OPUS

In-Touch

Opus Research

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PUBLIC ATTITUDES TO DATA INTEGRATION

"Better data means better decisions, resulting in greater well-being for all New Zealanders."

We live in an age where our lives can be improved by better use of the data that is collected about us. This is most noticeable where different data sets are able to be integrated, for example in the health sector, where linked datasets between agencies ensure a better level of efficiency, a better understanding of medical history, and ultimately a better level of care.

On the other extreme, some would suggest our data is already being collected to monitor us and that "big brother" is watching. Movies like Minority Report raise moral questions around data use, in this case to predict pre-crime activity prior to it happening, but there are less extreme examples where data can be used to unfairly stereotype people if used inappropriately.

So what is our willingness to accept data integration and sharing, under what circumstances are we more trusting, and what are the underlying reasons for this?

By gauging the level and extent of public concerns around privacy and appropriate use of data, public sector agencies and the Statistics New Zealand Integrated Data Infrastructure (IDI) unit will be better positioned to anticipate public requirements and respond appropriately.

"THE OPUS RESEARCH SHOWS THAT THE NEW ZEALAND PUBLIC ENDORSE THE USE OF INTEGRATED DATA IN A SAFE ENVIRONMENT FOR PUBLIC GOOD RESEARCH. AS STEWARDS OF THE DATA, OUR ROLE IS TO MAINTAIN OUR HIGH STANDARDS OF SECURITY AND KEEP THE PUBLIC WELL-INFORMED ABOUT HOW THEIR DATA IS USED."

Deb Potter, Statistics New Zealand

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IN THIS ISSUE

HOW DID WE LOOK AT THIS?

In undertaking this project for Statistics New Zealand, we used a mixed-method, qualitative approach to investigate these complex concepts across a diverse range of groups, using narrative interviews, interactive workshops and online expert forums. An in-depth qualitative approach ensured participants understood the processes of data integration, so that they could engage thoughtfully and in greater depth with this topic.

"THE OPUS TEAM SHOULD BE COMMENDED ON THEIR OPEN, COMFORTABLE AND PROFESSIONAL ATTITUDES, THEIR FLEXIBILITY, AND DEEP EXPERTISE IN QUALITATIVE RESEARCH. THE RESULTS CLEARLY POINT TO OUR HAVING SELECTED THE RIGHT PEOPLE."

Che Tibby, Statistics New Zealand

WHAT DID WE FIND?

Overall, most New Zealanders appear to have a positive perception around data integration within public sector agencies. Acceptability thresholds are influenced by previous experiences and a more general value-based concern around use.

On a broader scale, acceptability of data use is complex and multi-faceted. People consider it extremely important that data is shared with and used by the right people and for the right purpose, to provide benefit, and minimise harm.

"MOST INFORMATION HAS THE POTENTIAL FOR A POSITIVE AND NEGATIVE OUTCOME FOR DIFFERENT PEOPLE. IT DEPENDS WHO MAKES THE DECISIONS AND WHO HAS THE INFORMATION."

Anonymous participant

To read the full report visit:
http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure/public-attitudes-data-integration-2015.aspx

FINAL THOUGHTS

There is a desire to balance the benefits of data integration with public concerns around privacy and appropriate use. However, due to complexity and potential public repercussions if something does go wrong, we are probably tipped towards a conservative approach in terms of how we use data. Research such as this and other continued work via agencies such as Statistics New Zealand and groups such as Data Futures Partnership will help. Another aspect is filling the public knowledge gap around the robust processes that are already in place to continue to build public trust, and to better share the direct and indirect benefits that could be gained through improved data integration.

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"BETTER DATA MEANS BETTER DECISIONS, RESULTING IN GREATER WELL-BEING FOR ALL NEW ZEALANDERS."

SHARED SUCCESS AT THE IPENZ TRANSPORT GROUP AWARDS

In March, Opus Research's Road Safety Research Leader Bill Frith and colleagues Mike Jackett from Jackett Consulting, and Julian Chisnall and Fergus Tate, both from the New Zealand Transport Agency, presented a paper at the IPENZ Transportation Group Conference in Auckland. Titled 'The safety impact of road lighting on roads with speed limits greater than 70km/h', the paper won the Best Practice Paper award.

The paper reported on a project to improve understanding of how road lighting quality influences night-time crashes in higher speed areas on the urban fringe. The study included the use of log linear modelling, and illustrated relationships between crashes and lighting parameters for motorways, median divided highways and single carriageway roads. The study found there was no evidence that lighting motorways to above current design standards would improve safety. Increasing the overall uniformity of lighting for some scenarios did show improved safety, although no safety relationship was found for longitudinal uniformity. However, lack of longitudinal uniformity may impact on safety further down the road as it has been shown to adversely affect driver fatigue. Rear end crashes were strongly reduced by lighting, but reductions were generally greater for more serious crashes. Single vehicle lost control crashes appeared to be little influenced by the presence of lighting.

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Bill Frith

OPUS MAKES SUBMISSION AT THE BEEHIVE

Presenting from left to right: Vivienne Ivory, Louise Baker and Lorelei Schmitt

Earlier this year, the New Zealand Government invited submissions as part of an 'Inquiry into the Future of New Zealand's Mobility'. The inquiry sought to investigate how changing transport technology and social/economic trends are able to enhance productivity, reduce transport and related costs, optimise infrastructure, increase accessibility and social connectedness, save lives, reduce injuries, and reduce the environmental footprint.

As Opus actively works in this space, we were pleased to have the opportunity to participate and to help shape future policy direction and prioritisation of initiatives going forward. We were invited to present on our submission in mid-May. Our oral presentation was delivered by Senior Sustainable Transport Consultant Lorelei Schmitt with support from Principal Sustainable Transportation Consultant Louise Baker and Urban Scientist Vivienne Ivory.

The content of our submission was well-received, and we were complimented on being "clearly experts" in this space. During the oral submission we also received a range of feedback and questions from the cross-party committee members, the questions and our responses follow:

Do we provide much in the way of advice to councils on future mobility scenarios? Yes, Opus works closely with local authorities to plan for future mobility needs, for example, developing local travel demand management strategies, and quantifying latent demand for active transport modes, as well as providing thought leadership about strategic investment into long term transport infrastructure.

What, in our opinion, should Auckland Transport CEO David Warburton's top three priorities be? We like the focus and investment in public transport. There are also immediate, cost effective measures that can be taken to relieve congestion, alongside current initiatives, for example supporting ride sharing through addressing regulatory barriers and providing High Occupancy Vehicle lanes to encourage more efficient use of existing roads. Areas outside the urban core also warrant attention, growth areas on the urban fringe with limited public transport options that are experiencing new congestion could be targeted with schemes that encourage more ridesharing or carpooling, and transportation network companies such as Uber could help to feed people into the public transport system.

What is it like using the NZ car-share scheme Cityhop? It is great! It means households can target their mobility spending on actual travel rather than maintaining and parking a car 24/7. It could be made even easier if councils supported such initiatives, for example, providing access to space for car collection and drop-offs.

Are the government's current infrastructure spending priorities right? We think efficiency needs to be at the core of investment decisions. Heavy rail to move goods and people long distances, public transport to move many people short to medium distances, and walking and cycling to move people short, local distances. Infrastructure investment is currently geared towards infrastructure that promotes individual vehicle travel, which is often not the most efficient means of moving people and goods either short or long distances.

To find out more about the inquiry and read other submissions go to this link: http://www.parliament.nz/en-nz/pb/sc/make-submission/51SCTIR_SCF_00DBSCH_INQ_68267_1/inquiry-into-the-future-of-new-zealands-mobility

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COLLABORATION IN ACTION

In the last issue of In Touch, we profiled Opus Research's involvement in the Whanganui River cycleway project for Whanganui District Council that was designed by Craig Pocock of Pocock Design Environment. At Opus, our project teams more often than not include team members from several locations and other partners – both New Zealand-based and from overseas. We also frequently work alongside a diversity of technical professionals from external organisations and/or fields of expertise. The Whanganui River cycleway project with Pocock Design Environment, a well-regarded landscape architecture and master-planning company, was only one project of many that Opus and Pocock Design Environment have collaborated on and delivered great results for the clients.

Opus recently collaborated with the Pocock team on a mainstreet rejuvenation project in Picton. Opus' locally-based Civil Engineering Technician Gary Small oversaw stormwater design and contract documentation preparation project elements, while Pocock provided the master planning and landscape architectural inputs for mutual client Marlborough Roads. The waterfront end of Picton's main street was already well-utilised and attractive, but the upper end of the street was uninviting – particularly for pedestrians. Following Pocock's thoughtful redesign, the area has been significantly improved resulting in a more inviting experience for all, better parking areas, rain water gardens and street trees to provide a more pedestrian scale space to the street space.

Craig also brought both professional and local knowledge to the design table while working with Andrew Bruce and his team from Opus on the Invercargill CBD master planning project. To see other projects that Opus and Pocock Design Environment have worked on including the master planning of the Invercargill CBD check out www.designenvironment.co.nz.

Picton main street rejuvenation

Invercargill CBD

SOMETHING IN THE AIR

The curing, packing and storing of kiwifruit and other agricultural/horticultural produce are highly specialised and technical operations. To maximise profits and grower returns it is critical that produce loss is minimised as much as possible. This often relies on the provision and maintenance of good airflows through what can be large and complex facilities, to prevent fruit softening prematurely due to ethylene build-up.

And, as facilities evolve with the addition of new buildings and canopies, airflows can also change significantly, resulting in potentially dramatic effects on produce.

Companies in the kiwifruit industry are seeking ways to maintain or improve airflows in their curing canopy areas as expansions to their facilities have occurred or are planned.

Opus Research has recently carried out investigations of airflows at two facilities in the Bay of Plenty, one of these being the OPAC facility near Opotiki. These studies, carried out in the Opus Research wind tunnel, have aimed to quantify existing airflows under ambient wind conditions, as well as to identify the effects of building and canopy changes and to test proposed natural and mechanical ventilation solutions. These investigations have produced useful results for our clients, and have demonstrated that wind tunnel studies can help identify effective design solutions to maintain or improve on existing conditions, even in the face of significant facility modifications.

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OPAC facility near Opotiki

Opus Research wind tunnel

SHARING OUR EXPERTISE IN ROAD INFRASTRUCTURE MANAGEMENT

New Zealand's largest annual road asset and information management event, the Road Infrastructure Management (RIMS) forum, was this year held in Rotorua. Opus' representatives at the forum included Structural Performance Technologist Guillaume Roux and Materials Scientist Jeremy Wu.

Jeremy's focus at the event was to network with other pavement and road professionals and to share his pavement and road surfacing research experience. This included recent projects on roading material modifications, binder performance specification, and Opus Research's Circular Accelerated Surface Testing (CAST) facility, which attracted strong interest from delegates.

For Guillaume, his focus was to promote Opus Research's sensing expertise – particularly in Structural Response Monitoring. We have grown our capability in real-time bridge monitoring over the past five years through involvement on a number of projects across New Zealand.

Guillaume also gave short talks on our versatile and low-cost standalone bridge monitoring system. During these talks and workshops, he was able to demonstrate the benefits of this new service to New Zealand's road infrastructure industry leaders. Our approach, in conjunction with Opus bridge engineers, is to provide a modular system that is easy to install on any structure, and which can wirelessly stream data for easy and fast analysis.

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Jeremy Wu and Guillaume Roux

MOBILITY INNOVATIONS FOR WALES

Opus Research has recently collaborated with Opus colleagues in the UK and New Zealand to provide expert advice and leading edge thinking about mobility innovations for Wales. We were asked to contribute advice to the Welsh Government's Department of Economy, Science and Transport, to support their new business plan. We were asked to think broadly and to identify ways that innovations could contribute to well-being and meet known and unknown challenges.

The team brought together a diverse group of people with wide-ranging expertise in transport, asset management, behavioural and urban science, public health, and data science. We called on examples of existing Opus projects, including our research, knowledge of the underlying issues (such as improving accessibility to poorly served groups), and our knowledge of potentially useful, innovative approaches worldwide. We provided a simple, short document highlighting international examples of success, innovation and new approaches to transport with a lens on well-being outcomes and a user-centred approach that considers future environmental and customer needs. The document was supported by an extensive database of literature, projects, and concepts from around the world that linked these innovative approaches (and where possible evidence) to the benefits identified in the Welsh Government's Well-being of Future Generations Act (2015).

The results have been built into the Welsh Government's business plan for the Network Management Division. Specific pilot projects are now being developed by Opus around a range of transport innovations able to be trialled and tested.

Vivienne Ivory
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RESEARCH MANAGEMENT

Peter Benfell recently became Opus' Director of Innovation & Opus Research, responsible for the company's research and innovation performance globally. Peter continues to be based at our Petone facility in Wellington and have overall responsibility for Opus Research, however a new role has been introduced at Opus Research to provide operational management to the research sciences teams - Pavements, Engineering, Urban, Environmental, and Behavioural Sciences teams.

Wendy Turvey has been appointed to this new role of Research Operations Manager.

Wendy has 30 years experience in environmental management, resource management and project management. She has been with Opus for 15 years and has managed Environmental and Property teams as well as providing technical advice to a range of Crown and local authority clients.

Sheldon Bruce is the other key operational manager reporting to Peter and leads our laboratory testing services and asset performance teams.

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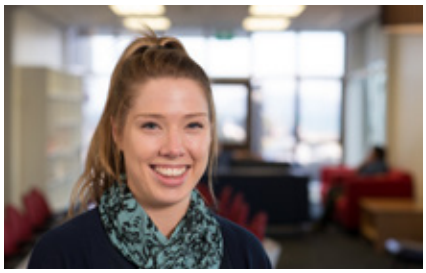
Wendy Turvey

Sheldon Bruce

NEW TO THE TEAM



FRANCES KEAN

Frances Kean has recently joined Opus Research as our Client Care Coordinator in our business services team. Frances' background is in health and fitness, and she holds a degree in sport and exercise and a postgraduate certificate in medical technologies. Prior to joining Opus, Frances worked as a personal trainer and in administration for WelTec's international office. Frances has also represented Wellington in table tennis and cricket.

Frances Kean
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LANCE MOLYNEAUX

Instruments Engineer Lance Molyneaux is a recent graduate of Victoria University Wellington, with an ME in electronic engineering.

For his master's project, Lance designed an underground mine scout robot which is highly mobile, and able to gather sensor data in hazardous underground mine environments.

Outside of work, Lance plays a lot of football and enjoys tinkering with automated toys and technology. His current focus is a modular sensor system, with a view to improving monitoring capabilities.

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MIKE LUSBY

Mike Lusby is an electronics/IT/software specialist based in Palmerston North. Mike has joined our Instrumentation Team to develop and implement novel instrumentation solutions. Recent projects include bridge monitoring, traffic statistics, and the instrumented bike.

Mike is an avid powerlifter and enjoys motosport, both as a driver and an engineer.

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