

2017 – the year of building infrastructure resilience

Chief Executive of Civil Contractors NZ Peter Silcock.

There are many lessons to be learned from the Kaikoura earthquakes but the main one is the need for the public and private sectors to work together to build greater resilience into New Zealand's infrastructure network.

We all felt compassion for the people in the Kaikoura district who were cut off by road and rail and left to fend for themselves for days. Even now, more than four weeks later (as of Dec 13), the movement of people and goods in and out of the district is still severely curtailed. Full road access to all vehicles won't be fully resumed for many months, despite the dedicated and hard work by roading contractors.

But there are many areas all over the country that are equally vulnerable to natural disasters including earthquakes, flooding, slips and tsunamis.

Major link roads like the Hutt Rd and the Manawatu Gorge are two examples that are vulnerable to slips.

Currently our roading network, rail corridor, telecommunications networks, power supplies and regional water systems (including drinking water supplies, wastewater and sewerage) all have vulnerabilities that need to be identified and addressed to keep people safe, connected, and to ensure we can recover quickly after a natural disaster.

Climate change and rising sea levels means more frequent and more severe storms and so we require greater preparedness and resilience across the country, not just in areas close to faultlines.

2017 should be the year of identifying those infrastructure vulnerabilities and prioritising which need addressing first.

The Roads of National Significance programme is a great example of this process. The seven current RoNS projects are based around New Zealand's five largest population centres: Auckland, Hamilton, Tauranga, Wellington and Christchurch and the focus is on moving people and freight between and within these centres more safely and efficiently. The building of Transmission Gully is a part of the RoNS programme.

Civil Contractors New Zealand would like to see a similar programme focused on resilience developed not just for our roads but for other major infrastructure networks.

An example of an extreme vulnerability is the telecommunications supply to parts of the South Island. There are two points of entry for telecommunications fibre to the top of the South Island. These two lines then extend down the east and west sides of the island. The east coast line was seriously damaged in multiple locations in last month's earthquake, so it has become vitally important to protect the remaining communications line that traverses the west coast of the South Island from Christchurch via Greymouth to Nelson then onto Levin. The South Island network needs greater resilience to be built in otherwise we could see major parts of the island with no mobile phone or internet access.

Another example is water infrastructure in many regions. Local councils can team up with NZTA to upgrade local roads but there is no similar type of central government partnership for fresh water supply and wastewater and sewerage systems. Local and regional councils have to rely on the rates

take but there is always pressure to keep rates rises to a minimum. This often results in insufficient funds to develop fully future-proofed, resilient water systems.

Identifying, prioritising and addressing these kinds of vulnerabilities is not going to happen over night but we do, as a nation, need to invest time and money in to a planned approach so we are better prepared.

Civil Contractors New Zealand has a role to play in this. With over \$110 billion of infrastructure to build over the next 10 years and 40,000 more staff required across the construction industry, employers need to further upskill current and future staff.

There are some great training and development systems underway to nurture the industry's future industry leaders and offer a clear career pathway. All contractors need to introduce these systems.

We need innovative minds with the technological know-how and practical skills to come up with smart solutions for our infrastucture in the face of natural disasters. We then need those people to work with local and national government to help introduce the solutions.

Natural disasters will keep occuring, and probably more frequently, so the sooner the industry and government can work together on building robust systems the stronger the country's future will be.

2017 can be the start of building resilience.

Peter Silcock is the Chief Executive of Civil Contractors New Zealand Inc, which represents over 600 large, medium-sized and small businesses in civil engineering, construction and general contracting.