North East Link Panel Hearing

Peter Dunn
Expert Evidence Presentation
Strategic Transport and Traffic Modelling
Overview of presentation

- Approach
- Further considerations
- My findings
- My recommendations
Approach

• Reviewed relevant chapters of the EES, TTIA
• Drew upon Mr Willumsen’s peer review
• Familiarised myself with the site.
• Reviewed:
  - strategic context
  - project assessment framework
  - traffic and transport assessment
  - strategic modelling results.
• Focussed on key issues I consider not to be addressed satisfactorily in the EES
• I note various limitations in my report including no provision of toll levels for NEL or traffic information on EastLink.
Further considerations

Following the submission of my report, I participated in the strategic modelling conclave and during which I gained a better understanding of the strategic modelling approach. The conclave was constrained to technical matters associated with strategic transport modelling undertaken by Mr Veitch and not strategic transport planning matters. *My concerns relate to both strategic and technical matters.* On the next slide I identify 6 key findings – the conclave only dealt with one of those.

- The conclave did not change my overall view of the strategic model and its potential impact on the outcomes of the EES
- The separation of strategic modelling and traffic and transport tasks heightens my concern that policy is not informing the modelling. (modelling is driving outcomes rather than policy)
Key findings

• NEL has been developed in isolation from other significant metropolitan planning initiatives

• The process to develop a preferred solution is flawed leading to adverse outcomes

• There is a high degree of uncertainty in the traffic forecasts for 2036

• Traffic forecasts on the project are likely high in 2036

• The project is likely to be overdesigned for 2036 and a less impactful project could have been developed

• The project will have a significant impact on some local centres.
NEL is a significant road project with metropolitan wide impacts that has been developed in isolation

- Doesn’t fully consider the needs of places and the community
- Is not consistent with principles and objectives laid out in the Transport Integration Act or Victorian Infrastructure Plan
- Doesn’t demonstrate it is maximising the use of existing assets or optimising the public transport network
- Doesn’t meaningfully consider a range of transport and policy measures
- Doesn’t explore the opportunity to reprioritise the road network for users other than private vehicles
The process used to develop a preferred solution is flawed

- Project appears to have been altered beyond its original objectives
- It has become a NEL and Eastern Freeway project
- Project was intended to primarily address freight and orbital trips
- Whereas DART and Eastern Freeway widening east of NEL serve primarily radial trips
- Adds traffic capacity to the Eastern Freeway toward the city contrary to principles to prioritise public transport to the inner city. The EES forecasts 25% NEL traffic toward city and DART appears to reduce rail patronage on the Hurstbridge line.
- Should have a longer term planning horizon considering a range of initiatives to meet identified problems and objectives
- Lacks consideration of place and communities to develop solutions

Figure 2: Travel time analysis on key routes
Source: Traffic and Transport Impact Assessment. Figure 9.88, p. 587

Key Transport Issues in Melbourne’s North East (GTA Chapter 2)
- Poor orbital connectivity
- Inefficient freight movement
- Congestion and heavy vehicles on neighbourhood roads.
There is a high degree of uncertainty in the traffic forecasts for 2036

Validation concerns

• Poor correlation of traffic and travel times on some key routes in the study area in 2017 and a lack of travel time data
• Model over-estimates volumes of cars and trucks in 2017
• Model over-estimates congestion on arterial road network in 2017

Forecasting concerns

• High estimates of vehicle kilometres travelled in future years
• Limitations associated with intersection modelling in Zenith would impact micro-simulation modelling undertaken to inform design
• Model could overestimate trucks that will use the toll road. The model assumes all trucks with a 6 min travel time saving will use NEL
Strategic concerns:

• Concerned about *inputs and assumptions* – both the base case and project case – I would have expected NEL to be assessed with more significant Public Transport and Travel Demand Management measures.

• Concerned about use of the strategic model forecasts in the EES. In particular the one-way *interface* between the strategic model and micro-simulation model (high level of uncertainty in both existing and forecast years along the NEL corridor is transferred from Zenith to the Microsimulation model).

• Uncertainty is acknowledged by NELP experts, but there is no evidence that it has been considered to inform EES outcomes.

• Whilst sensitivity tests of a limited nature were undertaken – there is no evidence they have influenced the design or EES.

• The sensitivity tests, where they relate to other transport projects, would not truly represent a combination of NEL with other projects. I understand that these tests did not optimise the network for public transport, by providing supporting public transport measures.

There is a high degree of uncertainty in the traffic forecasts for 2036
There is a high degree of uncertainty in the traffic forecasts for 2036

- Haven’t outlined a future vision for the region and developed a network strategy
- The strategic model appears to be tuned to accept growth in car travel as an assumption.
- A combination of model and how its been used leads to over-forecasting of car based travel in the corridor
There is a high degree of uncertainty in the traffic forecasts for 2036

- The conclave modelling experts agree all strategic models have an inherent level of uncertainty
- There is no evidence this uncertainty has been meaningfully considered in option development
- Overall the strategic model exhibits a high level of uncertainty and is biased toward forecasting higher than expected car travel based on inputs, assumptions and technical approach.
- In my opinion this uncertainty and the way the model has been used is likely to materially effect the EES outcome.
Traffic forecasts on NEL are likely high for 2036:

- **Complementary Public Transport, TDM**: For example SRL and on-road public transport priority, travel demand measures and other policies have not been considered which would reduce NEL traffic forecasts in 2036.

- **Ability of the supporting road network to deliver traffic to NEL**: The strategic model, which doesn’t include intersections, overestimates the traffic that can travel on roads during peak periods.

- **Tendency for model of overpredict**: As per my discussion on uncertainty, the model is biased toward forecasting higher than expected traffic growth.
NEL is likely to be overdesigned for 2036

- In addition to the traffic forecasts being higher than expected:
  - Eastern Freeway is mostly assessed to operate at the posted speed limit during the peak period in 2036
  - Arterial road capacity constraints in multiple locations are not accounted for indicating that traffic will not be able to access NEL in the peak period

Reference: EES TTIA
NEL is likely to be overdesigned for 2036

Benchmarking NEL

- potentially the Eastern Freeway between Bulleen Road and Doncaster Road would carry the highest daily traffic volumes in Australia based on these forecasts.
NEL will have a significant impact on local centres

- Many arterial and local roads are expected to experience high traffic volumes (including trucks)
- These impacts have not meaningfully been considered in the transport sections of the report.

<table>
<thead>
<tr>
<th>Road</th>
<th>Change</th>
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<tbody>
<tr>
<td>Grimshaw St Watsonia Rd to Greensborough Hwy Eastbound</td>
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<td>Chapman St Ellesmere Pde to Thomson Dr Eastbound</td>
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<td>Erskine Rd Ferguson St to Argyle St Eastbound</td>
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<td>Elgar Rd Belmore Rd to Eastern Fwy Dr Eastbound</td>
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<td>Thompsons Rd North-east of Eastern Fwy Eastbound</td>
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<td>Greenwood Dr Gresswell Park Dr to Ladd St Eastbound</td>
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<td>Springvale Rd Whitehorse Rd to Eastern Fwy Northbound</td>
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<tr>
<td>Springvale Rd North of Eastlink Northbound</td>
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<td>Diamond Creek Rd Civic Drive to Yan Yean Rd Westbound</td>
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<td>Watsonia Rd Greensborough Rd to rail line Southbound</td>
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<td>McDonalds Rd West of Pindari Ave Eastbound</td>
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<tr>
<td>Settlement Rd Dalton Rd to High St Westbound</td>
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Forecast Morning Peak Traffic Volume Differences based on TTIA Appendix D
NEL will have a significant impact on local centres

The increased traffic volumes would impact on the amenity of local areas including:

- Watsonia
- Macleod
- Box Hill
- Blackburn
- Nunawading

These impacts should have been considered in a movement and place analysis

Source: EES TTIA
NEL will have a significant impact on local centres

Walking and Cycling

• No operational assessment for pedestrians and cyclists
• Little enhancement to prioritise cycling along the Eastern Freeway corridor
• Project would provide more barriers to cycling
• Reduced amenity for cyclists along and across the Eastern Freeway.
• No physical improvements are provided for cyclists on sections of the road network between the M80 and the Eastern Freeway.

Reference: EES Mapbook: Vertical alignment plans and indicative cross sections
Recommendations

- **Reassess the project’s alignment with the Transport Integration Act**, and relevant State and Local Government policies. This should include a review the project assessment framework, in light of this, to confirm the project is best responding the strategic needs and objectives.

- **An integrated transport study** should be undertaken to develop and assess a range of transport initiatives to meet a longer-term vision. This should include understanding how NEL interacts with other major transport initiatives such as the Suburban Rail Loop and upgrades to the on-road public transport network, travel demand management measures such as road pricing and parking restraint and consideration of future technologies.

- **A revised range of traffic forecasts for North East Link** should be developed and assess alternative designs in light of overall strategic objectives locally and regionally. I recommend the application of movement and place principles to consider all road users across the road network.

- **A detailed study of local road impacts** should be undertaken to develop mitigating measures that control speeds, enhance amenity and minimise through traffic volumes through local areas.

- Given the potentially significant impact of the project on local areas, **a full assessment and mitigation of level of service impacts for people walking and cycling** should be undertaken. The objective should be for no loss of amenity for walking and cycling along the corridor and in impacted local areas.
Thank you