

VicRoads / Fulton Hogan



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CASE STUDY

YOTTA
FROM DATA TO DECISIONS

VICROADS BROADENS ITS **HORIZONS** with the help of Yotta's Strategic Asset Management Platform

VicRoads, the road and traffic authority for the Australian state of Victoria, is always eager to embrace new technology to enhance its strategic asset management approach. Faced with the need to deliver a maintenance programme for two large-scale Maintenance Alliance Contracts, encompassing more than 7,500 kilometres of arterial road network, VicRoads formed an alliance with asset management delivery leader, Fulton Hogan.



The two organisations recognised the opportunity to improve network data visualisation and broaden the scope of long-term analysis. As things stood, they were restricted to using engineering/condition-based factors to shape their asset maintenance management strategy.

VicRoads and Fulton Hogan needed a system that could visualise highways maintenance information and present it to a diverse range of stakeholders.

They also needed a solution that could move beyond traditional condition-based data and

leverage other economic, environmental and social data sources to help drive maintenance planning and make decisions on future schemes of work.

Working with multi-disciplinary infrastructure consultancy, Opus International Consultants, the Alliance members opted for the asset management software, Horizons from technology company, Yotta to address their challenges.



Horizons enables users to clearly see and explain to stakeholders what is happening across the road network and the potential outcome of any decisions taken. This helps drive transparency and confidence in the results of analysis and makes it easier for VicRoads to extend engagement to a broader diversity of stakeholders.



Challenges:

Lack of single source of truth for data

1

Challenges in engaging with different types of stakeholders

2

Low level of transparency and confidence in maintenance renewal forecasting

3

Restricted to using condition-based planning

4

Difficulty adapting to changes in network performance and business processes

5

Financial constraints resulted in short-term maintenance focus

6

Benefits:

PROVIDE UP-TO-DATE INFORMATION

by amalgamating datasets from all business systems, including condition, completed works and defects data

ENHANCED ENGAGEMENT

with larger diversity of stakeholders through smart network data visualisation

INCREASED TRANSPARENCY AND CONFIDENCE

in analysis results through detailed justification of works planned

ADAPTING TO GOVERNMENT INITIATIVES

by using political factors such as shifting budgets

REDUCING FUTURE COSTS

on reactive maintenance by incorporating that data into the modelling

INCREASED COMMUNITY SATISFACTION

by including socio-economic factors such as school zones and tourist routes

HIGHER ACCURACY

of planned works by using detailed condition data and business rules

IMPROVED COMMUNITY SAFETY

by integrating accidents and road defects data in the planning

ENABLES RESOURCES

within the authority to be freed up and re-assigned away from manual highways inspection tasks, thereby reducing costs and driving operational efficiencies



With the software implemented, VicRoads decided to use a ground-up approach, engaging with workers at the coalface to establish what kind of maintenance activities were required. This has been balanced against a top-down strategy based on the available budget. Helping to make this possible is Horizons' ease-of-use and rapid analysis capabilities. Horizons helps VicRoads utilise detailed network condition data, enabling the authority to assess how far its budget would extend with existing resources and therefore what schemes of work it should opt for.

The use of Horizons also enables VicRoads to adapt to changes in government funding and help shape future budget discussions by presenting proof of what the network will look like under different budget scenarios.

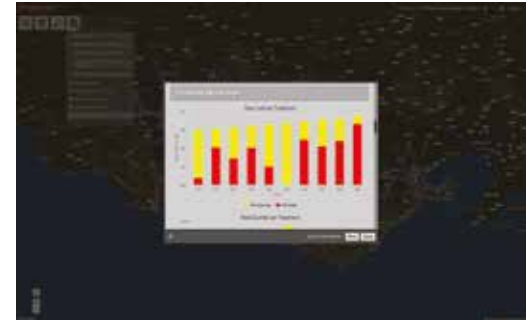
In one of the two regions covered by the project, for example, Horizons delivered analysis that showed a particular sub-network was becoming 'distressed' and therefore required additional funding.

Based on Horizons' analysis, VicRoads secured this for a four-year period, a hugely positive outcome for the local community that will provide wider economic benefits for the region.

Being spatially-enabled, Horizons also allows users to bring together diverse datasets. VicRoads has been able to bring in a broad range of performance indicators such as crash statistics and network demand as well as the financial burden of reactive maintenance.

Added to this, it has also been able to integrate with internal data sources, like its own asset register, to make use of defect counts in the analysis.

HORIZONS



VicRoads also draws on socio-economic data such as information about traffic flows, popular tourist routes, school zones, and the location of other services, to help it to prioritise schemes of work.

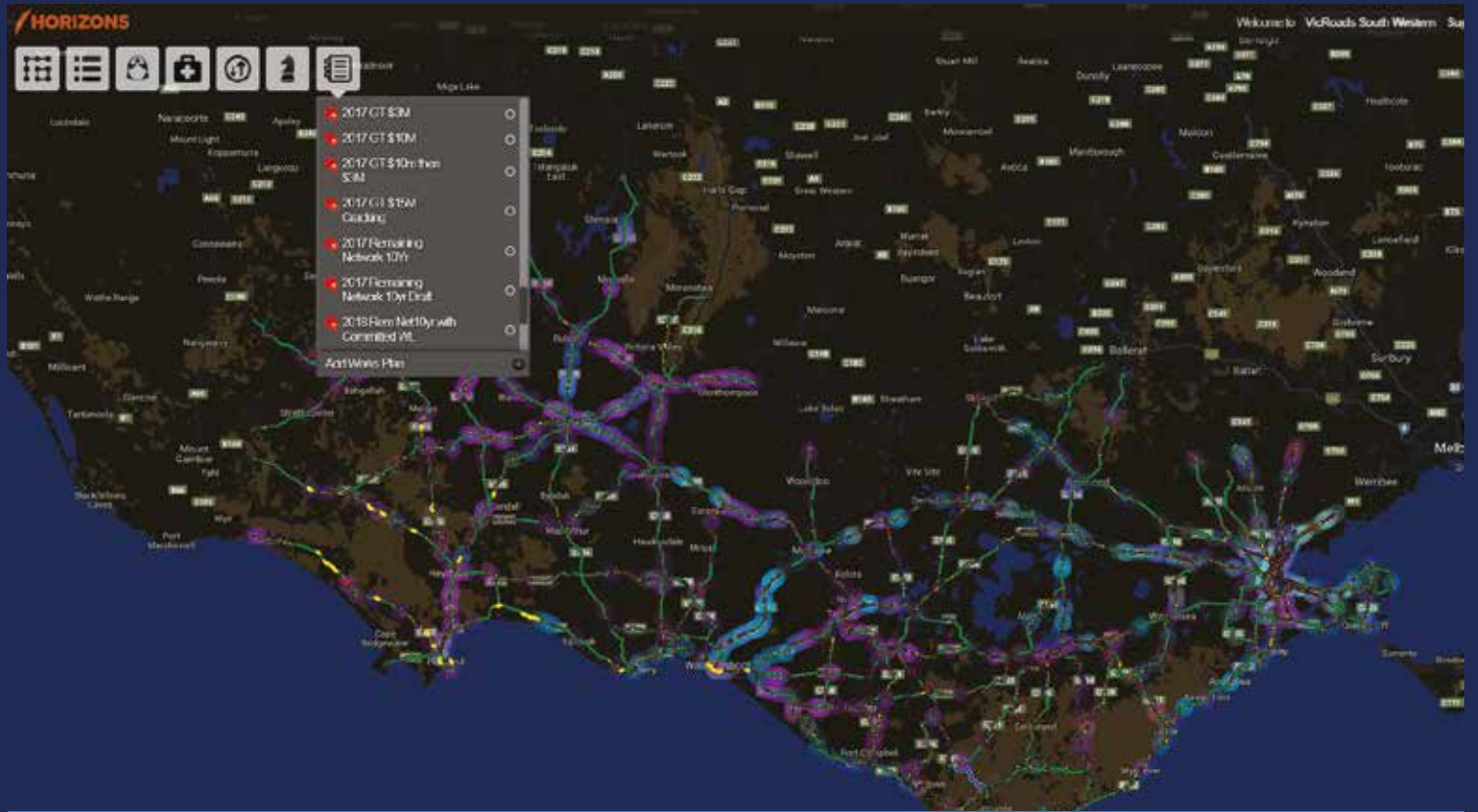
“Horizons allows us to demonstrate and visualise outcomes and plans to stakeholders in a transparent way.”

“Using Horizons has helped us to visualise the road network for Fulton Hogan and VicRoads and present different options. We use it as part of an integrated approach. If we make a recommendation, it is not just our viewpoint. We can provide evidence based on the analysis of relevant data sets. We can, for example, say to VicRoads: ‘If you were to receive additional funding at a given level, this is the range of choices you could explore.’

“allowing us to demonstrate and visualise outcomes and plans to stakeholders in a transparent way. Instead of using numbers and tables, that most people struggle to relate to, Horizons employs eye-catching visuals and dynamic graphs that people can immediately understand. It is an approach that helps win ‘hearts and minds’ inside and outside the organisation.”

BRUCE CLAYTON  **OPUS**
Sector Leader Infrastructure Asset Management

Today, Horizons is embedded as part of VicRoads overall asset management approach and strategy across the two project regions. It's given VicRoads a clearer picture of the status of their highways assets today and by enabling them to analyse the likely outcomes of different maintenance scenarios allowed them to make faster and better informed decisions.



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Yotta, Level 14, 380 St Kilda Road, Melbourne, VIC, 3004
Telephone: +61(0)3 8391 3014 Email: sales@yotta.net.au

www.weareyotta.com/au