M4 Traffic

Background

JULY 2020
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AADT</td>
<td>Annual Average Daily Traffic - This is the annual volume of traffic divided by 365 days.</td>
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<tr>
<td>MIDAS</td>
<td>Motorway Incident Detection and Automatic Signalling – A network of traffic sensors, owned and maintained by Traffic Wales Traffic Control Centre which provides a continuous record of speeds and flows at specific points on the motorway network. Data can sometimes be patchy or unreliable due to faulty counters, therefore necessitating further checking and cleaning, which has been carried out for the data presented. MIDAS data for 2018 and up to July 2019 has been used to provide estimates of annual flows for 2019. Where MIDAS data is incomplete or unreliable, data has been infilled from adjacent MIDAS loops or estimated based on available data for other time periods.</td>
</tr>
<tr>
<td>O-D</td>
<td>Origin-Destination - A journey from its start location to its end location.</td>
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<tr>
<td>M4CaN transport model forecasts for 2022</td>
<td>M4 Corridor around Newport forecasts representing year 2022 without the formerly proposed New M4 scheme and with Severn Crossing tolls removed. These were selected as the best available representation of trip patterns under current conditions. The forecast traffic model was used in preference to 2014 base model data to take account of any uplift in traffic and potential changes in trip patterns resulting from the removal of the Severn Crossing tolls in December 2018.</td>
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Introduction

This ‘M4 traffic analysis’ presents a collation of traffic data relating to the M4 in South East Wales.

Various data sources have been referenced, including:

- The M4 Corridor around Newport strategic transport model (M4CaN), which was developed based on mobile network data obtained from Vodafone in 2014, for analysis of traffic patterns and average trip lengths
- Motorway Incident Detection and Automatic Signalling Data (MIDAS) from 2018 and 2019 for analysis of traffic flows and speeds

The M4CaN model is described further in Annex B of Summary Background

Where data is not provided for some sections of the M4, this is because the relevant information could not be obtained from the above data sources. For example, traffic flows and speeds are not shown for M4 junction 25 to junction 25a, because no MIDAS data is available at this location. Similarly, the vehicle type proportions are not given for the sections of M4 between junction 25 and junction 25a and between junction 23 and 23a, because manual classified counts were not undertaken at these locations in 2014.
The figure illustrates the 21 sectors used to extract data from the M4CaN model as presented in the O-D Table and Figure.

Source: M4CaN transport model forecasts for 2022
The coloured lines depict sections of the M4 that fall below modern geometric standards outlined in the Design Manual for Roads and Bridges (DMRB). If the line is white it shows the geometry is within standard. Darker colours indicate worse geometry. Each section represents 100m intervals.

Source: Topographical Survey and DMRB
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The numbers shown represent AADT flow on the M4 Corridor around Newport and illustrate where traffic approaches and departs the M4 at each junction.

The data shown represents a typical weekday.

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Hourly Traffic Flow Profile: Variation in average weekday (Monday to Thursday) hourly traffic flows averaged across the whole of 2019. Mondays to Thursdays have been averaged on the basis that hourly traffic flow profiles on these days are very similar.

Source: MIDAS

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Trip Lengths
Analysis of end to end distance of vehicle trips using this section of M4.
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