

**FACT SHEET**

# NORTH EAST LINK

## MODELLING A MAJOR TRANSPORT PROJECT

**Strategic models look at:**

<b>Trip generation</b>	How many trips? What is the purpose of each trip?
<b>Destination choice</b>	Where will these trips go?
<b>Mode choice</b>	What type of transport vehicle does each trip use?
<b>Trip assignment</b>	What route will each trip take?
<b>Base year</b>	Replicates conditions in the recent past using travel surveys and observed travel data
<b>Future years</b>	<ul style="list-style-type: none"> <li>• No project case: a future that doesn't include the proposed project</li> <li>• Project case: a model that does include the proposed project</li> </ul>

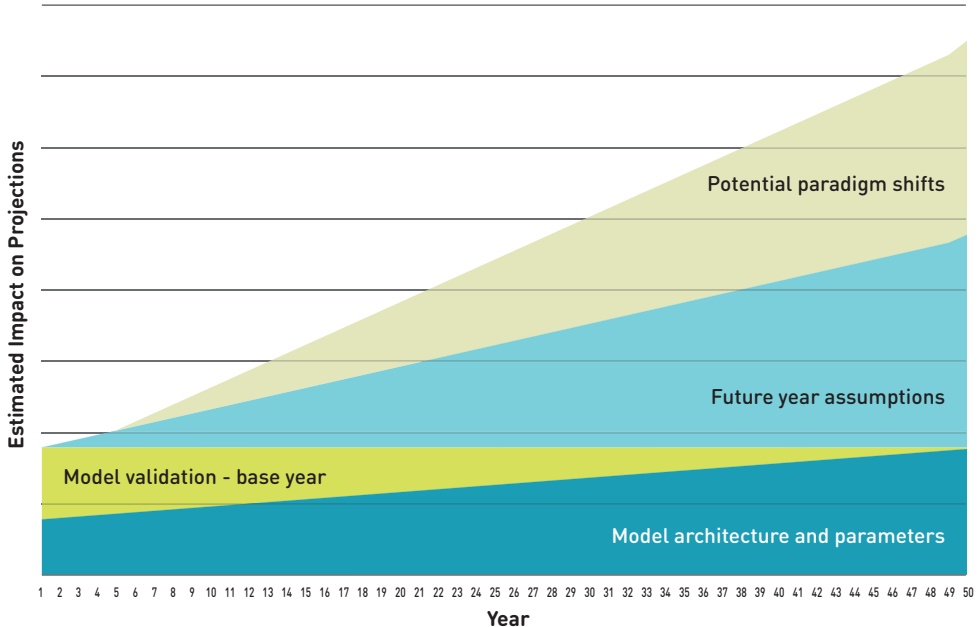
### Models use a base year and future years

**Validating the base year model**

An assessment of model accuracy and validity provides confidence the model is representing observed travel behaviour under known conditions. It is done by comparing modelling outputs to observed travel data.

**Base year and future year models**

The diagram below shows the relative importance of different elements of the model over time.



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**Model architecture and parameters** includes types of models, model structure, time periods, data used (e.g. sample size of travel surveys), simplifications

- As time passes these are likely to be more important.

**Model validation** includes traffic and passenger surveys, toll diversion

- As time passes these are likely to be less important.

**Future year assumptions** including land use and demographics, road and public transport networks, GDP, fuel prices etc.

- As time passes these are likely to be significantly more important.

**Potential paradigm shifts** including disruptive technologies: autonomous vehicles, changes in human values (e.g. environmental impacts) and activity (e.g. working from home), digital world (e.g. video conferences), Unknown unknowns (e.g. US politics)

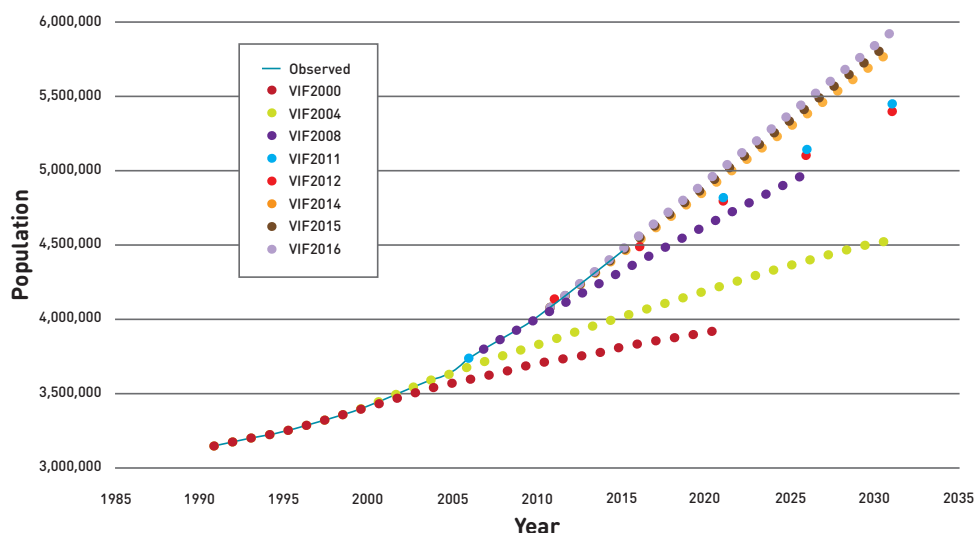
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## Establishing future year assumptions

<b>Transport infrastructure</b>	<ul style="list-style-type: none"> <li>• Strategies &amp; future projects</li> <li>• network assumptions</li> </ul>	<b>Land uses</b>	<ul style="list-style-type: none"> <li>• Strategies &amp; future projects</li> <li>• Major tourist attractions</li> <li>• Potential private developments</li> <li>• Growth (eg ports)</li> </ul>
<b>Population and employment</b>	<ul style="list-style-type: none"> <li>• Age</li> <li>• Labour force status</li> <li>• Household car ownership</li> <li>• Jobs by industry category</li> <li>• School enrolments</li> <li>• Airport passengers</li> </ul>	<b>Costs and charges</b>	<ul style="list-style-type: none"> <li>• Fuel price</li> <li>• Road tolls</li> <li>• Public transport fares</li> <li>• Parking charges</li> <li>• GDP</li> <li>• Real earnings</li> </ul>

### Things to watch out for:

- Comparison to historical trends without adequately assessing future trends
- Comparison to assumptions from other jurisdictions and sources which aren't relevant here
- Realistic 'base case' vs 'do-minimum' network assumptions: including proposed projects
- Assumptions designed to make the project 'look good': e.g. unrealistic costs or charges



In 2000, the 2016 forecast was 3.8 million, but it actually reached 4.5 million

\*VIF: Victoria in Future - the official state government projection of population and households

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