

# KAIKOURA EARTHQUAKE UPDATE

KAIKOURA EARTHQUAKE UPDATE - no. 24

7 July 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](mailto:info@nctir.com) or give us a call on **0800 NCTIREQ** (0800 628 4737) – we'd like to hear from you.



Winter is here and in this issue we share stories about working during the winter months when weather and daylight hours impact many things that need to happen to reconnect those communities affected by the November 2016 earthquake. The cold and dark impacts everyone; from those building seawalls in freezing conditions – sometimes under lights when low tide comes in the middle of the night – and KiwiRail workers laying track and ballast, to those commuting each week from Christchurch to Kaikoura along the Inland Road (Route 70) and teams keeping the alternate route between Picton and Christchurch open. No one is untouched by the impact of the cold, icy conditions and we ask everyone to take extra care and be patient: We are making good progress.

## MOVING MOUNTAINS IN WINTER

The challenge of moving mountains of landslide material only gets harder in the middle of winter.

The material coming down is soaked with rain, there's more of it than before and it's messier work.

Rob Walker, who manages the earthworks removal programme at four sites, including Ohau Point, says the heavier material slows the process down as his crews transport the rain-sodden material to temporary and permanent stockpiles.

'It's another challenge for sure, but nothing we can't handle,' Rob says.

It's messy work with stretches of State Highway 1 coated in a thin layer of mud and water trucks are being used to clean up after the teams as they go.

'Mess is a downside of winter work but local people are being really patient which we are grateful for,' Rob says.

While the earthworks teams are working with new challenges, construction teams sharing the same narrow coastal corridor are tackling similar problems as they build new sections of the rail and road network.

Site 1 near Mangamaunu has been completely prepared and rail has been laid but crews must wait for the warmer spring weather before sealing the new road.



Milestone: The first of the seawall blocks were laid at Site 2 near Irongate this week.

Near Irongate (pictured previous page), the coastal alignment teams are building 2.5 km of new road around the worst of the landslides as well as pouring the concrete foundations for the seawalls that will support the new highway while waves crash around them in often stormy conditions.

The tide not only has to be out before concrete can be poured, but the wet concrete also takes longer to set because of the cold weather. The concrete pours sometimes have to take place as early as 5am when temperatures can be well below freezing. Work is progressing well on this project despite the challenges.



## WAIAM BLUFF UPDATE

Work at Waiau Bluff is on schedule as the rebuild team (pictured below) stabilises the bluff rock wall using three different methods: scaling, rock bolting and installing mesh.

Scaling (where a team of abseilers scales the rock wall and removes all the loose rocks that could potentially be a hazard) was completed mid-June followed by the drilling of rock bolts that will hold hanging mesh to contain any future rock falls close to the rock wall to protect road users.

The work is due to be completed at the end of August and includes replacing a site fence with new guard railing as part of a safety innovation programme.

A one-lane closure along a section of Hanmer Springs Road, State Highway 7 is in place until the end of the project.

Work hours are 7am to 6pm, Monday to Saturday. A stop/go traffic system is in place with delays of up to 25 minutes at times. At night and on Sundays, traffic is controlled in both directions by traffic lights. Crews are working on a long term solution for this section of Hanmer Springs Road.



## STRENGTHENING THE HUNDALEES

The complexity and extent of work that needs to be done on the road that passes through the Hundalees is significant, challenging and scheduled to be completed before Christmas.

Along a 15km winding stretch of SH1 south of Kaikoura there are 33 structures that need to be reinstated, including 15 gabion retaining walls (wire baskets filled with rocks that act as a retaining wall pictured below) that were badly damaged after the November 2016 earthquake.

The wire baskets - which are often multiple layers deep - are normally 1m to 2m high and are placed at the outer edge of the road to hold the road structure in place. After the earthquake, a number of these ended up tipping away from the road.

The work to replace these structures is labour intensive because the stones have to be placed in the baskets by hand and then laced together. Fortunately, some of the bottom gabion layers remained intact after the earthquake, but in some cases the whole structure has to be replaced.



## BALLAST 101: JUST WHAT'S UNDER THOSE TRACKS?

The rail corridor on the Main North Line has been a hive of activity so far this winter with work trains carrying essential rebuild material. One particular wagon is the ballast wagon.

Ballast is the proper term used for the coarse stones that form the bed of the rail tracks and support the track structure. It may look like plain old gravel but it has an important job of giving the track strength, while also allowing for flex when trains pass over.



Ballast performs several functions: it maintains track alignment, allows for drainage of water to filter away from rails, protects track from the effects of hot weather and distributes weight.

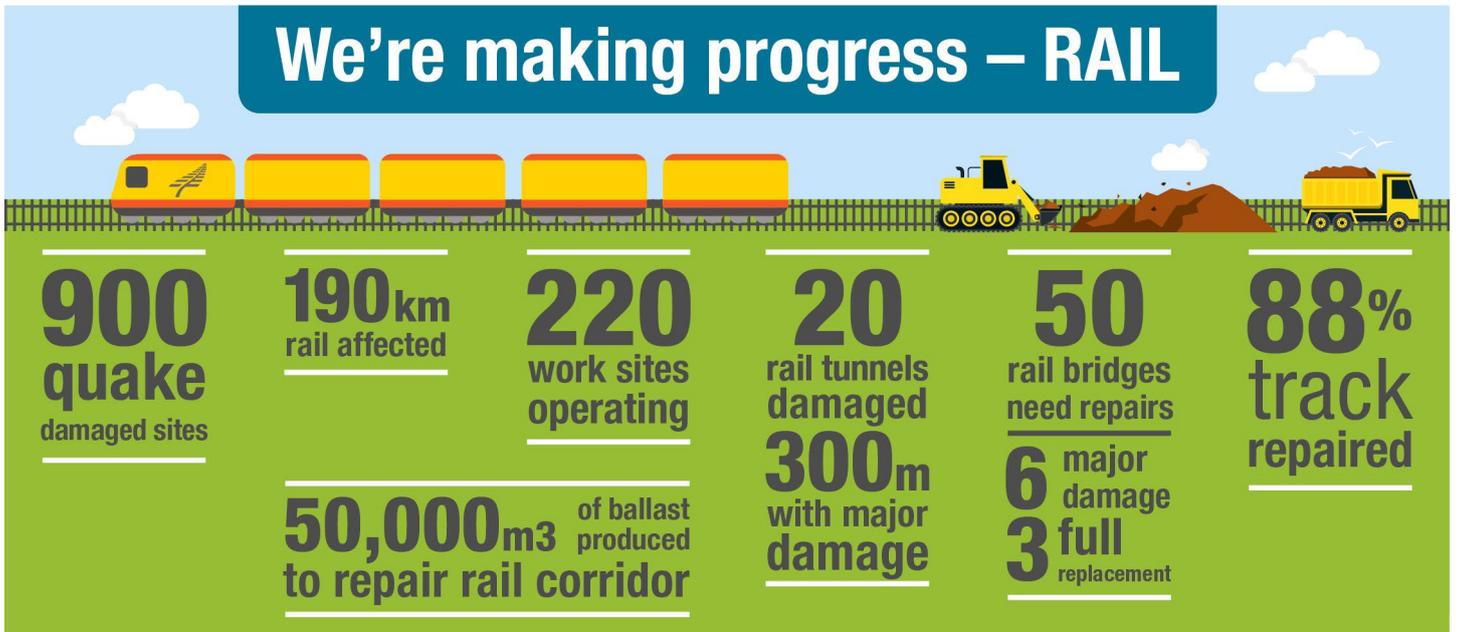
While ballast might not be the topic of choice over the morning coffee, it certainly has been a topic discussed a lot by the NCTIR rail team. About 50,000 average-size trailer loads (like those used by homeowners to move mulch and topsoil) of ballast is needed to open up the Main North Line - that's a lot.

Supplies of ballast have come from Blenheim, Clarence, Lake Grassmere, Hapuku, Kowhai and Christchurch. River gravel is extracted, crushed and graded to specification (the size between 19 to 63 mm) with 300mm depth needed under each sleeper. The secret of good ballast is having stones with flat faces and sharp edges (ie, not too round). This helps the stones interlock together to provide the necessary strength.

The ballast then gets distributed via chutes on the ballast wagons operated by remote control. A special plough wagon does the first pass to move the ballast clear the top the rail. Regulators (a special track machine with grader-like blades pictured) profiles the ballast followed by a tamper machine which adjusts the track alignment and consolidates the ballast around the sleepers.

Who would have thought gravel could be so important?

# We're making progress – RAIL



## KAIKOURA CONTROL ROOM KEEPING PEOPLE SAFE



Every day the entire team rebuilding the road and rail system receive an email from roading logistics coordinator Kevin McGrath that keeps them up-to-date with everything going on onsite, safety messages and things they need to be aware of or look out for.

His team - which is based in the Kaikoura control room - is an integral part of operations and safety, particularly during the winter months when there are extra things to watch out for.

The control room was set up in March 2017 and is used to monitor the major works sites. Logistics, road, and rail teams equipped with state-of-the-art live monitoring equipment are based in the room and are able to make critical decisions based on the live video feed which improves the accuracy of information and saves time.

A big part of Kevin's job is to gather information to a central point and distribute this every day as part of the daily notice. It is a vital piece of communication that keeps work flowing at a good pace and ensures crews are aware of what is happening along the coastal corridor at any time. Kevin says it is important for the people on the ground to know there is always someone there behind the scenes keeping them safe. The control room operates 7 days a week, 10 to 12 hours a day.

With winter upon us, Kevin encourages everyone to be mindful of winter conditions and what that means at work sites and for travelling. 'Travelling on the Inland Road (Route 70), sun strike and ice on the roads are major factors, and for driving in Kaikoura, mud is becoming a problem,' Kevin says.

'Please remember to keep windscreens clean, wash rear lights, brake lights and indicators, and increase following distances,' he says.



## We are making progress and work trains are running



## A SMILE AND A WAVE GO A LONG WAY

During winter months people working in traffic management – the stop/go people who keep us safe – certainly deserve special acknowledgement.

Over the last few months those keeping the NCTIR project sites safe and traffic moving have earned a great reputation for being super friendly, in spite of everything the weather throws at them.

Spray Marks managing director Darcy Prendergast (pictured with team member Dwight Aitkins) is proud of his team and says while the work and the wait for motorists can be frustrating and tedious, a smile and a wave go a long way towards easing the tension.

Before the Kaikoura earthquake, Spray Marks had 70 team members, but has now grown to more than 200 with 125 people working in Kaikoura/Hurunui area. Darcy said the ability of his business to manage this rapid growth comes because of the incredible team he has working with him in Christchurch, Kaikoura and his head office in Ashburton.

Safety is a priority for traffic management and everyone working on the road goes through a NCTIR, Downer and Spray Marks induction, as well as Construct Safe and traffic control training. Darcy says the wave and smile his team has become so well known for is also part of the induction.

‘Roadworks are a frustration for motorists at times and a simple positive gesture can make a difference. But the extra effort in Kaikoura has taken on a life of its own,’ Darcy says.

The Spray Marks Kaikoura traffic management team is made up of Kaikoura locals, Christchurch/Nelson/Ashburton based staff and backpackers with a work visa visiting New Zealand. The out-of-towners stay either at the NCTIR Village, motels or holiday homes close to where they are stationed. Darcy says he is committed to making sure people do not have to travel longer than one hour to get to their work site where possible.

So, next time you are on the road, take a moment to share a smile and a wave with members of the traffic management team.



## SHARING THE INLAND ROAD



As 700 sheep walk along Inland Road (Route 70) trucks and cars come to a stop and wait patiently.

Farmers Hugh and Jane Northcote carefully guide their stock in the rain to a gate further down the road. It's a slow walk, nearly two kilometres from where they started, but this is just one of hundreds of trips like this that they need to make every year.

The fourth generation farmers live at Whalesback, a 4000-hectare farm that has been in the family since the 1880s, stretching between the Mason River to the Conway River.

'Back then it was a shingle road, basically a stock track and now it's a busy highway,' Hugh says.

The photos below show Whalesback in the 1930s and in June 2017. As the original road was damaged in the earthquakes a temporary bypass road is now being used.

Route 70 was sealed 17 years ago, and ever since then more and more traffic has used it, heading between Kaikoura and Christchurch. This year has been the busiest yet. Each closure of State Highway 1 south of Kaikoura means more traffic for the Northcotes to contend with as they move 12,000 stock units from paddock to paddock.

Hugh and Jane's routine of moving stock has long attracted the interest and cameras of tourists visiting the region.

'We don't mind it at all; it's a great example of rural life on the farm,' Hugh says.

Moving stock is no mean feat with some trips involving travelling five kilometres down the road but it has been made easier with the help of the road workers.

'They've been great, we can't fault them. They stop traffic at the Whalesback River and follow slowly behind our stock so they don't panic them. They've even closed the road for us when we had to move a lot of stock at once.'

Like many of their neighbours' farms, the Whalesback didn't escape earthquake damage. Slips, cracks, damaged buildings and shifting fences are challenges the family is working through.

This work was made slightly easier with eight days of help from volunteers funded by the Ministry for Primary Industries earlier this year.

'They were very good; we made great use of them'.

Like the rest of the community, Hugh and Jane are looking forward to repairs on SH1 being completed, but until then they will be keeping an extra eye on the Inland Road as they move stock from paddock to paddock.

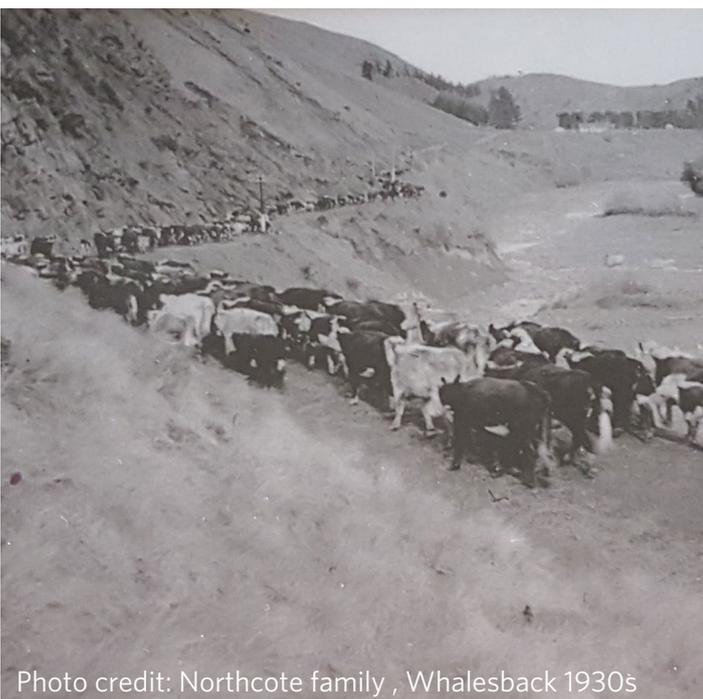


Photo credit: Northcote family , Whalesback 1930s



## 4WD DRIVE HELPS REMOTE COMMUNITIES

Four families living within the Clarence checkpoint recently received a welcome supply of fresh meat and vegetables thanks to the generosity of Blenheim's Elim Church and more than 100 people.

After being cut off by the November 2016 earthquake, the Clarence Valley community north of Kaikoura has had to travel nearly 100km to Blenheim for their regular supermarket trips.

Sensing a need, nearly 30 people from the Elim Church travelling in eight 4WDs came down from Blenheim to make the special delivery. Marg Nee lives within the checkpoint, with her partner Gig Basset, and is thankful for the generosity.

'It's really nice to be remembered down here as we are feeling a bit isolated and we don't get many visitors,' Marg says.

Two families living outside of the checkpoint also benefited from the charity run, including one whose car had recently broken down. Organiser Matthew Tempest says the generosity of people to help this isolated community was overwhelming.

'We're really happy we were able to fulfil a need to help these people. They loved sharing their earthquake stories with us, it's pretty lonely for them with the landslides blocking their access to Kaikoura,' he says.

'It was an amazing experience to see the damage first. The scale was much larger than I thought it would be, the pictures just don't do it justice.'



## EMPLOYMENT OPPORTUNITIES

The North Canterbury Transport Infrastructure Recovery alliance (NCTIR) is committed to hiring from within the local community where possible. Right now we are looking for a Kaikoura-based communications advisor, facilities maintenance manager and storeperson. Interested and suitably-qualified people can contact [movingmountains@nctir.com](mailto:movingmountains@nctir.com)

### 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](mailto:info@nctir.com), with 'Bulletin' in the subject line.
- Visit our website: [www.nzta.govt.nz/kaikoura-earthquake-response/](http://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](mailto:info@nctir.com)
- Attend a community meetings - keep an eye on your local newspapers for details.
- Follow us on Facebook, see: NZ Transport Agency - South Island [www.facebook.com/nztasouthisland/](https://www.facebook.com/nztasouthisland/) and KiwiRail [www.facebook.com/kiwirailNewZealand/](https://www.facebook.com/kiwirailNewZealand/)
- For travel information about road conditions, see: [www.nzta.govt.nz/traffic/regions/11](http://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.

## EARLY ALERT: OVERNIGHT BRIDGE CLOSURE PLANNING UNDERWAY

Repairs to Dons Fan Bridge on State Highway 7, around 8km west of the Hanmer Springs turnoff, are likely to mean a series of short closures throughout the night. The seal in the middle of this narrow two-lane bridge needs repairing across both lanes. While this will delay traffic, the work is being timed for the quietest time on the route to impact as few drivers as possible.

As this Bulletin was being put together details were still being finalised, but the repairs are likely to be done:

- Overnight Saturday 15th July (or Sunday 16th July if delayed).
- Traffic will be let through at regular intervals throughout the night.

Electronic sign-boards will be put out on the route in the days leading up to the

**Note** - all work and timings are subject to weather and other conditions. Please check [www.nzta.govt.nz/traffic](http://www.nzta.govt.nz/traffic) for the latest details and plan to avoid travelling this route overnight if possible. The NZ Transport Agency thanks drivers for their patience and support while this essential repair is being done.

## WINTER WORK FOCUSED ON MORE SAFETY IMPROVEMENTS

While cold winter weather is not suitable for full road construction work, there are still a number of sites on the alternate Picton to Christchurch route with safety and resilience projects underway.

Many of these are part of the \$60M government funding to improve the route, for example:

- Widening (as shown in photo) on some of the more narrow sections is helping vehicles (particularly larger vehicles) more comfortably and safely pass each other.
- Additional guardrails are being installed - particularly along some of the hilly narrow bends and sharp corners.
- Ongoing slope stability work is helping to keep the road resilient and prevent it slumping.



## IMPROVEMENT WORK FOR BUSY NARROW CORNER

Significant work on a particularly narrow steep-sided corner is one of the many improvement projects underway along the alternate Picton to Christchurch route. This site, around 25km north of the Hanmer Springs turnoff near Glen Wye Station, has seen the replacement of a damaged gabion basket wall which provides essential support for the road edge.

The crew will also be installing a new guardrail to better safeguard motorists driving downhill. Works continue over coming weeks with further improvements after winter when conditions are suitable for final road sealing.



## DRIVE PREPARED AND DRIVE SAFE OVER WINTER

Driving during winter can be treacherous on parts of our highway exposed to extreme weather conditions. For safe and uninterrupted travel during winter be prepared with three simple pre-trip checks:



1. Make sure your vehicle is ready for winter driving.
2. Carry a kit of food, water and warm clothing in case weather or an incident closes the road or delays your journey.
3. Watch the weather forecast and consider if your travel is essential. Drivers can call **0800 4 HIGHWAYS** (0800 44 44 49) or visit [www.nzta.govt.nz/traffic](http://www.nzta.govt.nz/traffic).

Further details with safe winter driving tips, a winter vehicle safety checklist and key contacts can be found on: [www.nzta.govt.nz/winterjourneys](http://www.nzta.govt.nz/winterjourneys)

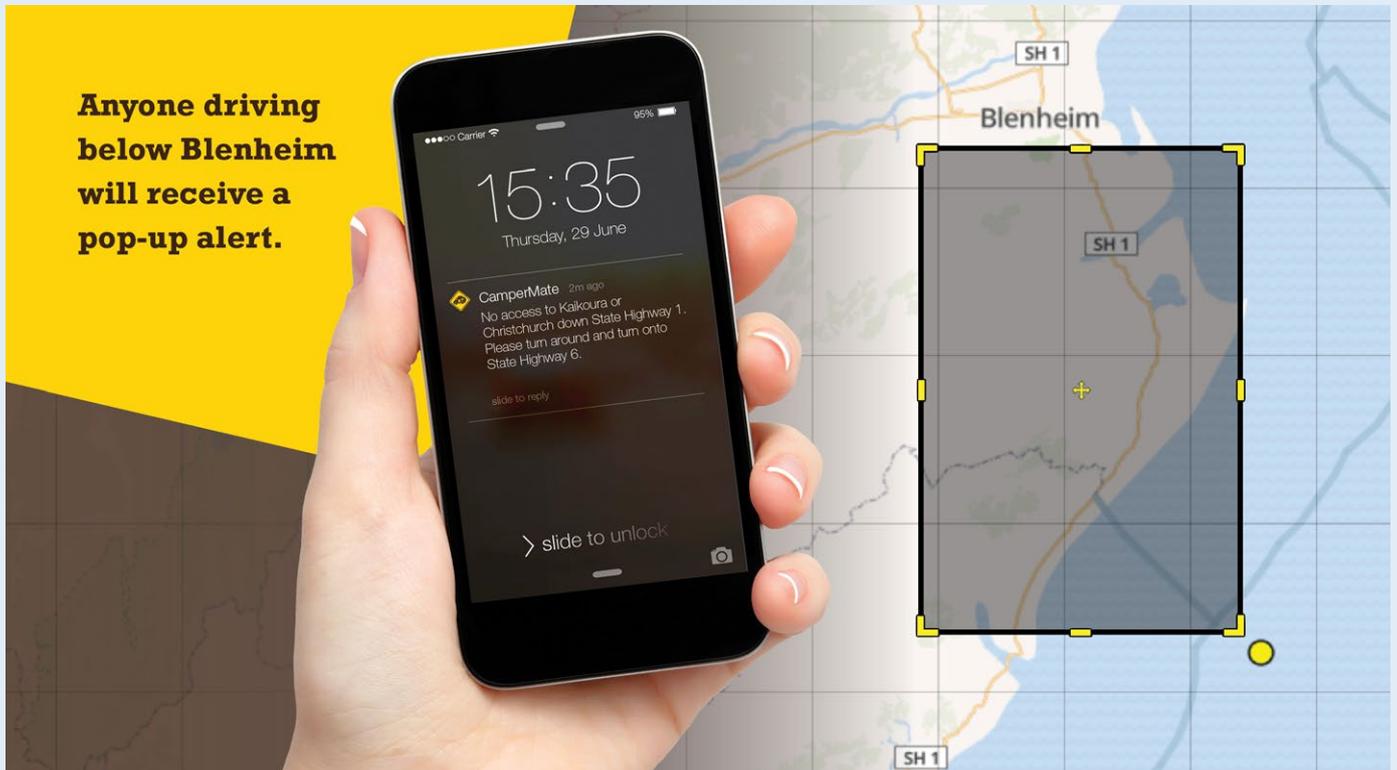
## NEW 'PING AND POP-UP' TO PREVENT 'LOST TOURISTS'

Following the closure of State Highway 1 after the Kaikoura earthquakes, signs were quickly installed to help drivers find the alternate Picton to Christchurch route.

However, with tourists heavily reliant on GPS, some were still missing the signs at the Blenheim SH1/SH6 roundabout and continuing south on SH1. Eventually they'd reach a road closure only to have to turn back.

While the NZ Transport Agency's campaigns, travel guides (in 11 different languages), and extra directional signage stemmed the tide of 'lost tourists', some would occasionally still get through. The missing piece of the puzzle was GPS, which is where tourist travel app provider, GeoZone, stepped in. Working closely with the Transport Agency they've just launched a multi-language solution with a 'ping and pop-up message'.

Southbound tourists from Picton relying on their GPS will now receive a 'ping and pop-up' just before the Blenheim SH1/SH6 roundabout advising SH1 is closed and to turn right for Christchurch/Kaikoura. Any driver who misses the turn will be 'pinged' again to advise they're going the wrong way and to turn back.



## SH1 SOUTH OF KAIKOURA SCHEDULE REMINDER

Drivers are reminded that State Highway 1 south of Kaikoura is closed three days a week to enable repair work to continue on the highway.

Drivers should know that:

- The highway is open during daylight hours (7am – 6pm) on Fridays, Saturdays, Sundays and Mondays. Still give yourself plenty of time to travel this route as delays are possible.
- The highway is closed on Tuesdays, Wednesdays and Thursdays.
- When the road is closed there are morning and evening escorted convoys for residents living in affected areas. These convoys leave at 7am and 6pm sharp.
- The Kaikoura Inland Road (Route 70) is open.
- The closure schedule is expected to remain in place until the end of September.

## ALTERNATE ROUTE NUMBERS AT A GLANCE - DECEMBER 2016 TO JULY 2017



One of a series of signs installed in Blenheim to help drivers get to Kaikoura and Christchurch (as well as Seddon and Ward). Signs have been placed both before the turnoff to advise of the detour ahead, and after the turnoff for those who inadvertently continue down State Highway 1 advising them to turn back.

### GET REAL-TIME TRAVEL INFORMATION FOR YOUR ROUTE

On the NZ Transport Agency's website:  
[www.nzta.govt.nz/traffic](http://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/](http://www.nzta.govt.nz/contact-us/connect-with-us/)