



Auckland Transport Innovates Safety and Smart Traffic Management

Safe traffic management, safe roads.

Case Study Featuring:

- Data-driven, risk-based approach to work site safety.
- Pre-assessment impact assessment to inform planning and innovative working windows.
- Proactive community engagement.
- Live monitoring of construction impact
- Detour management
- Performance monitoring against KPIs



Auckland Transport Innovates Safety and Smart Traffic Management

Auckland Transport worked with the Mooven platform to assess the potential of and implement an innovative way to approach road closures for a high-profile vulnerable road user safety improvement project.

The story of the Mooven-Powered Ponsonby Road/Pompallier Terrace vulnerable road user safety improvement project is one of significant challenges, public spotlight, and ultimately, a huge success through collaboration and innovation.

Initially met with mixed feedback and vocal opposition, the project underwent significant redesigns and consultations to incorporate community feedback from the public, local businesses and the local Board before a new approach that utilised Mooven was developed to deliver the project in a safer, faster way and with less disruption.

The project was delivered by Auckland Transport, a council-controlled organisation responsible for all transport services in New Zealand's largest city Auckland, Tāmaki Makaurau.

With a core purpose of caring for, enabling and delivering a transport system that contributes to a more thriving and sustainable Tāmaki Makaurau they are safety-focused in all they deliver, with accountability for safety across every aspect of their network and everyone who moves through it.

Fig. 1. Ponsonby Road-Pompallier Terrace site.



Auckland Transport's role covers the full lifecycle of projects from investigation, design, build, and maintenance, with typically over 100 live road and infrastructure projects at any one time.

The core driver for this particular project was a commitment to safety; to implement safe system designs through the use of raised crossings, to effectively reduce speed and enhance pedestrian safety in high-risk areas.

Project Outcomes

Cost reduction

Accelerated delivery and savings of 73% from reduced traffic management alone.



Safety

Speed reduction and successful implementation of a risk-based approach with reduced working windows



Customer experience

Proactively addressed community concerns and leveraged impact assessment



Mooven, an AI-powered infrastructure delivery platform, played a pivotal role in assessing the risk management plan and impact assessments during the planning stages, along with monitoring live traffic impacts and journey times before, throughout, and after construction.

The Auckland Transport (AT) team used Mooven to assess the potential of an innovative way to approach road closures. Rather than the original 12-week program, AT was able to complete the project in two weekends and three nights. This approach showcased the team's dedication to balancing project needs with community interests, earning positive feedback from stakeholders and dramatically reducing community disruption.

The collaboration amongst stakeholders, including AT, delivery teams, Mooven and Fulton Hogan, stood out as a testament to effective teamwork and collective effort in achieving project milestones. The following case study outlines the problems the team were solving and the approach taken to driving **safety, impact reduction, customer experience and productivity outcomes**.

A challenge accepted

When the delivery team first started planning the Ponsonby Pompallier Safety Improvement project they knew the project would face construction challenges.



Ponsonby Road-Pompallier Terrace is a vibrant part of Auckland's inner city, with bustling shopping and a popular street to stroll down. Unfortunately, with this popularity also came significant safety risks for pedestrians and a history of past incidents.

Against this backdrop, Auckland Transport wanted to implement safety improvements to reduce the speed of vehicles in the area while also trying to mitigate the risk to motorists and/or pedestrians. The challenge then became one of a project that was complex to deliver and likely to attract public attention.

What might a creative solution for project methodology, involving 'out-of-the-box' thinking, look like?

The following sections break down how Auckland Transport improved safety and reduced community disruption while propelling the productivity of the overall project, specifically by:

1

Leveraging Impact assessments to plan their methodology;

2

Using a Risk-Based Approach to their work zone safety;

3

Effectively managing public concerns during the delivery,



[CONTACT US](#)



'Super Weekends' Propelled by Impact Assessments

One opportunity the team was interested in exploring was an initiative to shorten the planned duration of the projects, which was originally 12 weeks. Along with the obvious positive impact on residents and businesses from fewer days of visible construction, a reduced schedule also provided significant safety benefits through reduced exposure.

After leveraging the Mooven platform to understand the impact and traffic flows around the workzone, the team identified the potential for "super weekends." These strategic weekend closures allowed for a large amount of uninterrupted work to occur quickly; dramatically shortening delivery time. This would involve closing roads on a Friday evening with the Traffic Management Plan set up by 6 pm, starting construction at 8 pm, and reopening the roads on Monday at 5 am. without disruptions.

Traditionally, Auckland Transport would need to manually collect information about the local businesses and their opening hours which is a time-consuming process. "When we understood what Mooven could do to our projects, we started to have conversations around traffic management with our internal teams and that made us come up with the option of these Super weekend closures" noted Girish Neelapu, the Principal Project Manager at Auckland Transport who used Mooven throughout the project lifecycle.

Mooven's impact assessments dramatically reduced the time required for Auckland Transport to assess options and provided greater context for the team, enabling them

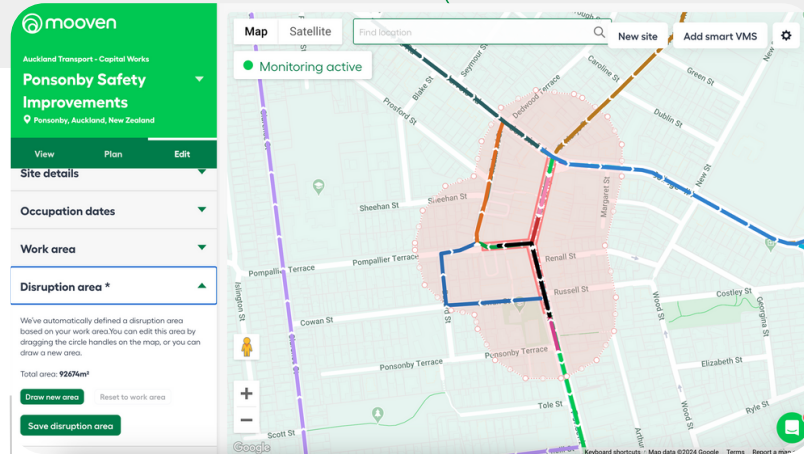


Fig. 2. Mooven site view of Ponsonby Road-Pompallier site and Disruption area used for Impact assessment.

to gain a deep understanding of local traffic conditions, clearly identify and predict potentially impacted businesses and implement a targeted communication and risk management plan for these businesses.

Something the delivery team spotted early on was that fewer buses were running on weekends—this was easy to identify with Mooven's heat maps of bus arrivals by time and day. This further reinforced the benefit of a shorter, sharper closure that resulted in less impact on weekday commuters. The result of assessing this impact? Suerica Pietersen, Project Manager at Auckland Transport commented that:

”

"Feedback from businesses was positive, indicating that they were well-informed and satisfied with the detailed information provided, contributing to the overall success of the project"

- Suerica Pietersen, Project Manager

These strategic weekend closures allowed uninterrupted work, optimised resource utilisation, and minimised disruptions to businesses and public transport, earning positive feedback from stakeholders - even accommodating last-minute changes and the unique requirements of local businesses, highlighting the flexibility of the methodology they chose.

Safety First: Unlocking a Risk-Based Approach

Safety is a key priority for Auckland Transport, both in creating a safer network and delivering work on their network in a way that reduces the risk to work crews and the public.

The planning and delivery team was committed to adopting the New Zealand Guide to Temporary Traffic Management (NZGTTM), which takes a risk-based approach to safety - a perfect fit for this safety project. With this in mind, they set out to inform the delivery methodology and construction with evidence based safety initiatives in two ways:

1. Reducing exposure to reduce risks

One of the most impactful ways to improve safety is to reduce the amount of time construction crews are working near live traffic, and the public's exposure to temporary traffic management.

One of the most impactful ways to improve safety is to reduce the amount of time construction crews are working near live traffic, and the public's exposure to temporary traffic management.

Consolidating works into a smaller window of Super Weekends, addressed this safety initiative very effectively. Girish knows the importance of adopting a risk-based approach for project planning and execution. He shared that:

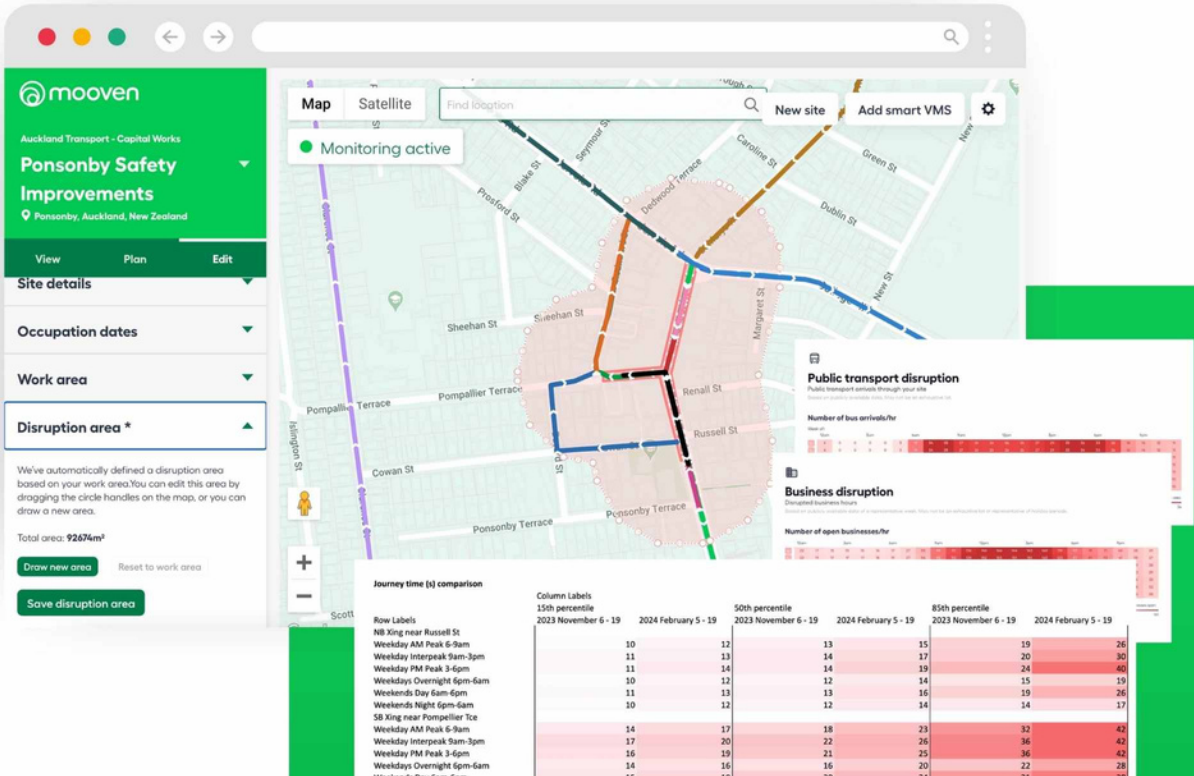


"The approach adopted aims to complete projects efficiently within fewer days, minimising the duration and risk profile. Unlike traditional methods that look to reduce time on the road per day, a risk-based approach allows flexibility in closing and opening roads to minimise total risk".

- Girish Neelapu, Principal Project Manager, Auckland Transport

Determining the feasibility of super weekends was made possible with the rich visibility and insights collected from Mooven.

Fig. 3. Mooven site view with Impact Assessment data used to drive context for delivery methodology.



2. Assessing Speed Risk During Delivery

The speed of vehicles through work sites is a common and significant concern, and while the project's raised crossing was a safety initiative, completing the project itself created its own risks to work teams, pedestrians and road users during construction.

The speed of vehicles through work sites is typically assessed by comparing the posted speed limit to planned temporary speed limits, with temporary traffic management designs and safety measures determined by these assumed behaviours.

With Mooven, the team had the ability to understand actual ambient speed conditions prior to work beginning and use this to inform their planning and traffic management designs, using a risk-based approach to safety. Not only could risks be assessed ahead of time, conditions and speeds were monitored throughout delivery to constantly assess safe delivery.

Auckland Transport's risk-based approach using Mooven's deeper context enabled the team to:

- Identify risks in their activity and the environment, working towards the lowest total risk using data.
- Eliminate and minimise risk to the road user and work teams in their work zones.
- Seek opportunities to reduce their exposure to risk situations to avoid the risk occurring.

The project team acknowledged that "being able to monitor traffic conditions and speed monitoring on the ground and compare them with Mooven's data provided confidence and assurance during peak times", such as busy Saturday nights - a significantly busy (and high risk) time for this popular nightlife street. Andrew Garrett, Transportation Principal & Engineer for the project added that:

“

"Mooven provides valuable insights beyond traffic management, offering real-time information about network impacts during construction and beyond. This is particularly crucial for high-profile projects where understanding the project's design and its effects on the network is essential before, during, and after construction".

- Andrew Garrett, Transportation Principal & Engineer, Auckland Transport

Blake Hill, Mooven's Account Manager for this project is our resident champion on Safety. He mentions that creating a baseline risk profile is critical to understanding risk prior to starting within the work zone and adjacent streets.

His work with the Ponsonby team and other customers sees practical examples where he commented that:

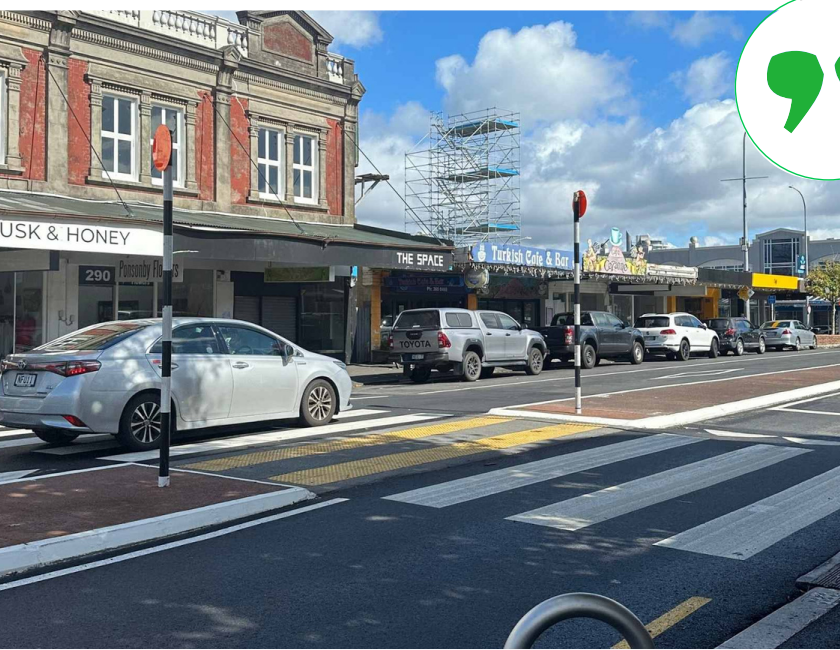
"Gaining pre-construction speed data and traffic patterns allows informed decisions on TMPs. It also identifies high-risk projects by monitoring active work zones".

“

"...Using real-time monitoring to track performance through each section of your worksites, customers start by gaining a baseline, then gain real-time visibility of their worksite, including live SMS alerts. This ability to manage delivery and inform super-closures with confidence unlocks a step change in safety...

For the Ponsonby project total risk exposure was reduced from 488 hours to 83 hours, a 83% reduction in risk exposure".

- Blake Hill, Mooven



Facing dissent with evidence-based data

Concerns were raised about potential queues, delays, and increased journey times in the area due to lane reduction.

As road delivery projects often encounter, the project had also been halted in the past when met with mixed feedback and pressure from key stakeholders. This public scrutiny led to heightened public relations efforts by the project team, adding complexity to project communications and decision-making processes.

Mooven was originally used to monitor delays resulting from reducing two lanes to one for a specific stretch of road. The project team proactively gathered information using Mooven before construction to assess potential impacts, during and after works. They engaged in proactive PR activities, including site visits and meetings with stakeholders.

The level of attention and effort required to navigate these challenges and ensure project success was high, but worth the high satisfaction levels received and achieved with confidence knowing they held data-rich insights to back what they were saying.



Suerica Pietersen, Project Manager at Auckland Transport commented that:

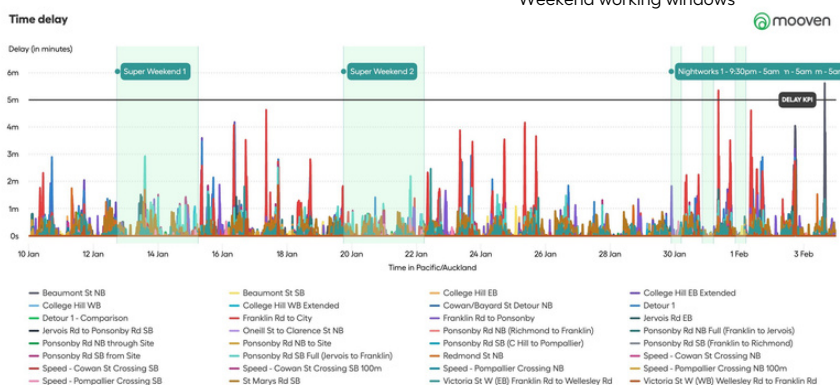
“

"Mooven was utilised as part of our response to address impact concerns raised during the project.

We ensured that we had comprehensive background data, including Mooven data for diversion routes such as College Hill and side roads"

She continues..."This allowed us to monitor and differentiate between the impacts of our project versus other works in the area, preventing misattributions of problems to our project when they were caused by external factors. The data collection extended beyond the main road to encompass all relevant side roads, providing a thorough understanding of the overall traffic dynamics in the project vicinity"

Fig. 4. Data driven insights to predict and plan for Super Weekend working windows



Having real-time and accurate data from Mooven enhanced the project team's ability to provide evidence-based explanations and justify project decisions effectively. Overall, Mooven's data has become a key component in ensuring project success and addressing stakeholder concerns with factual, proactive information.

Propelling productivity in Ponsonby Pompallier

In conclusion, the project's success story extended beyond their immediate objectives of creating a safe work zone.

It made quantifiable savings in traffic management costs, and delivery timelines, reduced complaints and enhanced construction delivery methodologies.

Mooven's data-driven approach empowered the project team to justify interventions like speed tables and super weekends effectively.

This transparent, evidence-based approach not only built stakeholder confidence but also streamlined project timelines and minimized traffic management costs. The team achieved significant cost savings in traffic management alone, amounting to a reduction of \$279,000, translating to a 70% saving compared to budget.



Importantly for Auckland Transport, the data revealed that the project's closure did not significantly impact traffic flow, and equally this was reinforced on the ground in the calm atmosphere around the work zone. But what other efficiencies were gained along the way?

The team achieved some impressive outcomes and efficiencies, such as:

- Pushed down delivery time and risk by completing in 85% less time (61 days to 2 weekends and 3 nights) initially relying on a traditional Traffic Management Plan (TMP) with a 61-day timeline.
- Fewer days of traffic management with improved safety - hours of active traffic management reduced from 455 to 83, an 83% reduction in exposure.
- Significant project savings, with a direct project saving of \$279k from reduced traffic management alone - saving 70% of planned TM costs. Overall project savings using the Super Weekend working windows was 15%, a reduction vs budget of \$172,486.51.
- Average speed dropped by an average of 18%. A clear reduction in speeds to improve safety, without materially impacting journey times through this busy and vibrant area whilst the project was underway.


↓ 85%
Delivery time


83%
Risk exposure reduction


279K
TMP savings


18%
Speed reduction

Now that the construction is completed, ongoing monitoring using Mooven helps track changes in speeds, journey times, and overall effectiveness of the Ponsonby Road / Pompallier Terrace project. Andrew Garrett, Transportation Principal & Engineer for the project commented:

“Even after construction, Mooven continued to be valuable in monitoring network impacts and assessing the effectiveness of design interventions, such as speed changes at raised crossings... giving us the ability to demonstrate benefits and continuously improve delivery”.

- Andrew Garrett, Transportation Principal & Engineer, Auckland Transport

Girish notes that the methodology will benefit further projects in the future: "I think one of the main things that the Ponsonby project did is give us confidence in alternative delivery approaches. While each project has its own challenges, the approach we took is easily transferable and unlocked real benefits for Auckland”.

The project's success was a testament to effective collaboration among stakeholders, including AT, contractors, and Mooven, showcasing the power of teamwork in overcoming challenges and delivering impactful solutions.

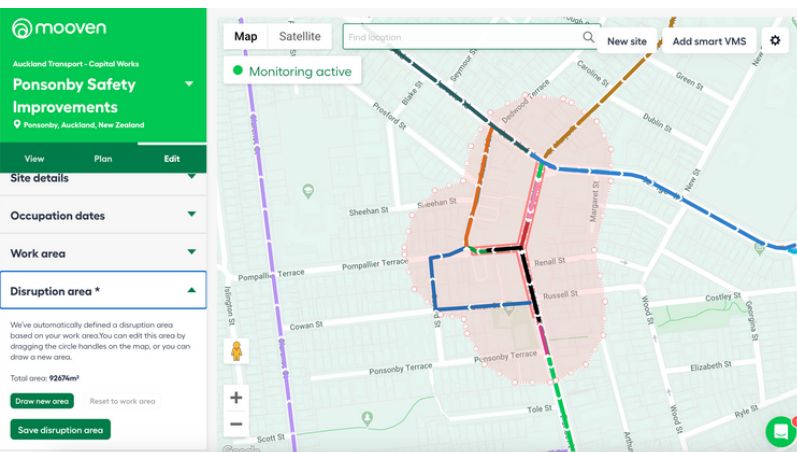
Moving forward, the project sets a precedent for data-driven safety assessments and project management, cost efficiencies, and strategic traffic planning. Laying a robust foundation for future road infrastructure projects across Auckland.



Keen to
hear more?

[CONTACT US](#)

mooven.com



 mooven