



Briefing to Minister Genter

- Engineering New Zealand (previously known as IPENZ) is the professional home for engineers, with more than 22,000 members – and New Zealand’s strongest and most influential voice on engineering issues.
- Engineers are at the coalface of New Zealand’s greatest opportunities and most pressing challenges. We also play a pivotal role in responding to, shaping and solving them.
- We’re committed to increasing the diversity of the engineering profession in New Zealand. We’re also committed to doing our part in addressing some of the big issues currently facing New Zealand and New Zealanders, including transport. We’d like to talk with you about some of the initiatives we’re leading in these areas.

WE’RE GROWING THE PROFESSION

THE DIVERSITY AGENDA

- The [Diversity Agenda](#) is about driving change in New Zealand’s engineering and architecture firms. It started as a partnership between Engineering New Zealand, the New Zealand Institute of Architects and the Association of Consulting Engineers New Zealand – and more than 75 firms have already come on board.
- It’s time to stand up for a better gender balance in architecture and engineering. While other professions have increased their proportion of women, our industries have remained stubbornly male-dominated, especially at senior levels. Only 14% of engineers are women.
- Our goal is to get 20 percent more women in engineering and architecture roles by 2021.

THE WONDER PROJECT

- The [Wonder Project](#) is Engineering New Zealand’s inspiring new school programme, designed to get young Kiwis excited about a career in science, technology, engineering and maths (STEM).
- The Rocket Challenge for year 5-8 is to launch nationwide in April 2019. Then we will be piloting the Community Challenge for year 7-10 with the aim of rolling it out nationwide in 2020. The STEM Careers programme for year 10-13 completes the journey through the support of our 950+ ambassadors.

TRANSPORTATION GROUP

- The [Transportation Group](#) is a technical group of Engineering New Zealand, with about 1,000 members. Membership is open to individuals with a professional interest or who are directly involved in the science, practice and technical aspects of the teaching, planning, design, implementation and management of transportation systems and facilities.

- The Transportation Group is an impartial and credible voice on transportation issues in New Zealand. Its perspectives are sought when new transport policies and legislation are being developed. It makes a significant contribution to the major transportation debates of the day, often taking the lead in raising issues for consideration.

WE'RE SOLVING PROBLEMS

CLEANER TRANSPORT

- Last year, Engineering New Zealand asked engineers to identify the most critical engineering-related challenges facing our country. We brought together engineers, policy makers and scientists to unpick these challenges and find a way forward.
- In our report *Engineering a Better New Zealand – Cleaner Energy* we ask decision makers and all New Zealanders to take a hard, fresh look at cleaner electricity and transport for the sake of future generations' prosperity and safety.

Our Recommendations

1. **Prioritise next-generation mass transit, without polarising the community**

We need to avoid the politicisation of transport projects by holding to a clear vision if we want to deliver the best results for New Zealand. This means:

- Space for mass rapid transit along development corridors in urban centres.
- Considering the feasibility of light rail, road trams and, where appropriate, heavy rail.
- Giving traffic, road, and civil engineers and traffic planners objectives and allowing them to propose the best way forward together.

2. **Engineer an urban transport system that's greater than the sum of its parts**

Our future transport system provides reliable, fast, and stress-free end-to-end trips that integrate public transport with car share and other modes, including a potential autonomous-vehicle future. This means:

- Public investment in other modes and information systems, including public transport.
- Allowing transport planners and engineers to create the systems that knit modes together.

3. **Pursue alternative fuels as well as electrification**

As other cleaner energy technologies emerge, we need to be ready to assess these for their benefit to New Zealand and against our objective of reducing our carbon footprint. This means:

- Taking biofuel and hydrogen seriously as an option, particularly for heavy vehicles.

4. **Make our road corridors more resilient**

Sea-level rise will expose us to increasing threats from king tides, storm surges and tsunamis. This requires:

- Engineering every possible opportunity to re-route transport inland away from low-lying coastal land.
- Back-up lifelines for our seismically prone cities.

13 February 2018