



Countculture



Whangarei

Micro Mobility Monitoring

CASE STUDY

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Whangarei's Cycle and Shared Path Networks: How Countculture Sensors are Shaping the City's Future

Whangarei District Council has embraced a progressive approach to enhancing its cycling and shared path infrastructure by installing Countculture sensors across the city.

These smart sensors enable the council to monitor the use of shared paths and cycle lanes, providing essential data that informs urban planning decisions and public safety initiatives and also allow the Council to measure and report on carbon emissions saved through these programmes.

According to Caley McGillvary, Project Manager in Road Safety Promotion at Whangarei District Council, cycling movements have surged by 25-30% month-on-month compared to one year ago. E-scooters are also becoming a prominent feature in the city's transport landscape.



“The city has seen significant growth in active transport options, with notable increases in cycling and scooter usage. Being able to monitor these trends in real-time has proven to be a game-changer,” she says.

Whangarei currently has 15 permanent count sites operational and reporting data. The “heritage” sensors, as McGillvary calls them, were established between October to December in 2022 and have formed the baseline data for reporting.

While the sensors are primarily installed along shared paths, there are plans to expand monitoring to other areas where future network connections are being considered.

“Mostly we're just tracking use of the shared paths using year-on-year data and seeing how the travel is changing,” McGillvary says.

“We've got significant paths up into Te Kamo and out to Raumanga and Onerahi. The Kamo shared path stage five opened in September and added an additional two kilometres - which takes the shared path from our city centre all the way to the suburban centre of Te Kamo, which is really cool,” she says.

Countculture's advanced sensor systems and intuitive dashboard have greatly improved the council's ability to analyse and report on usage patterns.

McGillvary says Countculture recently created a new dashboard that allows data to be presented in various formats, from detailed 15-minute intervals to broader day, week, and month overviews. “It is very intuitive to use and makes it much easier to bucket the data as it's needed. Whereas in the past, I'd just have to make my own counts and trawl through a lot of spreadsheet work to get to what I needed,” she says

“Because even though having that granular detail is amazing, when elected members ask: “Did we get more people this month than we did previously?”, being able to provide that bird's eye view is really important.”

The integration of weather data with cycle and scooter counts also provides valuable insights into how external factors affect active transport. For instance, rainy days show a marked decrease in micro-mobility usage, reinforcing the importance of providing flexible options, such as the ability for cyclists to switch to public transport during bad weather.



“I really like that we can add the rainfall and the temperature data that we can then put all together into the same chart. So, you can see immediately the impact on your micro-mobility numbers for that day,” McGillvary says.

“Countculture data also plays a crucial role in responding to public concerns. When questions arise about the use of shared paths, particularly from those who may not regularly see cyclists or scooters, the council can provide concrete figures.

McGillvary points out that having this data allows the council to address concerns in a supportive manner, helping to build public trust and dispel the perception that these facilities are underused.

“When people say things to us like: “All this money has been spent on this cycleway, but only one person is using it!”, we can say: “Actually, we know that thousands of people pass through this point every day. And every one of those people is another car off the road”.

“So, to be able to have that data and to be able to justify the expenditure and show that there is value for money is really important. And that's even aside from the fact that this has come at a very little cost to the rate payer for the majority of our network as it currently stands,” she says.



The Countculture system also allows automated assessment of carbon saved by active transport use, allowing the city to understand its contribution to national carbon-reduction targets.

Countculture sensors are calibrated to establish emissions saved during commuter hours: counting active transport use between 7.30am - 9.00 am in the morning, 2 - 3.00 pm in the afternoon and 4 - 6:00 pm in the evenings, Monday to Friday. National household travel survey data and a range of configurable attributes is then used to calculate average trip distances for pedestrians, scooter riders and cyclists to input into the system.

McGillvary says that initial data indicates that active transport is saving the city just over four tonnes of carbon per month during those commuting hours - the equivalent of the carbon emissions from charging four hundred and ninety thousand cell phones, or travelling 24,000 kilometres in a diesel vehicle. “We’ve gone really conservative with our setup because we want our data to be as defensible as possible,” she says.

“We do know that we will be capturing some people that are not commuting, and also some people that are just riding or walking for pleasure or for recreation. But, we also know that the majority of people travelling in those time slots are commuters; people travelling to and from school, either as students or to collect students,” she says.

McGillvary also notes that some people will be travelling in electric vehicles or in really heavy vehicles too. So there are some assumptions, but she’s confident that savings will be at least as much, if not more than projected.

“With this data, the council can make evidence-based decisions that balance the needs of all users, including cyclists, scooter riders, pedestrians, and those with mobility challenges,” she says.

Countculture sensors have become an invaluable tool for Whangarei District Council in monitoring and improving the city’s cycling and shared path networks. By providing real-time data and actionable insights, these systems assist planners, elected officials, and the public in making informed decisions about the future of transport in Whangarei.

“We know that there's just huge benefits to active travel,” says McGillvary.

“It's a win-win for everybody. Apart from the huge health benefits and reduced pollution, it is proven that kids walking or cycling to school before starting their learning day actually improves learning outcomes,” she says.

As the city continues to expand its active transport networks, data collected by Countculture will play a vital role in shaping a more sustainable, safe, and accessible city for all.

For more information about Countculture’s sensor system, visit [Countculture](https://countculture.com)

