Dear Sir/Madam

We have lived at the same address in Chipping Norton for the last 39 years, and therefore, have an appreciation of the local traffic conditions. During the last 30 years, we have operated our micro business specialising in the numerical and analytical aspects of the land use – transport interaction.

When we reviewed the "Moorebank Intermodal Precinct West – Stage 3 (SSD 10341), Traffic Assessment", we were somewhat surprised with the expected performances of the intersections on Moorebank Avenue.

Figure 1 shows the particular data set that we examined, but only for the AM peak.

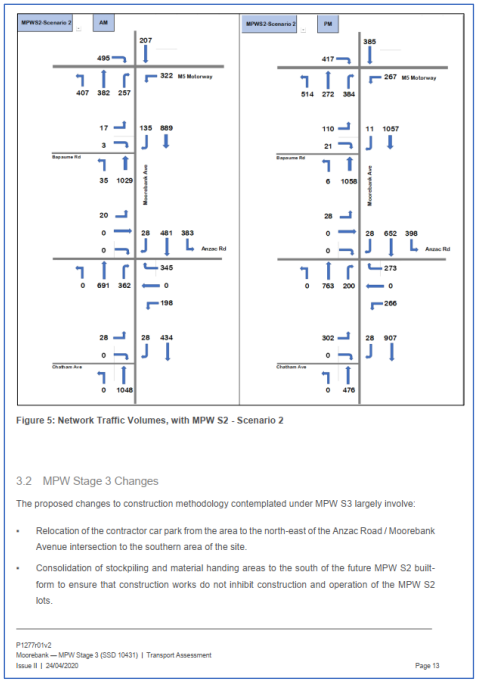

Figure 1 Page 13 from the Traffic Assessment

For now, we focus on the Moorebank Av – M5 intersection as shown in the Traffic Assessment.

For reference we compared these flows to those that were surveyed on 07/12/2010 for the Moorebank Intermodal Company (MICL), Environmental Impact Statement (EIS). For convenience, the page is reproduced in Figure 2.

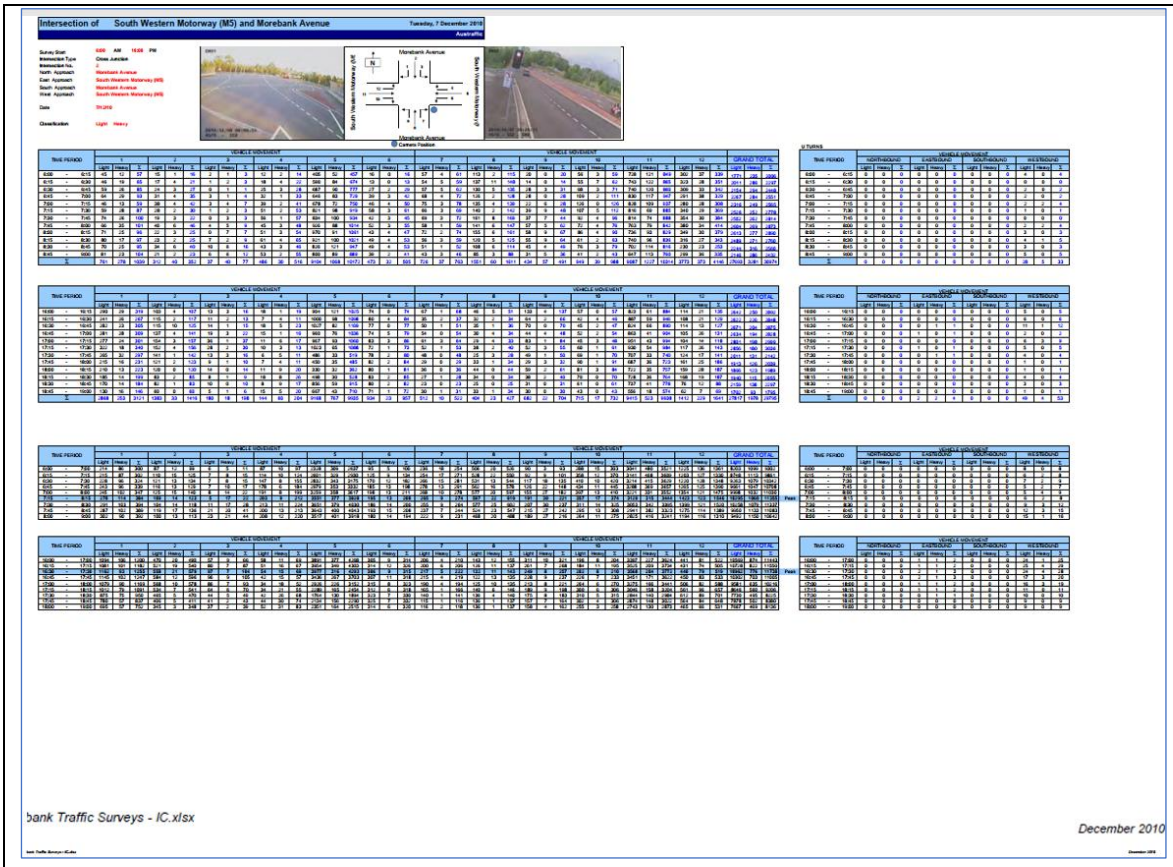

Figure 2 Relevant page from MICL EIS

Figure 3 shows the numbers more clearly, and the page out of the EIS is not so legible. The table shows the AM hourly flows. The header shows the coding system for the numbers in the table.

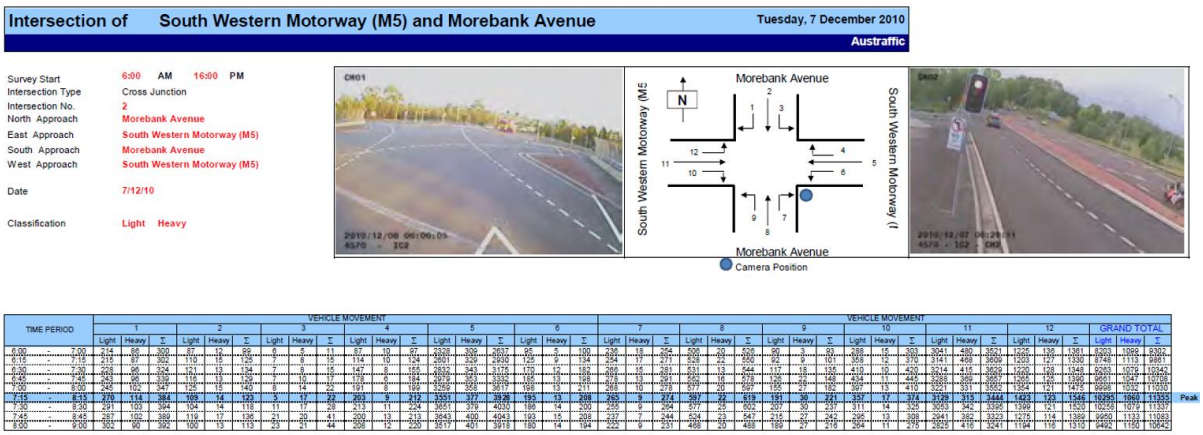

Figure 3 The header showing the numbering system used for the turning movements and the hourly flows

For this submission, Figure 4 compares the ten-year-old surveyed traffic numbers from MICL, EIS with the Traffic Assessment flows. The Traffic Assessment flows includes the construction and "fill" traffic.

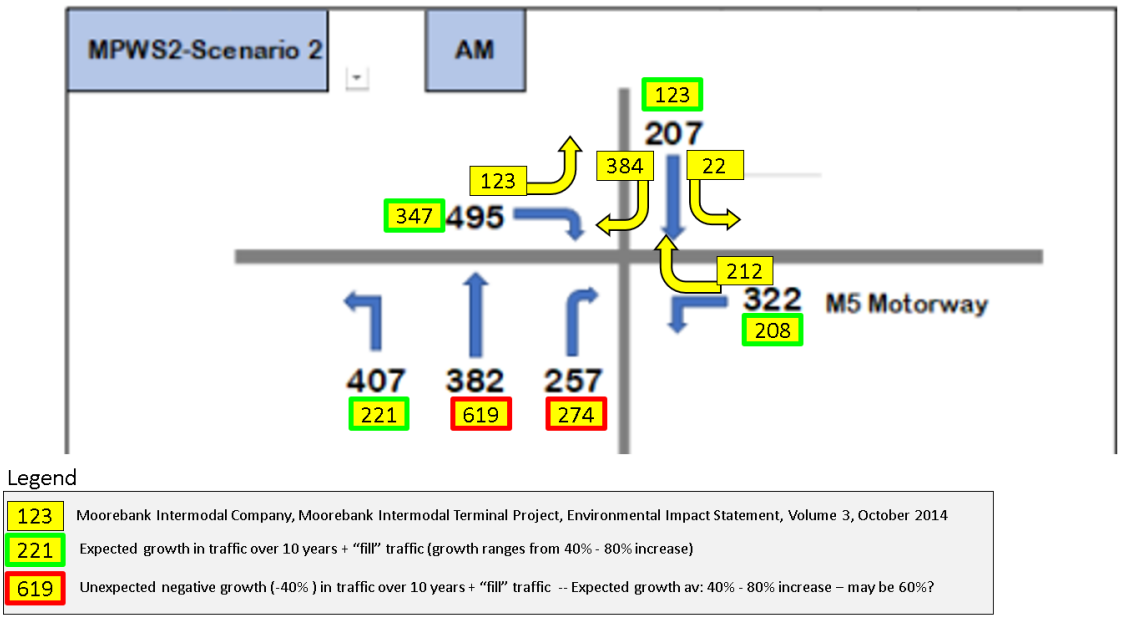

Figure 4 Comparing 10-year-old traffic counts with the expected construction and "fill" traffic

For completeness, all the MICL, EIS flows are shown in yellow boxes, together with the movement arrows. All the yellow boxes show the 10-year-old MICL, EIS numbers.

The yellow boxes with green borders have numbers which are lower numbers than the Traffic Assessment numbers. This is fully expected. There is the 10-year growth in traffic, and the additional construction and "fill" traffic. The growth in traffic varies from 40% to 80%.

The yellow boxes with the red borders have numbers that are higher than the Traffic Assessment numbers.

In the northbound direction, the Traffic Assessment number is 237 vehicles per hour less than the 10-year-old EIS number, and 17 vehicles per hour less for the right-hand-turning movement.

The expected northbound traffic flow represents a **negative growth of 40% over the 10-year old surveyed flows**. Intuitively, the expected number of northbound traffic would consist of two parts: (1) add 40% to bring it to the surveyed flows 10 years ago, then (2) add the expected natural growth as well as the additional construction and "fill" traffic (for the other movements, that ranges from 40% to 80%). Based on this logic, in round figures, the expected northbound traffic should be about double the quoted figure.

From the Traffic Assessment report, it is not immediately obvious why the expected flow is only 40% of the 10-year old surveyed flows.

This reduced traffic is applied to all the intersection flows.

Applying traffic engineering principles

Intuitively, all the traffic that flows out of one intersection, should flow into the next intersection.

If intersections are far apart, it is possible that some traffic "disappears" or "appears" from the surrounding land use. However, on Moorebank Avenue, that is unlikely.

Figure 5 shows the calculation to estimate (1) all traffic travelling southbound, and (2) traffic arriving at the next intersection. In this example, 217 vehicles disappear between two very closely spaced intersections.

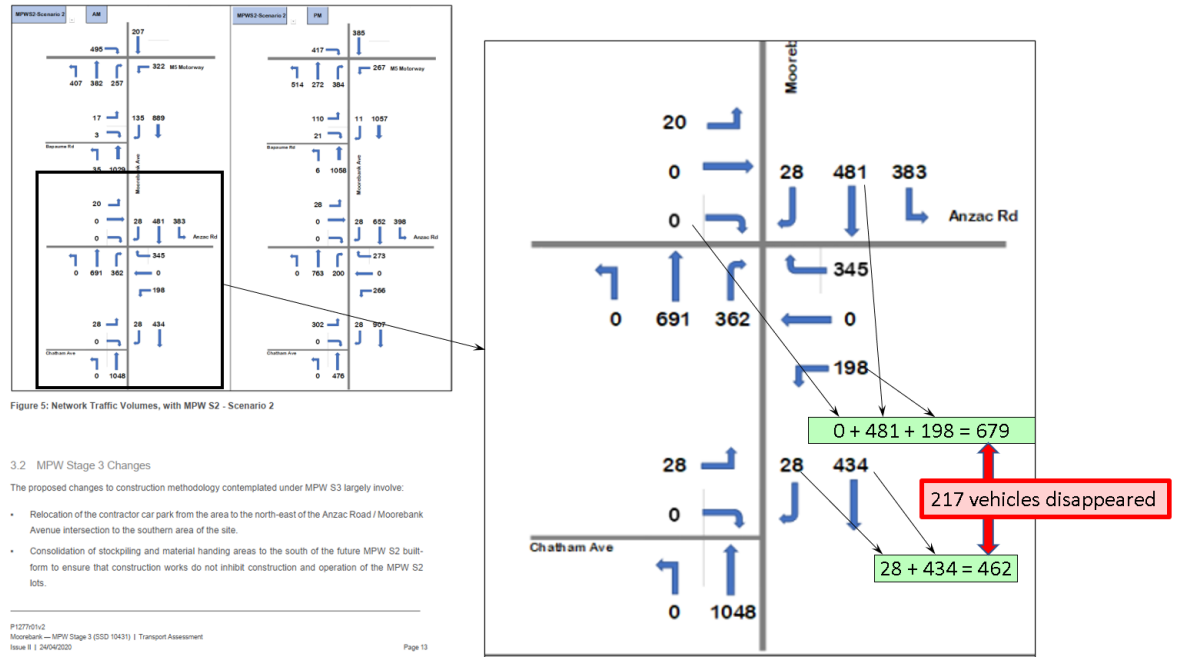

Figure 5 Example of "disappearing" traffic

Conclusion

No explanation is given on the AM northbound traffic being only 40% of the 10-year old surveyed flow, nor the 217 disappearing vehicles. A simple exercise will show several other instances which do not make sense.

Using these negative growth rates and disappearing vehicles, any person can make intersections work miraculously well.

While these may result in desirable outcomes, it is not a true reflection of the real anticipated traffic condition.

We like to urge the Department, to have the modelling work thoroughly and reputably examined before approval is considered as the traffic modelling anomalies divulged, potentially do not support this modification.

Kind regards

Nell and Paul van den Bos