

17 December 2012

SUBMISSION REGARDING THE FOXGROUND & BERRY BYPASS PROJECT APPLICATION

Dear Sir/Madam,

While I agree, with the need for a highway bypass of Berry, I do not agree with the project in its current form as set out in the Princes Highway Upgrade Foxground and Berry Bypass Environmental Assessment. My main issues can be summarised by the following interrelated points:

1. The socio-economic study contained in the report has no economic modelling of the social costs/benefits. This lack of modelling acts to skew the cost/benefit analysis in a way that is likely to be detrimental to the community.
2. Of all the options considered, the preferred route is the one with the largest social and environmental impact on the town. This is evidenced by the fact that the preferred alignment
 - Cuts the town in half
 - Cuts the town off from the surrounding rural and natural landscapes
 - Imposes an ongoing (ie post construction) impact on the largest number of people (compared to other options)
3. Given the current corridor alignment, the lack of proper economic modelling has resulted in sub-optimal project design outcomes that will have a large social and environmental impact on the township of Berry.

There are well-established methods of accounting for intangible impacts of highway development in the literature. For example, Piantanakulchai, M (2005)¹, Azis, I. J. (1990)², Geurs, Boon & Van Wee (2009)³, Surahyo & El-Diraby (2009)⁴ all discuss potential modelling techniques.

¹ Piantanakulchai, M. (2005). "Analytic network process model for highway corridor planning". Proceedings ISAHP, Honolulu, July 8-10, 2005.

² Azis, I.J. (1990), "Analytic Hierarchy Process in the benefit-cost framework: A post-evaluation of the Trans-Sumatra highway project", *European Journal of Operational Research*, Vol 48: 38-48.

³ Geurs K. T., Boon, W. and Van Wee, B. (2009) "Social impacts of transport: Literature review and the state of the practice of transport appraisal in the Netherlands and the United Kingdom". *Transport Reviews*. Vol. 29/1: 69-90.

⁴ Surahyo, M. and El-Diraby, T. E. (2009) "Schema for Interoperable Representation of Environmental and Social Costs in Highway Construction". *Journal of Construction Engineering and Management*. Vol 135: 254-266

Hundloe *et al.* states that in order to fully comprehend the net effects of a project it is “essential that all significant impacts be ultimately measured in terms of changes in utility and disutility”⁵. Nickel *et al.* (2009) (and others) provide an informative review of the shortcomings of cost benefit analysis of the type practiced by the RMS on the Berry Bypass project.

A lack of proper economic analysis in the consideration of social impacts is evident at both the initial route selection stage, as well as in much of the analysis to “improve” the current alignment through the community consultation process. It is clear that the RMS submission does not objectively measure all utility and disutility functions in the cost-benefit analysis. In fact, the report highlights a methodological limitation that systematically undervalues intangible public goods (such as amenity). These shortcomings are evidenced through (but not limited to) the following examples.

The RMS's stated objectives for the Berry bypass include the following:

- “Objective 1 – Provide a flowing highway alignment that is responsive and integrated with the natural landscape...
- Preserve cultural patterns in the landscape...
- Avoid significant features of the areas through which the alignment passes as much as possible.”

And

- “Objective 4 – Respect the communities and towns along the highway...
- Minimise the impact of the project on the amenity of Berry residents...
- Minimise the disruption and loss of amenity to rural communities in the study area.”

Excerpt From: Unknown. “RMS 12 457 EA Report 1 Volume 1.”

The proposed alignment clearly does not achieve these objectives. The current alignment does not preserve cultural patterns or avoid significant features in the landscape (namely Berry township). In addition, the current design clearly does not respect the communities and towns along the highway, as it does not minimise the impact on the amenity of Berry residents and rural communities. This major oversight can be attributed to serious flaws in the economic analysis of the project.

⁵ Hundloe, T., McDonald, G.T., Were, J. and Wilks, L. (1990) “Cost-benefit analysis and environmental impact assessment.” *Environmental Impact Assessment Review*. Vol 10/1-2: 55-68.

Firstly, the Berry township would be considered, on any sensible estimation, a "significant feature" in the landscape. Far from avoiding Berry, the proposed alignment will split the town in two leading one to contemplate how this could have happened.

In deciding on the preferred route, the RMS states that the route that skirts and then splits the town provides the best cost-benefit outcome. However, this assertion is not backed up by proper economic analysis. In particular, the cost benefit analysis provided by the RMS is entirely weighted towards easy-to-calculate construction costs but totally fails to do any substantive economic modelling of the other, potentially large multi-period, intrinsic values. A full analysis of the socio-environmental costs to the town would significantly alter the cost-benefit calculations of the various route options.

However, assuming that that the current preferred alignment cannot be changed, it can still be shown that a lack of proper modelling has resulted in numerous design decisions that are likely to have a large negative impact on the community. Given that the RMSs preferred route is the one that is likely to have the greatest socio-environmental impact on Berry, it has an obligation to do everything possible to reduce any impact on the entire community to a level comparable with the impact that would have been created had other, less intrusive routes further from town, been adopted.

The current proposal does not meet this basic standard due to an overreliance on the management of adverse impacts, rather than through mitigation by road design. That is, instead of utilising a road design solution that would minimise impacts on the entire community, the RMS has opted to use sub-optimal design aspects in conjunction with narrowly focussed management practices to reduce impacts only on a select number of the most affected residents.

In many cases, reduced impact through design mitigation was ruled out in preference of management options due to cost. This was done without ever fully calculating the economic costs of either option and through making unsubstantiated assumptions that favour mitigation over designed solutions. In effect, the RMS study gives 100% economic weight to the short term construction costs and a zero weighting to the long-term socio-environmental costs of the proposed alignment. The result is mitigation measures that are likely to be sub-optimal if social costs were subject to a full economic analysis. This is in contrast to the project objectives.

For example, the RMS submission clearly identifies the high value that the community puts on the rural environment and the town's connection to that environment and to the escarpment:

“[The] local community has indicated that it values the high quality and intrinsic beauty of the surrounding rural environment and considers it an economic asset, as it is a draw for tourists as well as being productive agricultural land”

However, the study makes no attempt to quantify this social benefit. Given that the proposed alignment clearly cuts this connection. Even placing a relatively low net present value of \$1000 per resident and \$500 per tourist of this amenity, soon puts the economic value of the link to the environment into many millions of dollars. This would likely outweigh the additional construction/maintenance costs associated with impact abatement measures incorporated in the road design. However, without appropriate modelling it is impossible to tell.

In another example, the study notes that the connection with Berry and "west Berry" is an important social impact:

"Existing physical connections and linkages between the different parts of Berry are instrumental in shaping current community cohesion. Existing paths of travel by vehicle, bicycle and on foot are seen as critical to maintaining this current community cohesion. This also contributes to the community character of the town."

Excerpt From: STRICKERJ. "RMS 12 457J EA Report 15 Appendix M."

Again, while the study states the importance of this link, no economic modelling has been done to attribute a value to this connection.

I note that the study makes the following comment in relation to the bypass of Karuah:

"...there was an improvement to Karuah's amenity, quality of life and safety. There was also a feeling that the bypass had indirectly assisted in forging community cohesion, by removing the barrier that had previously split the town in half. In the medium term,"

Excerpt From: STRICKERJ. "RMS 12 457J EA Report 15 Appendix M."

While the realigned highway will remove a large majority of traffic from the main street, thus improving connectivity on both sides of Queen St, I would contend that the current width, the 50km/h speed limit and suburban nature of Queen St provides a much greater cohesion than the proposed 500m plus break between "east" and "west" Berry under the proposed alignment. Again, since the value of the connection between east and west berry, or between either side of Queen St has not been calculated, the true net cost-benefits to the town is unknown.

Since no economic value has been placed on these, and many other social impacts, no economic cost has been attributed to their degradation due to the proposed highway route. As a result the RMS grossly underestimates

the costs of the project and thus overestimates the economic benefits of the current route.

It is obvious that the RMS has not conducted proper economic analysis through its use of statements such as the following:

“Impacts to 29 dwellings concentrated along the western section of North Street are expected to include increased noise levels and visual impacts of the new alignment, and interrupted views to the escarpment from noise mitigation structures. Community consultation would continue around the design of noise mitigation measures.”

Excerpt From: STRICKERJ. “RMS 12 457J EA Report 15 Appendix M.”

The connection of the town to its surrounding environment is clearly a public good (ie the property) of the town as a whole, and not just the 29 households along North St. Any analysis of effects should include more than just those most affected. Unconsidered remarks such as the above serve to mislead the reader in downplaying the full social impact of placing the road through the town. It also clearly shows a lack of consideration of the full economic costs of the proposed alignment.

Given that the RMS has chosen the current route based on economic grounds, it should also undertake proper economic modelling of the social cost of the project. As detailed above, the economic study undertaken in their current submission is, at best, a catalogue of some easily identifiable factors without any rigorous economic evaluation of the *full* social and environmental impacts.

If the RMS is to use a road corridor that, through its location next to and through the town, would have the greatest socio-environmental impact on the town (compared to other route options) then it is surely incumbent on them to provide a solution that does more than merely satisfies minimum standards based on flawed economic analysis.

While the RMS has made some progress in reducing the social impact of the road, it has not nearly gone far enough to properly ameliorate the impact it is imposing on Berry. Given that many proposed improvements to the current alignment were rejected on cost grounds without any modelling of the socio-environmental and full economic costs, the RMS should be instructed to conduct full and proper modelling. That reassessment should include (but not be limited to) the following improvements that were disregarded by the RMS:

- Further reduction in the road height along the entire length of North St to maximise the visual link to the escarpment, and minimise the impact of the highway on that link

- Further improvement to noise abatement measures (eg higher wall in conjunction with a lower alignment) to minimise noise impacts on residents and users of then North St precinct.
- Maintain current grades off the ridge to ensure minimum deceleration noise
- Move the road further away from town to reduce visual and noise impacts.

I am confident that proper modelling of these and other issues with high social and environmental impacts will result in outcomes that significantly reduce the impact of the highway on the township of Berry and of all its residents.

Thank you for your consideration of this submission. I hope that the points made here will make a positive contribution to the RMSs management of this and future projects.