Adur District: Traffic Trends since Shoreham Harbour Base Model Year

Summary:

The transport evidence base for the Adur District Local Plan has been based on the use of the Shoreham Harbour / CTS transport model ("the model"). The model was built from 2007/08 origin to destination data and has a base year of 2008. This is because the transport evidence base study work for the Adur Local Plan and Shoreham harbour JAAP has been ongoing since the highway model was first completed in 2010, whilst alternative spatial strategy options were explored.

The length of this process has now placed the age of the base model as greater than national guidance in WebTAG suggests is recommended or ideal. All transport modelling and forecasting of future trends is inherently uncertain; whilst the greater age of the base model will not necessarily mean that its outputs are not valid, it does increase the level of uncertainty in the forecasts.

To provide guidance on interpretation of the model's outputs and assurance that the forecasts are robust, West Sussex County Council has compared the model forecasts for 2031 with an extension on to 2031 of observed traffic growth trends from 2008 to 2015 at four sites on A27 and A259 where long term observed data was available. The model forecast and the observed trends both agree that growth on A259 is greater than that on A27, whilst the modelled growth is greater than observed at three of the four sites, which should give an assurance of robust forecasts of future conditions. The site with lower modelled growth was located on the A27 east of North Lancing, where forecast flows are likely to have been restrained by the capacity of the A27/A2025 Lancing Manor roundabout.

Traffic Trends since Shoreham Harbour Base Model Year:

The transport evidence base for the Adur District Local Plan has been based on the use of the Shoreham Harbour / CTS transport model ("the model"). The model has a base year of 2008, whilst the origin to destination data used to establish the base trip distribution is derived from roadside interview surveys (RIS) undertaken in 2007 and 2008. The highway model was completed in 2010 and the multi-modal model was made available in 2011. The operation of the multi-modal model was subsequently amended in 2012 to resolve some identified performance issues. Local Plan Transport Evidence Base study work started in 2010 and has proceeded in several stages to date. This is due to amendments and delays to the Local Plan process in addition to and following on from the improvements to the model.

During this time the age of the model base data has increased beyond that specified in the WebTAG guidelines. Resource has not been available to update

the base year model with new origin to destination data to resolve this compliance issue. New origin to destination data in Adur District and surrounding areas has now been obtained by Highways England (RIS in June 2015) and West Sussex County Council (mobile phone based data for October/November 2015), however to update the Shoreham Harbour model would have involved several months further delay to the transport evidence base to re-do already completed analysis at substantial additional cost to the taxpayer. Highways England have been using the June 2015 RIS data to build an updated model of the coastal West Sussex area including Adur District to assess strategic highway improvement proposals for the A27 at Arundel, Worthing and Lancing, but this model is not yet available and is currently expected to be completed by January 2017. Either of these paths to updated modelling of Adur District would have delayed transport evidence base availability significantly beyond existing Local Plan timescales.

This does not mean that the model outputs will now be wrong, but it does mean that - whilst all forecasting is inherently uncertain - there is now an increased range of uncertainty in the forecast background traffic volumes. This does not directly affect the forecast flow changes generated by the proposed Local Plan development, but could affect whether or not the addition of this development traffic is sufficient to cause severe impacts for congestion and delays. To quantify how the model forecasts of background traffic volume may diverge from actual traffic trends and to reduce the extent of uncertainty it is necessary to compare observed traffic growth on the main roads in Adur District, since 2008 with the growth included in the reference case model forecast.

A27 Sussex Pad and Shoreham Bypass

Traffic Growth Comparison	2008 to 2031	Observed Growth + extrapolation	Modelled Growth	Difference, Modelled vs Observed
A27	West of Sussex Pad	16.2%	8.7%	-7.4%
	Shoreham Bypass, west of A270	10.3%	17.0%	6.7%
A259	Brighton Road, Saltings	25.9%	40.7%	14.8%
	Albion Street, Southwick	29.2%	47.9%	18.7%

The comparison was made using observed annual traffic data for the period 2008 to 2015 at four sites on the A27 and A259 and extrapolating the growth trend on a linear basis to the end of Local Plan year 2031. This was then suitable for comparison with the modelled growth on the same roads from the 2008 base year model to the 2031 reference case forecast, which excludes the Local Plan strategic developments. A caveat should be introduced that the observed data figures relate to trends in daily traffic as there was not a consistent record of peak traffic in 2008 for all the sites, whilst the modelled traffic trends relate to the combined AM and PM peak hours, as inter-peak traffic has not been modelled.

The comparison shows that the modelled growth is in excess of the extended observed growth at three of the four sites, the exception being A27 west of Sussex Pad. This site may be constrained in the model by the capacity of the A27/A2025 roundabout at North Lancing. Both the observed trends and the model are agreed that the A259 is and will experience greater levels of growth than the A27 traffic. This may be influenced by the A259 traffic including a greater number of shorter trips which are not forced to route through the most congested junctions.