



Direction of Housing growth at Aylesbury

Supporting Document:
Transport modelling note

October 2008

Testing of the Aylesbury Growth Options – Transport modelling note

1. This note has been prepared by the County Council to provide an update on the transport evidence base to support the growth proposals. Transport modelling is the way in which the County Council, as transport authority, predicts the traffic levels and patterns of movement into the future. The options for growth have been tested using the Aylesbury model including those which AVDC members previously rejected. This note sets out results of modelling to support decisions to be made by AVDC on the preferred option. It is emphasised that these form only one part of the evidence base for such decisions.
2. The options have been tested in a similar way to previous modelling tests. To see the previous notes on these, follow this link: (<http://www.aylesburyvaledc.gov.uk/planning-building/planning-policy/avldf-framework/avldf-evidence-base/transport-evidence/>). One assumption is that new major employment areas are in all cases concentrated in the Aston Clinton Road area. As well as comparing each option with the others, comparisons have been made with current conditions and with a future 'base' situation that shows the town as it might be expected to be by 2013. The 'base' case includes growth already committed in the adopted Local Plan, namely Berryfields, Weedon Hill and Aston Clinton Road Major Development Areas, and the related transport infrastructure.
3. Tests consider the addition of 9300 houses on earmarked agricultural undeveloped sites around Aylesbury by 2026 along with employment, education and community facilities. As well as distributor and link roads, it is assumed that new developments will benefit from good bus services to the town centre, park and ride, and bus priorities on Primary Public Transport Corridors. Distributor link roads are assumed to be part of development areas, although their precise form is not known.
4. The modelling tests have included an assumption that a significant move away from private car use to more greener modes can be achieved by following a complete town-wide 'smarter travel choices' programme. Towns that have piloted this approach of promotion and better public transport infrastructure have shown a reduction in private car trips of between 10 and 12%. It has been assumed that Buckinghamshire County Council can achieve 11% of journeys by greener modes in the future and so this is incorporated into the model.

5. Alongside this Buckinghamshire County Council have also tested the links roads including development with or without relevant parts of the Eastern Link Road.
6. With these assumptions made, the overall congestion anticipated for 2026 is higher than current levels, though the predicted 2026 level is not significantly higher than that predicted for 2013. In 2026 it is indicated that levels of congestion are very similar in the morning peak and during the main part of the day, but during the evening peak period there is more congestion.
7. Generally there are only minor differences between congestion levels for the different options.
Congestion can be considered in 3 ways:
 - Travel time
 - Travel distance
 - Monetary value of time and distance.

	Travel time	Travel distance	Monetary value of time and distance
1 st	Eastern Growth Arc (EGA)	Southern Growth Arc (SGA)	Eastern Growth Arc (EGA)
2 nd	Southern Growth Arc (SGA)	Combined Eastern and Southern Arc (CGA)	Southern Growth Arc (SGA)
3 rd	Combined Eastern and Southern Arc (CGA)	Eastern Growth Arc (EGA)	Combined Eastern and Southern Arc (CGA)

However, the differences between the options were significant but not decisive.

8. If a measure of success is an ability to reduce dependence on car use, then SGA performs better as the new development can be better integrated with the existing town, with good opportunities for walking and cycling routes to link developments to the town.
9. This is reflected in the results for the SGA as they show slightly fewer car trips than the other options. However, against expectations, the impact of these trips on the town in terms of

congestion and environmental impact is not radically less than EGA and in some respects is worse.

10. The results could change as the transport strategy develops and it would therefore not be safe to suggest that EGA is favoured. The results coupled with an understanding of current travel patterns suggests that although EGA and SGA would perform slightly differently, neither would have a clear advantage over the other in all respects.
11. Effects on the local area will clearly depend on location with development in the south having greater impacts south of the town centre whilst development in the east has an impact east of the town. Although the options do change traffic flows across the town the difference it makes should not be regarded as a major factor in the choice of growth option.
12. The model has also provided an estimate of journey times between sites outside Aylesbury and the town centre on main radial routes. This suggests that peak (rush hour) period travel times on A41 Bicester Road will be increased with EGA, especially in the evening peak when journey times from town to Waddesdon could be three times longer than at present (compared to two and a half times for the SGA and CGA). Differences between the options are less pronounced on A413 Buckingham Road and A41 Aston Clinton Road, and on A413 Wendover Road in the morning peak, but for the latter the SGA performs worse than other options in the evening peak. On Oxford Road the EGA performs better in all time periods.
13. Modelling has been carried out without the Eastern Link Road (ELR) where appropriate. Although, in all options there are higher traffic levels on A41 Tring Road, Oakfield Road and parts of A41 Bierton Road with the absence of Eastern Link road, the SGA is affected less by the absence of ELR than other options. However, these impacts are of particular concern since the junction of Tring and Oakfield Roads falls within a designated Air Quality Management Area.
14. In all options, congestion levels are significantly higher without ELR, with journey times increasing by between 9 and 11%. A conventional assessment of journey cost differences would suggest the absence of ELR would cost £15 million a year for SGA and closer to £20 million a year for EGA.

15. Further information on the transport evidence base can be found in the associated transport briefing notes. Detail on the transport strategy for Aylesbury can be found at (<http://www.aylesburyvaledc.gov.uk/planning-building/planning-policy/avldf-framework/avldf-evidence-base/transport-evidence/>).



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