



NORTH EAST LINK - DEVELOPMENT

Client: VIDA Roads (part of the Victorian Infrastructure Delivery Authority, formerly NELP)

Location: VIC, Australia

Project value: \$26 billion

Contract form: Public-Private Partnership (PPP) and Alliances

Project lifecycle stage: Development

Duration: 2017 – ongoing

At a glance: North East Link is Victoria's largest ever road project. It is a mixture of an availability-based PPP under the Partnerships Victoria framework and a range of collaborative contracts with a total budget in excess of \$ 26 billion. The project:

- Completes Melbourne's orbital road network by connecting the Eastern Freeway to the M80 Ring Road, featuring twin tunnels and new interchanges at key arterial roads.
- Includes major upgrades to the Eastern Freeway, introducing express lanes and collector-distributor roads to ease current bottlenecks and accommodate future traffic demand.
- Includes enhancements to the M80 Ring Road, adding capacity and delivering a free-flow interchange with North East Link and the Greensborough Bypass.

As part of the works, North East Link, the Eastern Freeway, and the M80 Ring Road will become fully integrated smart motorways, equipped with ramp metering, lane-use management, and vehicle detection systems to improve safety and efficiency.

Objectives

The Victorian Government set out to deliver the missing link between the Eastern Freeway and the M80 Ring Road to reduce congestion and freight traffic on local roads.

The State required specialist support through the Development Phase of the Project to shape a robust, evidence-based solution – from option definition to a comprehensive Business Case, Reference Design and project approvals.

Our services

SmedTech was engaged by NELP at the project's inception in January 2017 and has provided ongoing technical support and strategic direction throughout the project's lifecycle, with our role continuing in the current Delivery Phase. During the Development Phase, SmedTech led key technical assessments, including problem identification, optioneering, Business Case development, Reference Design development and planning approvals.

Problem Identification & Optioneering:

- SmedTech established focused project objectives and guiding principles through extensive data collection, onsite inspections and stakeholder engagement with State and Council representatives to address transport issues and broader community priorities.

- We collaborated with the State to develop and evaluate over 100 potential solutions using multi-criteria analysis (MCA), and refined these into six shortlisted options that align with the project objectives. We supported NELP in taking these options through an extensive community consultation process which sought to draw out community feedback, considerations and insights.
- We oversaw the transport modelling and traffic assessments for the six shortlisted options, culminating in the identification of a preferred option based on benefits to the network, community and environment.

Business Case development & Reference Design optioneering:

- SmedTech managed strategic model development and option testing, reviewed coding and outputs, and were heavily involved in the independent review for the NEL Business Case, including coordinating with State and Federal agencies to define scope and methodology.
- We led the transport analysis for the project corridor to determine its current trip patterns including constraints and impacts, whilst also evaluating changes to the trip patterns from the proposed North East Link (NEL) and assessing the benefits to the transportation network.



- SmedTech authored the transport chapter of the Business Case and supported the development of other Business Case inputs including the project need, benefit analysis and tolling policies and principles.
- We worked closely with commercial advisors to develop the project's economic benefits, and supported the NEL team in reviewing the cost estimates for the project to inform the benefit cost ratio.
- We developed detailed microsimulation models of the Eastern Freeway and M80 Ring Road which formed the basis of the detailed operational modelling to verify that the design of the NEL meets the project's performance requirements.
- We were heavily involved in the Reference Design development, including the determination of design volumes, lane configurations and interchange layouts through extensive optioneering.
- We developed functional layouts and defined scope for the Reference Design.
- We were heavily involved in extensive community consultation sessions and townhall presentations to ensure community feedback and concerns were clearly understood and addressed.

Project Approvals:

- SmedTech worked closely with NELP to establish the project approvals strategy and was heavily involved in the development of the project approvals documentation, acting as the key technical reference point to ensure that the approvals documentation reflected the project solution.
- We produced the Traffic and Transport Impact Assessment (TTIA) for the North East Link EES, including presentation and cross-examination through the public panel hearing process.
- We led the detailed assessment of traffic and transport impacts of the project and provided traffic volume data for other specialists for their assessments.

- We developed mitigation measures where capacity issues were identified and contributed to five Environmental Performance Requirements (EPRs) which were submitted to the Planning Panel for endorsement.
- We engaged significantly with Councils and community groups to provide updates on project impacts and EES development, receive Councils' feedback and answer questions from the community.
- We supported the Project Team during the nine-week Planning Panel hearing by responding to technical queries, assisting the legal team in preparing documentation, presenting directly to the Panel, and participating in cross-examination by opposing counsel.

Tolling advice & STC:

- SmedTech supported DTF and NELP in the establishment of the State Tolling Corporation (STC) – Victoria's first State-owned toll collection company. This included providing advice across a range of tolling, technical and commercial matters.

Our impact

SmedTech's ongoing engagement on the NEL Project provided a sound technical foundation for major decisions in early planning and approvals of the Project. We:

- Worked with NELP to develop an efficient and pragmatic solution to the problem facing Melbourne's north east.
- Worked on a Business Case that secured State and Federal funding.
- Supported an EES for a highly complex project that ultimately was approved by the Assessment Panel and the Minister for Planning.
- Supported DTF and NELP in the establishment of STC – Victoria's first State-owned toll collection entity.