Future Base Model Demand

Growth Factors

To determine the impact of future year traffic on the network, it was agreed with HCC that the assessment would be conducted for a future horizon year of 2026. Three different methods for estimating traffic flows in 2026 were employed as follows:

- 2026 traffic flows from the Solent Transport Sub Regional Transport Model (SRTM)
- 2015 flows + traffic growth from SRTM
- 2026 flows generated using TEMPRO growth factor

2026 Flows from SRTM

The SRTM, run by the Solent Transport modelling consultants, is a land use strategic model capable of forecasting future land use and demographic changes on transport facilities. In addition, the model has capabilities such as assessing road, public transport and accessibility improvements, and economic, financial and cost-benefit analysis of schemes.

The 2014 Reference Case of the area wide model has been updated with committed major developments, highways and major public transport schemes to project future growth within the area. The flow outputs for reference case 2014 and future year 2026 were provided to Atkins by Systra Ltd. It should be noted that due to the strategic nature of the model, minor junctions such as the Tesco access on Hamble Lane Providence Hill have not been coded within the network.

2015 Flows + Traffic Growth from SRTM

The flows obtained for 2026 from the SRTM model showed that certain turning movements was noted to be lower than the traffic surveys conducted in 2015. The variation in traffic flows could be accounted to changes within the network, changes to traffic patterns due to land use changes, vehicles opting for alternate routes due to congestion within the network, etc. As an alternative, true growth in flows captured in the SRTM model from 2014 to 2026 was added onto the 2015 traffic survey counts and compared against flows from 2026 SRTM.

2026 Flows using TEMPRO Growth Factor

The third method to estimate flows in 2026 has been undertaken using TEMPRO growth factors for Hampshire County. Growth factors for AM and PM peak hours was determined to be similar at 1.166 and 1.175, respectively. This growth factor was then applied to the traffic counts collected in 2015 to forecast future traffic in 2026.

2026 Demand

To establish the Future Base Model, 2026 flows from each of the methods have been compared. In general, flows forecasted by SRTM were noted to be higher when compared to the other two methods. Flows projected using existing counts with added growth from SRTM and TEMPRO growth factors produced similar results. Higher demand at the junction of Providence Hill / Portsmouth Road was predicted using TEMPRO projections when compared to SRTM.

In order to conduct a robust assessment, it was agreed with HCC that flows forecasted by SRTM would be used for future assessment. Where turning movements were noticeably lower than the 2015 turning counts, flows from existing counts with growth from SRTM added have been used. Flows for junctions that have not been coded in the SRTM were extrapolated.

O-D matrix for the study network was obtained from SRTM and LinSig was used to estimate traffic flows for each 15 minute interval for the one hour 45 minute simulation run for both AM and PM peak periods.