Things That Move and Command Centre

Recommendation

That the Board:

i. Note the Things That Move (TTM) and Command Centre solution update (Attachment 1).

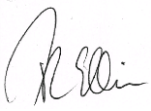
Executive summary

The TTM and Command Centre solutions will be presented as a demonstration as part of this agenda item. Please refer to Attachment 1.

Attachments

Attachment Number	Description
1	TTM and Command Centre Presentation

Document ownership

Submitted by	Paul Riding **Programme Delivery Manager**	
Submitted and Recommended by	Roger Jones **Chief Technology Officer**	
Approved for submission	Shane Ellison **Chief Executive**	

Attachment 1

Things That Move (TTM) and Command Centre

Overview and Demonstration

Auckland Transport
An Auckland Council Organisation

What are Things That Move (TTM) & Command Centre?

TTM and Command Centre are key components of our wider technology toolset to help provide solutions to some of AT's highest priority challenges:

- Provide up-to-date, reliable and accurate information to our customers to help them manage their journeys, irrespective of their mode of transport
- Active management of the Public Transport (PT) network to minimise disruption to our customers
- Increased safety on our network
- Improved performance of our existing assets enabling a more reliable and consistent service, reducing barriers to PT adoption

AT are working with market leading technology partners on the development of these solutions:

Microsoft

Things That Move

MACHINE ZONE

Command Centre

How do TTM & Command Centre help AT?

Through the Real-Time programme of work, TTM and Command Centre will help to deliver a fully integrated approach to transport management. For the first time at AT, this will enable the active management of the network via one single pane of glass.

This is being achieved via two closely aligned and integrated streams of work:

Situational Awareness

- Real-time location of assets
- Monitor health status of assets
- Detect exceptions to normal patterns across thousands of inputs
- Alerts users / customers to unplanned events
- Visualise real time incidents / events
- One single network view across customers, operations teams, operators and third parties

Decision Support

- Consumes Situational Awareness data
- Uses advanced Artificial Intelligence and Machine Learning to transform that information from data to *actionable insight*
- *Ability to process situational data and help guide operational team to make better decisions*
- *Predict the impact of external events on "normal" network flow*
- Actively manage connections between modes

What has been done to date?

The development of the Real-Time ecosystem is an ongoing programme of work that will evolve and grow as AT better understand how we can use actionable insights to better serve our customers and manage the network.

Situational Awareness

- Core user interfaces developed with a range of business user input
- Ingestion and display of all real mode location data
- Display of additional data from modes (for example occupancy, trip history, disruptions etc.)
- Deployment to customer-facing teams to help triage customer issues
- Support for the Day of Operations team, Fullers, TransDev and selected operators is underway
- Alerts platform to surface anomalies / issues to customers
- Build of underlying technology platform to support scaling the solution

Decision Support

- Build of predictive algorithms to prove out the bus / ferry connected journey use case (Hold / Go)
- Bus occupancy stop prediction trials
- Bus occupancy real-time
- Ingestion of a range of external data to inform more accurate predictive modelling, e.g. weather

Demonstration of Things That Move & Command Centre

Next Steps

This is a journey that will evolve over time and modes are added and change, e.g. active modes, Autonomous Vehicles, light rail.

Situational Awareness

- Integrate into the AT Mobile app and make data available
- Expand across other modes

Decision Support

- Extend algorithims across the whole network and modes
- Include active and vehicle modes
- Extend occupancy to ferry and rail
- Add other data sources e.g. roadworks, social media, and other sensor data