Appendix C – Operational Traffic Assessment of the Proposed Modifications

MASSON | WILSON | TWINEY
TRAFFIC AND TRANSPORT CONSULTANTS

20/809 Pacific Highway Chatswood NSW 2067 • (t) 02 9410 4100 • (f) 02 9410 4199
chris.wilson@mwttraffic.com.au • www.mwttraffic.com.au

memorandum

To:	Company:
Garry Humphrey	General Manager Motorways Construction RTA

From: Chris Wilson

Pages: 3

Job No:

Date: 23 Nov 06

Subject: **LCT – Transition Option 6**

Background

Masson Wilson Twiney (MWT) has previously examined the five Transition Options being considered by the Lane Cove Tunnel Integration Group in a report entitled "Lane Cove Tunnel Surface Transition Options," dated 22 September 2006 (the MWT Options Report).

The key findings and conclusions of the MWT Options Report were as follows:

- Based on Eastern Distributor experience (a comparable project) and detailed traffic modelling, Lane Cove Tunnel patronage is expected to 'ramp-up' strongly in the first six months with full ramp up toward forecast patronage tapering out over approximately two years;
- Traffic modelling predicts significant congestion levels at all major intersections along Epping Road Lane Cove during the ramp-up period in the morning and evening peak periods if surface traffic arrangements are not transitioned;
- This congestion supports the need for the staging of the implementation of surface traffic changes. However, if the approved surface traffic arrangements are not implemented in the longer term, induced traffic may result;
- Any one of the five Transition Options examined would provide relief during ramp-up with Options 3, 4, and 5 achieving a more acceptable level of service for motorists along Epping Road;
- Implementation of a Transition Option is essential to minimise impacts on road based public transport during the ramp-up period; and
- Traffic conditions are expected to be satisfactory for both the Tunnel and Epping Road after full ramp-up is achieved.

MWT has been advised that, considering the findings of the MWT Options Report and other aspects, the Lane Cove Tunnel Integration Group selected Transition Option 5 as the preferred transition strategy for further investigation.

The assessment of the traffic implications of Transition Option 5 included in Section 3.4 of the MWT Options Report assumed a 10 December Tunnel opening date. The MWT Options Report noted that if the Tunnel is opened later than 10 December 2006, the first phase of the transition strategy which forms Option 5 would be shortened, reducing its effectiveness in assisting traffic flow during this early period of ramp up. The MWT Options Report included a sensitivity analysis of the effects if the tunnel is opened in January 2007 instead of December 2006. This analysis showed a delay in the Tunnel opening increases the gap between demand and available capacity on Epping Road due to the shortening of the first phase of the Transition Option 5 strategy.

Additional Investigations

MWT has been advised that Connector Motorways considers that, based on current estimates, completion may occur in mid to late January 2007. MWT has also been advised that the RTA is currently considering another transition strategy given Connector Motorways current estimates. This option, termed Transition Option 6 involves the adoption of the same transition strategy as Transition Option 5, but with a fixed 11 month period of transition rather than allowing the first phase to shorten with the Tunnel opening being delayed beyond 10 December 2006.

Given that the traffic assessment documented in the MWT Options Report assumed a 10 December 2006 opening date in assessing Transition Option 5, the conclusion regarding Transition Option 5 would also apply to Transition Option 6 as both have a timeframe of 11 months. With regard to the sensitivity analysis included in the MWT Options Report, it should be noted that the traffic benefits of Transition Option 5 reduce if the Tunnel opening date is later than 10 December 2006. A delay beyond January may increase the imbalance between capacity and demand to the point that the benefits of the transition strategy may be lost. On this basis, from a traffic management perspective, Option 6 is therefore preferred over Transition Option 5 given the certainty in implementation and associated benefits that it would provide.

Transition Option 6

To reiterate the findings of the analysis, without a transition strategy, the gap between demand and capacity on Epping Road between Centennial Avenue and Longueville Road is expected to exceed 500 vehicles per hour for more than six months. This demand is effectively reflected in queues at the various intersections along Epping Road. Transition Option 6 shows, at worst, a 400 vehicles per hour capacity deficiency on changing of stages. However this settles quite quickly to less than 200 vehicles per hour within 1 to 2 months. Overall, some queuing would still be observed when implementing the second phase of Transition Option 6; however these queues are not seen to be significant.

Tt is expected that Transition Option 6 would have limited impact on bus operations, assuming the T3 lanes are fully enforced by the Police. Lack of enforcement would result in illegal usage of the lane which may result in high levels of traffic that would impede the priority intended for high occupancy vehicles and buses.

Conclusions

Given the scale of the Lane Cove Tunnel Project, significant traffic congestion is likely at the time of opening and during the ramp up period as traffic patterns adjust to make use of the new facility. Implementing all works on Epping Road at opening would further exacerbate these problems. Queues

would extend along Epping Road restricting access to the Lane Cove Tunnel and side roads. This congestion supports the need for Transition Option 6. In the longer term if additional capacity was provided, it may promote induced traffic.

Transition Option 6 seeks to match the reduction in capacity to the expected demands would assist in alleviating some of this congestion and allow for a seamless integration of the LCT.

Transition Option 6 would minimise congestion along Epping Road that would be expected during the ramp-up period. While the periods immediately following the implementation of surface road changes associated with the transition stages would be marked by moderate peaks in congestion, it should be noted that this would settle markedly within 1 to 2 months.

It is anticipated that bus services would be significantly affected if full implementation of the Epping Road works was undertaken immediately after Tunnel opening. A transition strategy would seek to ensure effective implementation of priority measures whereby buses gain access to priority lanes without being caught up in general traffic congestion. Implementation of Transition Option 6 is essential to minimise impacts on the road based public transport services during the Project ramp up period.

Post ramp up analysis shows that traffic conditions would operate satisfactorily for both the Tunnel and Epping Road.