# Cotswold Impact Technical Note

## Worcestershire Strategic Transport Model

## 24/04/2025

# Document Control Sheet

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# 1. Introduction

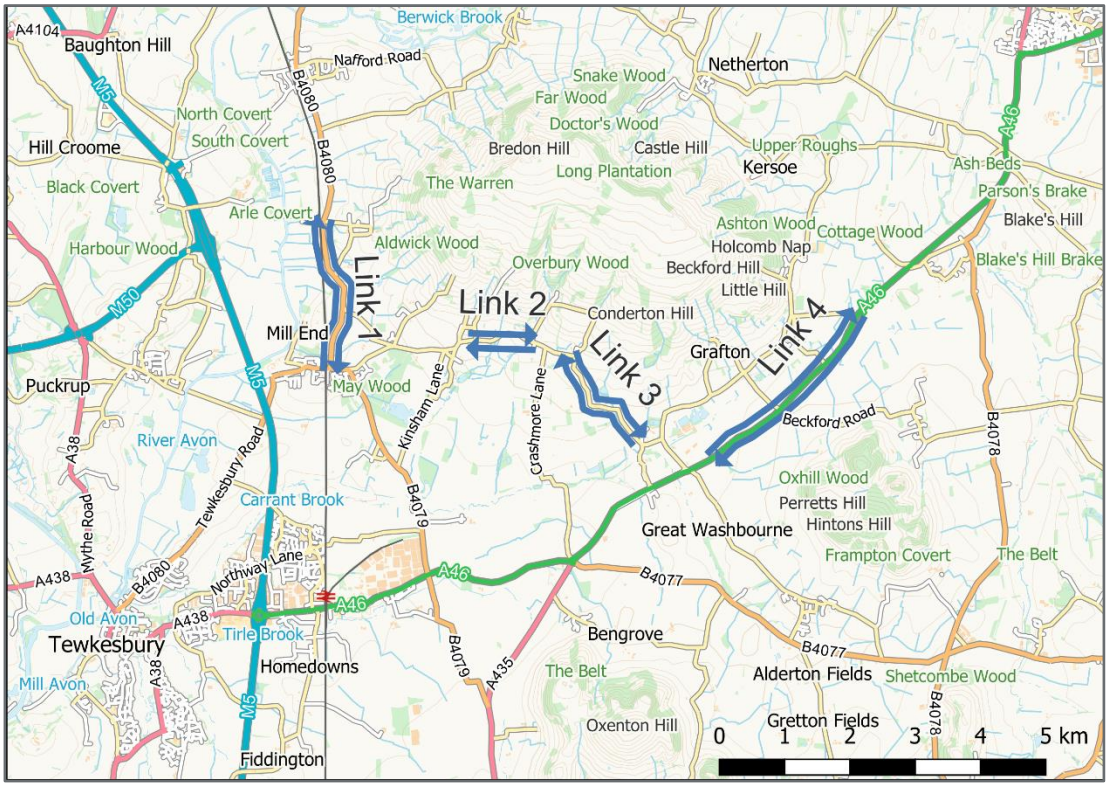
Amey/Sweco have been asked by Worcestershire County Council (WCC) to extract link flow statistics from the SWDPR scenarios of the Worcestershire Strategic Transport Model (WSTM). These link flow statistics have been used to help answer question 162 from the Inspector ("What is the evidence that the proposed development would be designed to avoid or minimise adverse impacts with particular regard to traffic, on the Cotswolds Natural Landscape (AONB)?"). To achieve this, the flows will be used to determine whether the flow change between the Do-Northing (DN) scenario and Do-Minimum (DM) scenarios exceeds the 10% threshold as stated within the Institute of Environmental Management and Assessment (IEMA) guidelines for Environmental Assessment of Traffic and Movement.

# 2. The WSTM

The WSTM has been developed to provide evidence to support the SWDPR with a forecast year of 2041. It is a strategic level model with an area of detailed modelling (AoDM) covering the Worcestershire County and Tewkesbury District. Two WSTM scenarios have been utilised for the analysis presented in this Technical Note. The DN scenario includes background and committed development whilst omitting SWDPR allocations. The DM scenario in addition includes SWDPR allocations including significant developments at Mitton, Worcestershire Parkway, Throckmorton and Rushwick.

# 3. Analysis

Traffic flow was extracted at a directed link level for the AM and PM periods of the DN and DM scenarios. Links of interest were identified and directed flows were summed to give bi-directional flows.



A selection of local traffic counts obtained using ATC methodologies were used to establish factors to convert AM and PM peak hour counts to average annual daily traffic (AADT) counts. From these, the percentage flow change at an annual un-directed link level is established.

# 4. Results

The table below shows the AADT factored flows and percentage impact on the selected links,

| AADT | DN | DM | % Impact |
|---|---|---|---|
| **Link 1 (B4080 – Moreton Ln)** | 3,804 | 3,748 | -1% |
| **Link 2 (Kemerton Rd)** | 1,697 | 1,614 | -5% |
| **Link 3 (Main St)** | 3,006 | 2,997 | 0% |
| **Link 4 (A46)** | 17,906 | 18,208 | 2% |

As can be seen, all links show a percentage difference less than the threshold value of 10% which indicates that there will not be adverse impacts on these links from increased traffic. Links one, three and four show little change whilst link two shows a slight decrease of -5% between DN and DM scenarios. Whilst a negative change in flow between DN and DM may appear unexpected, within the constraints of the strategic level SWDPR modelling, this is a valid response due to a number of reasons.

When the Mitton development was added to the WSTM, a formal representation of its trip distribution was not available, so assumptions were agreed with stakeholders on using the distribution of trips from existing nearby settlements as a suitable proxy. This leads to a trip distribution favouring the large settlements of Worcester and Cheltenham with traffic generally routing via roads to the west such as the A38. The geographical position of Link 1 (the B4080) towards the north-east in the direction of the relatively smaller settlement of Pershore makes this a link of comparatively low importance for trips to or from Mitton. Such a distribution is supported by 2011 census commute to work data which shows less than 1% of Tewksbury car commute trips have a destination in or around Pershore.

It should also be noted that the DM scenario includes all local plan developments within the SWDPR, including large developments at Worcestershire Parkway that make significant network changes to the B4084 with subsequent changes in network routing. As a result, the flow difference is the net result of all SWDPR schemes, and it is non-trivial to extract the component of change related solely to Mitton.

As is regular practice for transport models, the WSTM is an iterative model where convergence is monitored globally. This may lead to minor flow differences at individual links which will be more noticeable in areas of the network which are not influenced by other factors between scenarios such as links one to three.

Finaly, the absolute flow on the selected links (with the exception of link four which covers the A46) is relatively low. Therefore, a small level of re-routing may lead to a larger percentage change. Indeed, link two only sees a decrease of 83 vehicles over an average day. Link four covers the A46 and as a strategic road with high existing flow and expected influence from the package of Local Plan schemes, behaves as expected and shows increased flow in the DM scenario.

# 5. Conclusion

No links are shown to exceed the threshold of a >10% increase in traffic. The flows obtained from the WSTM are considered reliable and the small flow change between DN and DM is in all likelihood the result of the logical trip distribution from the Mitton development having limited impact on those links and re-routing as a result of other SWDPR allocations.