

SURVEYING **SPATIAL**

June 2019
Issue 98

Planning for Future Communities: The Integrated Neighbourhood Framework

**Local employment and
growth: the Auranga Story**

**Young Professionals and
the CSNZ Workshop**



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● EDITORIAL



Designing future communities

Rachel Harris

This year's S+SNZ conference in Auckland provided a valuable platform for discussions on urban design and developments within New Zealand.

With a theme of 'Shaping Tomorrow's Communities', urban design, planning and the future of New Zealand communities featured prominently in presentations as the survey and spatial industries progressively take a significant role in the development of future projects.

According to the Ministry for the Environment, New Zealand is one of the most urbanised countries in the world, with 85 per cent of New Zealanders living in urban areas.

With rapid population growth in centres such as Auckland and social wellbeing increasingly a priority, future planning is focusing on many social, lifestyle and cultural factors to create sustainable communities.

Several new projects integrating these concepts were presented at the conference, with some developing ideas such as centralised transport hubs, communal amenities, socially interactive spaces and co-operative projects that are connecting communities and reshaping the urban landscape.

This edition features a diverse range of topics from across the surveying and spatial sectors, from a recent high court legal case, to a critique of the recent capital gains tax debate, and Young Professionals presentations.

Fresh from his presentation at S+SNZ's Auckland conference, urban designer Steve Thorne reports on the Auranga project, a new urban development aiming to incorporate sustainability and local employment containment south of Auckland.

From The Urban Advisory, Natalie Allen, Meredith Dale and Greer O'Donnell examine some of New Zealand's urban strategy models and recommendations for future urban planning through the advisory's Integrated Neighbourhood Framework, developed to help create more connected and sustainable communities in New Zealand.

Elaine McAlister, Chairperson of the Women in Spatial/Surveying stream, reports on the insights and recommendations from the Diversity and Inclusion Action Plan unveiled at the recent Locate19 conference in Melbourne. The Action Plan, which aims to boost diversity and inclusion across the Australian sector includes many transferable ideas for New Zealand to achieve measurable outcomes for the New Zealand Diversity Agenda programme.

And in our new Professional Profiles series, Survey and Spatial Examinations Committee Chair Jo Johnston gives some insight into the role of an examinations committee volunteer.

2019 FIG Working Week

In April I was fortunate enough to attend the 2019 FIG Working Week in Hanoi, Vietnam. I had the opportunity to participate in several forums as president of S+SNZ and heard about the challenges being faced by member associations across the globe, many of which are similar to ours here in New Zealand.

The UN Sustainable Development Goals were often referred to as one of the 'whys' for FIG. If you're not familiar with these, you can find out more at www.un.org. I liked that many of the papers and presentations clearly demonstrated how the work that surveyors and spatial professionals do contributes to solving these complex problems.

It also confirmed to me that focusing S+SNZ efforts towards a couple of specific challenges facing our New Zealand community (as opposed to just our members) is the correct approach. FIG has a voice on the UN Global Geospatial Information Management (GGIM) Geospatial Societies.

I posted some updates on LinkedIn throughout the week, which some of you may have seen.

I thought I'd share some of the thoughts of those of us who attended about how we could better leverage our FIG membership:

- Our representatives should provide regular updates to S+SNZ members on their involvement in FIG work (workshops, publications, etc) and/or become a member of the relevant S+SNZ stream committee (if not already) to ensure FIG news and updates are shared.
- We could point our membership to the publications library on the FIG.net website.
- We could encourage members to become more involved in the work of the various commissions.
- We could explain why we (as an organisation) value being a member of FIG.

I also thought it'd be useful to share the link below with you. If you click on the individual commissions, you can see the publications that the various groups have produced. I have no doubt there will be something useful there for our members, no matter your practice area: <http://fig.net/organisation/comm/index.asp>.

Below is a list of our current commission representatives:

- Commission 1 – Brian Coutts (Don Grant also involved in a working group)
- Commission 2 – John Hannah
- Commission 3 – Kat Salm
- Commission 4 – Simon Ironside
- Commission 5 – Graeme Blick and Nic Donnelly
- Commission 6 – Mike Cutfield
- Commission 7 – Mark Dyer and Anselm Haanen
- Commission 8 – Mick Strack
- Commission 9 (Valuation) – vacant
- Commission 10 (Construction Economics and Management) – vacant.

Note that Commission 10 has a working group on BIM. I think we should look to find someone to represent New Zealand. If this is you, please get in touch with our stream committees or contact National Office if you're not sure who to approach.

My overall feeling, after attending the working week, is that it is a fantastic opportunity to take a step back from the day-to-day detail and appreciate the bigger picture. If you ever get the chance to attend, take it!

As I mentioned above, it certainly reinforced to me that the work we do is valuable and contributes to solving society's big challenges. We should be proud of ourselves and share more stories about the work we do.

And on that note, please encourage your colleagues and local branch members to submit stories to this magazine and our social media pages.

Ngā mihi

*Rebecca Strang, President
Survey and Spatial New Zealand*



Cadastral stream news

We would like to thank those who responded to our Survey Monkey about which topics would interest them for a CPD event. Based on this feedback we are currently organising a Webinar on Unit Titles which we hope to hold later this year. More information will be available once dates are confirmed.

We would also like to draw members attention to the work which LINZ undertook to scan many of the North Island field books that they hold in their archives. See <https://linz.recollect.co.nz/>, this may negate the need to request a manual copy from through Landonline if you are looking for these old records. Check it out, even if it is just to have a look. If you have any questions, queries or matters which you would like to raise with the Cadastral Stream, please contact us – cadastral@surveyspatialnz.org.

Matt Ryder, Cadastral Stream Chair

Engineering Surveying Stream

Infrastructure construction in New Zealand, and Auckland especially, is now peaking with an estimated \$129 billion to be spent in the coming 10 years. Some of the projects that have been awarded recently or coming soon are Auckland's City Rail Link Contract #3, Watercare's Auckland Central Interceptor, Auckland International Airport Taxiway, and the Manawatu Gorge.

The combined value of these four projects alone is more than \$4b, with good surveyors being an integral part of each project's success. There are great careers to be had as a spatial expert in a Tier 1 construction company.

The Engineering Surveying Stream has two focus items.

1. Certification of Engineering Surveyors:

We are collaborating with the Positioning and Measurement Stream and are in the early stages of developing this pathway. This has been our focus for the past six years, but has taken a slightly different direction recently.



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2. The next combined Positioning and Measurement and Engineering Surveying workshop:

Our workshop this year will be held in Christchurch around October or November. The date, venue and programme planning are in their early stages.

Please contact engineering@surveyspatialnz.org if you need more information, or have any questions, comments, requests, or ideas.

Michael Cutfield, Engineering Surveying Stream Chair

Hydrography Professional Stream



Students sponsored to attend the S+SNZ conference – thank you to sponsors for their generous support and encouragement. From L-R: Jean-Louis Morrison and Kara Jurgens (both sponsored by the Australasian Hydrographic Society) and Ashley Puliyodil (sponsored by the Kairūri Community Trust).

We had a great time at conference with some very interesting hydrography-related presentations from LINZ, NIWA, Otago University and iXBlue. Thanks also to DML and Ports of Auckland who ran a series of short vessel trips showing us their multibeam sounder and the work that is under way preparing the Auckland waterfront for the America's Cup.

Next on the hydro agenda is the New Zealand Region of the Australasian Hydrographic Society's annual seminar and AGM. This year it will be on 5 July in Dunedin. For more information, please check your emails from the AHS, the AHS website, www.ahs.asn.au, or contact Maurice Perwick (mwp@eliotsinclair.co.nz).

The HPS leadership team has also been involved in meeting with the Hydrography Commission National Committee of the SSSI, and is participating in a review of the AHSCP guidelines for Level 1 and 2 hydrographic surveyor accreditation. All HPS members are reminded to **ensure your CPD is up to date** before the end of June for your AHSCP certification to continue.

We are also involved in the Maritime New Zealand Ports and Harbours Guidelines review, and are calling for

a member of our stream to represent us. If you have a background in port and harbour surveying and a desire to ensure that the voice of S+SNZ hydrographers is heard, please contact Emily Tidey (hydrography@surveyspatial-nz.org).

Emily Tidey, HPS chair

Land Development and Urban Design Stream

This year's Survey and Spatial New Zealand conference was held in Auckland with a theme of 'Shaping Tomorrow's Communities'. It was excellent to have a strong land development and urban design theme with a common emphasis throughout many of the presentations that 'it's all about the people'.

Many presenters discussed the importance of integrated developments that focus on the creation of liveable neighbourhoods. As densities increase, there needs to be a strong emphasis on the comprehensive urban design at the beginning of a project that is focused on the way people will live within the development.

There were also many interesting case studies presented which demonstrated how these principles can be effectively implemented.

Special thanks goes to Crystal Filep for her significant contribution to the organisation of many excellent speakers.

Julia Glass, LDUD Stream Chair

Positioning and Measurement Stream

The P&M Stream is currently focusing its efforts in the following areas:

1. Membership upskilling: this is through the annual workshop held in conjunction with the Engineering Surveying Stream. The results of the recent survey of stream members will be used as a guide to where the presentations will be focused. More news on the workshop later in the year.
2. NZ Vertical Datum 16 advocacy – In conjunction with LINZ, the stream is supporting the regional hui and would encourage all members of S+S to come along and support these hui. VD16 offers some real benefits in height determination. We are interested to hear from members about their projects where they have employed Vertical Datum 16.
3. Pathways for members who have not come through the BSurv programme or have not followed the Licensed Cadastral Surveyor programme.

4. Disaster Initiative Plan – this plan, which is under early development, is intended to provide guidance, develop members' skills and equipment supply in the case of natural disasters. Spatial data and real-time survey monitoring are critical parts of disaster response. The goal is for S+S members to be better prepared and enabled to support natural disaster recovery.

Please feel free to contact the P&M committee through positioning@surveyspatialnz.org for more information or to share your ideas.

Bruce Robinson, P&M Stream Chair

Spatial Professional Stream

The Spatial Professional Stream has been working to progress the Spatial Value Workshop, which we are hoping to hold in July. This will help us better understand both current and potential members, and provide relevant and required support for spatial professionals in their careers.

The Survey and Spatial Conference was held in Auckland in May, and there was a dedicated Spatial Day on the Friday.

We were delighted to have Ed Parsons from Google as the keynote speaker for the day, who offered a fascinating insight into the work it is progressing in the spatial arena and what we can expect in the future.

We also had a number of spatial speakers, a spatial panel, and some spatial lightning talks. A big thank you to those who contributed to the conference programme.

The New Zealand Spatial Excellence Awards (NZSEA) round for 2019 is now open, and we'd like to encourage all members to consider submitting an entry as an individual or for a project. It is a great opportunity to showcase your work, and raise the awareness and profile of the range of work happening across our industry.

We'd like to welcome our newest committee member, Callum Smith, to the SPS Committee.

Dr Kat Salm, Spatial Professional Stream Chair

TO ALL OUR MEMBERS AND ASSOCIATES:

S+SNZ would like to acknowledge the careers and contributions of all members past and present upon their passing and would like to actively encourage all branches to prepare obituaries for publication in *Surveying + Spatial* as the occasion arises.

If you would like to publish an obituary for the next edition, please email the editor, Rachel Harris at: surveyingspatial@gmail.com



Jan Lawrence, S+SNZ

AUTONOMOUS CARS, AUGMENTED VISUALS AND AMBIENT LOCATION ARE JUST SOME OF THE DEVELOPMENTS THAT ARE GOING TO SHAPE HOW WE LIVE IN THE FUTURE, SAYS ED PARSONS, GOOGLE'S GEOSPATIAL TECHNOLOGIST WHO IS BASED IN LONDON. ED WAS ONE OF SEVERAL INTERNATIONAL SPEAKERS INVITED TO GIVE A KEYNOTE ADDRESS AT THE S+SNZ CONFERENCE HELD IN AUCKLAND IN EARLY MAY. THERE WAS NO DOUBTING THE FUTURE-FOCUSED THEME – SHAPING TOMORROW'S COMMUNITIES – WITH ED PARSONS SETTING THE TONE FROM THE START WITH SOME FASCINATING GOOGLE INSIGHTS ON UPCOMING TECHNOLOGY.

The theme provided plenty of scope for some thought-provoking and insightful presentations, and conference-goers were not disappointed. Vic Crone, chief executive of Callaghan Innovation, provided some thought-provoking statistics on mega-trends including the future of work and business, and the research that has been undertaken to get a measure of the country's preparedness for future innovations.

Changes to how we live in cities of the future was a recurring theme, particularly relating to transport and density of housing. According to several commentators, we can expect less private vehicle ownership with a move to car sharing and other modes of transport. An example of this is happening right now around Auckland City with the current explosion of electronic scooters. Smarter urban design and the provision of higher density housing is also coming.

The Auckland City Rail featured in several presentations, not only the need for engineering surveying but also how art, architecture and culture is being incorporated into the project.

A common thread throughout many presentations was the crucial role that surveyors and spatial professionals play in our communities. Surveying, spatial professionals, digital and spatial data all feature heavily in the construction and development sphere; examples included precision monitoring of tunnel drilling, to demolition of buildings on cliff tops, to directing mining diggers down to the centimetre, to planning new subdivision services, and building information modelling.

Also featured in many discussions were rapidly developing technology, data collection methods and how we use that data. In particular, the pervasiveness of location data in all aspects of our lives even though many are not aware of it. Data is growing exponentially and we don't always know how these collections of mass data will be used in future.

At the conference opening, delegates were welcomed by members of the local iwi Ngāti Whātua Ōrākei, Sharleen Cole-Swami, from Premier Commercial Partner AllTerra, National's spokesman for building and construction Andrew Bayly and S+SNZ President Rebecca Strang. The conference dinner, once again partnered by S+SNZ Diamond Partner GIS Insurance Brokers, was a highlight.

Along with GSI Insurance Brokers' very generous donation of \$11,500 to the Kairūri Community Trust, an auction was conducted by conference MC Malcolm Archbold to raise funds for the trust. The lively bidding helped raise a further \$8000, which will go towards fostering the future of the surveying and spatial community.

With a record number of 350 registrations, and more than 70 national and international speakers, the conference is one of the biggest events that S+SNZ has hosted.

A heartfelt thanks goes to all conference partners, trade exhibitors and supporters who made the conference such a success, in particular; Diamond Partner GSI Insurance Brokers; Premier Commercial Partner AllTerra; Platinum Partners Accurate and Global Survey; Silver Partners Quickmap and 12d Synergy; and stationery supplier Net Express Procurement.

Professional exam awards presented at conference dinner



John Macfarlane and David Robinson, right, receive their awards from S+SNZ President Rebecca Strang at the conference dinner in May

John Macfarlane and David Robinson were recipients of the 2018/2019 Professional Examination Awards announced at the Auckland conference dinner in May. John, who works at Cuttriss Consultants, Lower Hutt, received the Maurice Crompton-Smith Memorial Prize awarded for the best set of projects for a certificate of competency.



David, who works for Aurecon in Christchurch, was the winner of the Percy Dyett Award which is given to the best overall land development engineering candidate in the exams. Congratulations go to both John and David for their impressive achievements.

Young Professionals leader qualifies for the Ironman World Championships



Rob in action

Rob Mears not only leads the Young Professionals Group but is also leading the way in endurance sports.

In March this year, and in only his second year of racing, Rob competed at the Ironman New Zealand event in Taupō. The event also doubled as the New Zealand Long Course Triathlon National Champs. Racing in the 25-29 age group, Rob completed the event with an impressive time of 9hr 31min and 47sec (3.8km swim, 180km bike and 42.2km run). This was close to a 50-minute improvement on his 2018 time for the same event. The impressive achievement placed Rob in seventh place in his age group, third in New Zealand and 14th overall amateur (36th including professionals).

Another bonus achievement is that Rob also qualifies for the October Ironman World Championships being held in Kona, Hawaii.

What makes Rob's success particularly impressive is that he only started racing late last year in Sydney where he qualified for the Ironman 70.3 World Championships in Nice, France in September.

In his professional capacity, Rob is working for WSP Opus Auckland as survey team leader. He is an active chair of the S+SNZ Young Professionals Group.

Kairūri Community Trust's first scholarship



Ashley Puliyodil was the recipient of a Kairūri Community Trust sponsorship to attend the Survey and Spatial New Zealand conference in Auckland in early May. Ashley is in his fourth year of a Bachelor of Surveying at the School of Surveying, University of Otago.

The Kairūri Community Trust was set up in 2016 to foster the future of the surveying and spatial community. The purpose of the trust is to benefit the profession and the community and create a legacy for the future. The trustees' objective is to build up awareness and educate the public about the surveying and spatial community. This future focus gives benefactors the opportunity to provide educational scholarships, support inclusive school programmes, foster diversity and encourage the next generation of surveying and spatial professionals.

S+SNZ caught up with Ashley at the conference.

What have you enjoyed the most about the conference?

I'm amazed at the spread of information provided through the presentations and am really enjoying seeing and hearing about the industry and projects happening in the real world. It is giving me an idea of what real experience I can expect when I move into my first job as a graduate surveyor after completing my degree.

What is the first thing you'll do when you get back and what has influenced this?

I'll tell all my classmates how I have been blown away with the great experience the conference has been and encourage them to go to the conference themselves. It's an invaluable opportunity to learn a lot about the industry. The conference provides great opportunities to net-

work with other people in the spatial industry, which is invaluable. You also get to see who the key players are in the technical product market. Having all the main suppliers of the industry together in one place gives you a great idea of the vast array of equipment and options available.

What do you see in the future for your career?

When I graduate at the end of the year, I will begin my career in Auckland. I will be working at Cato Bolam. I plan on focusing on learning a lot and hopefully eventually helping to continue the growth of the business in the industry. My first goal would be to get licensed and then continue to upskill and see where my career takes me.

To find out how you can support the Kairūri Community Trust, visit www.kairuri.org.



PLANNING FOR COMMUNITY, FROM THE START

Natalie Allen, Meredith Dale, Greer O'Donnell – The Urban Advisory

SURVEYING AND SPATIAL DISCIPLINES ARE POWERFUL AND INFLUENTIAL. EACH BOUNDARY LINE AND SPATIAL ELEMENT OF A DEVELOPMENT HAS A TANGIBLE IMPACT ON THE DAILY LIVES OF PEOPLE IN THAT SPACE.

At the city scale, this impacts how people choose to live and move around to places of work, study or recreation. Survey work creates opportunities or constraints around how people interact with their environment and each other in daily life.

At the human scale, surveying and spatial design influences the happiness, health and overall wellbeing of people. These impacts are part of the professional legacy of surveying in urban environments, a legacy that will last decades into the future. In this article we will discuss the integral role of surveying and spatial design professions in rethinking our future neighbourhoods, and the emerging challenges and opportunities for building a lasting, positive legacy through spatial practice.

New Zealand is undergoing a period of unprecedented social and environmental change. Our urban centres are pressured by increasing population growth, demand for intensification and higher density urban development.

Also, our society is increasingly multicultural, with diverging and diversifying household norms.

On one hand, some population groups have a much younger age structure and prefer larger multi-generational households. On the other, the population is ageing, and the numbers of smaller households are increasing.

In the context of land development and housing, we also need to be conscious of issues of housing affordability, rental security of tenure, home health and quality, and personal wellbeing. Some serious health issues affecting urban New Zealanders such as obesity, loneliness and poor mental health are linked to spatial and environmental design. A history of car-oriented subdivision and suburban development has created places of isolation, separated from urban vitality and places of work or recreation.

Infill subdivision patterns, with long right-of-ways and double-garaged houses stacked one behind the other, limit opportunities for neighbours to bump into one an-

other and form social connections. The changing nature of our communities and our evolving lifestyle preferences necessitate new and innovative approaches to land development in New Zealand, including spatial and surveying practice.

We need more resilient and liveable neighbourhoods, and spatial design that supports low impact, sustainable lifestyles. To understand how to respond to these present challenges, first, let us consider how past spatial design and development patterns provided for different lifestyles and communities. Roads are one of the most enduring elements of urban form. Looking at road and lot layouts we can discern lifestyle differences between neighbourhoods; for example, compare a gridded block structure with tram-line arterials and wooden villas, versus car-oriented street networks from motorways to cul-de-sacs and quarter-acre sections with brick and tile homes. The latter development form describes most greenfield developments after the 1950s. These were designed to provide for suburban living, a low-density development form suited to nuclear family households and European lifestyle preferences.

Today, new housing development is largely developer-led, either as infill development in existing neighbourhoods, or greenfield subdivision for new neighbourhoods at the urban fringe. With both approaches we must consider: is this business-as-usual approach appropriate and responsible spatial practice? Will it provide for the needs, wellbeing and lifestyle preferences of New Zealanders into the future? For example, the current development ecosystem incentivises the development of larger 3-4 bedroom dwellings (for maximum profit), while there is an increasing demand for smaller dwelling typologies. European models of nuclear-family housing are no longer fit-for-purpose for New Zealanders. As society changes,

land development practices too must change to serve and support the future community.

Spatial professionals are well equipped and experienced in providing for tangible physical outcomes such as network infrastructure, different modes of subdivision (cross leases, unit titles, etc) or easements and esplanade reserves. But intangible outcomes such as social wellbeing, neighbourly connectedness and good personal health must also be provided for. Surveying and spatial design schemes of today are setting the stage for our future patterns of living. Hence, in the context of new development, they must develop spaces and places where people and communities will thrive.

Spatial interventions that support community wellbeing could include:

- Mixed housing typologies and tenures, to encourage a varied demographic
- Planning and integration of mobility networks, not just roads
- Block structures used as a tool for connectivity
- Central community spaces, integrated with amenities
- Alternative governance structures to provide a mandate for community building
- Clustering complimentary amenities to deliver convenience in neighbourhoods

Other future trends in neighbourhood development that are emerging are outlined in Figure 1.

There is a need for a more strategic and integrated approach to urban development to create better places where people can live and lead healthy and meaningful lives. The development of an overarching urban strategy is required early in the development lifecycle, not only to achieve an integrated approach to these complex urban

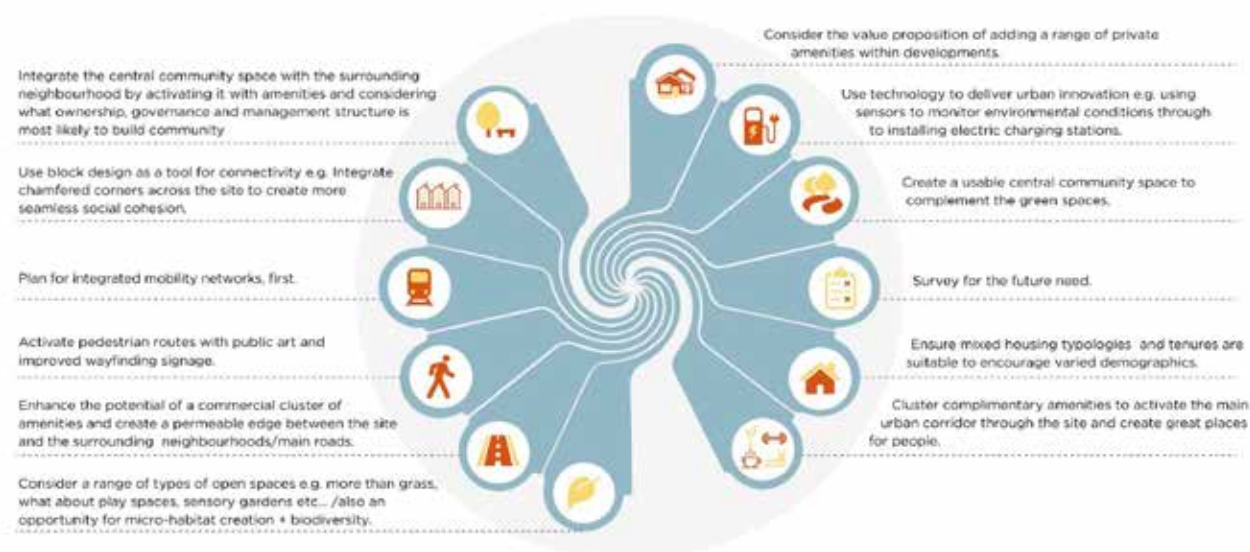


Figure 1: Emerging trends in neighbourhood development



problems, but to deliver better economic, environmental and social outcomes.

Urban strategy is a new discipline grounded in systems thinking, collaborative practice and a purpose-driven design philosophy. Urban strategists facilitate collaboration between urban professions and agencies, create accessible and actionable responses to urban problems and work alongside project teams through all phases of development to achieve this. They operate at the intersection of policy, planning, design and delivery, working across scales and sectors to find new opportunities for achieving impactful, integrated neighbourhood development.

Urban strategy questions the existing system of land development to help urban professions deliver more integrated projects that meet the needs, demands and lifestyle preferences of future residents. The emergence of urban strategy as a defined discipline is particularly relevant in the current New Zealand context. The new government agenda, including the Wellbeing Budget, has made it clear that the wellbeing of citizens is a priority. However, our current urban development models and approaches are not adequately supporting the wellbeing of our people, or equipped to support a changing New Zealand.

The urban strategy approach can be explained better through the **Integrated Neighbourhood Framework**; this has been developed by The Urban Advisory to assist built environment professionals to create more connected, sustainable and equitable communities in New Zealand. This framework guides the development process away from the 'building houses' mindset, to a 'thriving communities' mindset. It aims to create places where people can undertake all their daily activities, including liv-

ing, working, socialising and finding spaces that suit the needs. The framework, outlined in Figure 2, summarises this eight-step process to deliver stronger and healthier communities, with integrated amenities and housing for all people.

Surveyors and spatial designers are critical to this integrated development approach. They are often the first specialists onboard in a new development scheme. Spatial expertise in these early stages (steps 1 to 4), such as gathering and processing contextual data, sets the stage for developing a place strategy.

While co-creation (step 3) is not a common step under current development models, it is critically important.



Figure 2: An Integrated Neighbourhood Framework

Co-creation validates whether or not a proposal meets the needs and desires of current and future residents. This might take more time and money upfront, but the potential returns (financial and social) outweigh the initial cost.

In recent decades, we have seen surveying and spatial professionals adopting new technology and innovative approaches to advance accuracy, capability and performance. There is further demand for spatial professionals to adopt and advance innovative design thinking to ensure placemaking is integral to the staging and delivery of projects as well (step 4). The foundation of integrated neighbourhoods is the delivery of appropriate urban amenities alongside housing (step 5).

Urban amenities include the corner dairy, playgrounds, parks, public transport, schools, other local shops and services. As we plan and set out developments, it is important to integrate amenities alongside housing. Can residents walk to access services and recreation, or are they dependent on a car? Perhaps a mid-block pedestrian connection or a new cluster of amenities (e.g. dairy, hairdresser, bus stop) would provide more integration for the neighbourhood?

When integrated neighbourhoods are delivered successfully, intentional neighbouring processes and opportunities are multiplied. The next layer of our framework integrates and reinforces intentional neighbouring in the built environment, through innovative ownership, delivery, management and operational models (step 6).

The Urban Advisory defines intentional neighbouring as the process of regular and purposeful encounters which build meaningful connection between neighbours. This can begin at the visioning and co-design stage, through construction, and into everyday life. Neighbours who live near one other will naturally come into contact around shared amenities, public spaces, overlapping lifestyle preferences, values or routines to find a sense of community belonging grounded in spatial proximity.

Innovative ownership, delivery, management and operational models are best demonstrated by the numerous

cohousing and co-operative development projects emerging in New Zealand. Co-housing developments, such as Earthsong in Ranui, are underpinned by ongoing democratic participation in community life by residents or housing owners – long after the build is complete. The community was purpose-built with an eco-friendly design imperative and a co-operative design process. Residents share amenities such as an orchard, laundry, common house, guest house, parking area and open green spaces.

The Earthsong community worked closely with consultants to develop a site layout that kept cars and parking separate from the living spaces, so children could freely play along the path and open spaces. An example of alternative development unique to Aotearoa/New Zealand is papakāinga, a traditional Māori practice of collective living among extended whānau on iwi land.

Of course, every neighbourhood and community is different, with nuanced social, cultural and economic values, lifestyle preferences or aspirations. Thus, steps 7 and 8 are critical elements of the Integrated Neighbourhood Framework. These measure and report on outcomes, then check, refine and validate the success of the neighbourhood strategy for its context. Ideally, we should already be bringing this type of thinking to the development process. We need to ensure that development outcomes are positive for communities and that we take opportunities to learn when they arise.

By following this framework, and engaging with the iterative learning process within and across projects, development professionals will undoubtedly find fresh innovations and improvements on existing models to create contextually relevant design and development for New Zealand communities from all walks of life.

We hope this brief introduction to urban strategy and our Integrated Neighbourhood Framework will inspire you to consider how spatial disciplines can contribute to delivering more inclusive, connected and equitable communities in Aotearoa/New Zealand.

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LOCAL EMPLOYMENT AND GROWTH

The Auranga story

*Steve Thorne, Director of
Design Urban Pty Ltd, urban designer
and master planner of Auranga*

AURANGA IS A LARGE, NEW URBAN DEVELOPMENT IN THE SOUTH OF AUCKLAND, NEAR DRURY. IT WILL BE HOME TO MORE THAN 37,000 RESIDENTS.

The developer, Made Group, is setting out to make the development a sustainable development in the fullest sense of this well-used term. However, the most difficult aspect of sustainable development to achieve is local employment in new growth areas on the fringe of the city. As Ram Nidumolu et al reminded us in a 2009 publication of the *Harvard Business Review*, “sustainability has become the key driver of innovation”, and in this respect the approach taken at Auranga is all about using innovative techniques to achieve the desirable sustainability outcomes, particularly with reference to employment.

Achieving a high level of employment containment in the Drury area is critical for Auckland as we simply can't continue to force more and more car-based commuters onto the motorway as they head for the airport, Manukau and Auckland to jobs. Long commutes are wasteful of energy, of time, and have damaging effects on both the environment and family and community life. In this knowledge, a key driver in the planning for Auranga was to use innovative strategies for achieving local employment. One of the prime objectives of the project is to “turn the city around” and create an employment destination. Two independent economists agree that the strategies followed will achieve more than 100 per cent job containment. In other words, there is the potential for every new resident worker to have an opportunity for local employment.

So where are the employment growth sectors? According to the NZ Ministry of Business Projections, the highest growth in employment by occupation group is for managers (+7.8% growth), professionals (12.1% growth), and community and personal service workers (19.2% growth).



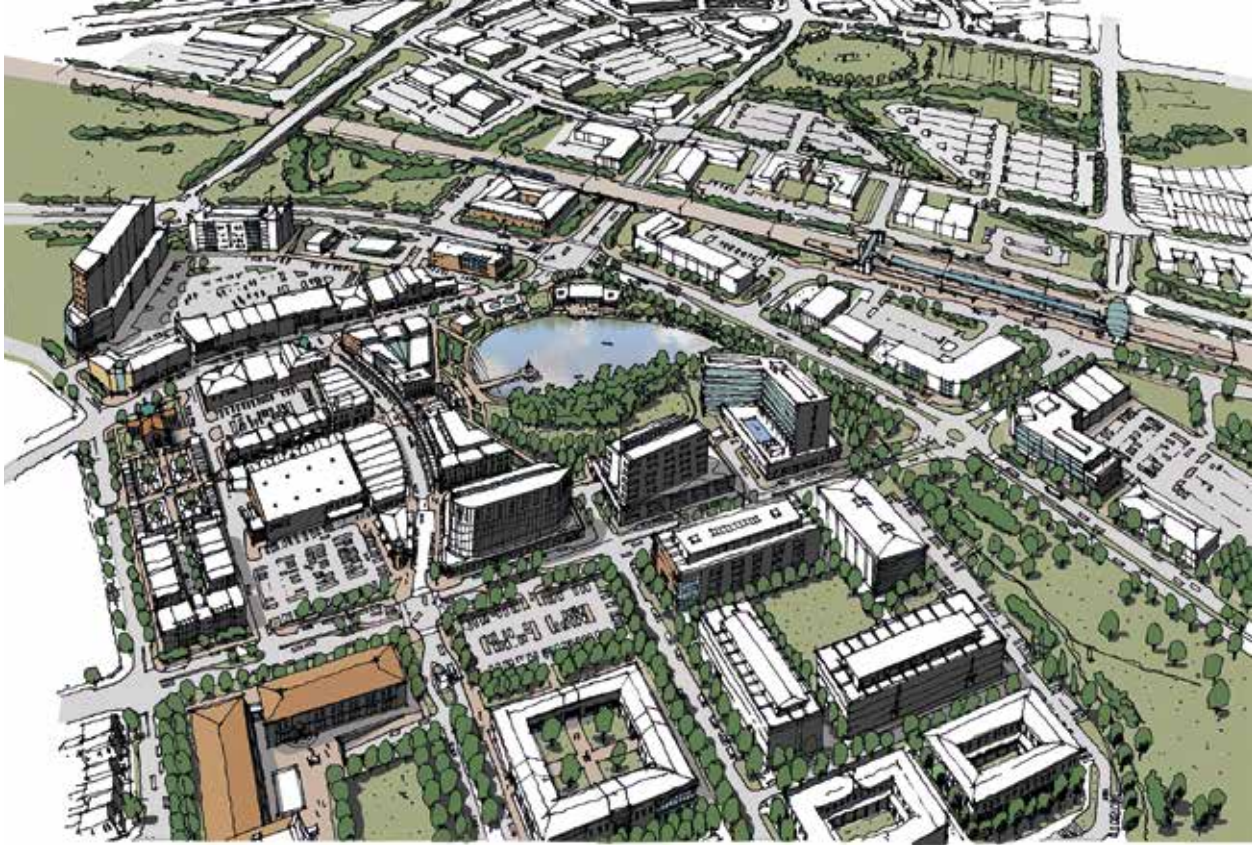
Auranga Master Plan

If this is the case, then what are the settings to attract these types of jobs?

Traditionally jobs were focused on either industrial areas for manufacturing and town and city centres. Over the past decades, manufacturing in New Zealand has been in steep decline as this capacity shifted offshore.

As far as centres go, there are broadly speaking two types of centres outside of the city's central business districts, these are shopping centres (malls) such as Sylvia Park and Albany, or street-oriented centres (town centres) such as Ponsonby and Takapuna. During the past 100 years, only shopping centres or malls have been built in New Zealand and Australia. Recently a few “hybrid” centres have been built in places such as Rouse Hill in Sydney and Point Cook in Melbourne, but these are essentially shopping centres minus the roof. No street-oriented town centres such as Newmarket, Parnell, Petone and the like have been developed for many, many decades. So why does this matter?

Shopping malls tend to be “drive-to” centres where internalised shops are surrounded by large parking lots, making walking access both difficult and unpleasant. They mainly provide retail and food and beverage jobs which are the lowest waged jobs in the New Zealand economy. If we continue to build only shopping malls, we could be entrenching relatively low incomes and car dependence.



Auranga Town Centre

Mike Cullen, of Urbacity Pty Ltd, using data from Statistics NZ identified that the average income for employees in shopping malls was \$620 a week, while in town centres it was \$1087 a week, clearly showing a stark difference between these centre types.

Street-oriented centres are different because the street provides a distinctive address, and this is attractive to businesses. The streets also provide more a comfortable and convenient walking and cycling environment if designed well. This offers people more choice when it comes to access, and enables the young, the elderly and those without private transport to gain easy and affordable access to services, jobs and material goods.

Research into how centres perform in terms of employment and income profile was undertaken by Mike Cullen of Urbacity Pty Ltd in 2014. This work studied centres across New Zealand and Australia and identified the following averages: in shopping malls there was one non-retail job to every two retail jobs, in mall-dominated towns there were 2.4 non-retail jobs to every two retail jobs, and in street-oriented town centres there were 5.2 non-retail jobs to every two retail jobs.

These non-retail jobs are the type where there is the most growth, yet we have limited the locations for these businesses and jobs to take root, especially in newer parts of our cities. For this reason, Auranga plans a street-oriented town centre, near a railway station and accessible by an interconnected network of streets with footpaths on both sides, and dedicated bike paths on major connecting streets. In addition the centre is planned to service a business innovation park and connects directly to the already approved Stevensons' light and heavy industrial development. By co-locating these land uses in an opportunistic

manner, the synergies between each are optimised and agglomeration benefits accrue.

In addition to creating employment destinations the development strategy was also to allow safe ease of access for people on foot, on bikes and on scooters. On all major connecting streets, there are dedicated and separate bike paths as well as wide, safe footpaths. These link directly to the town centre, neighbourhood centres and to employment opportunities. In all streets, all houses are required to have a front porch facing the street. These are raised so that people sitting on the porch have their eye level slightly above that of passers-by. This is critical to ensure that the porches are well used and that people feel comfortable sitting out. It is hoped that this will improve safety and a sense of safety in the streets, as well as engender a strong sense of connection and community.

Rather than just accept the potential for a good employment result, the developers embarked upon innovative evidence-based research. They engaged Space Syntax Ltd to test whether the centre would be viable using unique techniques. These involve creating a spatial model of the proposal and locating it within its context. Rather than leave much to chance, the consultants created a spatial model of the whole of New Zealand and inserted the proposal into that model to determine its potential performance. Their evidence-based approach quantifies key urban performance characteristics, including accessibility, sustainability, social cohesion, health and safety. The methods forecast future outcomes, allowing urban planning and design strategies to be optimised towards desired objectives.

It turns out that the street-oriented town centre at Auranga is likely to succeed as it will enjoy the same level



Auranga Town Square

of spatial integration as centres such as Ponsonby and Parnell. The real challenge now is gaining consent for frequent intersections on well-connected streets, such as we find in the older parts of our cities. There has been a fundamental shift in the range of street types available to planners and urban designers. Their potential performance as social and economic “machines” has been fundamentally changed. In the past, we had three types of street, the local street, the “High Street”, and the regional road. Today we still have the local street, but we have lost the ability to deliver “High Streets”, we have introduced the collector street, which limits access and land-use mix, and we have no-access arterials and motorways.

One then has to ask, where is the street that provides the address that businesses seek? This presents a real challenge, and one which Auranga has taken on. The master plan connects industrial areas, business parks, railway stations, retail and mixed-use areas and commercial areas to residential areas in a direct and seamless way. Gone are the single use zones in favour of a more mixed and responsive pattern of use.

Auranga raises some challenges for planners and transport engineers. A number of questions arise from the approach to create a contemporary version of a traditional town. These are:

- Can we move away from restrictive zoning of land uses, especially in centres?
- Can we change the way we view streets and movement? Are we able

to view movement as a social and economic resource and allow land uses to respond to this resource?

- Can we achieve closer integration of places of work, shopping and living so that we reduce the distances people have to travel?
- Can we prioritise walking and cycling in the design of streets, and the buildings facing streets?
- Can we develop metrics to evaluate walking and cycling so that a fair comparison with traffic numbers can be made
- Can we fairly evaluate the qualities of “place” so that movement and place are balanced when decisions are made about design?





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DIVERSITY AND INCLUSION IN THE GEOSPATIAL INDUSTRY

How Australia are taking the lead

Elaine McAlister

I RECENTLY ATTENDED THE LOCATE19 CONFERENCE IN MELBOURNE WHICH IS A PARTNERSHIP BETWEEN THE AUSTRALIAN SURVEY AND SPATIAL SCIENCES INSTITUTE (SSSI) AND THE SPATIAL INDUSTRIES BUSINESS ASSOCIATION (SIBA|GITA). THE LOCATE CONFERENCE SETS AND SHARES THE FUTURE DIRECTION OF THE AUSTRALIAN SPATIAL INDUSTRY, AND BRINGS SPEAKERS TOGETHER ACROSS THE GOVERNMENT, PRIVATE, NON-PROFIT AND ACADEMIC SECTORS.

While at the conference I attended the Diversity and Inclusion breakfast, where the Diversity and Inclusion Action Plan was launched. This action plan was developed when more than 30 leaders from the Australian Government, industry and academia came together in March 2018 to form the *Spatial and Surveying Diversity Leadership Network*. Their goal is to leverage the reach and support of the network to develop a more diverse and inclusive spatial and surveying industry (referred to as 'the sector' in this article).¹

The Diversity and Inclusion Action Plan aims to boost innovation and collaboration in the spatial sector. The Action Plan brochure² outlines the current state of diversity and inclusion in the Australian spatial sector and offers guidance on how this can be improved. Diversity in the

workplace is about employing people who differ across a range of indicators including gender, cultural background/identity, disability, age, education, professional discipline and experience. Inclusion is about valuing that difference and creating work processes and culture that enable a sense of belonging and of feeling valued.

Australian facts and figures

Australia is facing a geospatial skills shortage. By 2025, there will be a shortfall of about 1300 graduates or licensed surveyors and 300 geospatial specialists with university degrees.³ The sector is male dominated, only one in four spatial professionals are women. There are also significant pay gaps between women and men in the sector, women surveyors earn an average of \$27,000 less than



men, and women spatial professionals earn on average \$20,700 less than men whereas female cartographers earn an average of \$17,200 less than men.⁴ Basically, there is limited evidence of cultural diversity, indigenous employment or people with disabilities in the spatial industry.⁵

Australian surveying and spatial sector²

There is a compelling case for diversity and inclusion in the Australian spatial sector. It has been found that **diversity positively impacts performance and encourages innovation**.⁶ A McKinsey study found that companies within the top quartile for gender diversity were 21 per cent more likely to have higher financial returns and ethnically diverse companies were 33 per cent more likely to outperform⁷ others.

So how can we become more diverse? We can hire and retain employees who bring different life and work experience and encourage people to speak up, present bold ideas and challenge outdated norms, but to achieve this, we need inclusive work environments. Future leaders need to be inclusive, i.e. they need to be comfortable in seeking and navigating multiple perspectives.

So what are the current barriers to diversity in the spatial sector? The Leadership Network identified five key barriers:²

- 1. Low industry awareness** – the geospatial industry is not well known and difficult to define, secondary school children don't know which subjects are needed for tertiary pathways, also the industry to date has not promoted or included diversity.
- 2. Anglo-male cultural stereotypes and biases** – the sector has been historically male dominated, which is likely to have been reinforced by implicit gender biases.
- 3. Recruitment bias** – the sector has been recruiting based on preference for similarity and demonstrating unconscious biases.
- 4. Limited focus on diversity and inclusion in workplaces and education** – Few employers in the sector have invested strategically in diversity and inclusion. Diversity progress in organisations rarely occurs without a concerted focus and action.

- 5. Lack of mentoring and sponsorship** – Geographical spread and varied business sizes mean that women and people from non-Anglo backgrounds often lack visible role models and mentors in their immediate employer.

*So what can the surveying and spatial sector do to encourage action?*²²

1. Establish a baseline for measures we'd like to achieve and commit to an annual survey showing outcomes and impacts.
2. Commit to a 50 per cent gender balance and mix of cultural or identity diversity of experience (e.g. disability, LGBTI) on industry speaking panels.
3. Create a set of profiles for diverse representatives in the spatial sector who can perform keynote speaking engagements or serve on panels, to achieve more diverse role models.
4. Run an education campaign in schools and universities on the increasing diversity of people choosing careers in the spatial sectors.
5. Create industry-wide communications campaign for diversity and what we're doing to create an environment of inclusion across the sector.

6. Establish knowledge sharing and a roadmap forward, establish a Spatial Diversity and Inclusion Council.
7. Leverage the male champions of change programmes adopted by other sectors – encourage high-profile men in our profession to join the programme.

We have no firm statistics on diversity in the New Zealand surveying and spatial industry but anecdotally the situation is very similar to Australia though New Zealand is making headway at the professional body level. S+SNZ is walking the talk with a gender-balanced Council and Board. We also have a female Council president and female chairs of the Examination Panel and Cadastral Surveyors Licensing Board.

A recent Women in Spatial/Surveying (WIS) survey asked how the industry needs to change in order for women to progress. The results were as follows:

- More flexible working hours
- More opportunities for leadership roles
- Better pay transparency
- Equal treatment
- More mentors and role models.

S+SNZ has recently signed up to the New Zealand Diversity Agenda programme⁷ whose aim is to have 20 per cent more women in engineering and architecture roles by 2021.

However, like our Australian neighbours, we still need more change. We must start supporting greater diversity and more inclusive workplaces. We can start by doing this individually, within our organisations and collective-

ly across the sector. The New Zealand spatial sector must take on this challenge using Australia's Diversity and Inclusion Action Plan to achieve it. We need to **value** diversity at all levels and understand that diversity is **difficult** but key to innovation and the future of the survey and spatial industry in New Zealand.

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Images: Australian Official Diversity Agenda

AUTHOR'S BIOGRAPHY

Elaine McAlister is a self-employed geospatial consultant who originally qualified as a surveyor. Her 20-plus-year spatial industry experience in New Zealand includes working in utilities, research, consultancy, transport, statistics and conservation. Elaine is the chairperson of the Women in Spatial group in New Zealand and current holder of the New Zealand and Asia Pacific Professional of the Year Spatial Excellence Awards. Elaine would like to thank S+SNZ for the conference and breakfast registration fee sponsorship.



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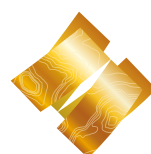
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Surveying's Samoan connections

Article supplied by *The Otago University Bulletin/ Samoan Observer*

A name can say a lot, especially one as long and beautiful as surveying student's **Geodes Laufanuaosamoa Mefiposeta Maualaivao**.

Geodes is conspicuously close to Geodesy, a common surveying term referencing the science of accurately measuring the Earth's geometric shape and orientation in space.

"My Mum Eseta first heard about surveying from the Director of the Lands and Surveys Department who at the time was the only other Samoan to have studied Surveying at Otago," Mr Maualaivao says.

It was the attraction to an outdoor job, and the fact that no other Samoan females had studied surveying, that led Eseta to gain a Certificate in Land Surveying from Unitec in Auckland.

"The use of stars in surveying must have fascinated her because she named my older brother Cosmos and me Geodes."

Six months after Geodes was born, Eseta again left Samoa with her family in tow to study at Otago's School of Surveying.

Mr Maualaivao can only recollect small details about his early life in Dunedin such as the Leith River and its ducks beside the University kindergarten he attended.

After completing her degree at the end of 2001, the family returned to Samoa and Eseta became the country's first female surveyor where she still works today with just a handful of other registered surveyors.

While on holiday in New Zealand in 2012, the family visited Dunedin and some of the places that had been part of their lives for three years.

"Mum told us stories from when we lived here and we went back to places like the kindergarten, the house where we lived, and the School of Surveying where there is a photo of her on the wall."

However, even then Geodes didn't consider surveying as a potential career.



"I actually didn't even know what surveying was, until I went to see Mum at her work and saw her in action," Mr Maualaivao recalls.

"Even today when I tell people I am studying surveying, some think I hand out surveys for people to answer!"

However it was during his foundation year at the University of Samoa that a seminar changed his outlook altogether, taken by none other than his Mum and the only other female surveyor in Samoa.

"They told us how there are few surveyors in Samoa and that the country needs them."

So following in his Mum's footsteps, in 2017 Mr Maualaivao jumped on a plane bound for Dunedin to start surveying, and is now in his third year of studies.

"At the moment in geodetic surveying we are learning about observations using the stars," he says.

"I remember Mum telling me about it but I never understood it, but now here I am learning about it which is pretty cool."

Even though he loves returning to Samoa during the holidays to see his family, Mr Maualaivao is enjoying his time in Dunedin.

"I really like the size of the city and wandering through the Botanic Gardens, which was a place we spent a lot of time when I was a toddler."

He says his Mum never pressured him to do surveying, but she is excited he has chosen to study a field that both his parents are passionate about.

And true to his second name *Laufanuaosamoa* meaning the 'landscape of Samoa', it's a country that at the end of his studies will eventually call him home.



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Jo Johnston



This edition we begin a regular new series profiling survey and spatial professionals who are engaged in a diverse range of work practices and activities across the profession.

We begin the series with a profile of Jo Johnston, Chairperson of the Survey and Spatial Examinations Committee. The Examinations Committee conducts the professional examinations including those by arrangement with the Cadastral Surveyors Licensing Board of New Zealand.

A licensed cadastral surveyor and registered professional surveyor, Jo has practised for more than 25 years and has been actively involved with Survey and Spatial New Zealand for many years.

Jo currently works at the Office for Māori Crown Relations – Te Arawhiti (previously known as the Office of Treaty Settlements), where she provides specialised policy and technical advice to the acting chief executive, chief Crown negotiators and iwi on land-related issues for Treaty settlement legislation.

Jo discusses her current role as Chairperson of the Examinations Committee and as a cadastral surveying examiner, and the challenges of balancing career, volunteering and family.

What is your current role?

Outside of my day job I have the rewarding roles of Chairperson and cadastral surveying examiner within Survey and Spatial New Zealand.

What does your role entail?

The Chairperson is a leadership role to ensure the committee operates and conducts itself in a professional manner. I ensure a consistent approach is being taken by the examiners when it comes to the interviewing and moderating decisions regarding candidates' competency at the professional interviews. I have to find a balance between the professional support for the young professionals versus the strict role of a regulator.

I also oversee the important work of the examiners who set, moderate and mark the cadastral laws and regulations examination. I respond to queries seeking clarification and exemptions to their project work. The role requires regular reporting to the Council and driving improvements to the whole system of competency testing – especially as experienced by our young professionals.

My role as the cadastral surveying examiner is to assess the projects as evidence of competence, consider a set of technical and professional questions and then the most rewarding of all: interview the candidates as they

put their best professional self forward.

How long have you been involved?

The professional side of surveying is hugely rewarding. I have been surveying for more than 25 years, have held various branch positions and received the Bogle Award in 2003. I became involved as the cadastral surveying examiner in November 2016 and Chairperson in April 2017.

Why did you decide to take up the role?

I have always had a strong interest in cadastral surveying and have carried out many complex cadastral surveys over the years. I like to question and test reasoning for decisions. I thought back to my experience presenting my projects to the examiners and remember some of the questions and discussions held that I still reflect upon today. If I could be influenced positively at that stage of my career, I hope that I can do the same for others.

What are the rewards and benefits?

It is a role that utilises my leadership and professional skill set. It utilises and tests my technical knowledge, keeping me current. It provides a learning opportunity for me as well! I examine and get to see the complex nature of the cadastral surveys all around New Zealand. I enjoy seeing

(continued p42)



CREATING ENVIRONMENTALLY CONSCIOUS SPACES

The Aotea Development

Cuttriss Consultants Ltd

THE GREATER WELLINGTON REGION IS UNDERGOING SIGNIFICANT CHANGE. TRANSMISSION GULLY IS DUE TO BE COMPLETED NEXT YEAR, AND OTHER MAJOR INFRASTRUCTURE PROJECTS ARE UNDERWAY, INCLUDING THE EXPRESSWAY NORTH OF KAPITI, OPENING UP THE REGION LIKE NEVER BEFORE.

Porirua, around 20 kilometres north of Wellington, is experiencing growth as more people look to move into new homes in the area.

Aotea is one of the largest developments currently underway. With thorough design and careful consideration of the surrounding environment, demand for homes in Aotea is strong as the project enters its final stages.

Cuttriss Consultants has been working closely with Carrus, the developers of Aotea, since 2010. Cuttriss, specialised in land surveying, civil engineering and resource management planning, were focused on creating a socially and environmentally conscious space for the Aotea project.

Since 2010, the Wellington-based company has delivered more than 445 sections for sale in Aotea, with the aim of establishing a community which responds to envi-

ronmental needs, as well as creating a high-quality lifestyle for its residents north of New Zealand's capital.

To enhance and protect the environment, thousands of native trees and shrubs have been planted, almost 50 hectares of green space has been established or set aside, and a significant network of walking tracks have been built.

Cuttriss also worked with ecology experts to design and construct a number of wetland areas which filter and treat stormwater run-off before it enters Porirua Harbour.

According to Cuttriss engineer Rob Holmes, through erosion and sediment control, the wetland areas help protect Porirua Harbour which is close to the Aotea site. Creating wetlands that help to protect the harbour ensures the development has a minimal impact on the environment in the future.

(continued p42)



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PROPERTY TAX IN AOTEAROA NEW ZEALAND

‘THE FIGHT WAS FIXED’

Mick Strack mick.strack@otago.ac.nz

Land as property

Land is important for everyone. We all need a space to occupy on this earth. The allocation of land is therefore crucial to how our society, our environment and our economy works. Private property provides a wide range of benefits: a sense of place and connection with community and environment, and social, cultural and economic security. Property ownership certainly marks a division within New Zealand society – those who have and those who have not. We are now a nation characterised by social and economic division and disparity where a large portion of the population struggle to gain access to land while a much smaller proportion hold their sometimes extensive land holdings for economic gain and exclusion of others.

Taxing property

In early 2019, the report from the Tax Working Group recommended a form of capital gains tax (CGT) which could be more effective at wealth redistribution and influencing behaviour away from property accumulation. Only relatively few New Zealanders benefit from value increases of property other than the family home. A tax on that capital gain seems logical and fair. However, the power brokers in our society are almost exclusively wealthy and land-rich, and perhaps unsurprisingly, the current government has taken the politically safe option and dismissed the recommendation.

*Everybody knows the fight was fixed
The poor stay poor, the rich get rich
That's how it goes, Everybody knows...*

Leonard Cohen © Sony/ATV Music Publishing LLC

Most of us would probably rather be paying less tax, but most of us also expect a better level of funding for such essentials as health, education and physical infrastructure. As the Tax Working Group has stated: “The tax system supports the wellbeing of New Zealanders: as a fair and efficient source of revenue; as a means of redistribution; and as a policy instrument to influence behaviours.”

Most taxes are fairly blunt instruments in reallocation of wealth, and new taxes have to be justified on the basis of some national moral assertion of fairness. Income tax is accepted as appropriate and it is well established. However, the relatively flat income tax structure in Aotearoa New Zealand means it has little effect on wealth redistribution or investment behaviour. A new tax regime, GST was introduced in 1986 and mostly accepted because it did not target the wealthy and the landowners.

The CGT debate has fired up many people across the political spectrum, both in support and in opposition. The major claims in support of a CGT is that it is fair; it taxes those who can best afford it; it may discourage land banking and speculation; and it might reduce the cost of housing. It taxes that unearned income; the increased value in land that is attributable to community decisions (like zoning) and demand. On the other hand, it has been suggest-

ed that this is an attack on middle New Zealanders; that it is complicated; that compliance costs will overwhelm any benefit; and it will limit the availability of rental property.

The arguments against a CGT are weak. There is complexity inherent in all tax regimes and in essence a CGT would be no more complex than our income tax regime. Most Western-style democracies have a CGT so it can obviously be managed efficiently and effectively. A CGT may result in a shift in tenure; from renting to home ownership, but it will not reduce availability of property.

It may have been expected that a Labour government might place more emphasis on wealth redistribution given the alarming statistics about the effects of wealth disparity and social inequalities. A CGT may also have demonstrated that the Government is serious about the provision of affordable homes. Previous bold governments (see below) have acted decisively to promote an equitable share in the benefits of land and property. Why not now?

Land value

Land value is driven by location, scarcity, the regulatory regime that determines allowable land uses and the proximity and availability of local government supplied infrastructure, services and amenities. In other words, to a significant extent, land value is generated by the community, and benefits should return to the community, rather than allowing those land values to be captured by private owners. The best way for the community to capture that wealth is to impose a land tax. Local authorities already tax land with rates charged on the basis of property value. There seems no reason why central government might not also seek tax revenue from property and from those land proprietors benefiting from that unearned income (capital gains).

The attraction of property

Aotearoa New Zealand was originally settled by mostly British colonists on the promise of access to land. The social and economic divisions of Britain in the 19th century meant most people were excluded from the land market there. The expectation (even promise) of a more equitable society became something of a core value for the new settler society and the ownership of land, enough to provide for occupation and production, has been the main driving force of European immigration to Aotearoa New Zealand since 1840. Land ownership provided not just for self-sufficient production but also for that sense of individual autonomy, personal liberty, economic independence, political connection, and sense of attachment to place and community.

The ideal of the yeoman farmer was the basis of early settlement of Aotearoa New Zealand: a community of small-scale agricultural producers, each with enough

property to be economically independent. But by the late 19th century, the lure of land had brought speculators and investors, and large estates were being amassed to the detriment of this ideal. The 1890s land acts promoted the policy of breaking up those great estates and ensuring all have access to land. These acts provided for “the settlement of men of small means upon holdings of land sufficient in size to afford them a livelihood, but not large enough to constitute aggregation of land to an undesirable extent”.

When New Zealand was seen as a great example of the welfare state, when a living wage was paid to all, when land and housing was available to all, there was pride in the relative equality of citizens. Things were not perfect, so lest my nostalgia get the better of me, I note that women had not achieved equal social or political status but great progress had been made, race relations seemed relatively harmonious, economic depressions had a huge impact on families and morale, and we lived in a kind of geographically confined isolation ward. However, home ownership rates were high, education and healthcare were mostly free, and unemployment rates were generally low. Income tax was the major way for the government to fund itself and allow for a slight reallocation of wealth.

Throughout most of the 20th century there was continued support for widespread property ownership in support of welfare egalitarianism. Property ownership was incentivised in many ways. Development grants, relatively cheap loans and tax incentives encouraged property ownership. The ideal that all should have access to private property if not as of right, then at least by expectation and policy support, was at least partly, the basis for relative social equality in New Zealand through till the 1980s.

The economic reforms of the 1980s changed all that and the greed of economic liberalism has seen property becoming more and more clustered in the hands of the wealthy – creating a more extremely economically stratified society.

Aotearoa New Zealand has almost completely reversed its core beliefs about spreading the benefits of property more equitably. Bob Dylan must surely have been talking about New Zealand when he expresses his incredulity:

*They said it was the land of milk and honey
Now they say it's the land of money
Who ever thought they could ever make that
stick
It's unbelievable you can get this rich this
quick...*

Bob Dylan. Unbelievable
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I N C O N F E R



ENCE 2019



IS YOUR BUSINESS LEAKING TIME?

Edward O'Leary, Abtrac Time Management & Invoicing Software

Talking with a prospective client, a director's big concern was they were writing off too much each month. Their initial email said: "Our business is leaking time". After some discussion I suggested they meet routinely and have staff agree on expectations of how long each piece of work should take. Things will then more likely be done within agreed times and thus agreed client budgets. This could plug the leaks and reduce their write offs.

Her quick reply told me the whole story. "Actually, we're all big boys here and we don't need to be micro-managed". Yes, that was *her* reply.

It reminded me of a cartoon of a politician on the hustings. He thumps the town hall podium, "Who thinks we need some big changes in this city?". Everyone cheers, "We do!". The politician continues, "How many of you are prepared to change?", and the hall empties out.

My meeting was the same. They wanted change. But they didn't want to change.

Bad timing?

Physics tells us that time actually slows down as gravity becomes weaker. Synchronise two caesium clocks at sea level then take one up a high mountain for a day. After only one day in a slightly weaker gravity field, the clock at altitude will have 'lost' time compared to the sea level clock, albeit in the order of a small fraction of a second.

At work, businesses lose time too. But not because of any high altitude work they may be involved in. Business time is lost in many ways. People may point to staff 'wasting time'. But the real thief of time in many businesses is management sanctioned through a culture of neither planning nor managing time, in real time.

At month end, or in the next month following, reviewing how things have gone during the past month is like driving a car only looking in the rear vision mirror.

If all you're selling is your time and expertise, there's no inventory to apply a margin to. So time recording is important because successfully recovering the value of time spent is the only way to make a profit. From invoicing time comes a measure of whether you 'won or lost' on a particular job vis-à-vis your quote or estimate. But knowing



what happened yesterday, last week or last month is less than half the story.

Managing what is going to happen is much more important. And it takes time. But believe me, it can save a lot of time.

How often have you reviewed the time on a job and decided 'We just can't justify that amount'. Someone has spent far too long on a piece of work, and you weren't aware until it was too late.

There will always be some jobs that turn to custard and you have to write off huge chunks of time. But on many, where you do write off, it should not have happened.

Gaining management experience in any profession doesn't happen just by getting older. Experience has to include an understanding of what's involved in a particular job and how long each part of a job should take. What are the likely wrinkles? What boxes must be ticked? It's an acquired skill. If you master it, and you train staff to understand and buy into realistic time expectations, your business will run more smoothly. And it will make more money.

A good time management system will help you to learn and it will help you to measure. But it's not a replacement for your management input. It's only an aid.

If 'time is money', then by not managing time you're throwing away both time and money.

However, time is not money. Money is not spread evenly. Money can be fiddled. There are times when money comes easily and at other times, it goes far too easily.

(continued p42)

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Kiwi academic has part in remeasuring height of Mt Everest

*Elena McPhee,
Otago Daily Times*

A University of Otago academic who contributed to the remeasurement of the tallest mountain in the world is returning to Nepal next week – where Mt Everest's new height will be revealed.

Dr Chris Pearson, from the Surveying School, was invited to the celebrate Sagarmatha Day in the British Embassy on May 29.

The annual day celebrates the ascent of the summit by Sir Edmund Hillary and Tenzing Norgay in 1953.

Dr Pearson led New Zealand's involvement in surveying projects in Nepal since the 2015 earthquake struck the country, killing almost 9000 people.

He has visited the country nine times since then – and last year, he contributed to a project to remeasure the height of Mt Everest, at the instigation of the Ministry of Foreign Affairs and Trade.

The height of the mountain pre-quake was 8848ms, and the new height will be announced on Sagarmatha Day.

Dr Pearson said the quakes had "moved everything by about two metres", and the question was what that had done to the elevation of Everest.

Dr Pearson travelled to Nepal for about six weeks in total last year to help with the remeasuring, and was based in Kathmandu.

His work included training Nepali surveyors to use the remeasuring equipment.

"We provided training for their staff, and some of the new techniques they would use."

There were two GPS receivers set up on the summit.



Dr Chris Pearson, of the University of Otago, holds a mount point for a GPS antenna for remeasuring of the height of Mt Everest. Photo: Gerard O'Brien.

Work on his next project, involving coding and equipment development for Nepal's GPS network, would start next week as well.

"The next project is with a different entity - the second project is related because there are these GPS receivers that just sit there for ever, and those are the control for the datum.

"We are trying to bring them up. It feeds into the Everest project."

Trimble New Zealand had provided equipment to facilitate the GPS part of the programme.

He was excited about returning to Nepal.

A colleague, University of Colorado geophysicist Dr Roger Bilham, nominated him to get involved in projects in the country.





The Young Professionals panel contemplates a question from CSNZ members

CSNZ WORKSHOP

– a YPs panel presented to the CSNZ members on what YPs want from business owners and how the YP Group and CSNZ Group can collaborate

Claire Buxton

FOR THE FIRST TIME, THE YOUNG PROFESSIONALS OF SURVEY AND SPATIAL NEW ZEALAND WERE REPRESENTED AT THE ANNUAL CSNZ WORKSHOP. THREE YOUNG PROFESSIONALS FROM ACROSS NEW ZEALAND WERE THERE TO SPICE THINGS UP A BIT, GIVE THE CSNZ MEMBERS A FRESH VIEW, SHARE THEIR PERSPECTIVES, AND LEARN THE PERSPECTIVES OF THE 110 BUSINESS OWNERS PRESENT.

The Young Professionals' expectations were exceeded. The annual workshop is an insightful, supportive and educational event. The Young Professionals Group wanted to make sure that their takeaways from the event were

shared with all. Here are some thoughts from Claire Buxton, one of the presenters and a general representative of the Young Professionals.



Three very nervous presenters before the YoPro session (From left, AJ, Joe and Claire)



Andrew and Mike were keen on talking more about YoPros. They are big on Education including communication skills and say YoPros need to back themselves!

I came with a goal of understanding the perspective of the CSNZ members. And I think I have achieved it. My next goal is to spread that understanding to the Young Professional's Group. So here I go.

My initial perspective of the CSNZ Group, before presenting, was rather negative. I saw it as a very exclusive old boys' club and I can recall hearing that from many people. I presented with AJ Harford-Brown and Joe Neureuter and we each had seven minutes. We then sat down and welcomed questions and discussion from the members. As questions starting flowing, it was clear the members were there to support Young Professionals. They want to understand our perspectives. Especially now that recruitment is getting harder and the average age of the surveyor is increasing. At present the global average is around 50 years.

One of the members reiterated a question asked in the panel discussion. The question was about whether Young Professionals lacked business skills. The discussion points that stemmed from that question were two-fold: structured education and on-the-job learning. It was suggested that more business skills be taught in a university paper. However, it was acknowledged that only so much can be learnt in the classroom and that a lot of business skills are learnt 'in the deep end'.

Instead of a completely new paper, we agreed a module could be added to the existing university programme. It would cover how you can own a business and that it is a realistic career goal for an Otago graduate. This may be a way to get more; more people into the profession as they see that surveying is more than a technical career.

On that note, my personal theory was frequently mirrored that soft skills are the most important skills. That is what this workshop is about. Developing soft skills. The first session I went to was about succession planning. It was very relevant to me personally to learn how a person can come into a business and the financial side of buying in. In starting out the day, I hadn't seriously considered business ownership something I would do in the future. Being present at this workshop has convinced me that I could possibly, one day, be my own boss.

The surveying consultant aspect of my daily work gives me the most satisfaction. I believe it is the soft skills that I have developed from attending workshops, the technical foundation from Survey School and years of experience are what make me a valuable consultant.

— Paul Newton, Chairperson
for the CSNZ Management Committee

The two presenters spoke on transitioning from a business and transitioning in new partners. I talked to one person at this session who recently bought into a company: technically still a Young Professional. That person is licensed but not an RPSurv. His business partner is RPSurv. We talked about the perceived value of the registered professional status.

RPSurv was a 'can of worms' topic as I found out. A lot of the business owners are RPSurv, some would say they have to be. In Auckland, they have had to negotiate with



Succession-planning session in the Atrium



Nick and Mark enjoying the sunshine and learning about alternative stormwater treatment at Kirimoko Park

the council authorities that the RPSurv is the bare minimum as an equivalent to CPENG for sign off. CSNZ maintains this battle needs to continue or else be marginalised in engineering forever more. It sees the RPSurv as being aspirational and showing a commitment to move from tertiary education into the realms of professionalism. But the Young Professionals I met there do not see any benefit of RPSurv. They agree the process needs to be more clear if it is a necessity.

A surprise to me was that there were more women and Young Professionals there than I expected – again shooting down my old boys' club opinion. A couple of Young Professionals were just one year ahead of me at university. They have started the process of buying into businesses. Other Young Professionals had owned their own businesses for at least a year and were sharing war stories and triumphs with us other 'young 'uns.'

The number of women was not huge, but certainly more than I expected. I think the younger members are very aware of the lack of diversity in the CSNZ. There was a session on leadership styles and culture next up. We heard that a good culture beats strategy and it helps with recruitment and retention. My favourite quote of the day came from Daniel Williams who said, *"We hire people because they are different."*

I ended up answering quite a lot of hard questions from business owners who are trying to attract Young Professionals into their businesses. They really made me think. And these were some of them:

- Do YoPros want to own a business?
- How to we keep YoPros engaged?
- How do we make our business more attractive to YoPros?

A common question was about overseas experiences and travelling. We advised them that most of us are probably going to travel or move around. Job mobility is a reality in our generation. I just said that they need to make their place one which the Young Professional wants to return. And if not, tell their friends about how good it is. Because word of mouth is the best recruitment tool in our small profession.



Paul Turner had excellent leadership stats and tips. Paul encouraged us to understand how others see you.



Andre and Joe got into a passionate discussion on the challenges of body corporates and unit titles

Speaking of word of mouth, the CSNZ workshops have been running every year since the first at Wairakei in 1976, completely under the radar, or separate to the Survey and Spatial Conference. It may be that it wasn't on my radar because I was at a large consultancy and a lot of what CSNZ offers was already covered by that company. Evidently it decided not to advertise in the past as it was thought if someone became a business owner and was a member, they would find out about CSNZ through their networks and through S+SNZ over the years. Still, the lack of advertising struck me as an issue. It is not well known but the workshop is such a valuable tool.

One solution that we YPs proposed is to advertise it externally. CSNZ recognises it has been very internally focused for a long time and it is time to look outward. An interesting point that might be worth advertising is that there is no reason why you cannot attend these events if your company is a member. If your boss sees potential in

you and you have shown interest and ambition in business, ask them to bring you along. We have told the members that this has to come from the top so prod them a little. CSNZ says one of the most valuable outcomes of the workshop is the personal networking over the three days that can't be gained within one company.

There was only one session that we non-members were not allowed to attend. That was the 'money talk' as that information is commercially sensitive. As I understand it though, its purpose is to make sure the value of the profession is maintained and equal.

The overall outcome of the day, speaking to committee member Neale Faulkner, was that this was the first time that the 'gap' has reduced in size. That is, the gap between the two Survey and Spatial groups: Young Professionals and CSNZ. We have reduced it, but we need to keep it there. That gap will never be completely closed as the two groups exist to represent separate bodies. But you should look forward to more mentoring opportunities and more joint events.

"We want to keep the momentum going with the YoPros because you're our future."

– Neale Faulkner, Northern Region rep
for the CSNZ Management Committee

A few days after the workshop, I received a text from a friend who attended the event. Joe is a new business owner and a proactive Young Professional. He had asked the CSNZ Committee if he could sit in as the Young Professionals representative. In his own words, "to help bridge the gap". I look forward to seeing this gap reduced. But



Some of the Young Professionals at the workshop enjoy a drink in the sun while the CSNZ members talk dollars – not a bad setting!



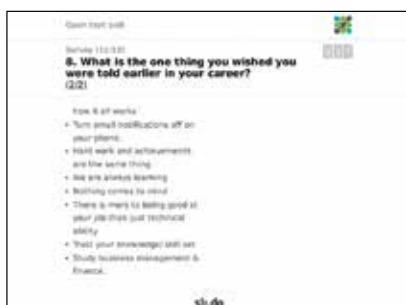
this is not just a one-person job. It takes all of us to help. So keep working towards your goals, keep talking to your bosses about where you see yourself heading. And maybe soon you will be welcomed into the not-so-exclusive, not-so-old, not-so-boys' club.

Along with questions from the members in the panel discussion and throughout the day, the YP panel decided to use technology and created Sli.Do polls. Some of the best poll answers are shown below.

"Watch this space. A lot of what the YPs presented today, we have in track. We do want to work with you because you are the future of our profession."

– Carl Fox,
Vice Chair for the CSNZ Management Committee

Carl, we're holding you to account ☺



(continued from p27)



Mana MP Kris Faafoi recently visited Aotea along with the Cuttriss team to look at how the site is protecting the environment.

He said he wanted to ensure that projects such as the Aotea development were being delivered within their commitment to protect the local environment, including the nearby wetlands which are a distinctive part of the Porirua basin.

“Work like this is an integral part of any major development project, particularly in a growing Porirua city”.

When complete, the Cuttriss team will have assisted with 652 sections within the Aotea Development, and sections have sold fast with 75 lots in Rotorua Grove, the latest stage, selling in just three days.

With Transmission Gully due for completion next year, demand for new homes in this part of Wellington is incredibly high and Porirua will be better connected with communities to the north and south.

For more information about the Aotea project, go to: <https://aoteaporirua.co.nz/>

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The difference is, *time only goes.*

In a business that has no inventory, earning its money from applying its time and expertise, scheduling forward work week by week, measuring actual time versus planned time, with an eye on the weeks beyond, key deliverables and invoicing dates is not micro-management. It's just management.

And it's essential if you don't want your business leaking time.

Edward O'Leary is a co-founding director & CEO of Abtrac Time Management & Invoicing Software. As a recognised authority on the management of professional services firms, Ed has a well-rounded appreciation of IT, business management processes and controls, and of course, business software knowledge. Ed couples this with his knowledge on how businesses can make money more efficiently.

Edward is formerly from the international accounting firm EY. He co-founded Abtrac in 1990 and remains principle architect of the Abtrac software suite, driving its on-going development and direction.

(continued from p25)

the candidates do well in all their interviews knowing that the profession is producing the next generation of skilled, well-rounded professional surveyors.

The benefit is that I am growing professionally through Survey and Spatial by being involved with policy, governance and regulatory systems which I can then apply in the workplace.

How do you get involved?

By volunteering and being willing to contribute. I applied for the role. I had the backing and support of my employer and Survey and Spatial. I strongly encourage others to get involved.

What are some of the challenges and opportunities you've had in balancing work, volunteering and family in your professional career?

Volunteering for me is all about creating new learning opportunities, passing on skills and knowledge, and about giving back to the profession that has supported me to get to where I am today. I made the decision to work not quite full-time hours to allow time to take on voluntary roles.

My main two volunteering roles are the Examinations Committee and coaching netball. The workload and timing of the professional examinations require prioritisation so that holiday weekends aren't spent working instead of with family. As with any volunteering role, there is only so much you can do and if everyone could set a little bit of time aside and contribute in any way, then great things are achieved.

Correcting errors

Stephanie Harris and Mitch Singh

The surveying community will note with interest the Court of Appeal's recent judgment in *Hojsgaard v Chief Executive of Land Information New Zealand & Anor* [2019] NZCA 84.

The case involved land in Omapere near Hokianga Harbour. Mr Hojsgaard, the appellant, challenged the accuracy of a survey of a neighbouring block of land carried out by the second respondent, later approved by the Chief Executive of Land Information New Zealand, which he said adversely affected him because the boundaries depicted in the survey did not allow for the location of a historic stream. The appellant commissioned a redefinition survey by Thomson Survey, which he considered accurately depicted the boundaries.

After a number of attempts at engaging with the Chief Executive under section 52 of the Cadastral Survey Act 2002, the appellant commenced proceedings seeking judicial review of the Chief Executive's decision, and declarations as to the correctness of the Thomson survey.

In the High Court, Justice Jagose found that the Chief Executive had failed to consider a mandatory relevant consideration (whether the western boundary of an older survey is depicted by a right-lined former water boundary) and directed the Chief Executive to reconsider. Justice Jagose did not however quash the decision approving the survey for integration into the cadastre. He also did not make the declarations sought.

The Court of Appeal found that the High Court erred in declining to quash the Chief Executive's decision. Any reconsideration, without quashing, left the Chief Executive without any power to remove a survey once it had been entered into the cadastre (even if it were later found to be inaccurate) due to the presumption of correctness. Accordingly, the Court of Appeal quashed the approval decision and directed the Chief Executive to reconsider the correctness of the second respondent's survey in light of



all the evidence now available. The Court of Appeal declined the appellant's request for declarations as to the correctness of the Thomson survey.

The Court of Appeal's decision provides valuable clarity on the operations of section 52 of the Cadastral Survey Act 2002, the duty of a surveyor when surveying water boundaries, and the importance of the cadastre's integrity to the Torrens system in New Zealand. The Court of Appeal again endorsed the 'long established surveying practice' set out in its earlier decision of *Chief Executive of Land Information New Zealand v Te Whanau O Rangiwhakaa-hu Hapu Charitable Trust* [2013] NAR 539 (*Otito Reserve*) that "if there is a conflict between surveys, compelling evidence is required before the decision maker can conclude the earlier plan is in error and should be replaced, notwithstanding the consequential prejudice that might otherwise be caused to those with interests in the land. A very high 'standard of satisfaction' as to the existence of error was said to be required".

Note: Glaister Ennor were instructing solicitors for Mr Hojsgaard







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Students set example on climate change

Christina Hulbe

How did you spend your lunch hour on May 24? I know, it's hard to remember, even a few hours later, given how busy we all are these days. But I know exactly where I was: marching alongside students from all across Dunedin as they made their way to the Octagon in the second School Strike 4 Climate action of the year. Their chants were loud, their signs were both critical and clever, their speakers were articulate and diverse, and their message was clear: the time to act is now and "adults" are letting them down.

The May 24 strike called attention to the limitations of government action to date. Organisers were encouraged by the Climate Change Response (Zero Carbon) Amendment Bill that's just had its first reading in Parliament but didn't think the proposed legislation was ambitious enough. They called for legal enforceability, transparency, hard targets that align with limiting global mean warming to 1.5C and principles that honour Te Tiriti o Waitangi. They asked the Government to declare a climate emergency.

Politicians (and others) who criticised students for not attending classes or who continue to diminish New Zealand's part in the massive climate problem seem to miss the point. The students I heard on May 24 certainly get the point. They understand the science, they are knowledgeable about the environmental and social impacts of climate change and they believe in the power of their collective – and global – voice. And if I'm being completely honest, I'd say the students put most of us here on campus to shame. They were taking a stand for a cause that affects everybody while most of us just watched them go by.

I'm reflecting on the School Strike 4 Climate action today because the scientists who monitor atmospher-

ic carbon dioxide concentration have just reported the May 2019 mean value. Atmospheric CO₂ goes through an annual cycle as northern hemisphere flora grow and senesce, and May is when the peak occurs. It was 414.7 parts per million this year and rather than reducing, the rate at which that number grows is increasing. Over the past decade, the rate has been 2.2ppm a year, more than three times what it was when I was born. The Antarctic ice core record tells us that a more comfortable, pre-industrial level is about 280ppm.

I'm also reflecting on School Strike 4 Climate action because 30 school-age students from Waitati are here in the School of Surveying today, learning about spatial analysis as it can be used to understand environmental quality in the catchment where they live. These young people are knowledgeable, enthusiastic about learning and ready to get to work. Surveying graduates who know how to apply the full range of surveying and spatial tools to novel and diverse problems are going to be key in finding and implementing the solutions we all need. So the next time students call for action, go join them on the streets – and maybe encourage them to consider a diploma or degree in our sector. We need them.

You can learn more about the simple actions every person, every business, and every government can take to draw down greenhouse gases and protect the climate for future generations at the Project Drawdown website: www.drawdown.org.

You can learn more about the Global Greenhouse Gas Reference Network at the NOAA website: www.esrl.noaa.gov/gmd/ccgg.

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