KAIKOURA EARTHQUAKE UPDATE

KAIKOURA EARTHQUAKE UPDATE – no. 30 18 August 2017

This weekly bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikoura earthquake in November 2016. The bulletin is produced by the North Canterbury Transport Infrastructure Recovery (NCTIR) – an alliance representing the NZ Transport Agency and KiwiRail, on behalf of Government. We're keen to hear your questions about our work, or any feedback on this bulletin. Drop us a line via email at **info@nctir.com** or give us a call on **0800 NCTIREQ** (0800 628 4737) – we'd like to hear from you.

MILESTONE: REINSTATEMENT SH1 NORTH OF KAIKOURA

Work crews are now able to access the entire coastal corridor north of Kaikoura for the first time since the November 2016 earthquake after a major slip clearance milestone happened earlier this week.

Teams working from the north and south of the significant slip at Ohau Point have now met up, marking a significant point in the effort to restore the road and rail links along the Kaikoura coast.

Construction crews now have access to the entire stretch of the coastal corridor north of Kaikoura which will greatly speed up the reinstatement of this important route.

A construction track is being built around Ohau Point, which means work crews can begin a new phase of reconnecting State Highway 1 north of Kaikoura. This includes installing around 9000 square meters of steel mesh 'drapes' to protect the area from further rock falls. This rockfall mitigation work will also allow rocks closer to the road to be cleared, an area that could not be accessed before because of risks to workers.

Teams have been working very hard to get to this point (see feature on pg 5), and with Ohau Point open to construction vehicles, the pace of repair work is expected to accelerate to open the road.

Seven of the nine major slips that buried parts of State Highway 1 and the Main North Line north of Kaikoura in the November 2016 earthquake have now been cleared.

Based on current progress, crews remain on track to restore transport links to Kaikoura and its surrounding communities by Christmas.


Ohau Point after earthquake


Ohau Point during clearance


Ohau Point being cleared

OHAU POINT SEAWALL UPDATES

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SH1 NORTH

SITE 6 SEAWALL

The new seawall at site 6 near Ohau Point will eventually be more than a kilometre long and will have to be finished for SH1 to open by Christmas. It is a high-pressure project in an ever-changing environment, with ground conditions and water levels daily factors (see photo above).

'We are checking tides and swells regularly, and working in a 2.5 hour window on either side of low tide, so when it's finished it's going to be a job well done for all of the workers on the ground,' says site engineer Sam Laity.

The growing team has crews working 24 hours a day, six days a week, and this is a huge effort on their part. Sam says that in order to construct the seawall, excavators first have to remove landslip material back to bedrock, then cut a key for a footing so that when the concrete foundation is poured it will be stable.

'Once the key has been dug, we then box up sections with form work (plywood frames and two tonne sandbags) to provide support, pump out the water that has come in with the tide, and come back with the concrete and pour. All this during that 2.5 hour window either side of low tide,' Sam says.This seawall is the main focus at this challenging site right now, and the crew is making incredible progress.

SITE 7 SEAWALL

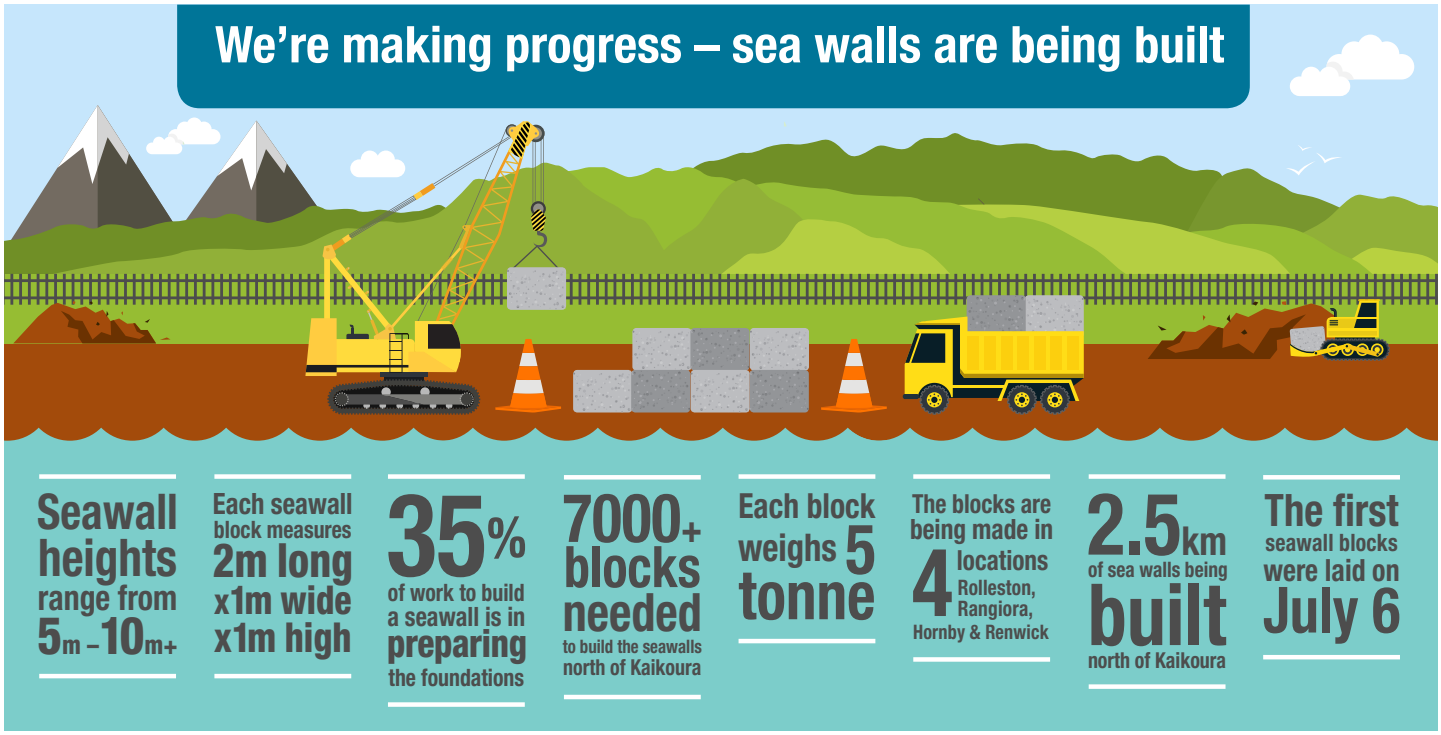
By the end of this week, the crew at site 7 just around the corner from Ohau Point will have finished building/pouring the footing for this seawall.

This site was cut off from Kaikoura by the massive slip at Site 6, but that didn't stop the team from getting ready to do this all-important work. They were able to prepare materials/equipment/controls and plan for their crews while earthworks cleared slips next to the seawall site to make sure there was safe access for workers and plant.

Site engineer Tomislav Diklan said that during the preparation phase, 400 seawall blocks were stored at Okiwi Bay with another 1000 on the way. They were able to build two half-sections of drainage culverts and when earthworks finished, prepared the base and sub-base for rail alignment in two weeks. The crew also worked together and prepared and helped with ballast so the rail could get through.

The first pour for the footing was on 20 July, and they are now nearly 70% finished with the foundation of the seawall. This part of the project makes up about 35% of the total work required to complete a seawall.

'Yes, there have been challenges but we've busted through,' says lead hand Cam Brockie (pictured right). The crew is now grouting under blocks to level up the seawall blocks
so that layers of blocks leading to the top of the road alignment will reach their proper height. Brockie says the experience has been fantastic. 'We've done this before at slip 2, so this is the same kind of work, but faster,' he says.



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SH1 NORTH

A WALKING WORK-BUS AT TUNNEL 19

Historic Tunnel 19 - built in 1939 - did not need significant repairs after the earthquake.

Located underneath Ohau Point, it is the last impassible point between the northern and southern areas of the NCTIR works area. Linking these areas is vital, and Tunnel 19 is the last link in the chain. Work trains are running through the tunnel, and authorised personnel are now able to be safely escorted through it.

Accommodation north of Kaikoura is limited, and the commute from Blenheim takes a long time. Tunnel manager Rafael Ballen describes how using the KiwiRail tunnel for walking access supports the whole project.

'We have done an extensive risk assessment in order to ensure that the process of taking people through the tunnel is safe and we have mitigated all imaginable risks,' says Rail Engineering Manager Peter Dautermann.

In summarising the importance of this innovation, Rafael says: 'we've installed lights to maximise safety for crews that are working at all hours.'

'When we livened the rail through Tunnel 19, we connected the dots by train. Now, the Walking Work-Bus connects the workforce on the north and south parts of the project, which supports the seawall team, as they work toward the goal of opening the road as soon as possible,' he says.


Self-contained self-rescuer (SCSR) 'briefing' at Slip 7 site office


Authorized NCTIR personnel entering the 'Walking Work-Bus' at Tunnel 19

WORK ON THE HUNDALEES – SH1 SOUTH

There is a significant amount of work to repair the stretch of State Highway 1 on the Hundalees. From next week two sites are being set up for a crane which will be installing large steel beams and timber retaining walls behind the damaged gabion retaining walls that support the road.

Traffic impact: During this initial phase a one-lane 'stop/go' will be used for traffic with up to 20 minute delays. Once the crane starts working in this tight road space, there will likely be further delays. Details to be confirmed.

If you are travelling through this area to Kaikoura on Friday to Monday when this section of the highway is open, please remember there are also delays between Goose Bay and Peketa. Please allow extra time to get to the convoy checkpoint on the days this section of SH1 is closed.

Work in the Hundalees is expected to continue right through to the end of the year.

CLARIFICATION

A clarification to last week's story about progress at Slips 1a and 1b just north of Kaikoura.

Vodafone's fibre cable was not moved during construction and is still live in its existing position, buried beneath sections of the slips along the old rail alignment. It will remain in place until there is a need for it to be moved. The construction team worked closely with Vodafone to install two new 100mm ducts spanning the length of the site between the new rail and road alignment to both mitigate the current risk posed by the slips and allow for future replacement of the cable.

WORKING SAFELY AROUND RAIL – TINO RANGI

Tino Rangi is a Rail Protection Officer (RPO) working in the team repairing the road and Main North Line (MNL) following the November 2016 earthquake.

For nine months Tino has been based on the Main North Line. He works four weeks based in the South Island, followed by some time off back at his home in Auckland.

Tino's been in the job for 10 years and is one of seven RPOs working for NCTIR.

Working near or along the railway is very different to other working environments in New Zealand and a number of critical safety risks only arise from working on a railway. Every morning Tino contacts the KERC (Kaikoura Earthquake Recovery Centre) and train control in Wellington to apply for his protection and work limits. He also asks about any train movements through his area for the day.

He allocates site protectors who assist the RPOs with rail safety at each site as required and determines start times and finish times. He also manages the rail protection procedures. Tino relies on the team as his 'eyes and ears'. 'It is not my site, it is our site and it is a team effort,' says Tino.

'If we follow the correct procedures and protocols then there will be no incidents and we want everyone to go home safe at the end of the day,' says Tino.

With the Main North Line now being a live railway and trains running all the way from Blenheim to Christchurch it means rail protection and safety are important for crew and the public.

EARTHWORKS COMPLETION

SH1 NORTH

Six months on since earthworks north of Kaikoura began, seven sites between Mangamaunu and the south side of Ohau Point are now completely cleared.

It's a major milestone for the project and for the last two months trucks have been working 24/7 moving on average more than 4000 cubic metres of dirt a day.

More than 450,000 cubic metres of material have been shifted off the nine major landslides. Meanwhile, further north, crews are still moving mountains of material between the north side of Ohau Point and Okiwi Bay.

Project Manager Doug Dold says his team has worked hard to pull off what was once a daunting task.

'We always knew we would achieve this target, we just didn't know exactly how we would do it,' he says.

'We have a fantastic team managed by engineers, supervisors, foreman and subcontractors. This has been well supported by crews of geotechnical engineers, abseilers, helicopter pilots, and ground teams.'

Unlike a typical project with years of development and preparation, planning and execution has been happening hand-in-hand. 'There have been a lot of quick decisions with no time to debate. We have needed to trust each other and have confidence in our different expertise and abilities,' says Doug.

The earthworks team has battled rock slides, weather events, sea fog and even goats clattering about on rocks at the top of slips.

During early work at Site 2 near Irongate, koiwi tangata (human remains) were found on several sections of the large landslide blocking the road. 'That brought home the history of this special place along with the meaning and value for why we are here,' says Doug.

While archaeologists and cultural monitors investigated and carefully removed the find, Doug's team had to find another way around the landslide. Material from smaller secondary slips was used to build a temporary access track around the base of the landslide providing crucial access for heavy construction machinery to begin clearing landslides further north at Half Moon Bay and near Ohau Point.

It also meant for the first time since the earthquake, Ngaio Te Ua and her fellow Rakautara neighbours, finally had vehicle access to their homes again, after being been cut off between several large landslides. 'The new access road was indeed an amazing feat as we drove over what once were giant rocks under the sea before the quake,' says Ngaio.

HEADS UP - WORK UPDATES

As well as re-opening State Highway 1 by the end of the year, our team is delivering significant earthquake repairs and improvements along the Inland Road (Route 70) and the alternate Picton to Christchurch route via the Lewis Pass.

This massive programme of work also means many active work sites, which is tough on drivers and communities dealing with road closures, large detours and multiple travel delays.

Where possible, NCTIR looks to co-ordinate its work to minimise the impact on road users and communities. As some earthquake work is completed, that's the signal for other work to get underway.

BLASTING AT CONWAY BLUFF ALERT

Blasting got underway at noon on 18 August at Conway Bluff to remove loose and unstable rock on the rock face. This was expected to only take one afternoon to complete. Nearby residents would have heard the blasting noise and may have felt ground vibrations. Drivers will be delayed for up to an hour at each end of Conway Bluff, which is longer than the delays over the past two weekends. We thank everyone for your patience while this vital rock wall stabilisation is completed.

UPDATE: CONWAY BLUFF (about 15 km north of Mt Lyford on Inland Road (Route 70)

This three week Friday-Monday rock wall stabilisation work has been done only when SH1 south of Kaikoura was open to ensure the least amount of traffic was impacted. This weekend is the final push to secure the unstable rock face. Blasting was done on 18 August with sluicing and scaling continuing at site to remove loose rock right until Monday afternoon.

Traffic impact: Over these four days (Friday –Monday), the road will only open on the hour 7am-6pm with a one-lane 'stop/go' system to clear vehicles. This delay is longer than the previous two weekends.

End date: Subject to weather/site conditions this work could be finished as early as the end of Monday 21 August.

UPDATE: WAIAU FERRY BLUFF (main Hanmer Springs road (SH7a) turnoff)

Significant rockfall continues to be an issue at Waiau Ferry Bluff where our team is stabilising it by scaling the loose materials, drilling in rock bolts and attaching mesh to protect the traffic below.

Traffic impact: The current one lane stop/go with up to a 20-minute delay.

End date: There have been ongoing challenges and delays to secure this rock face. The expected completion is now the end of September. Thank you for your patience and continued support to get this important safety work done.

NCTIR PROGRESS MILESTONES	Expected date of completion (as at 14 August 2017)	Aug 2017	Sept 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018
Main North Line completion	August 2017	Completed					
Construction Access Track Opens (Ohau Point)	August 2017	Completed					
Earthworks/ slip clearance	September 2017		4wks				
Kaikoura Marina opens	November 2017				12wks		
Retaining walls (Hundalees)	November 2017				14wks		
Rock fall mitigation (Kaikoura North)	December 2017					15wks	
Rock fall mitigation (Kaikoura South)	December 2017					17wks	
Road (Coastal realignment)	November 2017					17wks	

EXPECT TRAINS AT ANY TIME, FROM EITHER DIRECTION

Trains are now operating on the Main North Line between Blenheim and Christchurch.

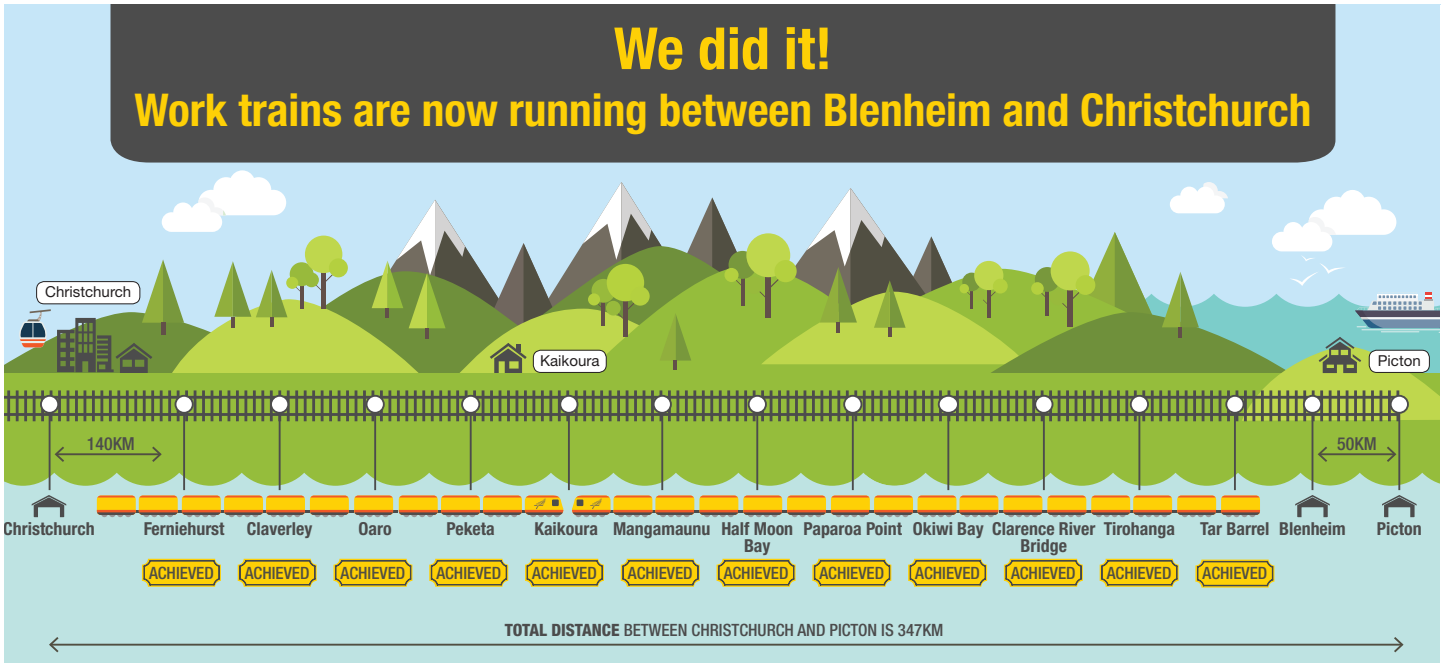
This is a timely safety reminder to everyone living, working or visiting the East Coast that trains are operating so you need be careful around the tracks both day and night. You should expect trains at any time, from either direction.

Key safety messages for pedestrians and cyclists

- Every time you're near railway tracks, be alert.
- Only cross at formed pedestrian crossings or an overpass or underpass.
- Remove your headphones, stop and always look both ways for trains before crossing the tracks.
- Only cross if you are sure there are no trains in sight.
- Obey the warning signs at the crossing – if lights are flashing or bells are ringing it means a train is approaching.

Key safety messages for motorists

- Take extreme care when driving over a railway level crossing.
- Obey the warning signs and look carefully in both directions for trains.
- Listen, be aware and pay careful attention to your surroundings.
- Always ensure there is space on the other side of the crossing for your vehicle.



KEEP UP-TO-DATE

How to contact us and keep up to date with our road and rail projects:

- Subscribe to our weekly bulletin by emailing **info@nctir.com**, with 'Bulletin' in the subject line.
- Visit our website: **www.nzta.govt.nz/kaikoura-earthquake-response/**
- Call our freephone: **0800 NCTIR EQ** (0800 628 4737)
- Email us if you have a question: **info@nctir.com**
- Attend a community meeting - keep an eye on your local newspapers for details.
- Follow us on Facebook, see: NZ Transport Agency – South Island **www.facebook.com/nztasouthisland/**and KiwiRail **www.facebook.com/kiwirailNewZealand/**
- For travel information about road conditions, see: **www.nzta.govt.nz/traffic/regions/11**

ALTERNATE ROUTE NEWS

The closure of State Highway 1 (SH1) and the Main North Rail Line between Picton and Christchurch following the November 2016 Kaikoura earthquake means traffic now needs to use an alternate route via the alpine Lewis Pass. This route is, in parts, winding, narrow and challenging and has seen a four-fold increase in traffic which it wasn't designed for. A $60m Government investment has been made to make this route safer and more resilient.

ALTERNATE ROUTE

INNOVATIVE TRUCK TAKING SAFETY ON THE ROAD

The alternate Picton to Christchurch route through the alpine Lewis Pass is most certainly one of our most picturesque drives, but it's also one of our most demanding.

Heavy vehicle drivers who have been using this winding and challenging route since the post-earthquake closure of State Highway 1 are certainly feeling the stress. With up to four times more traffic on parts of the highway than pre-earthquake, local communities are concerned about sharing the road with heavy vehicles.

A $60M Government funded programme is making long term safety and resilience improvements to the road. But short term additional delays from multiple work sites can also increase stress and frustration. 'The longer driving hours on this route cause fatigue for drivers – a key factor in crashes and rollovers,' says NCTIR Journey Manager Tresca Forrester.

RESPONDING TO ROAD INCIDENTS

In response to the road incidents, an Alternate Route Truck Crashes/Rollover Prevention Plan was developed by the South Island's Truck Crashes/Rollover Prevention Team made up of the NZ Transport Agency, Road Transport Forum, NZ Trucking Assn, Road Transport Assn of NZ, Heavy Haulage, National Road Carriers, NZ Police, Commercial Vehicle Investigation Unit, Transport Agency contractors and consultants, and NCTIR.

As part of the plan, the Safety MAN Road Safety Truck was launched last week. While the outside was hugely admired, it was the inside of the trailer that turned admiration to 'wow'! (Pictured cutting the ribbon L–R: Jim Harland and Jenny Dickinson of the Transport Agency, David Boyce of NZ Trucking Assn, Tresca Forrester Journey Manager for NCTIR and Adam Wright of Heavy Trucks Ltd which supplied the road safety truck).

This NZ Trucking Assn is now taking this customised truck and trailer 'classroom' on the road delivering programmes focused on the two main areas of concerns:

The 'Healthy Truck Driver Programme' targets key operators travelling the alternate route. It is designed to identify the symptoms and causes of common truck driver health issues (which could cause crashes), such as fatigue.

The 'Share the Road with Big Trucks Programme' is targeted at communities and schools along the alternate route and Kaikoura to educate children and communities about safe behaviours around trucks.

The shared goal is to progressively reduce the incidence and severity of heavy vehicle rollover crashes on the alternate Picton to Christchurch route. And in turn, to reduce the number of deaths and serious injuries and closures and delays that impact all road users.

You can book the safety MAN

Trucking firms using the alternate route, and school/community groups on the alternate route and Kaikoura are encouraged to book a visit from the Safety MAN Road Safety Truck. Learn more here: **www.roadsafetytruck.co.nz**

SPARE A THOUGHT

With a massive programme of improvements to deliver, the crew of up to 30 working along the alternate Picton to Christchurch route are out day and night, seven days a week through rain, hail, snow and shine.

And on those harshest winter days when the sun never reaches some sites and the rain never stops, the friendly manual traffic controllers (stop/go team) have nowhere to shelter. They need to be highly visible to ensure approaching drivers are clear on how they need to drive to help keep everyone safe near each site.

Although fully kitted out with warm waterproof gear, crew (like Petra (stop) and Caroline (go) – both originally from Czech Republic - working near the Upper Buller (Longford) bridge on State Highway 6) also have umbrellas to help stay dry. A small wet weather top-up to keep them smiling until the dryer weather arrives.

GET REAL-TIME TRAVEL INFORMATION FOR OUR ROUTE

On the NZ Transport Agency's website: **www.nzta.govt.nz/traffic**

By phoning **0800 4 HIGHWAYS** (0800 44 44 49)

On the Transport Agency's social media: **www.nzta.govt.nz/contact-us/connect-with-us/**

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