



Smart Transport Operations

A data led approach

25 August 2022

Transport Operations

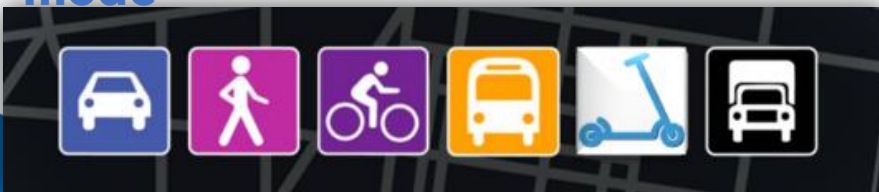
We oversee

- Intelligent Transport Systems (ITS)
- Real-time Operations
- **Transport Data**

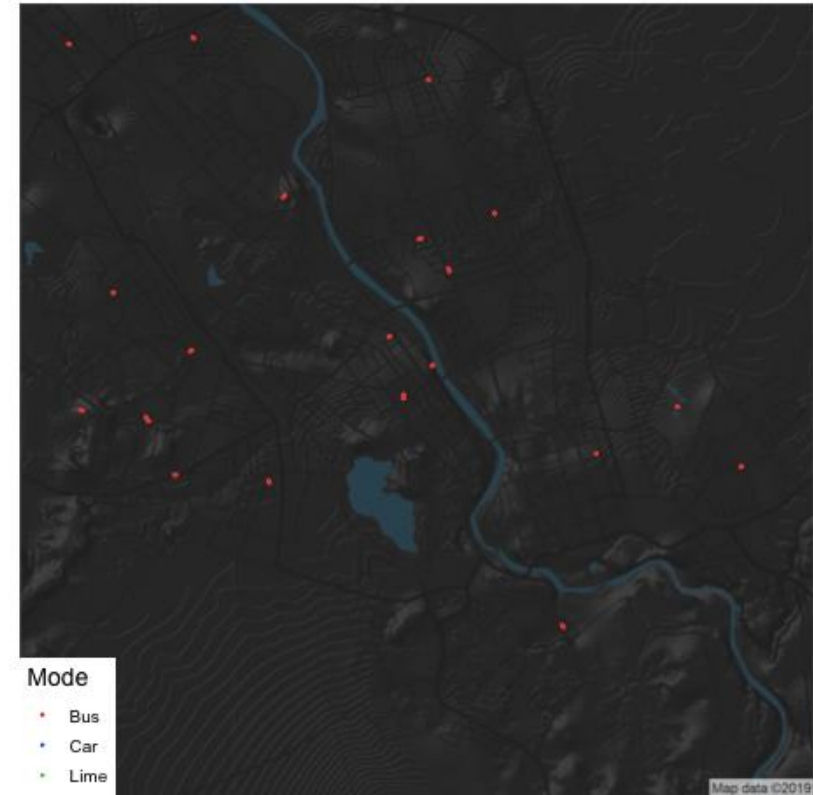
Why? To support **strategic decision making**, enhance **operations**, and **better inform** customers

We want to become **data driven** as an organisation - **analytics** is the key

To tell the full story requires data for **every mode**



Time 2019-06-07 07:00:00



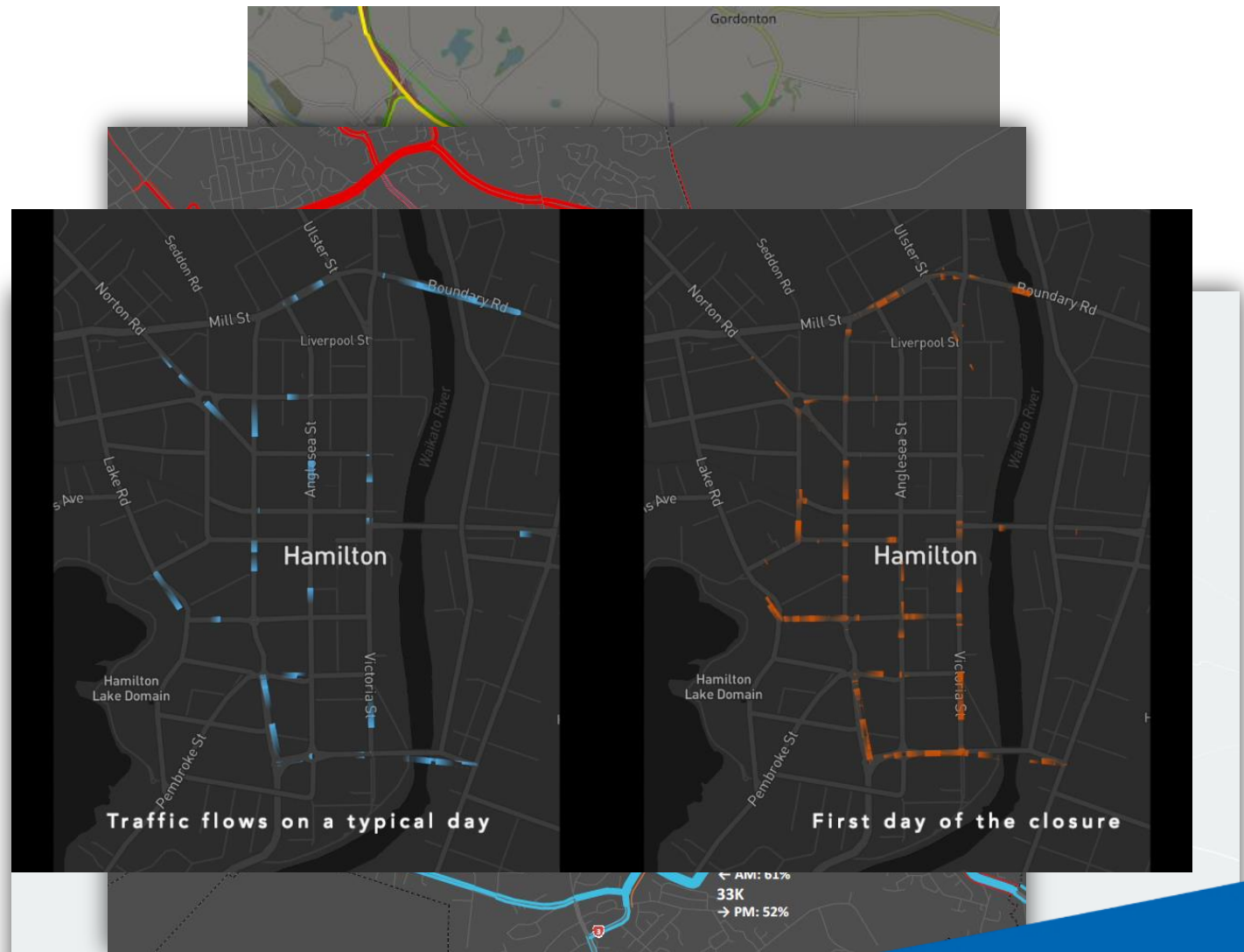
Outcomes

Understanding **how people move around the city** enables better decision making. Data is now 'needed' for decisions.

Planning - where to build facilities, and when to close roads

Inform decisions - from forward work programmes to contractors

Enhance operations - real time management



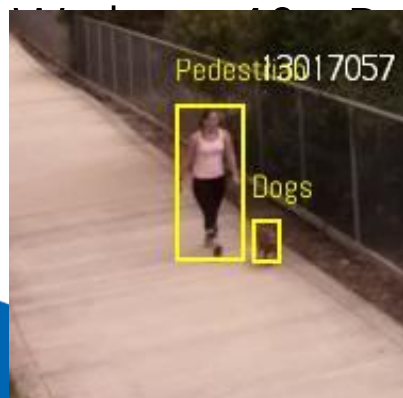
New data source: Pathway Counters (micro-mobility)

Problem: It's expensive to roll out city-wide counters that are solar-powered and can count all required modes

Solution: We partnered with two local tech companies (hardware & AI) to build our own unit. They're solar powered, cheap, & easy to install.

They count people/cyclists/scooters/skateboarders/mobility scooters/etc...

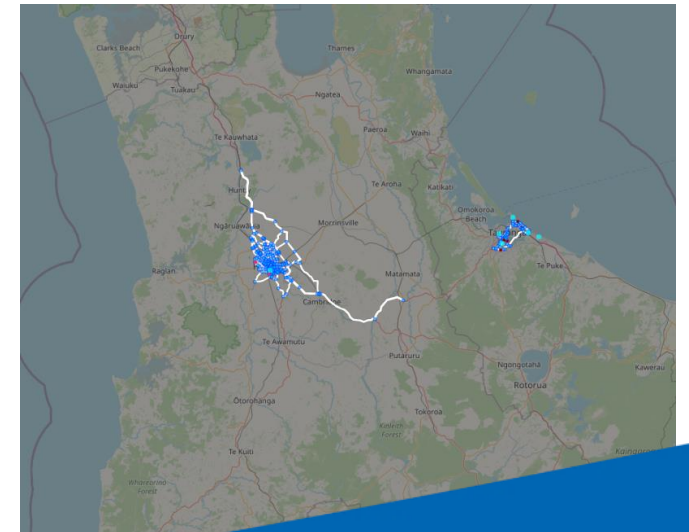
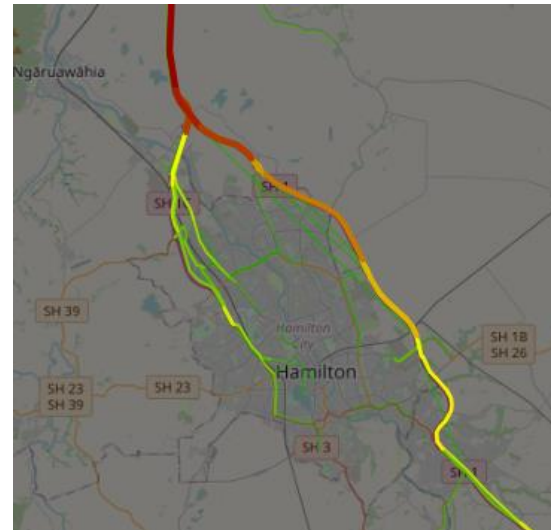
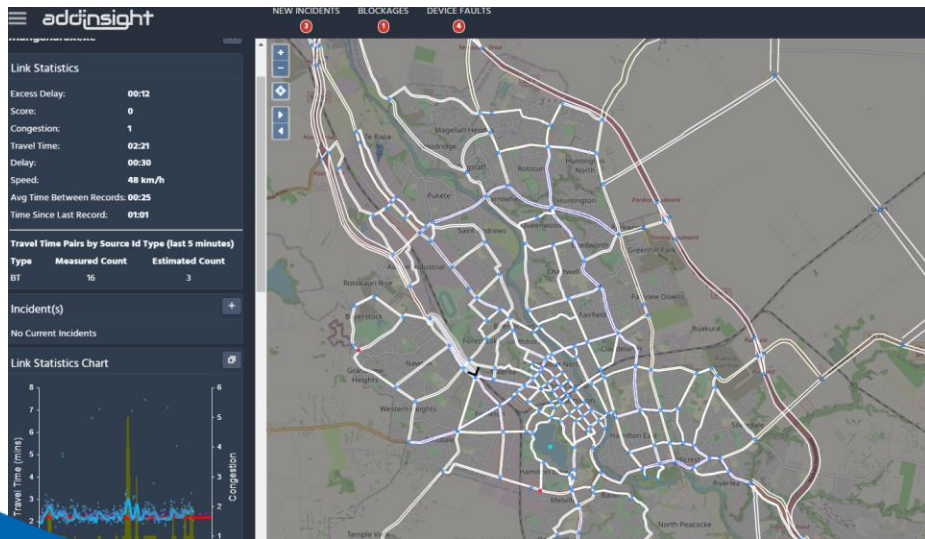
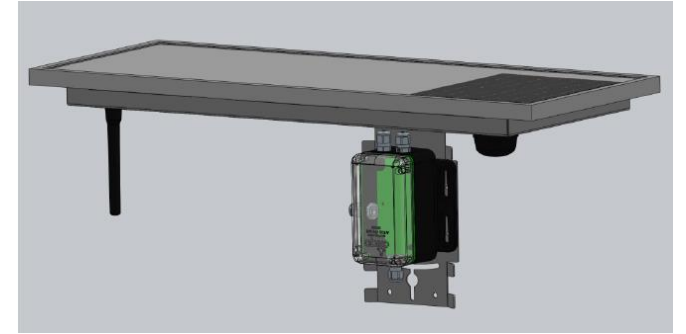
Co-developed, sold by Aware Group (already used in 4 cities)



New data source: Addinsight (bluetooth)

Valuable traffic movement data

- Samples approx. **25%** of traffic
- Comprehensive insights within a few clicks, including:
travel times, origin-destination, volume trends
- Four NZ cities using it, plus Waka Kotahi have started around the Waikato

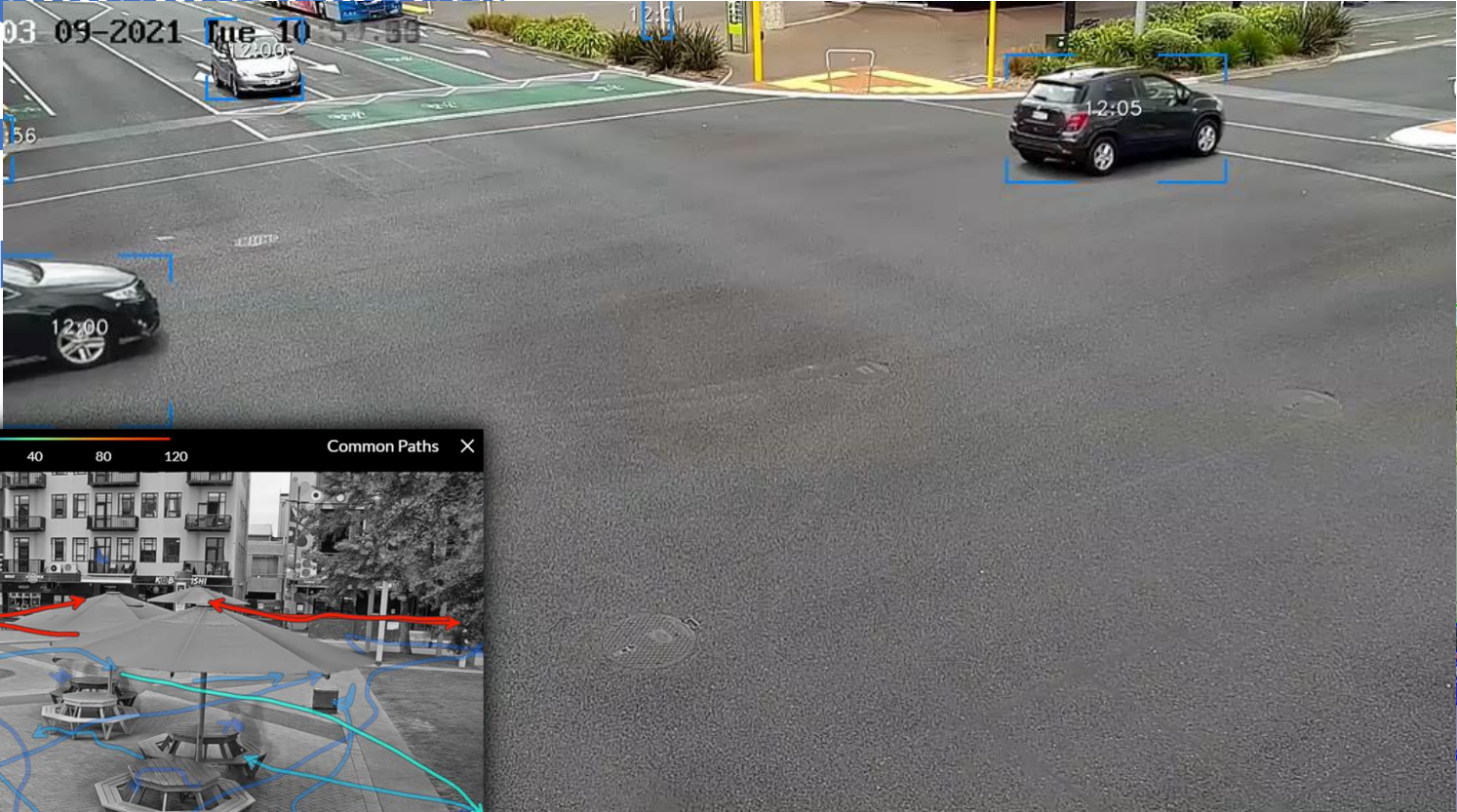


New data source: Camera Analytics

Vehicle **movement insights**

Pedestrian

Useful for **analysis**

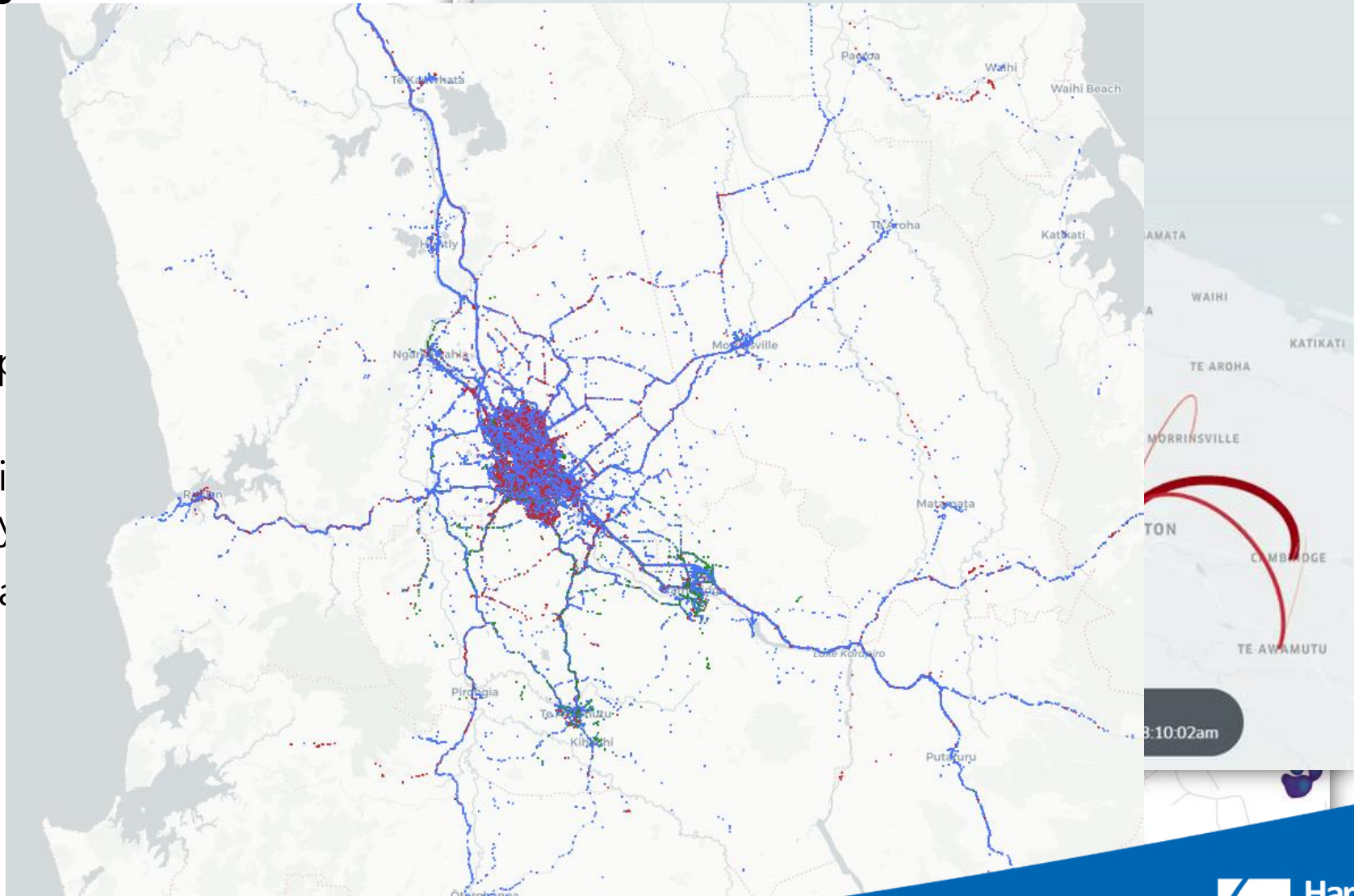


Wider travel insights

Freight movement

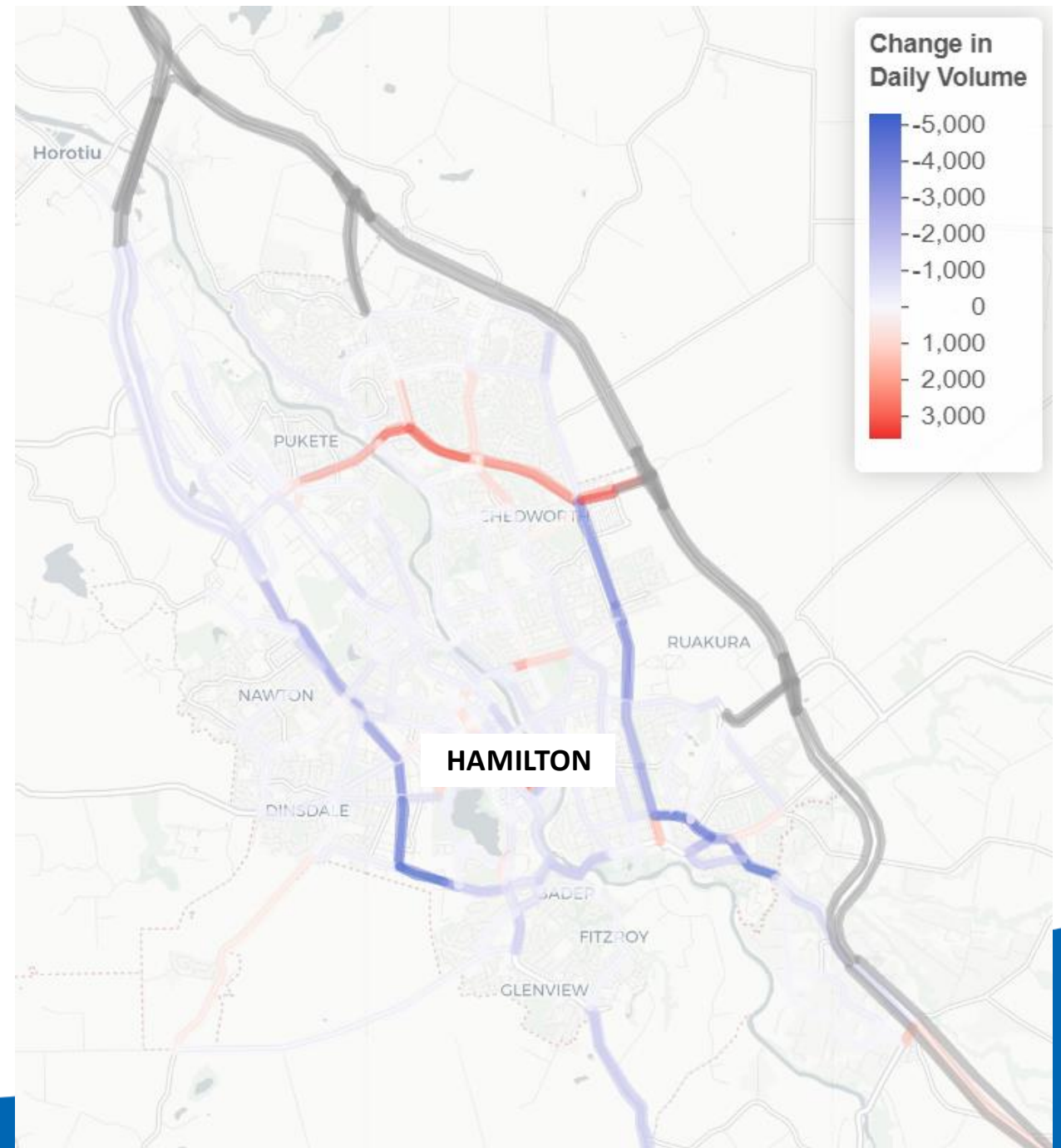
Regional travel

- **400,000** vehicle trips every day
- **50%** of peak traffic from outside the city
- (13% each Waikato & Auckland)



Hamilton Bypass Opening

- Volumes have dropped 25% on Wairere Drive East. Increase on the northern section
- Travel time from Rototuna to Hillcrest is down 20% to 10 mins with greater reliability
- Report in collaboration with Waka Kotahi will detail the overall effects on the road network

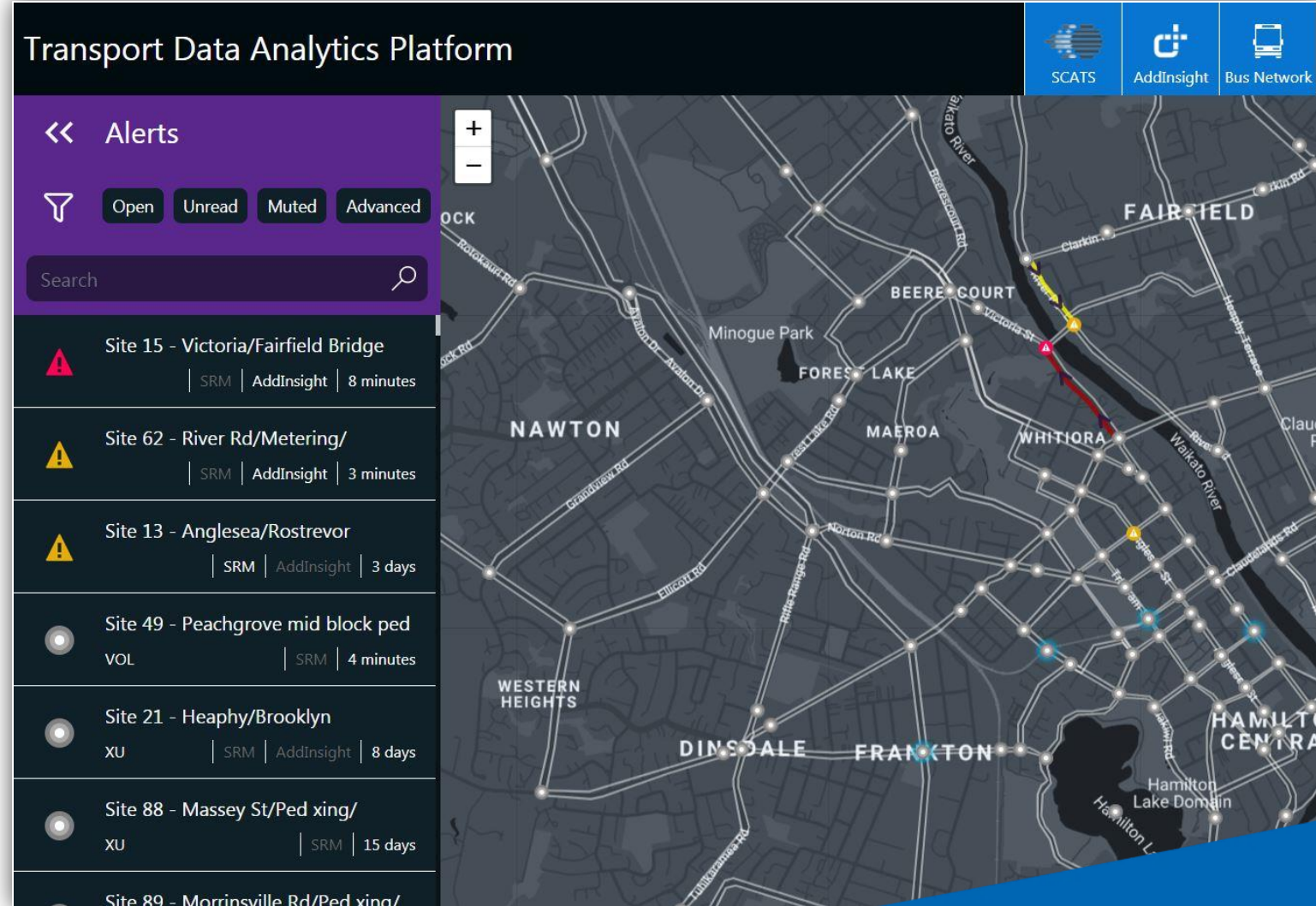


Project example: TDAP

Alert system for incidents on the road network

It didn't exist, so we made it!

- Combines 8 live data sources:
- Looks across the data sources for issues at the same location
- Removes the need to monitoring multiple windows
- Automatic text alerts
- Remote monitor via mobile phone




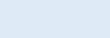
Project example: Mode share model

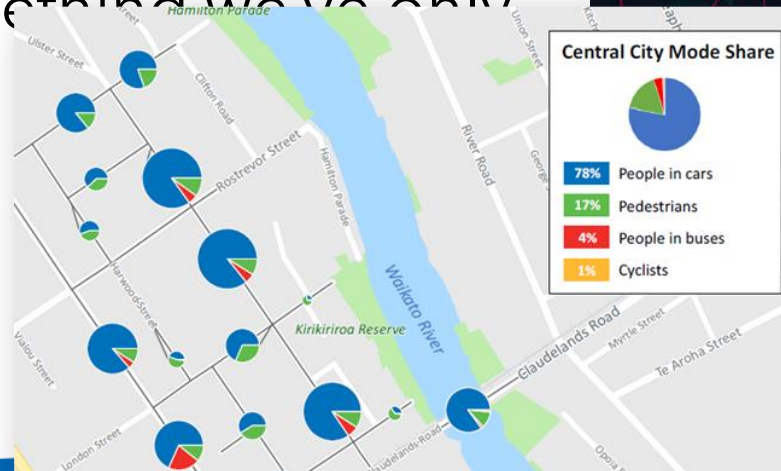
We're developing a **current-year** model that uses Machine Learning to estimate the **volumes** on every road in the city.

This includes **Pedestrians, Cyclists, Scooters, Motorbikes**, people on **Buses**, and **general traffic**.

To have an accurate model we need count and pathing data for every mode, something we've only

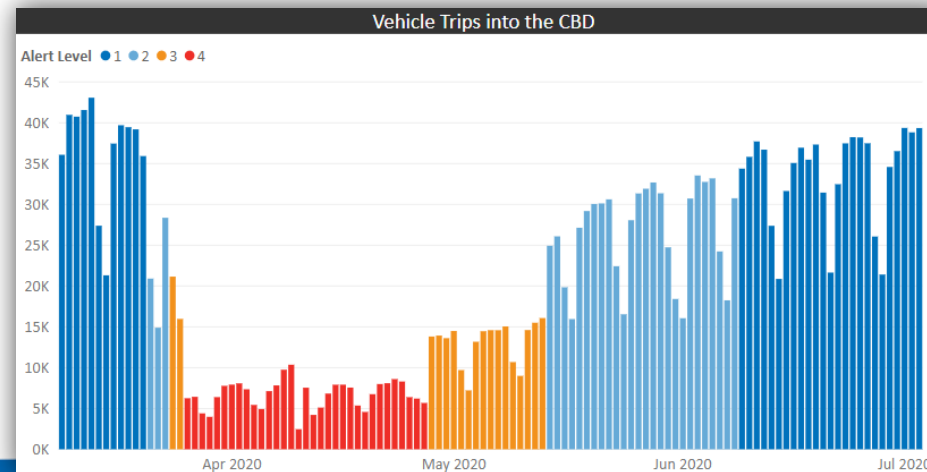
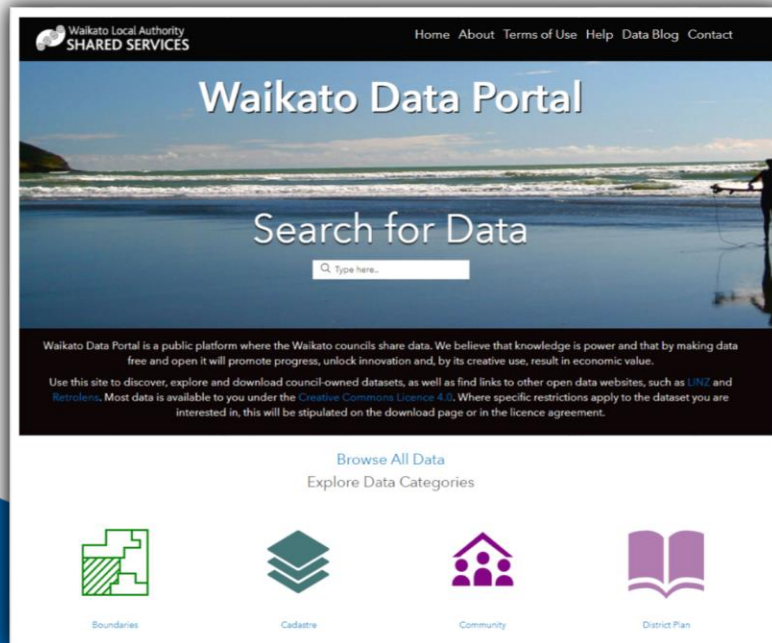
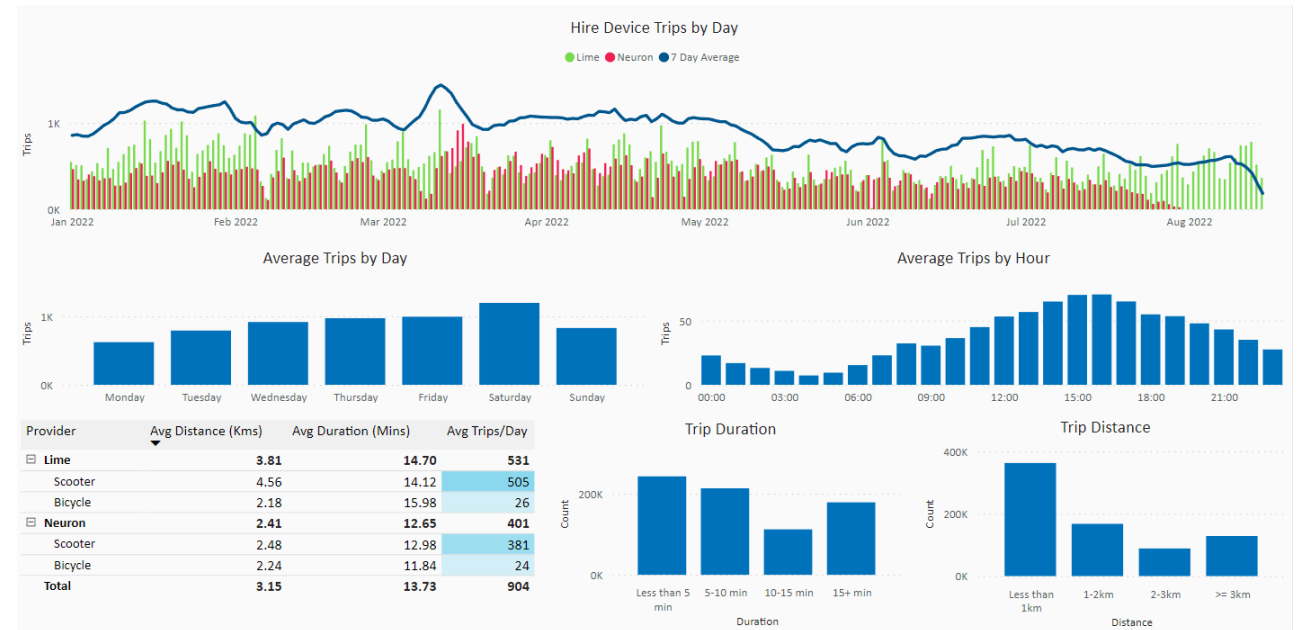


Mode						
Count	  	  			  	
Pathing			 			



Making data more accessible

- Self-serve dashboards: both internal and public (predominantly PowerBI with GIS maps in the works)
- Open data portal



Report Card

Quarterly report card on behalf of OneNetwork partners. Multi-modal shared data, sent to anyone interested.

The larger annual publication includes wider stats (e.g. freight, regional trends).




Thank you

FURTHER INFORMATION

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