

About GRC Group

Global Risk Consulting (GRC) Group is an Aotearoa-New Zealand-based consultancy headquartered in Tamaki Makaurau-Auckland. We provide ethical data intelligence solutions and advisory services for tackling complex problems in the areas of risk and crisis management.

Our team specialises in the collection, analysis and innovative presentation of hazard and risk-related data, and in the development of tools that enable optimal responses to and recovery from crises. We support communities and organisations to make responsible, evidence-based policies and decisions in relation to managing their risks and maximising their resilience.

Our web-based systems bring complex, disparate datasets together in one place, and they bring the data to life with intuitive interfaces, engaging infographics, and intelligent analysis. Our solutions enable government, communities, and businesses to make the best use of the data available to them.

We focus our efforts on areas where the application of our software and analytical services can enhance security and wellbeing, particularly for the most vulnerable groups in our society. A proudly Maori-owned business, we draw inspiration from the principles of te ao Maori (the Maori world view) and we champion – and embody – our county's distinctive social and cultural diversity.





Our Team

Leading GRC Group is a team of risk and data professionals that bring a multidisciplinary approach to the identification, collection, analysis and illustration of hazard and security risk data.

Chris Kumeroa

Managing Director and Head of Risk

Chris Kumeroa is Managing Director and Head of Risk Advisory at GRC Group. A former New Zealand Special Forces soldier specialising in counter terrorism, human tracking, mountaineering and reconnaissance, Chris has worked in the security sector domestically and abroad.

A recipient of the Iraq Reconstruction Service Medal for services to the UK FCO and Multi-National Forces Iraq (MNFI), Chris holds UK and New Zealand security licenses and is a board member of the risk management professional organisation RiskNZ.

Andrew Jackson

Head Creative Technologist

Andrew Jackson is a Creative Technologist and Technical Director. His recent credits include the covid19map.co.nz interactive map and a long list of online experiences for the Effie Awards, Samsung, The Low down, and Air New Zealand.

Andrew holds a Diploma in Graphic Communication from AUT and employs a wide skillset that includes data visualisation, prototyping, wireframing, and developing applications from the ground up with compelling UX and UI. He is the creative force behind GRC Group's SecIntel system.

Jordan Russel

Head Solutions Architect

Jordan Russel is an accomplished IT Engineer and Solutions Architect. Jordan is the architect of GRC Group's Manaaki Crisis Management System (CMS), a platform that manages crisis response actions, decisions, analysis, emergency management plans records, and scheduling in a secured cloud, adding proactive alerts and reminders, and a collaborative user experience.

A successful business owner, Jordan heads Mytech New Zealand, a company that designs, implements, and maintains IT infrastructure for businesses.

Nicholas Dynon

Head Research Analyst








Nicholas Dynon is a security risk consultant and Chief Editor of defence and security publications *New Zealand Security Magazine* and *Line of Defence Magazine*. He has previously served as a diplomat and a part-time soldier.

A graduate of the Royal Military College of Australia (Duntroon), Nicholas holds a B.A. Hons. and M.A. in Asian Studies from the Australian National University and a Master of International Studies Hons. from the University of Sydney. He is an editorial board member of Massey University's *National Security Journal*.

Our Why:

Managing uncertainty, reducing harm

Hazards are sources of potential harm, and they come in many shapes and sizes. Our data-driven solutions help organisations and communities understand the hazards they face and to stay out of harm's way.

1. INDIVIDUAL	2. FAMILIAL	3. ACCIDENTAL	4. SOCIETAL	5. IDEOLOGICAL	6. BIOLOGICAL	7. ENVIRONMENTAL
						
The individual	At Home	Out and about	In the Community	On the Agenda	In the Air	In the Environment
Perceptions of safety Sense of wellbeing Identity and belonging Mental health Physical health	Basic needs deficit Living standards deficit Deprivation Family harm	Transport incidents Workplace Health and Safety incidents Water safety incidents Misadventure	Violent crime acts Non-violent crime acts Security incidents Presence of Organised Crime Groups Antisocial behaviours	Violent extremism acts Hate incidents Acts of misinformation Acts of political violence Terrorist acts Social unrest	Public health incidents Epidemics, Pandemics Biosecurity incidents Food contamination Enviro. contamination	Climatic events Hydrological events Geological events Climate Change and its consequences

Above: The GRC Hazard Model's seven hazard layers.

The GRC Hazard Model

A taxonomy of hazard spaces

Protecting organisations and communities from harm starts with a holistic understanding of the hazard-scape. The GRC Hazard Model considers security and wellbeing in terms of seven interlinked hazard 'layers'.

Hazard: A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.*

* National Disaster Resilience Strategy
Ruataki ā-Motu Manawaroa Aituā

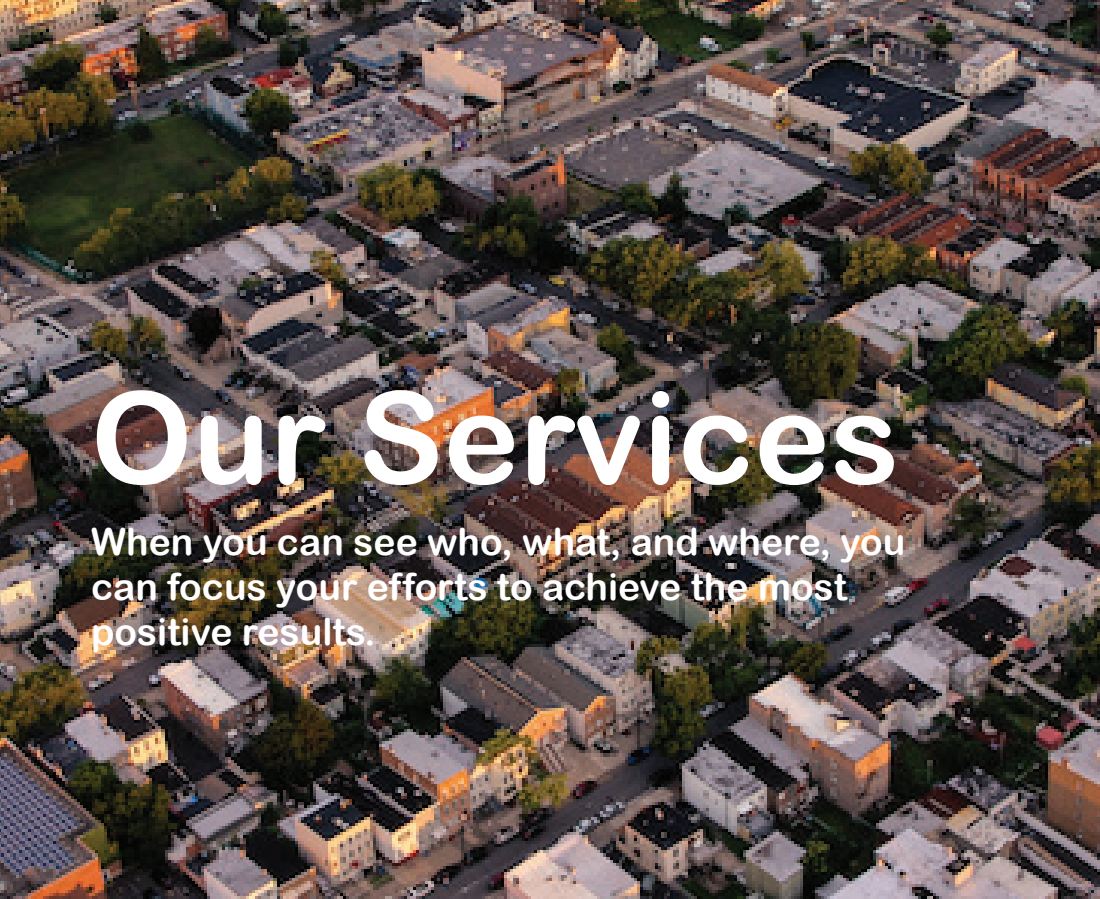
These layers describe categories of hazard events – from crime to political violence, pandemics, and natural disasters – each layer from left to right denoting categories incrementally broader in potential scope. A pandemic event, for example, is - by definition - more widespread than a singular traffic accident or criminal act, and so on.

The GRC Hazard Model has similarities with security and resilience categories found in the NZ NEMA 'Model of a Resilient Nation' and the UN 'Human Security' model, but it differs from these in terms of its layering of hazard spaces in accordance with their potential scope and, by consequence, their specificity to a community and individual.

Our risk and crisis management solutions are built upon an approach that begins with an understanding of hazards based on the GRC Hazard Model. As detailed in following pages, this approach is:

1. *Standards-based:* we stick to international standards and best practice.
2. *People-centred:* security, safety and resilience from the perspective of humans and their communities.
3. *Place-specific:* exposure to hazards is dependent upon where people are located in relation to it.
4. *Data-driven:* numbers don't lie, and they form the basis of an evidence-based approach.





Our Services

When you can see who, what, and where, you can focus your efforts to achieve the most positive results.

GRC Hazard Model Layers	RISK DATA AND ANALYSIS SOLUTIONS	RISK ADVISORY AND MITIGATION SERVICES	TRAINING AND AWARENESS SERVICES	CRISIS MANAGEMENT SOLUTIONS
7. ENVIRONMENTAL	✓	✓	✓	✓
6. BIOLOGICAL	✓	✓	✓	✓
5. IDEOLOGICAL	✓	✓	✓	✓
4. SOCIETAL	✓	✓	✓	✓
3. ACCIDENTAL	✓	✓	✓	✓
2. FAMILIAL	✓			✓
1. INDIVIDUAL	✓		✓	

Risk data and analysis solutions

What you can measure, you can manage.

We provide data-led approaches to identifying, analysing, and modelling risk across the GRC Hazard Model's seven hazard layers. From traffic incidents to tsunamis, criminality to the consequences of climate change, our risk platforms turn open source and proprietary datasets into actionable intelligence. For an example of our powerful data-led risk analysis platforms, read about the SecIntel system on the following page.

Risk advisory/mitigation services

International experience and local expertise.

We provide advisory services to support organisations to develop their security and safety risk strategies, plans, policies, procedures, and practices. Utilising international standards and best practice, we assist clients to reduce risks to their people, information and physical assets. This includes auditing and reviewing existing security arrangements, designing new arrangements, and managing the implementation of new mitigations.

Training and awareness services

Empowering your people to understand risk.

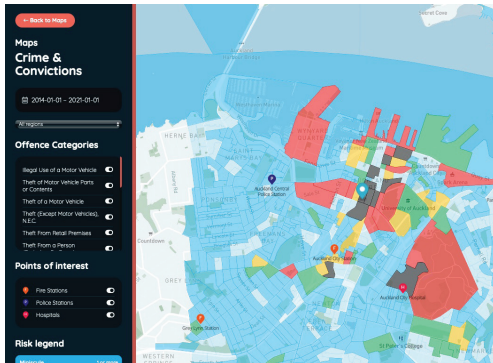
Knowledge is power. We provide tailored workshops on political, business and security risk issues and risk management. GRC consultants also provide customised crisis-management planning and training, enabling our clients to anticipate events and retain the initiative in handling crises - from extortion, kidnappings, illegal detention of employees, and product contamination through to terrorism incidents and natural disasters.

Crisis management solutions

Reduce the risks, respond well, and recover.

In a crisis, clarity and communication are key factors to navigating a successful response and recovery. GRC's logical and easy-to-use crisis management tools enable organisations to achieve both. We support our client organisations with a range of crisis management solutions, from advisory and training, to the building of operational and crisis management plans, to the design and implementation of Crisis Management Information Systems.

Our Systems: Powering resilience

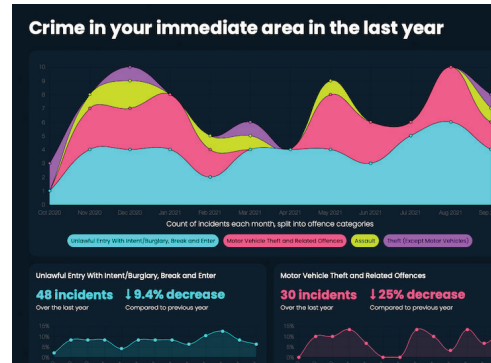


SecIntel

Harnessing powerful mapping and visualisation tools, the GRC SecIntel platform presents risk information drawn from diverse open source datasets in an easy-to-use interactive format.

SecIntel's incident data analytics give users the power to understand the drivers shaping their security risks, whether it's crime, floods, or COVID.

With a range of powerful analytical features, various mapped risk overlays enable users to identify heat-mapped high-severity hotspots, providing data-driven, intelligence-led risk evidence for the making of sound decisions.

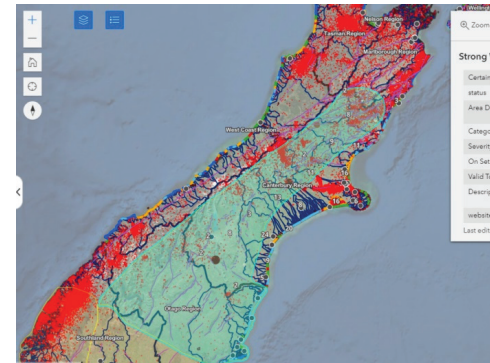


SafeHome

SafeHome is a consumer-facing web platform providing neighbourhood safety reports based on an address entered by the user.

SafeHome provides a map view of the neighbourhood surrounding the selected address, displaying the locations of crime and traffic incidents.

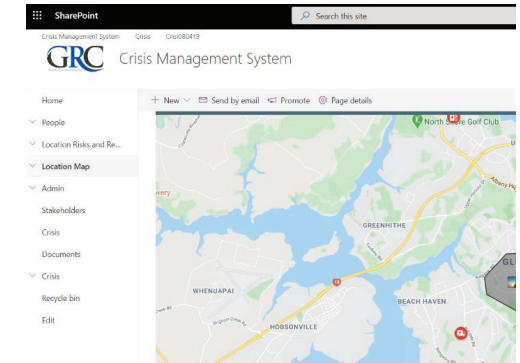
It also provides graphed statistical information on the severity of traffic incidents; 12-month crime trends in the neighbourhood; neighbourhood-regional comparisons of rates of several crime types; and regional-national comparisons of your crime.



Tirohanga Mōrearea

Tirohanga Mōrearea is a powerful geospatial platform enabling the map-based viewing of several realtime geodata streams tracking natural events and disasters, as well as various layers of community and environmental data.

Built in collaboration with Te Puni Kokiri and Toitu Te Whenua Land Information New Zealand, Tirohanga Mōrearea delivers timely data and insights to inform Iwi and Maori emergency threat and risk planning. Providing a "single source of the truth", it can be easily tailored to load specific local/regional data and to generate customised views for a range of users.



Manaaki CMS

Manaaki CMS

GRC's Manaaki CMS brings all the working parts of a crisis response together so that the response can be effectively coordinated, communicated and controlled.

Manaaki CMS' real-time crisis emergency management technology enables the coordination of an effective response to any situation, including common operating picture (COP) or CRIP analysis, communication of objectives, and collaboration on a resolution using interactive intelligence systems, personnel trackers, crisis incident updates, task logs, interactive maps, and status boards.



Our Approach

Delivering accuracy and accountability. Our approach to managing your risks is:

1. Standards-based
2. People-centred
3. Place-specific
4. Data-driven

1. Standards-based

Risk Management



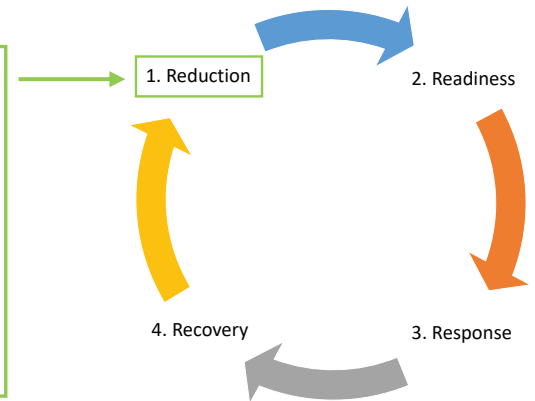
Our risk management methodology is based on the ISO 31000 Risk Management standard, which breaks the risk management process down into four distinct stages:

1. Establishing the context
2. Assess the risks
3. Treat the risks
4. Monitoring and review

This standard is the international benchmark for identifying, assessing and treating risks, and it informs NZ Government guidance in areas such as Protective Security (PSR) and Workplace Health & Safety.

Importantly, our methodology takes the individual or community as its starting point, establishing their relationship with and appetite for risk, and the potential impact of risks on their goals.

Crisis Management



Our crisis management methodology is based on the NZ integrated approach to civil defence emergency management, which NEMA describes in terms of four areas of activity:

1. Reduction
2. Readiness
3. Response
4. Recovery

The starting point for the 'four Rs' is 'Reduction', which involves analysing long-term risks to life and property from hazards; taking steps to minimise their likelihood and impact. ISO 31000 provides us with the methodology for doing this.

The 'four Rs' provides a framework that looks beyond a crisis to consider steps that should be taken well in advance and steps for future resilience.

2. People-centred

GRC Group has developed a model for understanding, analysing, and mitigating risks to security and wellbeing. It starts with a definition and taxonomy of hazards that harnesses the dual lens of:

1. The United Nations' concept of 'Human security', a people-centric approach that focuses on individuals and communities, and
2. Te ao Maori understandings of the human experience from the perspective of people (tangata) and locality (whenua).

As defined by the United Nations Human Security Unit, 'human security' is a:

... comprehensive framework for addressing widespread and cross-cutting threats. Recognizing that threats to individuals and communities vary considerably across and within countries, and at different points in time, the application of human security calls for an assessment of human insecurities that is people-centred, comprehensive, context-specific and prevention-oriented.

According to the UN's *Human Security Handbook* (2017), a 'people-centred' approach focuses on attributing "equal importance to civil, political, economic, social and cultural rights of individuals and communities".

Importantly, being people-centred means that human security stands as an alternative to traditional state-centric approaches to security, which are focused on threats to the sovereignty of

and order within nation-states and on predominantly military, national security, and law enforcement responses.

Understanding security from the perspective of humans and their communities necessitates a multi-layered understanding of security based on the various spaces an individual inhabits, including their homes, communities, workplaces, and societies, and the climatic and geological systems within which these spaces exist.

Why is this important? The concept of human security is critical in strengthening the resilience of individuals and their communities – particularly vulnerable communities, both during and between crises. Developing a better understanding of the myriad ways in which hazards can threaten the security of people can lead to better, more effective, more inclusive policy and decision making.

Organised crime, COVID-19, and climate change, for example, impact on different communities in different ways. In the case of COVID-19, associated health outcomes, employment impacts, access to services, family harm impacts, and vulnerabilities to cyber scams have distinct patterns from one community to another.





3. Place-specific

If an individual remains distant from a hazard, it is less likely the hazard will result in harm to them. Conversely, if an individual and a hazard are located at the same place and at the same time, then the likelihood of harm (i.e. risk) to the individual is heightened.

This is a law that holds true no matter the hazard – earthquake, weather event, crime or traffic incident.

COVID-19 clustering, and physical distancing and isolation measures, for example, have demonstrated the importance of geographical proximity in the context of virus transmission and exposure to potential harm. Place is thus a key element in both the spread and the containment of the pandemic.

In the case of crime, law enforcement concepts such as environmental criminology theory, routine activities theory, place-based policing, and Risk Terrain Modelling (RTM) demonstrate the importance of location to risk. Many place-based policing theories describe the role of place in shaping how crimes cluster and form 'hotspots', emphasizing the role of place as the key element in crime.

Place is also important in relation to hazard categories more commonly associated with accident, chance, or 'act of God'. Data tells us, for instance, that certain locations – or hotspots –

play host to disproportionately more traffic incidents than others. In the case of natural disasters, location can play a part in extreme weather events, tsunamis, flooding, landslides, and geological events, and the consequences of climate change tend to differ across geographies.

We also know that this law plays out digitally as well. Exposure to sources of misinformation and connection with perpetrators of hate online. The good news: if we know the locations of hazards (whether physically or online), then we can map them.

Mapping the Data

Locality is critical to our understanding of individuals' security. Understanding the prevalence of hazards in particular geographies enables us to better identify, analyse and assess risk, and to achieve better security outcomes.

GRC Group's data platforms comprehensively map a range of threats and vulnerabilities in any given environment across Aotearoa and across cyberspace.

Risk mapping allows our partners to generate a picture of the various types of hazards to which individuals and communities may be exposed, the vulnerabilities that raise their susceptibility to harm, and the myriad factors that make the potential impact of hazards so varied.

4. Data-driven

Data and open source intelligence (OSINT) have never been more plentiful. But how do you harness the data so that it becomes the foundation for accountable evidence-based risk decision making?

Professional security risk practice has long been hampered by the lack of an evidence basis:

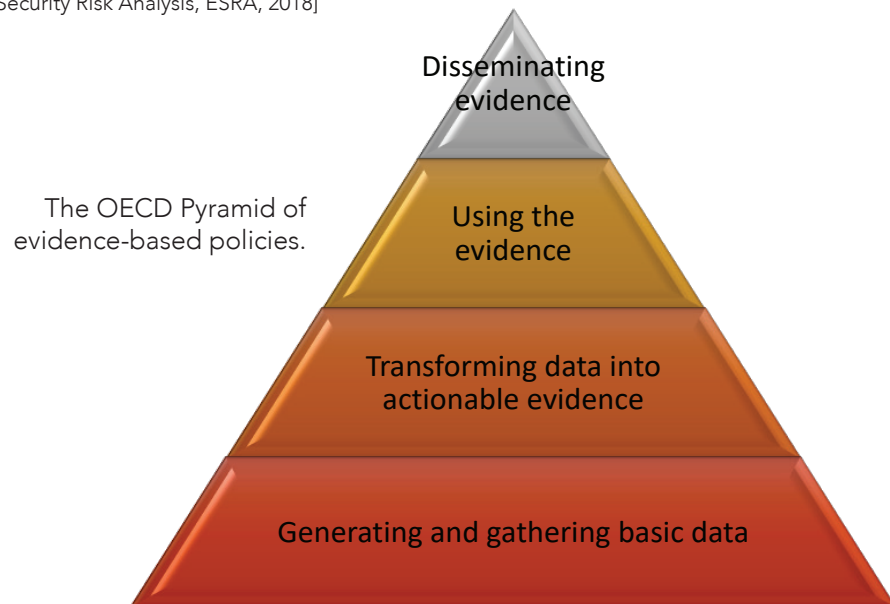
*Security risk assessment is often accompanied by great uncertainties, as there is a lack of evidence of threats, consequences and the abilities of security measures. Thus, qualitative or semi-quantitative models that strongly rely on expert knowledge are often used, although these models can lead to misleading or even wrong results.**

*[A Study on the Influence of Uncertainties in Physical Security Risk Analysis, ESRA, 2018]

Our risk and crisis management solutions are purposefully data driven, transforming data into actionable intelligence for strategic foresight.

Evidence-based risk assessment (EBRA) is the practice of making risk decisions through the judicious identification, evaluation, and application of the most relevant, quantifiable, and statistically valid risk information.

The data-driven, evidence-based approach avoids decision making based on (i) intuition or instinct, and/or (ii) anecdotal or archaic example, and instead provides analysts and decision makers with the tools they need to make the best informed decisions.



Case Study: Intelligent COVID-19 response

As part of the nationwide response to COVID-19, GRC Group partnered with several Iwi organisations to deliver an evidence-based, data-driven approach to supporting the vaccination roll-out to vulnerable communities.

We utilised GRC's SecIntel geomapping platform to develop a vaccination module populated with anonymised meshblock-level data provided via data sharing agreement by the Ministry of Health.

The module mapped vaccination rates across participating Iwi and identified localities – and areas within localities – where vaccination rates were relatively low and thus requiring of prioritisation. SecIntel reporting informed the planning of mobile operational teams and tracked their progress towards vaccination goals.

SecIntel's social media monitoring module also tracked public sentiment in relation to vaccinations on Facebook and Twitter, reporting on fluctuations in volume and negativity/positivity of social media mentions from the national to the regional level.

We also collected 'ground sentiment' data collected by the mobile operational teams, which was anonymised and mapped on the SecIntel platform. Ground and social media sentiment analysis provided our participating Iwi partners with an evidence-based understanding of the drivers for vac-

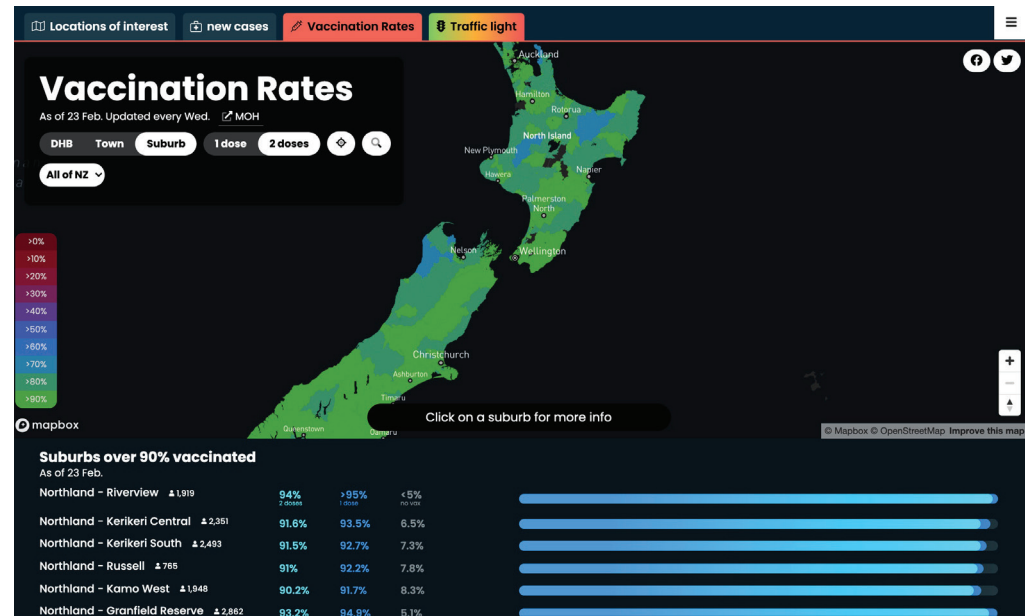
nation avoidance in various localities, which included a range of factors from religious beliefs to Maori sovereignty positions, anti-vax sentiments, and misinformation.

In addition to the SecIntel platform, GRC's Manaaki Crisis Management System (CMS) provided our partners with a cloud-based, accessible from anywhere, platform with which they could keep track of their response-focused personnel and resources, coordinate the logistical effort, document their actions, and push out notifications as needed.

The CMS constituted a single source of truth and a ready reference for time- and resource-starved coordinators.

GRC's evidence-based, data-driven approach to supporting the vaccination roll-out provided timely intelligence that enabled our partners to pivot quickly to areas of immediate need and to understand the barriers to their mission.

Our responsible, privacy-conscious solutions provided meaningful insights enabling fit-for-purpose responses and the achievement of significant public health outcomes for communities across Aotearoa.



Above: A dashboard from the public-facing Covid-19 vaccination mapping site. Below: A meshblock overview from the SecIntel Covid-19 vaccination mapping platform.

