



BLURRING the LINES

DUNEDIN
THURSDAY 22 JUNE -
SATURDAY 24 JUNE 2017

Integrating our efforts



Young IPWEA NZ Presentations

Fire compliance studies made possible

Author & Presenter: Bernadette Dabbak, Opus

Local authorities across New Zealand are trying to comply with the national Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008). The process to determine whether a structure is compliant involves carrying out investigations relating to the building's activity and floor area for its largest firecell. A hydraulic analysis is then needed to assess the availability of fire flow for that building. This requires setting up a separate hydraulic model run for each building's fire compliance analysis. Alternatively, field testing of several hydrants in the vicinity of the building would also determine the fire flow availability. All of this makes the analysis of a whole town or city for fire compliance a long, expensive, and impractical process. An innovative approach was used to provide a fire compliance study for Gisborne using a combination of GIS analysis and hydraulic modelling.

A Fire Fighting Performance Map was produced and allowed a better understanding of the nature and extent of the upgrades required to achieve a satisfactory level of fire flow availability. The firefighting compliance analysis was conducted after integrating the proposed upgrades and the results revealed large improvements in fire-fighting capacity.

This analysis could be carried out across other local authorities. It proved to make Fire Compliance checks and upgrades identification across large towns and cities feasible, efficient, and affordable.

LED street lighting retrofit project - Working collaboratively

Author & Presenter: Ting Ge, Waitaki District Council

LED street lighting retrofit projects offer a real opportunity to Road Controlling Authorities (RCA) in New Zealand to reduce maintenance costs and energy consumption. The results of trials conducted across New Zealand demonstrate sizeable savings and provide a very strong case for a nationwide LED retrofit programme.

NZTA has co-ordinated collective thinking between a number of authorities in New Zealand and have developed standard LED product approval methodologies to assist RCA's in their LED renewal programme.

The Waitaki District Council, NZTA and other Otago/Southland RCA's, have integrated their efforts and formed a collective buying group based on the total luminaire numbers across the region for a more cost-effective result.

The group reached agreement and collectively put to the market via public tender a regional based specification and schedule and achieved significant cost savings. This regional package also allows for future stages of the project, through inclusion of V category luminaires.

Key benefits/achievements:

- Capital and on-going maintenance cost savings through retrofitting of new LED technology.
- Consistency across RCA's which meets the One Roding Network Classification requirement.
- Compliance with relevant standards and applicable approval processes across the region within the local and NZTA network.
- Improved management of risk.

Technology in winter maintenance

Author & Presenter: Adam Humphries, Fulton Hogan

Snow and ice can create hazardous winter driving conditions for all road users. Integrating technology with a focus on proactive safety management is enabling smarter decisions in winter maintenance operations. Fulton

Hogan have added vehicle mounted road surface temperature sensors to the list of tools used to assist with decision making and delivering timely, safe and cost effective winter services.

The sensors measure both air and road surface temperature and display it on a smart phone in the vehicle's cab. At the same time, photographs of road condition are automatically taken and, along with the temperature data, sent back to the office in real time and made visible on a web map. Key benefits of the system include:

- Making continuous real-time data available to staff in the cab, enabling more informed decisions about grit or CMA application, particularly during fringe periods of the season
- Combining the real-time data with network knowledge and road safety GIS analysis expertise to better understand and manage high risk areas of the network.
- Enabling timely and accurate road condition information to be shared with road users and customers

Data, data, everywhere – Life after data collection

Author & Presenter: Jules Scott-Hansen, Opus

Since 2014, Christchurch City Council has invested in the collection of asset condition data for around 560 km of open channel waterways, in order to understand the impacts of the earthquakes and to help derive the current condition of the stormwater network across the city. Now that the data collection phase is complete, and a 25GB dataset collated with over 25,000 data points, the focus shifts to analysis of the data to guide asset management and operations & maintenance decisions.

Blurring the lines - integrating our efforts - has been implemented in the project process by involving City Care as contractors throughout and ensuring an open and continuous dialogue with the client. The wider project impact has also been a key focus with the ultimate benefits to the wider community and environment in terms of flood risk reduction.

Three key outcomes/points:

- Development of a survey specification and bespoke data collection tool to enable more efficient data capture in the field and enhanced data processing and delivery.
- Delivery of a consistent and complete dataset involving asset attributes and condition assessment for 560 km of waterways across Christchurch City.
- The overall dataset is allowing for more targeted and efficient spending by enabling Council to continuously improve on aspects of strategic decision making and budgeting for capital and maintenance works.

Two cultures, one contract. Breaking the mould with an alliance!

Author & Presenter: Rob Sharp, Downer

In 2013 two parties made a bold move and joined the revolution that is the collaborative contract model. Diverging from traditional procurement models, Tararua District Council and Downer entered into an Alliance to plan, design, deliver, maintain and manage all roading infrastructure in the district. Late in 2015 the 3 waters reticulation was incorporated into the contract.

Integrating these two work streams comes with a range of unique challenges: individual reluctance, group think, managing public perception and a general lack of understanding being just some of these.

Creating a culture is never easy, and managing change with a wide range of personalities can be a daunting task, but one worth pursuing.

Shifting the focus to best for network and best for customer, the Alliance blurs traditional contract lines to create an environment where improvement is not only encouraged but expected, and where risks are managed to unlock great opportunities with the use of new tools, plant, technology, and processes.

Downer NZ and Tararua District Council are advancing the use of asset management with the ultimate goal of excellence in planning, delivery and governance.

- Creating a culture of integration and the managing the challenges that come with change, from all perspectives
- Identifying and managing the opportunities created in a collaborative contract
- We've come so far, but what's next?