



Creating homes and neighbourhoods  
that work well into the future  
and don't cost the Earth

# Neighbourhood Impacts on House Sustainability

Beacon Symposium 2008

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# Today I want to:

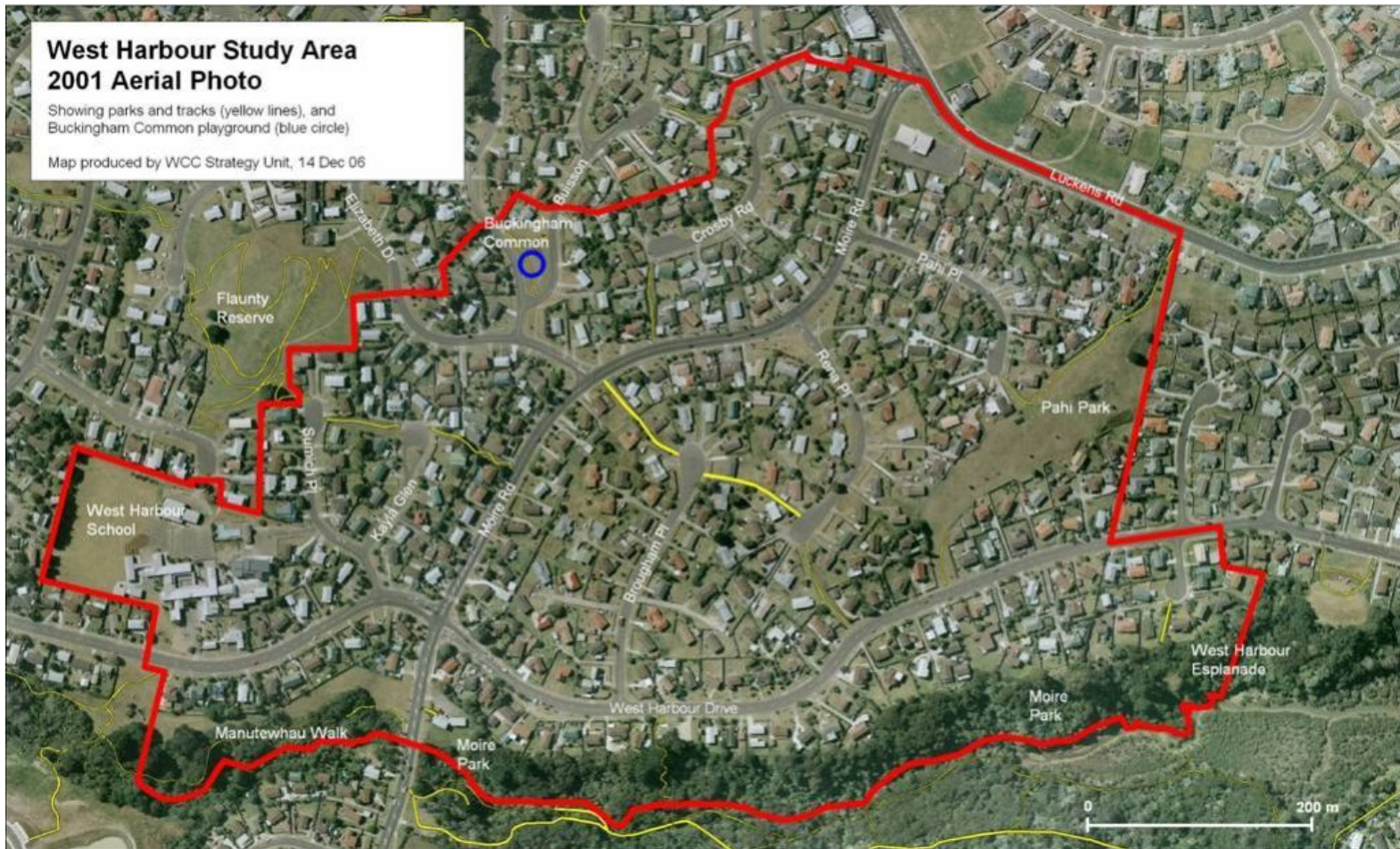
- Present some data on dwelling sustainability in the context of neighbourhood development
- Comment on:
  - The way in which neighbourhood interventions may increase dwelling sustainability
  - Dynamics of neighbourhood action

# Real neighbourhoods impact on real houses



- Tatou West Harbour – Waitakere initiative to rejuvenate Massey
- Beacon's contribution:
  - Apply the Neighbourhood Sustainability Framework
  - Analyse House Condition Survey data – 100 houses
- Suggest options for improved sustainability

# West Harbour

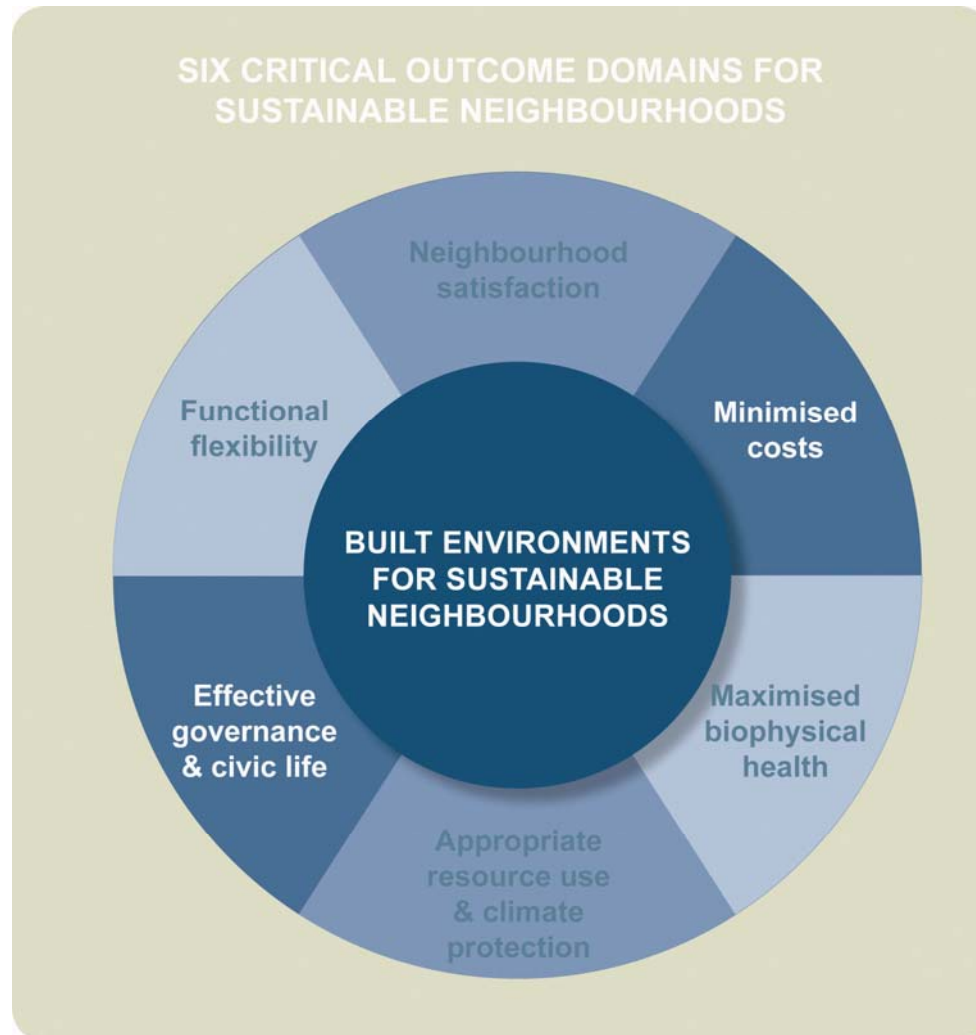


# The Neighbourhood Sustainability Framework



- Designed to be outcome oriented
- Built Environment Observational Assessment
- Resident Self-report

# Six Critical Domains of Neighbourhood Sustainability



(Saville-Smith et al, 2005)

# House Condition Survey



- Version of BRANZ national condition survey
  - Excellent – average component HCScore 4.5-5.0
  - Very Good – average component HCScore 4.0-4.4
  - Good – average component HCScore 3.5-3.9
  - Moderate – average component HCScore 3.0-3.4
  - Poor – average component HCScore 2.5-2.9
  - Serious – average component HCScore <2.5

# Dwelling condition has impact on performance & durability



## ***Average Repair Cost\* for Dwellings with All Components at a Specific House Condition Scale Score***

All Component Score	Average Repair Cost 2007 \$
<b>HC Score 1</b>	<b>94,895</b>
<b>HC Score 2</b>	<b>64,074</b>
<b>HC Score 3</b>	<b>9,850</b>
<b>HC Score 4</b>	<b>1,135</b>
<b>HC Score 5</b>	<b>0</b>

\* Cost for 140 sqm house to bring to new condition.



# West Harbour sustainability



## West Harbour Beacon Neighbourhood Assessment Results

Sustainability Rating	Observational Assessment	Resident Self-Report Assessment
High	46-60	15 +
	<ul style="list-style-type: none"> <li>▪ Blake St – Ponsonby</li> <li>▪ Petone</li> </ul>	<ul style="list-style-type: none"> <li>▪ Petone</li> <li>▪ Blake St – Ponsonby</li> </ul>
Medium	30-45	10-14.9
	<ul style="list-style-type: none"> <li>▪ Aranui</li> <li>▪ <b>West Harbour</b></li> <li>▪ Harbourview</li> <li>▪ ChCh East Inner City</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harbourview</li> <li>▪ ChCh East Inner City</li> </ul>
Low	<30	<10
	<ul style="list-style-type: none"> <li>▪ Waimanu Bay</li> <li>▪ Dannemora</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>West Harbour</b></li> <li>▪ Aranui</li> </ul>

# West Harbour – A Working Neighbourhood



- Some connectivity problems
- Some safety issues in the build environment
- House dilapidation and performance problems
  - 42% higher to repair dwellings to as new than for houses in 2005 national house condition survey
  - Damp and mould problems
  - Low levels of insulation

# Damp and mould – West Harbour



- 15.2 percent mould to Serious or Poor levels vs 2.7 percent of dwellings nationally
- 20 percent with rising damp vs 8 percent of dwellings nationally
- 7 percent with water ponding vs 2 percent of dwellings nationally
- 13 percent with fungi on the wall claddings vs 6 percent of dwellings nationally

# Preventing damp and mould – West Harbour



- Insulation, ventilation and heating
- House repair and maintenance
  - Rusting gutters
  - Cracked roof tiles
  - Leaking windows
- Effective stormwater

# West Harbour and stormwater



- Not adequately developed at time of subdivision
- Exacerbated by soils
- Exacerbated by hilly site
- Exacerbated by hard surface
- Lesson – Do it right at the beginning!!!!

# West Harbour and dwellings



- Persistent under-investment
- Tatou West Harbour demonstrates community-based interventions mobilise:
  - Individual responses
  - Provide opportunities for economies of scale
  - Set taste and expectations
  - Provide knowledge and resources
- Lesson – It's never too late