

Facing

Newsletter of Beacon Pathway June 2014



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Delivering medium density that works well

Come along on our 2014 study tour to North America

Come and experience successful and more sustainable medium density housing and neighbourhoods in both suburban and inner city settings in Vancouver, Victoria, Seattle and Portland.

Talk with local housing leaders from a range of organisations as well as local residents and community members.

Visit inspiring exemplars from eco-districts through to pocket neighbourhoods, innovative social housing and joint ventures.

The tour will start in Vancouver on 11 August and will finish in Portland on 26 August.

More info and an indicative itinerary: www.beaconpathway.co.nz/further-research/article/study_tours





Message from the CEO

There's an exciting opportunity coming up to share understanding and stimulate debate across the sector.

In September the Building a Better New Zealand conference will be held in Auckland.

This three day conference follows on from the SB07 and SB10 which were regional conferences held as part of the world-wide Sustainable Building conference series.

Holding regional Sustainable Building conferences in New Zealand proved very successful. Building sector professionals from government to industry to design came together to share information and discuss the issues facing New Zealand's residential built environment.

Now, this opportunity is coming up again and I encourage you to join in with the rest of the sector. The more the merrier ... or rather, the more participants the better the discussions!

So why am I so keen to see this conference a success?

It boils down to this: We've made huge leaps in our understanding of what needs to happen to improve New Zealand's built environment. We know a lot about how to make both new and existing houses more energy and water efficient, warmer, healthier, and less of a cost burden on households. We're learning more about doing medium density well – that's a work in progress, but understanding is growing about what we haven't done well before, and how it needs to change.

Yet at the same time, this knowledge and understanding is not well spread across all parts of the building value chain. In many areas, business as usual still reigns supreme.

It's clear that changing business as usual is going to take more than one organisation. It needs collaboration, sharing of resources and a concerted effort across a number of fronts. The Building a Better New Zealand conference provides just such an opportunity for the sector to get together.

It's the chance for people to learn about the latest research, projects and findings, and discuss the future of New Zealand building. One of the aims of the conference is to provide input into the 'Research Strategy for the Building and Construction Sector'.

So sign up, come along and have a hand in the future of New Zealand's housing and construction. See you there!

Nick Collins

Thanks for completing survey

Recently, as part of our business planning process, we invited you to complete a short survey.

This research was to help us:

- better understand the value Beacon adds to the work you are doing, as well as to the residential building sector more generally
- understand what you see as the issues and opportunities in the residential building sector and how Beacon may be able to positively contribute to these
- inform the development of Beacon's business plan.

Thank you to all those who took part. We appreciate your time and thought. Our Board is now considering the results and how we might apply them to our future development.

Building a Better New Zealand Conference

3-5 September 2014, Auckland

Innovative ways to create better communities and improve the performance of existing buildings will be discussed by national and overseas speakers at the Building a Better New Zealand conference in September.

Registrations are now open for the conference from 3 to 5 September in Auckland.

“Building a Better New Zealand will feature a wide range of industry speakers and researchers from here and overseas and provides a forum to share knowledge and insights about the latest building innovations,” says Lois Easton, from the conference organising committee.

Success stories and case studies from New Zealand and internationally will show effective ways to build better cities and communities, improve the performance of existing buildings, meet the housing needs of New Zealanders and improve productivity within the wider building sector.

One of the speakers is Dr Tim Williams, Chief Executive of the Committee for Sydney and formerly one of the United Kingdom’s leading policy makers on urban regeneration and city development.

“Tim is recognised as one of the leading urban renewal thinkers and practitioners at work in the field, with an international reputation. In 2003, he was voted by his peers in the urban renewal sector, as the leading person in their business in the UK.”

Johnny McFarlane, BECA project manager for the Shigeru Ban designed Christchurch Transitional (Cardboard) Cathedral, is another speaker at Building a Better New Zealand.

Johnny is an entertaining speaker and specialises in complex projects requiring excellent management of technical risk and communication of issue - all skills that were used

to great effect on the construction of the Transitional Cathedral.

Included in the line-up of speakers is Professor Diane Brand from the University of Auckland whose research specialises in the urban history of colonial cities in Australia, New Zealand and Brazil. Diane practises as an architect and urban designer and is currently a member of the Christchurch City Urban Design Panel.

Jerome Partington is another speaker at Building a Better New Zealand. He is chairperson of Living Future NZ, a not-for-profit aimed at accelerating the transition towards restorative communities and built environments, and recently facilitated the Te Wharehau O Tuhoë, the first Living Building project in New Zealand.

Other speakers at the conference include Professor Jules Moloney, Head of the Victoria University School of Architecture; Andrew Crisp, Deputy Chief Executive Infrastructure and Resource Markets, Ministry of Business Innovation and Employment; Chelydra Percy, Chief Executive of BRANZ; and Mahi Paurini, Chief Maori Advisor, Housing, Ministry of Business Innovation and Employment.

As part of the conference, there will also be an opportunity to hear about and provide input into the ‘Research Strategy for the Building and Construction Sector’.



www.buildingabetternz.co.nz/overview

New Category of Home project

The New Category of Home Project began with a vision of a new type of home that would perform to a high standard (meeting Homestar™ 8 and Beacon's HSS High Standard of Sustainability®) but which would also be delivered through off-site construction with all its potential cost and time savings.

New Zealand Steel was joined by five other partners in the project: product manufacturers InsulPro, Frametek-RFS, Fletcher Aluminium, Resene; and facilitating the process, Beacon.

The project commenced with an innovation phase which brought together the partners' technical knowledge and understanding of their own products to develop a new building system. Called Warmframe™, this combines steel framing, insulation and windows, with the potential to include claddings, linings and coatings. The result is a super-insulated building system which can be built, either as walls, sections or entire buildings, in a factory.

The project then moved to a trial and demonstration phase to test the system's buildability and cost of construction, solve technical issues in a real life situation, and check the performance of the building system.

HIVE High Performance House

The first trial was part of PrefabNZ's HIVE Home Innovation Village and used Salmond Architecture's High Performance Houses design (flexible modules suited to off-site construction) with the new Warmframe system.

The house was fully built in the factory (framing, insulation, roofing, cladding, lining, windows) and transported by truck to site to be finished. Once complete, thermal testing and thermal imaging of walls and ceilings were undertaken, and the home's temperature and humidity monitored.

The house was open to the public over 2013 and then sold, testing consumer reaction and barriers to prefabrication.

We are working on pulling together what we've learned from the off-site construction, demonstration and sales process. Perceptions and barriers to off-site construction are a particular area of unexpected learnings for us.



Hobsonville duplex

The second house in Hobsonville Point used a Universal Homes design with Warmframe, to trial two alternative methods of off-site construction: 2D walls and 3D modules (framing, insulation, windows). These were assembled on site, and then finished.

The Hobsonville home has enabled the partners to assess Warmframe's potential for application to an existing duplex design, delivery to the

volume home builder market, and working in a business as usual environment.

Construction of the second demonstration of Warmframe technology, a Hobsonville duplex, is due for completion at the end of June. In the meantime, the houses are being sold privately on Trade Me.

It is planned to monitor the Hobsonville homes for operational performance.



2D walls (left) vs 3D modules (right)



Design drawings of Hobsonville duplex

Beacon blog: compact city

There's been a lot of discussion recently about whether moves to limit sprawl of our cities, particularly Auckland, are making our houses less affordable. This debate has focused solely on the contribution of land cost to housing affordability. It ignores, almost completely, the growing evidence of the other costs of sprawling cities.



Valuing neighbourhoods

Beacon's own research showed that medium density mixed-use neighbourhoods bring significant benefits to New Zealand cities (www.beaconpathway.co.nz/neighbourhoods/article/valuing_sustainable_neighbourhoods).

Using the measures of neighbourhood sustainability identified in our Neighbourhood Sustainability Framework, we assigned dollar values to each measure. Two sets of data were used: data gathered in a national survey of neighbourhood behaviours and experience; and existing costs and monetised benefits data found in a wide range of existing research, commentary and information.

We found that cities with inner city high and medium density areas have a positive dollar sustainability value. Where the city is dominated by low density, non-mixed use neighbourhoods, it tends to generate net costs rather than net benefits.

Neighbourhood Built Environment Category	\$ Sustainability Value per Dwelling
High density – mixed use	\$1,362
Medium density – mixed use	\$88
Medium density – non-mixed use	\$1,143
Low density – mixed use	\$595
Low density – non-mixed use	-\$595

Measuring Sprawl

Just released in the US is another report, "Measuring Sprawl" which looks at other ways to measure the costs of sprawling cities. It makes interesting reading!

(www.smartgrowthamerica.org/documents/measuring-sprawl-2014.pdf)

Measuring Sprawl rated 221 metropolitan areas and 994 counties in the U.S. according to four primary factors:

- density (people and jobs per square mile),
- mix (whether neighbourhoods had a mix of homes, jobs and services),
- centricity (the strength of activity centres and downtowns)
- roadway connectivity (the density of connections in the roadway network).

Some of the results are:

Affordability: The portion of household income spent on housing is greater, but the portion of income spent on transportation is lower, in smart growth communities. Since transportation costs decline faster than housing costs rise, this results in a net decline in combined housing and transportation costs.

Economic mobility (the degree that children born in poverty will be economically successful): sprawl reduces economic mobility by concentrating and isolating poverty, and by reducing non-drivers' access to education and employment opportunities.

Travel: Smart growth community residents tend to own fewer motor vehicles, spend less time driving, and rely more on public transit and active modes.

Safety: Smart growth communities tend to have more traffic crashes (due to increased traffic density, that is, more vehicles per lane-mile, which increases the possibility of a crash), but they are less severe (because they occur at lower speeds).

Health: Smart growth community residents tend to live longer. For every doubling in the index score, life expectancy increases by about four percent. For the average American with a life expectancy of 78 years, this translates into a three-year difference in life expectancy between sprawled versus smart growth communities. This reflects significantly lower rates of traffic fatalities, obesity, high blood pressure and diabetes in smart growth communities, although these are somewhat offset by slightly higher air pollution exposure and murder risk.

Unfortunately, to date, New Zealand has not specifically designed dwellings and neighbourhoods to achieve the benefits of a compact city. Residents' concern about increasing density is based on experience of poor design and construction. It can be done so much better. Achieving a quality compact city with intensification around transport hubs will require an urban design framework with a strong emphasis on resilience, low impact design, demand management and diversity of infrastructure supply.

Beacon supports a compact city; it will bring benefits far wider than the cost of house purchase. We need to consider brownfields redevelopment, and take action to encourage

'refill' development within existing properties, such as secondary suites, secondary dwellings and pocket neighbourhoods.

For more on this, see my blog on clever ways to increase housing supply with invisible densification which does not compromise the character and amenity value of existing neighbourhoods (<http://beaconpathway.blogspot.co.nz/2014/03/beacon-has-been-busy-recently-making.html>).

Nick Collins

Information in this blog has been taken from "New research on smart growth benefits" <http://www.planetizen.com/node/68408>

For more Beacon blogs see www.beaconpathway.blogspot.co.nz



The Station, Othello Park in Seattle was planned and built with access to light rail, bus routes and highway connections. 351 studio, one- and two-bedroom apartment homes

Found on Facebook!

We're finding a range of interesting links through our Facebook feed. Here are some of them:

Mid-rise: Density at human scale

This opinion piece by Robert Freedman gives an interesting perspective on density and height, and in particular the human scale.

<http://www.planetizen.com/node/67761>

Transit Oriented Development is the key to better cities

Rather than Transit Adjacent Development, this article suggests we need Transit Oriented Development, the high quality, thoughtful planning and design of land use and built forms to support, facilitate and prioritize not only the use of transit, but the most basic modes of transport, walking and cycling

<http://www.treehugger.com/urban-design/transit-oriented-development-key-better-cities.html>

How public spaces make cities work

As New York's chief city planner under the Bloomberg administration, Amanda Burden led revitalization of some of the city's most familiar features — from the High Line to the Brooklyn waterfront. In this TED talk she shares the unexpected challenges of creating great public spaces.

http://www.ted.com/talks/amanda_burden_how_public_spaces_make_cities_work

How much energy does living in a walkable neighborhood actually save?

Mike Christensen tests the claim that changing all your light bulbs to energy savers saves as much energy in one year as moving to a walkable city does in a week.

<http://www.treehugger.com/urban-design/how-much-energy-does-living-walkable-neighborhood-actually-save.html>

Reviving a neighbourhood by building affordable sustainable housing

Grassroots organisation, People United for Sustainable Housing (PUSH), is developing a plan for a Green Development Zone on the West Side of Buffalo. The plan goes far beyond energy-efficient affordable housing to include the creation of employment pathways and promoting economic stability within the zone.

<http://www.greenbuildingcanada.ca/2014/building-neighborhood-affordable-sustainable-housing/>

Energy efficient homes should come with better mortgages

The proposed Sensible Accounting to Value Energy (SAVE) Act in the US which would require a lender to take the projected energy savings of an efficient home into account when presented with a qualified energy report.

<http://thehill.com/opinion/op-ed/206555-energy-efficient-homes-should-come-with-better-mortgages>



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