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EXPERT WITNESS REPORT TO THE FRANKSTON BYPASS PANEL SUPPLEMENTARY REPORT



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Expert witness response to evidence

Frankston Bypass Panel Inquiry

9 February 2009

1. My name is Dr Michelle E Zeibots.
2. My residential address is 29 Reuss Street, Leichhardt, NSW, 2040 and my workplace contact phone number is 02 9514 4900.
3. This is a supplementary report to the Frankston Bypass Panel Inquiry, that responds to several points made in evidence to the Panel that have been raised in relation to induced traffic growth. In particular, I respond to points raised by Mr Stephen Pelosi.
4. Mr Pelosi makes two points that I would like to respond to. The first is in relation to his statement explaining that three of the five main sources of induced demand had been incorporated into the modelling for the Frankston Bypass assessment. The second is in relation to data he produced to support his conclusion that not including generated trips was acceptable as these were likely have a minimal impact.
5. In relation to the first point, route reassignment is not considered to be induced demand. Indeed most arguments in the past attempting to refute the existence of induced traffic growth claimed that increases in traffic volumes that could be observed on one part of the network were merely trips being reassigned from other routes, so that no additional VKT were actually being generated. As outlined in my primary report, it is the increase in VKT that is significant.
6. In relation to the second point, Mr Pelosi claims that generated trips — new trips that were previously suppressed — are likely have a minimal impact because per capita trip rates have remained constant from the period between 1970 to 2007 and also because kilometres travelled per vehicle over this period have remained relatively constant.
7. In response, I would like to submit the following data to supplement those provided by Mr Pelosi. These data provide a more complete picture of private mobility parameters for Melbourne over the past four and a half decades. Significantly, these data show that VKT per capita has steadily increased over the period, as has the centreline distance of road per person.

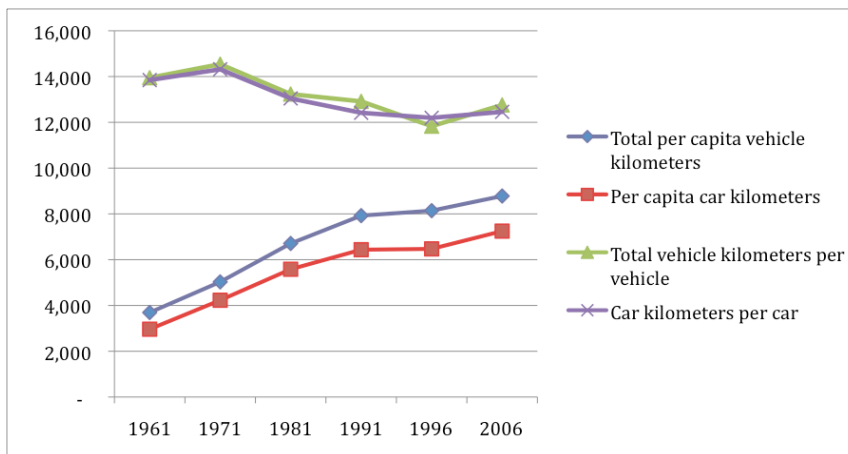
Table 1 Melbourne private mobility parameters (1961–2006)

	1961	1971	1981	1991	1996	2006
Total per capita vehicle kilometers	3,691	5,029	6,708	7,924	8,141	8,781
Per capita car kilometers	2,963	4,228	5,582	6,436	6,471	7,248
Total vehicle kilometers per vehicle	13,948	14,540	13,234	12,915	11,832	12,759
Car kilometers per car	13,846	14,316	13,045	12,417	12,196	12,458
Road space / capita (m)	8.1	6.8	7.9	7.7	-	7.3
Vehicle ownership (vehicles per 1,000 people)	277	346	528	613	-	-

Source: Kenworthy, J. R. and Laube, F. B., 1999, *An international source book of automobile dependence in cities 1960 – 1990*, University Press of Colorado, Boulder. And, Kenworthy, J. R. 2009, *Personal communication*. 18 February.

8. As can be seen in Table 1 and Figure 1, VKT per capita has increased over the period even though kilometres per vehicle have decreased slightly — which was also shown by Mr Pelosi in the data he presented. The reason why VKT per capita has increased, but kilometres travelled per vehicle has remained the same, is because vehicle ownership has increased. People living in Melbourne now own more cars per 1,000 people in the population than they had previously.

Figure 1 Total VKT and car kilometres for Melbourne (1961–2006)



Note: the last two data points in the time series are for time periods that vary in scale with those of the previous four points. If data were available for 2001, it is likely that the general rate of increase would have occurred.

9. Presenting VKT data for vehicles without revealing that vehicle ownership rates have increased, masks important trends in travel behaviour for Melbourne.
10. From the perspective of whether induced demand may have contributed to this, the data also need to be viewed in tandem with an indicator of road space availability. As can be seen in Table 1, road space when measured in terms of centreline road distance has remained relatively constant. Unfortunately, road space data for centreline lane kilometres are not available, however if they were it is reasonable to assume that they would show increases on a per capita

basis over time. This is because roads have been widened over time and new roads built in more recent decades have had high lane capacities.

11. These results are in keeping with the contention that induced traffic growth is occurring and adding significantly to VKT per capita in Melbourne, and by extension, to increases in greenhouse gas (GHG) emissions. These trends point to the significance of generated or induced trips, and the need to incorporate these travel responses into the model for the Frankston Bypass.
12. In relation to trip rates, it is important to ask what might happen if new road space was not being added to the network and how people would respond? It is reasonable to assume that congestion levels would increase so that travel times would become longer and people would respond to this. One of the travel behaviour responses would be to start combining trips in order to reduce travel times and this would result in a reduction of average trip rates over time. Changes to land-use may also occur over time as a result of these changes in the urban system. In general, trip rates of around four per day per capita are typical of cities like Melbourne with relatively high mode-splits to car use. In cities with higher mode-splits to public transport, trip rates are generally lower.