

In this issue, we provide an update on our works across the Wellington region. We look at the innovative technology we're using to detect obstructions near the track, and the specialist skills required to strengthen some of Wellington's hairiest slopes. We also introduce you to some of the people who make our work possible.

## Making strides on Wellington's rail network

We're continuing to make good progress on our maintenance and upgrade works across the Wellington region rail network.

#### **Overhead lines**

In early September, KiwiRail and its contractor John Holland completed the renewal of the overhead line equipment between Petone and Ngauranga. This forms part of a Wellington region-wide programme started in 2018 to upgrade the overhead line infrastructure, some of which dates back to the 1930s.

'The purpose of the overhead line work is to make the network more reliable and allow for more trains to run,' says Wellington Metro Upgrade Programme (WMUP) delivery manager Alex Maciver. Completion of the section between Petone and Ngauranga marks an important milestone.

'There is still some work to do but most of the new infrastructure, including wiring and masts, is now in place across the region.'

To date, 1100 structures have been installed, 212 wire runs comprising more than 200 kilometres of new copper wiring completed and 1634 masts removed.

#### Wairarapa Line - current works

We're continuing with the replacement of rail, sleepers and ballast on the Wairarapa Line. Areas of focus over the past months have included sleeper replacement between Brooklyn Rd and Victoria St in Carterton and re-railing through Maymorn.

Over the past year, we've cleared vegetation along the corridor, completed sleeper replacements between Upper Hutt and Maymorn, and replaced 90% of the rail between

Wairarapa Line – additional works

These past months, we've also been busy reviewing our planning for the Wairarapa Line, factoring in a number of additional upgrades.

These include safety improvements for the line's 30 level crossings, new passing loops to enable trains to pass each other, an improved signalling system between Upper Hutt and

the Remutaka Tunnel and Featherston. We've completed rail, sleeper and ballast replacement between Kent St and Anderson St in Carterton.

From now to April 2023, we will be focusing on completing the rail replacement works between Upper Hutt and Maymorn. We will also be replacing sleepers between Woodside and Matarawa stations, and either side of Carterton station.

Featherston, a new signalling system between Featherston and Masterton, and improved storage sidings at Masterton for new passenger trains.

There has been extensive scoping work and stakeholder engagement for these additional Wairarapa upgrades.

For questions or feedback about this publication, email us at **wgtnupgrade@kiwirail.co.nz**.



#### **Plimmerton Station**

In Plimmerton, our contractor Downer is making great progress with the upgrade works. Construction of the new station platform is nearly complete, with asphalt planned for the beginning of October. The next stage will be the installation of two new shelters, starting with the structural steel in early October, and the glass planned over Labour Weekend.

At the north end of the station, we're wrapping up works in

#### Wellington Yard signals upgrade

the underpass, which is now earthquake-strengthened, with a raised ceiling in one section. All that's needed now is a new coat of paint before we can reinstate murals that were there before the works began, alongside some new work by the students of Plimmerton School.

The majority of the signal masts for the new track alignment are now in place, and we're installing motorised, electronic pedestrian gates at the Steyne Avenue level crossing.

and other maintenance works on the NIMT and Johnsonville

lines. Slope monitoring equipment has also been installed at

Current and upcoming activities include rerailing works on the

Hutt Valley Line and on the NIMT. There will also be works on

'Much of the focus now is on preparing for what is traditionally KiwiRail's busiest time of year – December and January,' says

'This year, we have a nine-day window during which passenger trains won't be running, starting on Boxing Day. This will allow us to progress works including re-railing in Tunnel 1 on the NIMT line between Ngauranga and Glenside and commissioning of a new signalling system between Porirua and Plimmerton.'

all lines to prepare for the upcoming heat season.

several sites on the Johnsonville Line.

Looking ahead

Alex Maciver.

Early contractor engagement is well underway for a major signals upgrade at Wellington Station and its approaches. This work is scheduled to begin next year.

#### Other works

In parallel to this project work, the Network Services team has been carrying out extensive maintenance and renewal works on the Hutt Valley Line, Johnsonville Line and on the North Island Main Trunk (NIMT) as far as Waikanae.

Works over the past three months have included the installation of turnouts, sleepers and rail in Upper Hutt, re-railing work on the Melling Line, as well as re-sleepering



Ducting work on the approaches to Plimmerton Station to enable cable pulling for signal cables ahead of commissioning

## Ex-RAF regiment gunner lends Wellington projects a hand

When it comes to negotiating a fourwheel drive across unreliable terrain to assess a level crossing on a Wairarapa landowner's property, Gary Clark is unflappable. After all, he spent 19 years in the British military before moving into the rail sector, first in the UK then in New Zealand.

Helping assess private and public level crossings is just one aspect of the work he's doing as a project manager for the Wellington Metro Upgrade Programme (WMUP), which is aimed at improving resilience and capacity across the Wellington region network. Originally from Reading in the UK, Gary grew up in a family with a strong army background.

'There was a tradition of the eldest son joining the Grenadier Guards,' he says.

Gary took a slightly different path. After joining the air cadets at the age of 14, he ended up in the Royal Air Force Regiment.

'Being in the RAF Regiment meant a lot of moving around but also a strong sense of community. It also gave me the values I still hold dear: comradeship, integrity and the ability to adapt and deal with adversity.'

In 2003, Gary joined technology company Sensormatic, tasked with designing and installing article and cameras surveillance for supermarkets. His first experience of rail came about when Sensormatic put in a bid for a Paris Metro security upgrade project. Subsequently, he also worked on contracts relating to the London underground.

He now has 20 years' rail experience under his belt, having held a range of

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roles from being a project manager working on various projects to being a director of Wessex Works Delivery at Network Rail.

'I'm a delivery person. I like to see tangible results,' he says about his working style.

Alongside his day job, in the UK he volunteered as a blood biker. This is someone who couriers urgent and emergency medical items such as blood and X-rays between hospitals. He also volunteered as an advanced motorcycle tutor for the Royal Society for the Prevention of Accidents.

When the opportunity arose to move to New Zealand, he and his wife Diane didn't hesitate, though there was one important condition.

'We said we'd only go if we could take our dog Tammy with us. She's a 10-year-old German shepherd. The vet said it was fine.' The couple have a 30-yearold daughter, Lilly, and they're hoping she'll come to visit, or maybe even to stay.

New Zealand has meant a welcome change of pace for Gary and his wife, with shorter commuting times and non-working weekends for Gary, though he admits he isn't very good at doing nothing.

'Being here has exceeded expectations. I'm enjoying working in the garden and getting to know the countryside. I like that I can come home at 6pm and we can sit and have a conversation over dinner.'

'But I will look to do something more, like the volunteering I did in the UK.'

'You don't want to be going on holiday with me. With me it's "there's a mountain, let's go climb it".'



Gary and Tammy

### Slope stabilisation work not for the faint-hearted



Slope stabilisation work in Pukerua Bay

A complex, two-year stabilisation project on one of the steep slopes above the railway track in Pukerua Bay is coming to an end, representing a feat in building and engineering skills.

The project was delivered for KiwiRail by Abseil Access, a NZ-wide company specialising in slope stabilisation and the design and build of trail and cycleway bridges.

'This is one of the most challenging sites we've worked on. It's very difficult to engineer anything on slopes like that,' says Abseil Access general manager Charles Loader.

The work involves installing a full mesh system over roughly 700 square metres of slope, secured with 120 anchors measuring four to six metres. An additional, smaller section will be covered in mesh or plantings, depending on which option is most viable.

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Planning for the work began two years ago after a series of slips turned it into an urgent priority.

'The first task was to figure out how to access the site. We cut a track over the railway tunnel so that we could get to the site more easily, and we also cut a bypass track for walkers,' says Charles.

Aside from the topography, another big challenge was the weather.

'We were working through periods of heavy rain that changed the landscape and caused more slips.'

'You think you know the terrain and then it changes, and you have to rethink your plan.'

Trains continued to run throughout the project. For the rail corridor to remain open, all the debris from the worksite had to be flown up and away via helicopter. Altogether 110 tonnes of debris were removed from the site.

The Paekakariki work is part of a wider slope stabilisation programme in the Wellington region. The Wellington Metro



Upgrade Programme (WMUP) team has been working closely with Network Services to identify and address those slopes that need the most urgent attention.

'Wellington's slopes present an ongoing challenge for KiwiRail. Slips caused by heavy rain have the potential to disrupt train services,' says senior project manager Matt Richardson.

'The aim of the slope stabilisation programme is to lessen the risk of disruption. We can't fix every slope immediately, but we can start by addressing the ones that present the highest risk.'

Abseil Access operates across New Zealand. The company employs 40-50 people at any given time, from carpenters and builders to engineers and project managers.





Volunteers from KiwiRail and John Holland removing rubbish from the rail corridor

## Rail corridor clean-up in the Wellington region

KiwiRail and its contractor John Holland held another volunteer rail corridor clean-up at the end of August between Petone and Ngauranga.

This followed on a similar initiative last summer on the Johnsonville Line, partnering with community volunteers.

This time, 12 volunteers from KiwiRail and John Holland worked on about 2 kilometres of the rail corridor, collecting 40-50 bags of waste over the course of a day. The team also took the opportunity to remove graffiti between Petone and Woburn.

Rubbish collected included rubber tyres, polystyrene, plastic food wrappers, bottle lids, glass and plastic bottles, a torn five-dollar bill, headlamp bulbs, and plastic debris from cars.

Four years ago, KiwiRail contracted

John Holland to renew the traction overhead line equipment across the Wellington region. This work means Wellington's rail network will be much better equipped to accommodate more train services.

The overhead line renewal work is part of a coordinated programme of Government and NZ Transport Agency investment packages to upgrade the Wellington commuter rail network.



## Meet Lewis Otto, professional train driver and snooker player

Working for the railway for 47 years hasn't lessened Lewis Otto's enthusiasm for the job one bit.

'I love being out on the network,' he says. 'I never wanted to be confined within four walls.'

Born and bred in Hamilton, Lewis left school at the age of 15 and went to work part-time in his father's snooker club. He quickly discovered he had a real talent for the game.

'By the time I was 16, I was able to beat my dad. He was annoyed but also very proud.'

He was still 16 when he started training as a locomotive assistant. From Hamilton, he moved to Taumaranui where he became certified as a train driver at the age of 22, then to Wellington where there were more job opportunities.

In 1986, he got his first-grade driver ticket, which allowed him to drive passenger trains as well as freight trains.

'Passenger trains require a lot more concentration because of all the stopping and starting.'

It was in Wellington that he really came into his own as a snooker player too.

'I used to spend time at the Naenae RSA and it was through contacts there that I was lucky enough to meet up with a couple of top snooker players, Steve Robertson and Harry Haenga.'

The three of them started playing



Lewis winning the Wairarapa Open in Masterton in 2004.

together, and soon Lewis was on the tournament circuit, playing and winning prizes all over the country.

'I was really driven. I practiced most days. All my leave was taken up with going to tournaments. There was a lot of travelling involved.'

In 1985, he won his first ranking title at the Bay of Plenty open. From there he went on to win many other titles, including the RSA national singles twice, the Hawkes Bay Open and the North Island championships.

'The main one missing is the New Zealand championships,' he says.

He credits his success with snooker on a natural ability, hard work and the ability to focus under pressure.

It was snooker that brought Lewis and his wife of 25 years together.

'Lynette had taken up the game and wanted a coach,' he says. Lynette had her own successes with the game, going on to represent New Zealand against Australia in a test match and playing in the women's world championships.

As Locomotive Engineer Team Leader for Transdev Wellington, Lewis is still driving trains but he's also helping train and support new drivers.

"We try to promote a family culture. We try to get everyone together, to get to know one another personally, and we do regular welfare checks to make sure people are okay."

He says gender diversity is something he's hoping to see more of. The vast majority of train drivers are men. 'I would love to see more women drivers on the network.'



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# ACE AWARDS 2022

## KiwiRail and partners recognized for innovation at 2022 ACE awards

New technology that helps KiwiRail work more efficiency and safely in the rail corridor earned two ACE New Zealand awards at a gala dinner in Rotorua on Friday 2nd of September.

In partnership with WSP, KiwiRail collected a silver award for technology that helps detect obstructions near railway tracks.

'Trackside obstructions can damage trains and seriously disrupt services,' says Wellington Metro infrastructure manager Manjot Singh.

'WSP developed a prototype which continuously scans the rail corridor and can detect potentially dangerous items that an inspector might miss.

'The technology is user-friendly, which means our hi-rail inspectors can easily come to grips with it.' 'This project was a great example of innovation in action - taking what is wellestablished LiDAR imaging technology, customising and using it to help improve real-world safety and operational outcomes for KiwiRail,' says Mike Lusby, principal instrumentation engineer at WSP.

'I'm proud to be involved in the project and look forward to working closely with KiwiRail to explore different applications and uses of LiDAR within the rail context in future.'

Meanwhile, Aurecon received a silver award for their innovative design work on KiwiRail's Trentham to Upper Hutt double-tracking project (T2UH). This work involved clever design solutions to enable productive work near the track, dealing with environmental challenges and adopting a building information modelling (BIM) 'Model First' approach. The project involved double tracking 2.7 kilometres of the Hutt Valley Line between Trentham and Upper Hutt stations so that trains can travel in both directions at the same time.

KiwiRail invested in a digital engineering pilot, whose purpose was to develop and deliver the systems and processes required to support the principles of a BIM.

'It's great to see the double-tracking project and the digital pilot being acknowledged so widely,' says project manager Damian Philipsen, who led the T2UH project.

ACE New Zealand represents over 200 consulting and engineering firms.

Read more here: <u>https://www.acenz.</u> org.nz/2022\_ace\_awards



From left to right: Brock Goodison, Senior Engineer, Land Infrastructure at Aurecon; Damian Philipsen, KiwiRail Project Manager; James Rees Phillips, KiwiRail Senior Project Engineer



Wellington Metro Infrastructure Manager Manjot Singh and WSP Principal Instrumentation Engineer Mike Lusby accepting an ACE award.

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