating the pedestrian crossing on Churchill Avenue, and relocating four bus shelters.



Within the model, the ICD for the new northern roundabout is given as 40 on all approaches. As the junction is not circular, the ICD varies from arm to arm. The results of the capacity analysis are taken from WSP|PB Technical Note dated 6 July 2017.

Table 5-1 2034 Reference Case (Scenario 10a) B4443 Lower Road at Stoke Mandeville Hospital – Junctions 9 Summary (Standard ARCADY Assessment)

Junction	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
Northern	Mandeville Road (N)	1.24	247	0.79	4
Northern	Stadium Approach (E)	6.46	244	1.53	134
Northern	B4443 Lower Road	0.66	2	0.94	14
Northern	Churchill Avenue (W)	0.74	3	0.51	1
Northern	Junction Delay (seconds)	1,635		209	
Southern	Winterton Drive (E)	0.88	6	1.13	26
Southern	Lower Road (N)	1.00	36	0.63	2
Southern	Eastern Arm	0.19	0	0.15	0
Southern	Lower Road (S)	0.88	7	1.14	202
Southern	Junction Delay (seconds)	57		277	

Table 5-2 2034 Reference Case (Scenario 10a) B4443 Lower Road at Stoke Mandeville Hospital – Junctions 9 Summary (Lane Simulation Sensitivity)

Junction	Road name	AM Peak		PM Peak	
		End Queue (vehicles)	Delay (seconds)	End Queue (vehicles)	Delay (seconds)
Northern	Mandeville Road (N)	816	2,036	345	1,086
Northern	Stadium Approach (E)	8	97	47	364
Northern	B4443 Lower Road	3	12	3	12
Northern	Churchill Avenue (W)	375	1,302	6	34
Northern	Junction Delay (seconds)	1,121		436	
Southern	Winterton Drive (E)	2	26	1	14
Southern	Lower Road (N)	10	39	8	31
Southern	Eastern Arm	0	9	0	9
Southern	Lower Road (S)	291	755	819	1,763
Southern	Junction Delay (seconds)	389		970	

Source: Reproducing Table 3-65 from the April 2017 Common Descriptive Report (p.36)

Table 5-5 2034 Do Cumulative (Scenario 13d) B4443 Lower Road at Stoke Mandeville Hospital (Proposed Mitigation) – Junctions 9 Summary (Standard ARCADY Assessment)

Junction	Road name	AM Peak		PM Peak	
		RFC	End Queue (vehicles)	RFC	End Queue (vehicles)
Northern	Mandeville Road (N)	0.90	9	0.69	2
Northern	Stadium Approach (E)	1.38	76	0.89	7
Northern	B4443 Lower Road	0.59	1	0.80	4
Northern	Churchill Avenue (W)	0.81	4	0.64	2
Northern	Junction Delay (seconds)	114		16	
Southern	Winterton Drive (E)	0.51	1	0.47	1
Southern	Lower Road (N)	1.01	48	0.69	2
Southern	Eastern Arm	0.22	0	0.23	0
Southern	Lower Road (S)	1.06	102	1.16	218
Southern	Junction Delay (seconds)	150		245	

Table 5-6 2034 Do Cumulative (Scenario 13d) B4443 Lower Road at Stoke Mandeville Hospital (Proposed Mitigation) – Junctions 9 Summary (Lane Simulation Sensitivity)

Junction	Road name	AM Peak		PM Peak	
		End Queue (vehicles)	Delay (seconds)	End Queue (vehicles)	Delay (seconds)
Northern	Mandeville Road (N)	596	2,013	297	1,108
Northern	Stadium Approach (E)	50	505	99	799
Northern	B4443 Lower Road	3	8	7	17
Northern	Churchill Avenue (W)	385	1,141	32	123
Northern	Junction Delay (seconds)	952		386	
Southern	Winterton Drive (E)	4	66	3	65
Southern	Lower Road (N)	16	59	15	49
Southern	Eastern Arm	0	10	1	12
Southern	Lower Road (S)	140	300	256	540
Southern	Junction Delay (seconds)	189		302	

The results of the ARCADY mitigation model show an overall improvement in total queueing at the junction but show a queue of 48 on Lower Road north in the AM peak hour, an increase of 12 vehicles. It also shows increases on Lower Road (south) of 95 vehicles in the same hour. However, using the Entry Lane Analysis option in the modelling (which reflects situations where there is unequal lane usage) ARCADY shows an overall reduction in queueing at the junction from 755 vehicles on Lower Road south to 300 vehicles in the AM peak.

The modelling for this network is complex and the two modelling scenarios confirm this. In reality the results are likely to be somewhere between the ELA and standard analysis assessments. Overall it is the view of the Council that there could be significant benefits to the currently most heavily congested arms which would offset the comparatively small level of increased queueing on other arms at the southern roundabout. Importantly, the impact on the hospital arm of the junction in both the standard ARCADY run and the ELA option is neutral. The major impact is reported on Station Approach, but this is considered unrealistic given the relatively light flows on this arm of the junction.

It is concluded that the proposed improvements offset the impact of developments as well as the implications of strategic traffic resulting from the construction of the link roads. The impact on this part of the network are also considered to represent an interim situation pending the continuation of the link road system, west to the A418 as advocated in the Aylesbury Transport Strategy. If this link road is brought forward before the completion of the ELR(S) and the SLR, then this mitigation may not be necessary (subject to further assessment).

B4544 Marroway/Proposed Marroway Link Road

No works to this junction are proposed as the operation is acceptable with cumulative development.

SLR/Marroway Link Road

No works to this junction are proposed as the operation is acceptable with cumulative development.

SLR/New Crossroads

The provision of the Southern Link Road involves the diversion of New Road to form a signalised crossroads to the east of its current alignment. The proposed new junction has been modelled using LINSIG. The model shows that the junction can operate within capacity in 2034 with the cumulative developments. The impact of the proposals on this junction is therefore accepted.

Summary of cumulative assessment

The traffic impacts associated with the cumulative impacts of traffic associated with both the Hampden Fields and Woodlands applications have been adequately assessed and shown to be acceptable. Where material impacts have been identified, the mitigation measures proposed are considered sufficient to offset the significant adverse impacts of the developments in combination, in accordance with the requirements of the NPPF. Furthermore, both developments bring with them the significant benefits of the delivery of the Eastern Link Road (S) and the SLR as well as contributing financially to the high priority Council and BTVLEP South East Aylesbury Link Road scheme. All of the link roads combine to bring forward a significant package of highway infrastructure necessary to support the required growth of Aylesbury.

It is therefore concluded by the Council that the cumulative impacts of the Hampden Fields and Woodlands Developments are acceptable subject to the following;

- Financial contributions towards the delivery of the SEALR;
- The early provision of the SLR and ELR(S);
- Offsite works for the comprehensive improvement to the A41 Woodlands roundabout as shown in principal on drawing **B12798C7-0000-D-048 Rev 1**;
- Offsite works to improve the A41/B4009/Overbridge Roundabouts as shown in principal on drawing **PBA 32113/5501/020**;
- Offsite works to improve the A41/Oakfield Road/King Edward Avenue junction as shown in principal on drawing **70011769-SK-047**;
- Offsite works to improve the A41/Bedgrove/Broughton Lane/Richmond Road junction as shown in principal on drawing **1969/SK/150 Rev F**;
- Offsite works to signalise the Wendover Road/Wendover Way junction as shown in principal on drawing **1769/26/101/Rev C**;
- Offsite works to improve the Lower Road at Stoke Mandeville as shown in principal on drawing **32113/5511/004**; and
- Offsite works to improve the Upper Hundreds Way/New Street/Cambridge Street junction and approaches as shown in principal on drawing **32113/5501/022 Revision E**.

Summary and conclusions


It is concluded that full and detailed assessments of the application both individually and cumulatively, have demonstrated that the significant adverse effects of the proposals can be appropriately mitigated through planning condition and S106 obligations. The development proposals bring with them an important part of the highways infrastructure identified in the Aylesbury Transport Strategy as necessary to support the growth of the town and manage traffic conditions in the future. It should be noted that it is the Council's intention to place an obligation on the developers to deliver the link roads by 2021, in line with the required completion date of the ELR (N).

It is concluded that the developments positive benefits and appropriate mitigation mean that that the Council can confirm that it has no objections subject to Conditions and S106 Obligations to be advised.

Yours sincerely



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Development Control
Aylesbury Vale District Council

Date: 4th October 2017
Ref: 16/00424/AOP

DX4130 Aylesbury

FAO Neil Button

Dear Neil

HIGHWAY AUTHORITY COMMENTS TOWN AND COUNTRY PLANNING ACT 1990

Application Number: 16/00424/AOP

Proposal: Outline planning application (with all matters reserved) for a mixed-use sustainable urban extension comprising: up to 3,000 dwellings and a 60 bed care home/extra care facility (Use Class C2/C3); provision of land for a Park and Ride site; a total of 6.90ha of employment land (comprising of up to 29,200 sq.m. B1c/B1/B2/B8 uses); provision of two primary schools (one 2 form entry and one 3 form entry); a mixed use local centre (3.75ha) with provision for a foodstore of up to 1,200 square metres (GFA), further retail (including a pharmacy), restaurant and café units, a doctor's surgery, gym, public house with letting rooms, professional services, multi-functional community space and a day nursery, and live work units; multi-functional green infrastructure (totalling 108.43ha) including parkland, sports pitches, sports pavilions, children's play areas, mixed use games areas, including a skate park/BMX facility, informal open space, allotments, community orchards, landscaping; extensions to domestic gardens at Tamarisk Way (0.22ha); strategic flood defences and surface water attenuation; vehicular access points from New Road, Marroway, A413 Wendover Road and A41 Aston Clinton Road; a dualled Southern Link Road between A413 Wendover Road and A41 Aston Clinton Road and a strategic link road between the Southern Link Road and Marroway; internal roads, streets, lanes, squares, footpaths and cycleways and upgrades to Public Rights Of Ways (PRoWs); and car parking related to the above land uses, buildings and facilities.

Location: Land Between Wendover Road And Aston Clinton Road Weston Turville Buckinghamshire

I refer to the previous highways consultation responses in relation to this site which comment on previous technical submissions by the applicants. As you are aware there have been a number of submissions by objectors including the Hampden Fields Action Group which have questioned the validity of the strategic modelling used for the assessment of the traffic implications of the development. In summary the key issues identified by the objectors are as follows;

- Baseline traffic growth to 2034 in the model outputs;
- Site specific traffic generation allowances;
- Overall model matrix totals between Do Minimum and Do Something scenarios not increasing in line with the additional traffic associated with the development proposal.

As a result the County Council some time ago commissioned a comprehensive review of the model and its fitness and validity for the purposes of assessing the traffic implications of the development proposals at a strategic level. You will be aware that the strategic model outputs including turning flows at individual junctions are used for detailed junction capacity assessments. There has been some criticism of the County Council in not responding to the concerns raised but this matter has been taken very seriously and it has taken time for the comprehensive review to be concluded.

The modelling review has been undertaken by Jacobs using Strategic modelling experts from their London office. The purpose of this was to ensure that the reviewers were not personnel that operate the strategic model in Buckinghamshire and are detached from the work undertaken for the planning applications currently being assessed.

The attached Technical Note "Hampden Fields and Woodlands Developments, Aylesbury – Forecast Methodology Review" sets out the findings of this review and confirms that the model is considered fit for the assessment of the planning applications for the reasons explained in the report.

I trust that this information is useful in responding to the objectors and adding confidence to the form of assessment undertaken for the planning applications.

If you have any queries then please do not hesitate to contact me.

Yours sincerely



Del Tester

Lead Highways Development Management Consultant
Transport Economy Environment



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Hampden Fields and Woodlands Developments, Aylesbury

Buckinghamshire County Council

Forecast Methodology Review - Technical Note

1 | 1.0

04 October 2017

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Hampden Fields and Woodlands Developments, Aylesbury

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1. Background

This note has been produced following a review of 2034 Aylesbury transport models, produced in the PTV VISUM Software. These models were used to inform Woodlands and Hampden Fields development proposals and transport assessments. This review has been carried out in response to the work undertaken by Transport Planning Practice (TPP) on behalf of the Hampden Fields Action Group in May 2017.

Specifically, this review is focussed on the methodology used to create the 2034 background traffic growth forecasts for the purposes of creating a Reference Case (without Hampden Fields or Woodlands developments) and then the trip generation forecasts associated with the Hampden Fields and Woodlands developments. The review has been carried out by a Jacobs Office independent to that which operates the model and which undertook the work for the current planning applications.

2. Limitations of this Review

In view of the volume of available information and modelled scenarios, this review has concentrated primarily on the AM peak modelling and uses this as representative of the overall methodology and modelling for other peaks. Specifically, for the purposes of this review and analysis, the following scenarios have been reviewed and compared in terms of their demand forecasts:

- 2034 AM Peak – without Hampden Fields or Woodlands;
- 2034 AM Peak – with Hampden Fields, but not Woodlands (to analyse Hampden Fields in isolation);
and
- 2034 AM Peak – with both Hampden Fields and Woodlands (to enable analysis of both developments together but also the impacts of Woodlands only by comparing to the scenario above).

The information presented in this review is proportionate to the questions posed in the TPP review. This note is based on a review of the approach carried out and takes account of existing best practice guidance, the best information available at the time of the work, and an assessment of the magnitude of change in the demand forecasts relative to what would be expected given the approach used.

This technical note should be read in full with no excerpts out of context deemed to be representative of the report and its findings as a whole. This technical note has been prepared exclusively for Jacobs' client (Buckinghamshire County Council) and no liability is accepted for any use or reliance on the report by third parties.

3. General Approach

This section comments on the general approach to the work and the suitability of the Aylesbury Base Model to assess the Hampden Fields and Woodlands Developments and the South Eastern Link Road (SELR).

The Aylesbury model is a standalone model developed from cordoning of the BCC Countywide Model. This is the standard Buckinghamshire County Council (BCC) approved tool for initial assessment of schemes and planning proposals and is used as a consistent base for scheme/option sifting and assessment work.

The PTV VISUM software, in which the Aylesbury model has been developed, is an industry standard tool. It is one of the primary tools within the UK for strategic transport modelling of this kind; assessing new transport infrastructure or the initial impacts of development planning proposals at a strategic level. Work of this kind is standard and subject to clear guidance on best practice.

It is important to make clear the distinction between methods suitable for development management (the focus of this work) which does not require a WebTAG compliant model, and work for major schemes with public investment greater than £5m (where WebTAG is required from Stage 2 onward, including the use of a Variable Demand Model). The latter is of relevance for further work to develop the SELR infrastructure, but the former is more relevant in the context of the Woodlands/Hampden Fields assessment being reviewed within the scope of this note.

Our view is that the base model and general approach adopted is appropriate for assessing the impacts of the developments.

4. 2034 Background Traffic Growth

This section focuses on the forecasts in background traffic growth (i.e. the predicted growth in traffic without the Hampden Fields or Woodlands Developments). The review by TPP queried the levels of background traffic growth assumed between 2014 and 2034, quoting “...high traffic growth (37-40%) to 2034 whether or not the Hampden Fields development proceeds”.

4.1 Use of NTEM and TEMPro

Department for Transport (DfT) guidance contained in WebTAG Unit M4 requires the use of the National Trip End Model (NTEM) (via TEMPro) for the derivation of travel demand growth factors. NTEM forecasts the growth in trip origin-destinations (or productions-attractions) up to 2051 for use in transport modelling and TEMPro is the industry standard tool for estimating traffic growth when assessing the traffic impact of a development on the local highway network. The datasets are long-term forecasts and represent the DfT's best estimate of the long-term response to demographic and economic trends. These forecasts take into account national projections of:

- population;
- employment;
- housing;
- car ownership; and
- trip rates.

The 2034 Aylesbury forecasts were made using an internal Jacobs tool (called JTREND) which is fully compatible with NTEM v.6.2 – the best and most up to date source of information available at the time the modelling was undertaken. JTREND is the Jacobs software implementation of the standard DfT NATCOP (Car ownership model) and CTRIPEND (trip end model). This tool creates trip-ends by purpose/mode/period, and has been used and accepted by Local Authorities and the DfT on several other Jacobs projects across the UK¹. The JTREND inputs (namely the total increase in houses, population, and jobs) were limited to NTEM v6.2 increases (i.e. any committed developments within the Reference Case were netted off from the background increase). This general approach is valid and in line with accepted guidance/usual practice when using a fixed matrix approach to forecasts.

4.2 General Magnitude of Expected Growth Factors

Car driver growth factors within NTEM v6.2 for Aylesbury Vale are approximately 18-25%. Following WebTAG Unit M4 guidance for using a fixed matrix approach (as opposed to a variable demand model), this growth is then subject to future year income and fuel cost adjustment factors. These adjustment factors look to ensure that forecasts reflect the fact that car vehicle kilometres increase proportionately to income per car owning household and to predicted reductions in fuel price (i.e. reduced vehicle operating costs increasing the propensity to travel by car). The required factors are given in the TAG Data Book Table M4.2.1 and supplement the NTEM trip-end growth as per the example in WebTAG M4 Paragraph 7.4.13. This acts to increase the forecast growth to greater than 25%, e.g. by a further 10%.

NTEM does not account for traffic growth in goods vehicles (GVs). Forecast growth for Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs) are therefore typically sourced from the DfT Road Traffic Forecasts. Using this source, LGV growth from 2014 to 2034 would be expected to be around 50-55% and HGV growth approximately 20%. This corresponds to the background GV matrix growth seen in the Aylesbury model.

¹ Studies include:

- Tyne Wear Transport Planning Model (as used to secure for DfT funding for new River Wear Bridge in Sunderland)
- Durham County Model (as used for development of their Local Development Framework and assessment of relief roads)
- Congleton Link Road (a by-pass scheme for East Cheshire County Council)

The resulting overall Aylesbury growth compares well with similar pieces of work undertaken for other local authorities where traffic growth forecasts between base year and the 2030s are found to be >30%. As part of this review, a technical report for similar work undertaken by another Consultancy for another local authority in 2012/13 was found to be readily available on the internet². These projects publish 2031 forecast year “Do Minimum” growth compared to a 2008 base year of 34 to 42% depending on the peak period studied.

4.3 Considerations

Experience has found that the income and fuel adjustment factors may tend to overestimate growth, especially in pure highway (i.e. non-public transport) models, because these models are not designed to reproduce the transfer to public transport and demand re-distribution that can occur in response to increased road congestion. For instance, once projects (in later, more refined stages of their development, e.g. Highways England PCF Process Stage 2 onwards) use a variable demand model the forecast growth and resulting Benefit Cost Ratios (BCRs) do often tend to decrease compared to the initial fixed matrix forecasts. As a result of the methodology used, total traffic on the network in all 2034 forecasts (including the development scenarios) is very unlikely to have been underestimated and therefore can be argued to provide a robust “worst case” for total traffic volumes in the development assessment scenarios compared to the base model.

On 28th July 2016 a new version of TEMPro and NTEM (version 7.0) was published which replaced version 6.2 (after the work that is the subject of this review was undertaken). This version contains revised assumptions and spatial representations and, in general, does downgrade growth forecasts. In principle, analytical work should make use of the latest NTEM data set for forthcoming decisions. However, it is accepted that work is always carried out using the best set of information available at the time and there may be occasions where it would not be proportionate to update all analysis that is based on previous NTEM data sets. For this reason, both new release and previous datasets remain available.

² <http://www.fenland.gov.uk/CHttpHandler.ashx?id=9358&p=0>

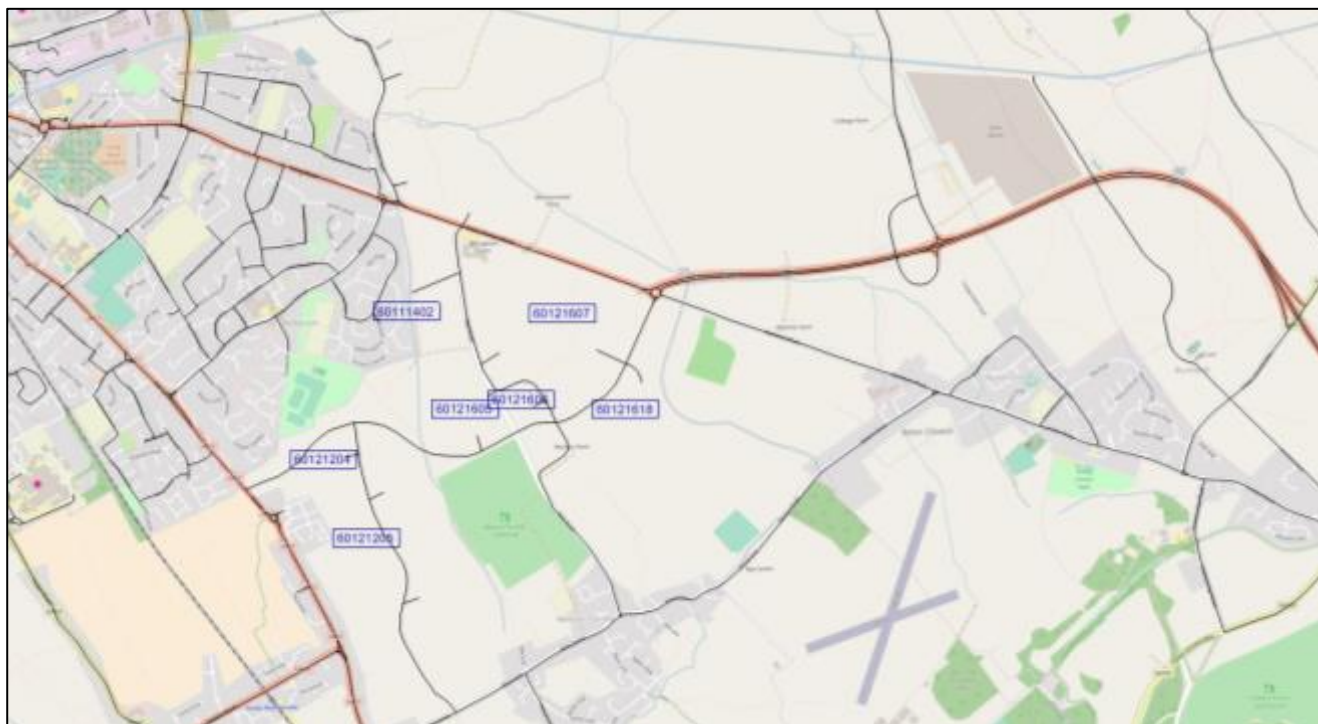
5. Hampden Fields and Woodlands Assessment Scenarios

TPP's review queried discrepancies between initial trip generation estimates and the traffic model results. This was highlighted by comparing trip generation totals for the specific developments with the changes in overall matrix totals.

5.1 Hampden Fields Trip Generation

In the Aylesbury model, six forecast zones are contained within the area representing the proposed Hampden Fields development. These zones contain zero trips within the “no Hampden Fields” scenarios and have been used to study, in detail, the approach to trip generation for Hampden Fields. The same approach has also been used within the modelling for Woodlands. The locations of the Hampden Fields zones are shown in Figure 1:

Figure 1: Hampden Fields Forecast Zones



The agreed trip generation estimates as supplied by the developers, and agreed by Buckinghamshire County Council, result in 2034 AM peak hour Hampden Fields trip generation of:

- **Origin:** 1,222
- **Destination:** 940
- **Total two-way:** 2,162

For this review, the models were interrogated to study the difference in demand matrix volumes for the seven zones shown in Figure 1. For the purposes of the Hampden Fields analysis, the AM without Hampden Fields or Woodlands scenario has been compared to the AM with Hampden Fields (but not Woodlands) scenario in order to study the volume of additional traffic on the local road network as a result of the Hampden Fields development. There are no network changes between these two scenarios (other than Hampden Fields and its Link Road) and neither model contains the Woodlands development or Eastern Link Road.

The total AM origin and destination modelled trips for Hampden Fields are shown in the tables below:

Table 1: Hampden Fields Forecast Zones AM Origin Trips

Zone Number	Zone Name	Total Origin Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121204	HF3	78	7	63	2	1
60121205	-	182	17	147	5	3
60121605	HF5	58	6	36	1	1
60121606	HF4	1	1	14	0	0
60121607	HF6	230	22	144	4	3
60121618	-	8	10	122	0	0
		556	63	528	13	7

Total modelled origin trips: 1,167

Table 2: Hampden Fields Forecast Zones AM Destination Trips

Zone Number	Zone Name	Total Destination Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121204	HF3	8	1	41	3	2
60121205	-	19	2	96	8	5
60121605	HF5	7	1	27	2	1
60121606	HF4	18	3	28	0	0
60121607	HF6	27	3	105	8	5
60121618	-	184	31	295	0	0
		263	42	592	22	13

Total modelled destination trips: 932

The total number of trips generated in the Hampden Fields development specific zones equate broadly to the BCC agreed trip generation and is within an acceptable level of difference within the context of strategic highway assignment modelling.

5.2 Woodlands Trip Generation

The same comparisons have been made for the Woodlands development. Nine forecast zones contain traffic representing the proposed Woodlands development demand. Each zone represents a different type of land use, including housing, employment, primary school and supporting leisure and retail facilities. As with the Hampden Fields approach, these zones contain zero trips within “no Woodlands” scenarios and have been used to study the modelled trip generation for Woodlands.

The agreed trip generation estimates as supplied by the developers, and agreed by Buckinghamshire County Council, result in 2034 AM peak hour Woodlands trip generation of:

- **Origin:** 1,144
- **Destination:** 1,621
- **Total two-way:** 2,765

However, the above figures do not include any allowances for the “internalisation” of some of the trips. It should be noted that the retail and school are provided to meet on-site retail needs with the employments and leisure facilities attracting trips from the wider area. The total increase in travel associated with the development area is expected to be 2,765 trips; however, some of these trips will be within and between the development zones. These agreed “trip internalisation” assumptions are outlined and detailed in a technical note developed by Peter Brett Associates LLP dated 11th November 2015 (“32113 – Aylesbury Woodlands Development Transport Modelling Scoping – Revised Do Something Test – Issue 3”). For example, for the purposes of this assessment, it is assumed that 75% of the Car Driver trips generated by the Primary School are internal trips. Whilst, the school provided on-site is primarily aimed to meet the needs of Aylesbury Woodlands residents, it was considered that assuming 75% internalisation instead of 100% internalisation allows for some education related trips to originate outside Woodlands.

The total AM origin and destination modelled trips for Woodlands are shown in the tables below:

Table 4: Woodlands Forecast Zones AM Origin Trips

Zone Number	Zone Name	Total Origin Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121608	Woodlands 1	147	14	92	3	2
60121610	Woodlands 2	162	16	102	3	2
60121611	Woodlands 3	7	8	91	3	2
60121612	Woodlands 4	2	2	21	1	0
60121613	Woodlands 5	5	6	63	0	0

60121614	Woodlands 6	2	2	25	1	0
60121615	Woodlands 7	7	8	88	0	0
60121616	Woodlands 8	1	2	17	0	0
60121617	Woodlands 9	0	0	1	0	0
		331	58	500	11	6

Total origin trips: 907

Table 5: Woodlands Forecast Zones AM Destination Trips

Zone Number	Zone Name	Total Destination Trips				
		Car Commute	Car Business	Car Other	LGV	HGV
60121608	Woodlands 1	24	4	92	7	4
60121610	Woodlands 2	27	4	104	8	5
60121611	Woodlands 3	68	12	94	3	2
60121612	Woodlands 4	11	2	15	0	0
60121613	Woodlands 5	194	33	266	0	0
60121614	Woodlands 6	22	4	31	0	0
60121615	Woodlands 7	126	21	173	0	0
60121616	Woodlands 8	9	2	13	0	0
60121617	Woodlands 9	2	0	2	0	0
		482	82	789	19	11

Total destination trips: 1,384

The total number of trips generated in the Woodlands development specific zones (once the agreed trip internalisation assumptions outlined above are taken into consideration) equate broadly to the agreed trip

generation and is within an acceptable level of difference within the context of strategic highway assignment modelling.

5.3 Technical Assessment of the Matrix Development Methodology and Overall Demand Matrix Totals

The demand matrices for all future year scenarios were produced using a Furness distribution method applied to the base year matrices constrained to the JTREND trip ends. WebTAG Unit M4 provides guidance on the application of future year growth in this way and explains in paragraph 7.3.15 that *“the Furnessing procedure can be used to adjust a matrix to match row and column totals, by alternately factoring the matrices to match row totals and column totals. Since the procedure only converges when row and column totals each have the same number of trips, the two estimates of the total trips in the matrix (one from the rows, one from the columns) need to be reconciled. This may be done by simply taking the average of the two estimates, and controlling both row and column totals to this total”*.

This approach is frequently used in transport modelling and is compliant with WebTAG as mentioned above, especially for initial assessments in the absence of a full demand model/gravity distribution model. Therefore, the use of this method is consistent with other similar applications for initial assessments.

This approach was used to create the demand matrices for the Hampden Fields and Woodlands Do Something scenarios. The agreed development traffic generation potential was added to the original 2034 forecast year (background growth) trip ends, therefore the development row (trip origin) and column (trip destination) totals match the development trip generation targets. The future year trip matrix was then produced so that its row and column totals match the future trip end targets as closely as possible using Furnessing.

Where the total target trips added to the origins and destinations are not the same (e.g. in the AM peak, for a housing development, there are more trips leaving an area than arriving), the Furness procedure has options for constraining the result to match either the origin targets or the destination targets (singly constrained) or an average of the two (doubly constrained). In the case of the Hampden Fields and Woodlands application, a doubly constrained procedure was used. In order to balance the matrix and match all row and column targets in a mathematically optimal way, the Furness process results in small counter-balancing reductions (i.e. less than 0.1 trips) in other cells in the matrix.

When using a doubly-constrained furnessing process, where the sum of row targets does not match the sum of column targets (as is frequently the case), there are a number of alternative solutions to adjust the targets which may result in a different total number of trips in the model. In some models, the zone productions (representing people's home locations) can be taken as the total and the zone attractions (representing the non-home end of the trip) will be adjusted to match the number of productions. This approach is usually only appropriate in Production/Attraction (PA) based models which require additional matrix manipulation and significant extra model complexity to ensure that the “home” end of the trip is always represented by the “row” in the demand matrices, regardless of the direction of trips. This structure is generally only used for more complex demand models predicting mode and/or destination choice ensuring that outbound and return parts of the journey are undertaken by the same mode. These models tend to also cover much larger areas than the Aylesbury model with less potential for “in-commuting”, hence the reason for placing more confidence in the “home” trip ends.

In models such as the one used for the Hampden Fields and Woodlands application, where the matrix represents the origin and destination of trips with no direct references to home locations, it is more usual to use an average of the two targets assuming an equal level of confidence in the row and column totals. We are of the view that the methodology chosen is the most appropriate in the circumstances (and in line with WebTAG Unit M4 Paragraph 7.3.15 guidance as mentioned above: *“...since the procedure only converges when row and column totals each have the same number of trips, the two estimates of the total trips in the matrix (one from the rows, one from the columns) need to be reconciled. **This may be done by simply taking the average of the two estimates, and controlling both row and column totals to this total**”*).

In a practical sense, the above reflects the fact that, although employment sites and leisure facilities are expected to attract travel from the wider Aylesbury area, these developments are not all expected to increase net trips rates per person, i.e. people are not all expected to make additional trips but instead some will choose

to travel to different destinations (e.g. to a new leisure centre, a different job, dinner out at a different restaurant etc). The increases in Hampden Fields or Woodlands attractions will essentially lead to some reductions in trips to alternative “competing” destinations; a redistribution of some of the existing trips rather than all new trips.

If the matrix development procedure had been implemented in such a way as to constrain over demand totals to origin trips in the AM peak, then it can lead to unrealistic travel patterns across the network. For example, in the AM peak the significant trip production would be trips departing from residential developments; but this would not match the trip rate generation totals for AM destinations and the resulting matrix would contain unrealistic numbers of trips travelling to jobs that do not exist or to other categories of land use destination (e.g. shops). It is for this reason that WebTAG recommends taking the average of the origin and destination trip generation estimates and controlling the resulting demand matrix based on both the row and column totals.

5.4 Conclusions Regarding the Do Something Scenarios

TPP have highlighted an apparent discrepancy between the number of trips reported at different stages of the model, but they do not appear to have considered that a number of trips are internal to development zones and so are not assigned to the network (agreed development internalisation assumptions from the PBA note). This means that the two figures being compared by TPP are not like-for-like. Once the internalisation assumptions have been taken into consideration, it has been demonstrated that the total number of trips generated in the Hampden Fields and Woodlands development specific zones equate broadly to the agreed trip generation and are within acceptable levels of difference.

With regards to apparent discrepancies in overall demand matrix totals, our review has noted that a proportion of some types of trip (including shopping and leisure) will be diverted from other similar destinations elsewhere. Whilst these trips will be included in the trip generation for the sites in question, they will not increase the overall size of the matrix. Furthermore, where the number of production and attraction trip ends differ, there needs to be some form of mathematical balancing which can also lead to apparent decreases (or increases) in the overall number of trips. The methodology used to do this is recommended by WebTAG, the industry-standard guideline for appraising schemes.

As outlined in Section 5.3 and 5.4, the perceived shortfall in trips within the Do Something scenario demand matrices is therefore due to the agreed trip-making assumptions outlined in Section 5.3 and not through any error in the production of the matrices as suggested by TPP.

It is therefore our conclusion that the methodology used to create the development matrices is in line with WebTAG advice for this type of model. We have subsequently concluded that the model forecasts are considered suitable for assessment of the development impacts and for proposing mitigation measures at key junctions.