NH3102/3

National Neighbourhood Baseline Survey

A report prepared for Beacon Pathway Limited

August 2008

The work reported here was funded by Beacon Pathway Limited and the Foundation for Research, Science and Technology

About This Report

Title

National Neighbourhood Baseline Survey

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Abstract

This report presents the findings of the national baseline survey of neighbourhood behaviours. The baseline data is used to drive the Resident Self-Report assessment component of Beacon's Neighbourhood Sustainability Framework.

Reference

Saville-Smith, K. August 2008. National Neighbourhood Baseline Survey. Report NH3102/3 for Beacon Pathway Limited.

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Contents

Executive Summary 1
2 Introduction 3
3 Beacon, Neighbourhoods & the NSF Method 3
4 The Research Objectives and Scope 9
5 Method 9
5.1 Survey Instrument 9
5.2 Sample Frame 9
5.3 A Stratified Random Sample 13
5.4 Survey Implementation and Analysis 14
6 Patterns of Neighbourhood Experience 15
6.1 Profile of Survey Participants 15
6.2 Neighbourhood Functional Flexibility and Satisfaction 18
6.3 Biophysical Health 22
6.4 Governance and Civic Participation 23
6.5 Resource Use, Climate Protection and Minimised Cost 24
7 The Prototype Baseline and National Baseline 24
8 The National Neighbourhood Data and Its Use 27
9 References 29
10 Appendix A: National Neighbourhood Survey 30

Tables

Table 1 Definitions and descriptions of terms used in the NSF (Saville-Smith et al., 2005)..... 7
Table 4 The Measurement of Built Environment Mix and Density Characteristics 10
Table 5 Proportions of Dwellings in Selected Cities by Built Environment Category 12
Table 6: Proportions of Dwellings in Selected Cities by Built Environment Category 14
Table 7 Personal and Household Income 15
Table 8 Household Income Profiles of Built Environment Categories (n=1613) 16
Table 9 Tenure Status by Built Environment Categories (n=1613) 16
Table 10 Household Size by Built Environment Categories (n=1613) 17
Table 11: Household Life Stage by Built Environment Categories (n=1613) 17
Table 12: Intentions to Move by Built Environment Categories (n=1613)..... 18
Table 13 Transport Use for Study or Work Travel (n=1613) 18
Table 14 Average Kilometres of Private Vehicle Use in Previous Four Weeks (n=1613) 19
Table 15 Participants' Assessment of the Condition of Dwellings in their Neighbourhood (n=1613) 19
Table 16 Perceptions of Safety (n=1613)..... 20
Table 17: Perceptions of Noise (n=1613) 20
Table 18 Knowing Neighbours (n=1613) 21
Table 19 Neighbour Interaction Indicators (n=1613)..... 21
Table 20 Perceptions of Neighbourhood Friendliness (n=1613) 21
Table 21 Identity and Neighbourhood by Built Environment Category (n=1613) 22
Table 22 Belonging and Neighbourhood by Built Environment Category (n=1613) 22
Table 23 Activities for Vibrant Ecosystems (n=1613)..... 23
Table 24 Use of Public Spaces by Built Environment Category (n=1613)..... 23
Table 25 Participation in Local, Neighbourhood Groups (n=1613)..... 23
Table 26 Self Assessed Dwelling Efficiency (n=1613) 24
Table 27 The Resident Self Report Calculator Calibrating Data 26
Table 28 Sustainability Bands for Case Studies by Prototype and National Baselines 26

Figures

Figure 1 Goals, critical domains and elements for sustainable neighbourhoods (Saville-Smith et al, 2005)..... 5

Figure 2 Proportions of Dwellings in Selected Cities by Density/Mix Category 13

Executive Summary

Beacon has successfully developed prototype tools by which the sustainability of New Zealand's urban neighbourhoods can be assessed. To date the Neighbourhood Sustainability Framework (NSF) has been tested on nine urban neighbourhoods. The broad parameters of the NSF and the tools have also been presented to international and domestic audiences with an interest and/or expertise in neighbourhood design, management or regeneration. There is substantial potential with the NSF and its tools. Before, however, the NSF can be released and taken-up by end-users a robust baseline is required for the on-going calibration of the assessments generated by the Resident Self-Report Tool.

The Resident Self-Report calculator assesses neighbourhood sustainability using scores calibrated against an aggregate set of baseline neighbourhoods that are intended to represent the range of neighbourhoods and neighbourhood behaviours in New Zealand. That calibration is carried out to ensure that neighbourhood behaviours are understood within the broader context of prevailing neighbourhood norms and values within New Zealand. During the development of the NSF, the prototype Resident Self-Report Calculator used baseline data drawn from The Place Where You Live Survey. That data, while suitable for prototype development and testing, is not suitable for sustained use for the resident Self-Report Tool and Calculator. The fundamental problem with that data is that it does not represent New Zealander's behaviour in urban neighbourhoods on a national basis. A secondary issue with the data is that prototype data are ageing.

The objectives of NH-3102 are to:

- Establish a national baseline for neighbourhood behaviours and perceptions using the self-report questionnaire designed to drive the self-report assessment calculator of the NSF.
- Provide a nationally representative dataset set using a random sample stratified by key neighbourhood characteristics related to:
  - built environment densities
  - settlement types
- Establish a sample and survey method for developing a time series of data that will allow the baseline data for the NSF to be updated on regular cycle of surveying.

A national baseline a 1613 telephone survey with a margin of error at the 95% confidence level of 3.3 percent has been undertaken. This involved people living in specific residential built environments. The sample structure targets are set out below.

Built Environment Category	Equal Split	
	Sample Size	Margin of Error
High density - Mixed	320	0.056
Medium density - Mixed	320	0.056
Medium density -Non-mixed	320	0.056
Low density - Mixed	320	0.056
Low density -Non-mixed	320	0.056
Overall	*1600*	*0.033*

Analysis of the national neighbourhood data shows that the relative sustainability of the case studies is maintained when the prototype baseline is replaced by the national baseline data. This suggests that the relativities generated by the NSF tools in relation to the NSF outcomes for sustainability are reasonably robust. The consistency in the data gives confidence that this baseline data is robust.

The national neighbourhood data can be used beyond the NSF. In particular, the issues of the impacts of both mix and density can be examined both in relation to the NSF's aggregated measure of sustainability and specific performance parameters. This data provides, consequently, an opportunity to make research-based assessments of two of the most debated aspects of urban development, design, management and planning – the relative merits of higher density and the relative merits of mixed use respectively.

The national neighbourhood survey data also indicates some areas in which there needs to be active exploration of and responses to two key issues. The first issue, and of immediate interest to Beacon is the issue of increasing urban density. There are both market and regulatory drivers to increased residential densities. The national survey data suggests that high density areas show: greater problems with noise; less gardening; residents as less involved in providing for wildlife; less involvement in local, neighbourhood groups; and more use of public spaces. Ensuring that the problems of higher density are mitigated and the needs of people living in higher density environments are met, is a challenge that will need to be meet both at the neighbourhood level and at the dwelling level.

The second issue is the ageing of the population. The neighbourhood survey data suggests that older people are over-represented in low density built environments. Whether those environments are sustainable environments for older people is questionable (Saville-Smith, 2008).

2 Introduction

Beacon has successfully developed prototype tools by which the sustainability of New Zealand's urban neighbourhoods can be assessed. To date the Neighbourhood Sustainability Framework (NSF) has been tested on nine urban neighbourhoods. The broad parameters of the NSF and the tools have also been presented to international and domestic audiences with an interest and/or expertise in neighbourhood design, management or regeneration. There is substantial potential with the NSF and its tools. Before, however, the NSF can be released and taken-up by end-users two components need to be developed. Firstly, a robust baseline is required for the on-going calibration of the assessments generated by the Resident Self-Report Tool. Secondly, an easy interface platform needs to be developed that is accessible and functional to the range of end-users for whom the NSF has utility.

This report is concerned with the first of those components. It reports on the national neighbourhood survey from which the baseline data that calibrates the Resident Self-Report Tool is drawn. The report is structured as follows:

- Section 2 places this report in the context of Beacon's goals and provides an overview of the Neighbourhood Sustainability Framework (NSF) with a particular focus on the Resident Self-Report Tool.
- Section 3 sets out the research objectives for NH-3102 and the research scope.
- Section 4 sets out the method by which the baseline data has been collected.
- Section 5 presents the data from the national neighbourhood survey.
- Section 6
  - presents the baseline data for the Resident Self Assessment Tool
  - compares the case study results using that national baseline data with the results generated by the aggregate case baseline data, and
  - comments on the robustness of findings on the relative sustainability of the case study neighbourhoods.
- Section 7 comments use of this baseline data in relation to contributing to broader debates about the nature of sustainable neighbourhoods.

3 Beacon, Neighbourhoods & the NSF Method

Beacon's vision is that New Zealander's will all live in "homes and neighbourhoods that work well into the future and don't cost the earth."

In relation to neighbourhoods, Beacon's goal is for:

Every new subdivision and any redeveloped subdivision or neighbourhood from 2008 onwards to be developed with references to a nationally recognised sustainability framework.

The development of the NSF and Beacon's on-going investment in the neighbourhood research stream through the Neighbourhood Research Strategy shows that Beacon recognises that well-designed and built houses can not be sustainable if they are situated in unsuitable neighbourhoods.

Beacon has identified a series of stakeholders that have a direct market or regulatory interest in the design, development, retrofit and management of the built environment of new and/or existing neighbourhoods. Those stakeholders broadly consist of:

- Built environment regulatory bodies – primarily Ministry for the Environment, Department of Building and Housing, Regional Councils and City/District Councils.
- Developers of new neighbourhoods – developers, planners and ancillary practitioners.
- Managers of existing neighbourhoods – The people that live in neighbourhoods, property owners (including landlords) and users of neighbourhood's facilities all have a stake in the efficient use of neighbourhood's resources and the quality of life that neighbourhoods provide.

It was to assist those stakeholders to better design, build and manage neighbourhood built environments that Beacon sought to develop a set of tools to assess the sustainability of neighbourhoods and identify how improved sustainability might be achieved by the adaptation or amended design of those neighbourhoods. This was achieved through the development of the NSF and its supporting tools. The NSF and those tools have been described in various reports and papers,[1] but in summary, the NSF provides an innovative integration of the environmental, social and economic elements of neighbourhoods around six critical domains for neighbourhood sustainability. Those are set out in Figure 1 and the specification of the domains can be found in Table 1.

[1] ***See the Reference List.***

Figure 1* Goals, critical domains and elements for sustainable neighbourhoods (Saville-Smith et al, *2005)

Application scale	Neighbourhood	Spatial nodes in which households and dwellings are clustered. Provide for residential functions and may facilitate non-residential functions through a built environment that allows for the interconnection and mutual use of infrastructure and services among neighbours and neighbouring dwellings. Connecting spaces between individual dwellings and the city system. Consist of the neighbours of a cluster of dwellings. Consist of boundaries that are loosely defined although those boundaries will typically go beyond a household's directly adjacent neighbours. Arenas of casual interaction. Key site of the routines of everyday life.
Critical Outcome domains for neighbourhood built environment	Functional Flexibility	The built environment can be continuously adapted to the needs of diverse and changing populations, social, economic and environment conditions: adaptability to changes in household structure adaptability to changes in transport costs and choices adaptability to changing ethnic and socio-economic mix of the population adaptability to the effects of climate change
	Neighbourhood Satisfaction	The built environment maximises the key determinants of neighbourhood satisfaction: housing quality durability and low levels of dilapidation street safety low noise disturbance opportunities for casual social interaction opportunities for enclave living.
	Minimised Costs	The built environment minimises the direct and indirect costs and cost uncertainty for households and cities associated with: travel dwelling and section provision, maintenance and repair infrastructure provision, maintenance and repair facility provision, maintenance and repair.
	Effective Governance and Civic Life	The built environment encourages: casual social interaction at street level access to neighbourhood and city wide facilities and amenities equitable access to basic services and amenities for children and adults with diverse levels of mobility within the neighbourhoods formal interaction and spaces for formal interactions for neighbourhood governance, civic participation and government.
	Appropriate Resource Use and Climate Protection	The neighbourhood built environment encourages resource efficiency, resource conservation and the use of more sustainable resources in relation to: maximisation of dwelling performance land consumption transport energy consumption energy and other resource sources sustainable and renewable sources of energy, water and materials. Lifecycle impacts
	Maximised Bio-physical Health	The neighbourhood built environment is designed to protect and enhance the biosphere, with particular focus on:: reducing negative impacts on air quality ensuring aquatic health protecting/enhancing biodiversity and soil quality

Neighbourhood built environment elements	Infrastructure	The fixed physical elements associated with shared services, including water infrastructure (wastewater, stormwater and potable water), transport infrastructure (roads, footpaths, cycleways, public transport), energy infrastructure (gas and electricity), communications infrastructure (phone, cable TV, etc) and waste infrastructure (e.g. recycling depot)
	Buildings	Neighbourhood buildings include private dwellings, community buildings (such as schools or a community house), public buildings (such as libraries or a town hall) and commercial buildings. Some private buildings have a public use, such as cafes, bars or the foyer of an office building or apartment complex.
	Space	Space is the area not covered by buildings or infrastructure. It includes private space (such as gardens), public space (such as parks and squares) and publicly used private space (such as a privately owned square in a shopping complex).

Table 1 Definitions and descriptions of terms used in the NSF (Saville-Smith* et al*., 2005)

Two tools were developed to assess neighbourhoods in relation to those domains and to identify key adaptations of existing neighbourhoods and amendments to the design of new neighbourhoods to improve their sustainability. Those tools are:

- The Neighbourhood Built Environment Observational Assessment Tool.
- The Resident Self-Report Tool

The Neighbourhood Built Environment Observation Assessment Tool is used for both planned, new neighbourhood developments and for existing neighbourhoods. The Resident Self Report Tool is used to assess neighbourhood sustainability on the basis on the resident behaviours and perceptions. Consequently, the Resident Self-Report Tool can only be used in neighbourhoods in which there is a resident population. Lietz *et al*., (2006) demonstrated the importance of assessing resident perceptions and behaviour as well as observations of the built environment if a complete picture of neighbourhood sustainability was to be developed.

The Neighbourhood Built Environment Observational Assessment Tool consists of two types of credits against which the neighbourhood is assessed. The first set is credits which can be measured, such as the density of the development or the percentage of dwellings within a certain distance of a bus stop. The second set consists of credits which require professional judgement, such as whether there is good surveillance of a public space. The following characteristics are measured:

- Access to basic every day facilities within walking distance
  - Schools
  - Reserves
  - Local shops.
- Access to and adequacy of public transport within walking distance.
- Quality of space
  - Streetscape, including but not limited to walkability
  - Public open space.

- Efficient use of space and viability of local centres
  - Residential density
  - Previous use of the site.
- Diversity
  - Mixed use
  - Public space
  - Housing diversity (cost, size, typology).
- Protection and enhancement of the natural environment
  - Stormwater management
  - Protection and creation of habitat
  - Riparian, coastal and wetland management.
- Dwelling level sustainability.[2]

The Resident Self-Report Tool involves collecting self-report data from neighbourhood residents. It can only be applied to existing neighbourhoods. It is calibrated against an aggregate set of baseline neighbourhoods that are intended to represent the range of neighbourhoods and neighbourhood behaviours in New Zealand. That calibration is carried out to ensure that neighbourhood behaviours are understood within the broader context of prevailing neighbourhood norms and values within New Zealand.

That baseline data is a critical part of the Resident Self-Report Tool because it reflects prevailing practices in relation to an aggregate of neighbourhoods. Those practices will shift, for better or worse, over time. It is important that the users not only understand where their assessed neighbourhood lies relative to other neighbourhoods at a particular point in time, but also whether neighbourhoods, as a whole, are becoming more or less sustainable. It is envisaged that users will be updated on those trends through regular national surveying for baseline data.

[2] ***The dwelling level sustainability measures are based on Beacon's High Standard of Sustainability.***

4 The Research Objectives and Scope

Clearly, establishing a robust baseline is critical to NSF's robust assessment of existing neighbourhoods. During the development of the NSF, the prototype Resident Self-Report Calculator used baseline data drawn from The Place Where You Live Survey. That data, while suitable for prototype development and testing, had a number of limitations. It is not suitable for sustained use for the resident Self-Report Tool and Calculator.

The fundamental problem with that data is that it does not represent New Zealander's behaviour in urban neighbourhoods on a national basis. A secondary issue with the data is that it is ageing. NH-3102 is designed to provide a robust set of baseline data. The 'life' of such data cannot be considered greater than around five years.

The objectives of NH-3102 are to:

- Establish a national baseline for neighbourhood behaviours and perceptions using the self-report questionnaire designed to drive the self-report assessment calculator of the NSF.
- Provide a nationally representative dataset set using a random sample stratified by key neighbourhood characteristics related to:
  - built environment densities
  - settlement types
- Establish a sample and survey method for developing a time series of data that will allow the baseline data for the NSF to be updated on regular cycle of surveying.

5 Method

This section sets out the instrumentation, sample framework, sample selection, implementation and analytic approach to the national neighbourhood survey.

5.1 Survey Instrument

The instrument for collecting neighbourhood behaviours data was defined by structure of the Resident Self-Report Tool. Appendix A presents the Resident Self-Report Questionnaire. In addition to the questions used in that tool, some limited additional data was also collected for analytic. The questionnaire used for the national neighbourhood survey can be found in Appendix B.

5.2 Sample Frame

The challenge to establishing a national baseline of neighbourhood behaviours is to establish a sample frame that adequately represents built environment characteristics key to the NSF. The two critical built environment characteristics emerging from the policy and planning debate

around sustainable neighbourhoods and embedded in the development and testing of the NSF are: neighbourhood mix, and neighbourhood density.[3]

To draw a representative sample of New Zealanders, it is necessary to have a profile of New Zealand's neighbourhoods across its major urban areas and the number of dwellings situated in each of those neighbourhood types. Only then can a representative sample be drawn through random sampling techniques. Prior to this research, no such profile existed. That profile was developed by:

- creating a built environment taxonomy
- using Quotable Value New Zealand (QVNZ) data to categorise New Zealand's urban neighbourhoods at the 2006 Statistics New Zealand meshblocks in relation to mix and density respectively
- aggregating meshblocks to New Zealand Fire Service Suburbs
- applying the neighbourhood taxonomy to the suburbs, and
- establishing the quantum of dwellings in each built environment type.

5.2.1 The Built Environment Taxonomy

The built environment taxonomy consists of two parameters:

- Built environment mix – This is measured in terms of the proportion of residential units within an area in relation to all built units.
- Built environment density – This is measured in terms of the residential units per hectare.

Table 4 sets out the measures for mix and density respectively.

Mix Category	Mix Measure	Density Category	Density Measure
Non-Mixed	<36% residential or >78% residential	Low residential density	0-14 units of use per hectare
Mixed	36%-77.9% residential	Medium residential density	15-30 units of use per hectare
		High residential density	31 units of use or more per hectare

Table 2 The Measurement of Built Environment Mix and Density Characteristics

[3] ***Saville-Smith, K., Leitz, K., Bijoux, D., and Howell, M., 2005 Draft Neighbourhood Sustainability Framework, NH101 Report for Beacon Pathway Ltd.; Lietz, K., Bijoux, D., Saville-Smith, K., and Howell, M., 2006, Testing the Prototype Neighbourhood Sustainability Framework, NH102 Report for Beacon Pathway Ltd***

Those measures generated a taxonomy of built environments of:

- High [density] mixed
- High [density] non-mixed
- Medium [density] mixed
- Medium [density] non-mixed
- Low [density] mixed
- Low [density] non-mixed

5.2.2 Profiling New Zealand's Urban Suburbs

Although suburbs embrace a number of neighbourhoods, an initial application of the built environment taxonomy at the meshblock level found that there was relatively little differentiation within suburbs. It would be reasonable to assume, therefore, that the characteristics of the suburb can be used as a sentinel of the built environment characteristics of the neighbourhoods within those suburbs.

The profile of suburbs was based on an extract of QVNZ data specified as follows:

- Geographical Areas:
  - Auckland City Council
  - Waitakere City
  - North Shore City Council
  - Manukau City Council
  - Hamilton City Council
  - Wellington City Council
  - Upper Hutt City Council
  - Hutt City Council
  - Porirua City Council
  - Christchurch City Council
  - Waimakariri District Council
  - Dunedin City Council.
- Property categories:
  - Residential:
    - RD - Residential dwellings or houses
    - RF – any dwelling that shares a party wall or land with another dwelling
    - RC – residential dwelling converted to flats (and generally owned as a single property)
    - RH – residential home and income
    - RR – residential purpose built rental flats.
  - All commercial
  - All Industrial
  - All Rural
  - Other.
- Other variables including units of use, total land area, building floor area.

The data extract provided for the data variables reported for each meshblock in the identified geographical areas using the Statistics NZ 2006 meshblocks. Each meshblock was aligned to a New Zealand Fire Service suburb to allow the meshblocks to be grouped. All meshblocks with no residential property categories and all island and sea-based meshblocks were removed along with areas non-contiguous to urban conurbations.

Table 5 sets out the proportions of dwellings New Zealand's major cities in each of the taxonomy categories. It will be noted that no New Zealand suburbs were found to be high density and non-mixed use. The predominance of low density and non-mixed built environments is very evident. Over half of the dwellings in these urban areas are situated in low density, non-mixed dwellings.

City	High Density Mixed	Medium Density Mixed	Medium Density Non-mixed	Low Density Mixed	Low Density Non-mixed	Total
Auckland City	14.67%	13.24%	31.29%	0.00%	40.80%	100%
Manukau	0.00%	15.56%	15.23%	4.34%	64.88%	100%
Waitakere	0.00%	0.00%	10.89%	19.20%	69.91%	100%
Hamilton	2.03%	15.62%	13.24%	10.19%	58.93%	100%
Hutt City	0.00%	2.71%	14.04%	12.32%	70.93%	100%
Wellington	11.42%	17.61%	17.65%	10.05%	43.28%	100%
Christchurch	1.50%	14.80%	21.90%	10.39%	51.41%	100%
Dunedin	0.00%	5.12%	18.80%	17.48%	58.60%	100%
Total	*5.53%*	*12.27%*	*20.58%*	*8.25%*	*53.36%*	*100%*

Table 3 Proportions of Dwellings in Selected Cities by Built Environment Category

Figure 2 shows Auckland and Wellington as the cities with a greater pattern of intensification than other cities. However, Auckland has almost a third of its stock in non-mixed medium density.

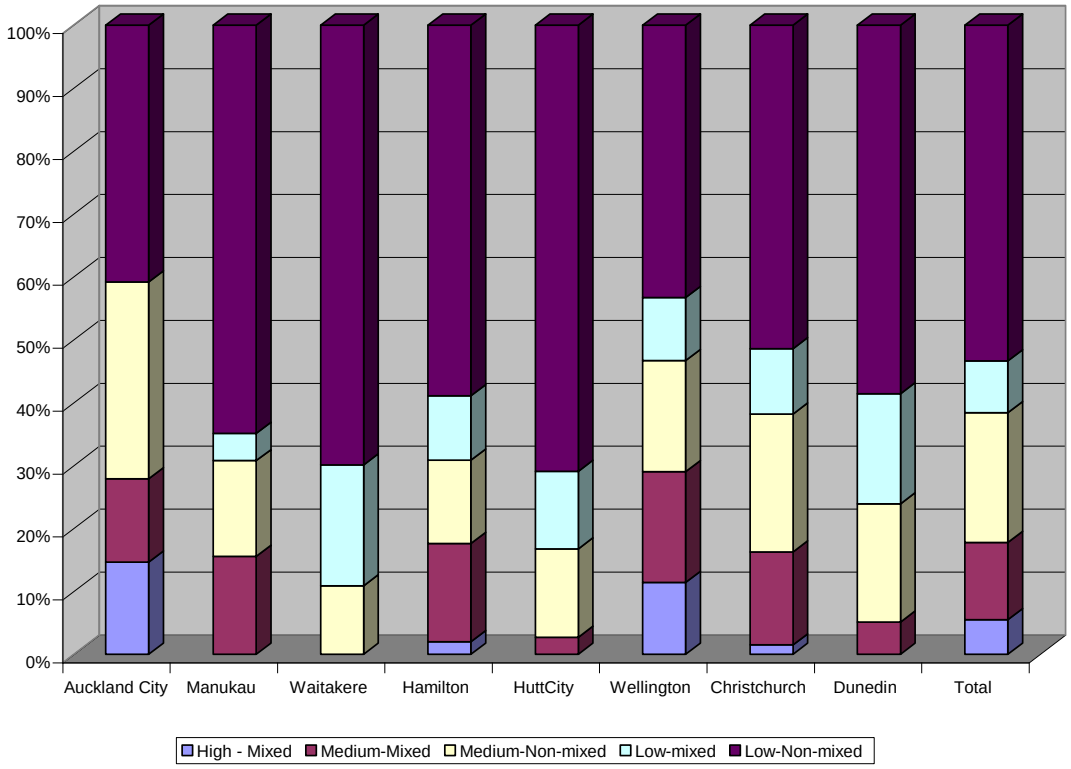

Figure 2 Proportions of Dwellings in Selected Cities by Density/Mix Category

5.3 A Stratified Random Sample

The target for the national baseline survey was 1,600 interviews distributed evenly across the five key neighbourhood mix types identified in the sample frame. A variety of options with regard to minimising sample error and complexity were considered. The two most important options were the proportional allocation and an equal split between each built environment category. The advantage of the proportional allocation is the lower margin of error at the 95 percent confidence level which is ±2.5 percent.

The equal split has two advantages. Firstly, it simplifies the random sampling procedures for the telephone survey company. Secondly, it provides more robust sample sizes in relation to each of the built environment categories. As Table 6 shows, however, there is some increase in the margin of error. For the equal split sample the margin of error at the 95 percent confidence level is ±3.3 percent

Built Environment Category	Dwellings	Percent	Proportional Allocation		Equal Split	
			Sample Size	Margin of Error	Sample Size	Margin of Error
High - Mixed	33302	5.5%	89	0.106	320	0.056
Medium-Mixed	73854	12.3%	196	0.071	320	0.056
Medium-Non-mixed	123832	20.6%	329	0.055	320	0.056
Low-mixed	49645	8.3%	132	0.087	320	0.056
Low-Non-mixed	321092	53.4%	854	0.034	320	0.056
Overall	*601725*	*100.0%*	*1600*	*0.025*	*1600*	*0.033*

Table 4: Proportions of Dwellings in Selected Cities by Built Environment Category

The small decrease in overall margin of error was accepted as a trade off for the analytic benefits of having larger sample sizes for each of the built environment categories and the increased simplicity of implementation.

5.4 Survey Implementation and Analysis

Research New Zealand was commissioned to undertake telephone surveying using a slightly amended questionnaire to better align with the requirements of the Computer Assisted Telephone Interviewing (CATI) system used for interviewing. Interviewing was undertaken between 26 May and 6 July. The first night of interviewing was used to pilot the questionnaire and test for flow and comprehension of questions as well as survey length. A response rate of 19 percent was achieved for this survey. A total of 1,613 interviews were completed.

Raw data was collated and quality checked by Research New Zealand before being provided to CRESA for analysis. The closed-ended questions were pre-coded and analysed in SPSS using both univariate analysis of frequencies and cross-tabulations.

Data was subsequently transferred into the Resident Self-Report calculator and the impact of baseline differences analysed. Further analysis was undertaken using the Resident Self-Report calculator to establish the sustainability scores associated with the different built environment categories set out in the built environment taxonomy. Annex C provides the specification of the national neighbourhood database.

6 Patterns of Neighbourhood Experience

This section presents the results of the national neighbourhood survey. It starts by presenting a profile of the households that participated in the survey. Then it presents the data related to functional flexibility and neighbourhood satisfaction. Data is presented on neighbourhood attachment and participation. Finally, the data related to aspects of neighbourhood behaviour that has direct impacts on the bio-physical environment and dwelling sustainability.

6.1 Profile of Survey Participants

The Resident Self-Report Tool does not collect data related to the socio-demographic characteristics of participants. That data is not necessary for assessment purposes. However, socio-demographic characteristics of individuals and households are frequently the drivers of behaviour patterns, perceptions and experiences. That data, consequently, is critical to the broader use of the data from the national neighbourhood survey and our understanding of neighbourhoods in New Zealand. In particular, the socio-demographic data provides an insight into the extent to which different neighbourhood built environments provide for different types of households. The following socio-demographic data was collected in the national neighbourhood survey: personal and household income; tenure status; household size, and household life stage.

6.1.1 Personal and Household Income

Over a quarter (27.2 percent) of the survey participants reported incomes of $20,000 or less. Most households, however, had access to income beyond the personal incomes of the participants in the survey. Only 9 percent of households were reported as having incomes of $20,000 or less (Table 7).

Income	Personal Income		Household Income	
	Participants	Percent	Participants	Percent
$20,000 or less	439	27.2	145	9.0
$20,001-$40,000	313	19.4	224	13.9
$40,001-$70,000	416	25.8	354	21.9
$70,001 or more	299	18.5	669	41.5
Not stated	146	9.1	221	13.7
Total	*1613*	*100*	*1613*	*100*

Table 5 Personal and Household Income

Participants living in areas of high density and mixed use have the highest household income profiles. Over half the participants in those areas have household incomes in excess of $70,000. Low density mixed use areas have the lowest household income profile with 31.3 percent of households having incomes of $40,000 or less (Table 8).

Household Income	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed
$20,000 or less	6.6	10.2	6.2	11.7	10.3
$20,001-$40,000	9.4	13.6	14.0	19.6	12.8
$40,001-$70,000	17.5	21.0	20.5	25.5	25.2
$70,001 or more	51.3	43.2	46.3	29.4	37.4
Not stated	15.3	12.0	13.0	13.8	14.3
Total	*100.1*	*100*	*100*	*100*	*100*

Table 6 Household Income Profiles of Built Environment Categories (n=1613)

6.1.2 Tenure Status

The participants in the national neighbourhood survey are overwhelmingly owner occupiers. This is consistent with national tenure patterns. Only 29.9 percent are in rental accommodation. The tenure status of households, however, is strongly related to the built environment category (Table 9).

Dwelling Tenure	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Owned	52.5	57.7	74.2	69.3	79.4	66.6
Rented	44.1	38.6	22.7	26.7	17.8	29.9
Other	2.2	2.2	1.6	2.5	1.9	2.1
Not stated	1.3	1.5	1.6	1.5	0.9	1.4
Total	*100.1*	*100*	*100.1*	*100*	*100*	*100*

Table 7 Tenure Status by Built Environment Categories (n=1613)

Higher density areas have high proportions of rental housing. Mixed areas, irrespective of density, also tend to have higher proportions of rental housing. This reflects the strong historical association between suburbanisation and the desire for home ownership (Kilmarton and Thorns, 1978; Wilkes and Shirley, 1984). That profile is important in relation to the assessment by the NSF which incorporates measures of resident satisfaction. International research consistently shows that typically both neighbourhood and housing satisfaction and attachment tends to be higher among owner occupiers (Diaz-Serrano, 2006). Consequently, one could expect the

sustainability scores of higher density areas to be depressed by lower levels of attachment and higher levels of intention to move.

6.1.3 Household Size

About a fifth of participants live in one-person households with around a third living in couple-only households. The occupancy rate is 2.78 persons per dwelling (Table 10). High density areas are least likely to have larger households.

Household Size	% High Mixed	ıum Mixed	Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
1 person	23.8	23.8	17.7	19.0	17.1	20.3
2 people	46.3	33.0	33.5	27.9	32.1	34.5
3 people	17.8	15.4	15.5	17.2	17.4	16.7
4 or more people	11.2	27.2	33.0	35.0	32.8	27.8
Not stated	0.9	0.6	0.3	0.9	0.6	0.7
Total	*100*	*100*	*100*	*100*	*100*	*100*

Table 8 Household Size by Built Environment Categories (n=1613)

6.1.4 Life Stage

The presence of dependent household members has a profound impact on the services and amenities required by households. Both children under five years old and people 65 years of age or more tend to spend considerable time both in their dwellings and in their neighbourhoods. It is desirable for older people and children to live in walkable neighbourhoods well serviced by public transport with public amenities such as schools, shops, public space and services to be located within or near the neighbourhood (Saville-Smith, 2008). Table 11 shows that there is a tendency for households with members in the dependent ages are most likely to be found in low density areas.

Household Life Stage	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All reas
No children under 5 yrs	95.3	87.5	84.7	82.4	79.9	86.0
Children under 5yrs	4.7	12.5	15.3	17.6	20.1	14.0
No older people	82.6	82.6	81.3	76.8	79.0	80.4
Older people 65 years or more	17.4	17.4	18.7	23.2	21.0	19.6

Table 9: Household Life Stage by Built Environment Categories (n=1613)

6.2 Neighbourhood Functional Flexibility and Satisfaction

The NSF Resident Self-Report Tool has two measures functional flexibility. Those are the extent to which the neighbourhood provides a desired housing stock and the extent to which residents use transport other than private cars.

Table 12 shows relatively low levels of housing dissatisfaction measured by residents reporting an intention to move because their dwelling is unsuitable. However, people in high density mixed use areas, medium mixed use areas and low density non-mixed use areas are most likely to report an intention to move.

Reason for Intended Move	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% Areas
House not suitable	15.3	15.1	9.6	9.8	16.2	13.2
Neighbourhood	2.2	5.2	1.9	3.1	1.9	2.9
Other reasons	24.1	20.7	20.8	21.8	14.3	20.3
No intention to move	58.4	59.0	67.7	65.3	67.6	63.6
Total	*100*	*100*	*100*	*100*	*100*	*100*

Table 10: Intentions to Move by Built Environment Categories (n=1613)

Table 13 shows the dominance of private transport use. Both density and mixed use have an impact on the use of private cars, the propensity to use public transport and the likelihood of walking or using a bicycle. It is notable that survey participants living in high density mixed use areas are more likely to walk or use a bicycle than they are to use a car. The use of private vehicles is most pronounced in low density, non-mixed use areas.

Travel Mode	% High Mixed	% Medium Mixed	% Medium Non-Mixed	% Low Mixed	% Low Non-mixed	% All Areas
Public transport	12.8	9.3	12.1	9.5	8.1	10.4
Private car	35.0	48.4	53.7	51.0	58.3	50.0
Foot or bicycle	37.2	22.8	11.8	15.3	11.8	18.6
Other	1.6	2.8	1.6	1.8	1.6	2.3
Not applicable	13.4	16.7	20.8	22.4	20.2	18.7
Total	*100*	*100*	*100*	*100*	*100*	*100*

Table 11 Transport Use for Study or Work Travel (n=1613)

Not surprisingly, the average kilometres travelled in private motor vehicles by households in high density and mixed areas tends to be lower than that the average household kilometres travelled by households in low density and non-mixed areas (Table 14).

	High Mixed	Medium Mixed	Medium Non-mixed	Low Mixed	Low Non-mixed	All Areas
Average kilometres	766.12	586.33	1060.60	928.32	943.17	855.48

Table 12 Average Kilometres of Private Vehicle Use in Previous Four Weeks (n=1613)

Neighbourhood satisfaction has a variety of indicators. It has already been shown in Table 12 that very small proportions of households intend to move because of their neighbourhood. Those living in medium density, mixed use areas and low density, mixed use areas are most likely to intend to move because of the neighbourhood but these are well within the margin of error. Other indicators of neighbourhood satisfaction relate to:

- the condition of dwellings in the neighbourhood
- perceived safety
- noise
- interactions with neighbours, and
- sense of identity.[4]

6.2.2 Condition of Dwellings

As Table 15 shows there is some limited differentiation between built environment categories in relation to participants' assessment of the condition of dwellings in their neighbourhood. Participants in medium density, non-mixed areas are most likely to be positive about the condition of local dwellings, with 77.1 percent stating a positive assessment.

Condition	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Very good	26.3	17.3	25.2	19.9	24.3	22.6
Fairly good	36.9	44.8	51.9	54.0	50.8	47.7
Neutral	22.2	28.4	18.6	19.0	16.8	21.0
Fairly bad	5.6	6.2	3.1	5.5	5.0	5.1
Very bad	1.6	1.9	0.3	0.9	2.2	1.4
Don't know	7.5	1.5	0.9	0.6	0.9	2.3
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 13 Participants' Assessment of the Condition of Dwellings in their Neighbourhood (n=1613)

[4] ***Saville-Smith, K., Leitz, K., Bijoux, D. and Howell, M. 2005 Draft Neighbourhood Sustainability Framework, NH101 Report for Beacon Pathway Ltd; Lietz, K., Saville-Smith, K., and D. Bijoux, 2007, The Beacon Neighbourhood Tools, NH103a Report for Beacon Pathway; Lietz, K., Bijoux, D., Saville-Smith, K., and Howell, M., 2006, Testing the Prototype Neighbourhood Sustainability Framework, NH102 Report for Beacon Pathway Ltd.***

6.2.3 Perceived Safety

Overall, 28.1 percent of participants reported that they felt very safe when walking out at night. 13.3 percent of participants reported that they felt very unsafe or that they did not walk at night. As Table 16 shows, those living in high density, mixed use areas are most likely to feel positive about safety. Over a third (35.3 percent) reported feeling very safe. Overall, 78.1 percent reported positive feelings of safety.

Condition	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Very safe	35.3	24.7	27.6	22.4	30.8	28.1
Fairly safe	42.8	40.4	42.2	45.1	36.1	41.4
A bit unsafe	13.1	18.8	16.5	19.6	17.8	17.2
Very unsafe	5.0	7.7	6.2	6.1	8.1	6.6
Don't walk at night	3.8	8.3	7.5	6.7	7.2	6.7
Total	*100*	*99.9*	*100*	*99.9*	*100*	*100*

Table 14 Perceptions of Safety (n=1613)

6.2.4 Noise

Almost two thirds (64.9 percent) of participants reported that noise was not a problem and almost a third saw noise as a minor problem. High density, mixed use residents were more likely report problems with noise. Over a third (38.4 percent) of residents in low density, mixed areas also reported problems with noise (Table 17).

Noise	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Not a problem	52.2	68.8	73.9	61.7	67.9	64.9
Minor problem	40.9	26.2	23.6	34.4	27.7	30.6
Serious problem	6.9	4.9	2.5	4.0	4.4	4.5
Total	*100*	*99.9*	*100*	*100.1*	*100*	*100*

Table 15: Perceptions of Noise (n=1613)

6.2.5 Neighbourhood Interactions and Identity

Over three-quarters (79 percent) know at least some people in their neighbourhood. Only 3.9 percent reported that they did not know anyone in their neighbourhood. There is some differentiation between built environment categories. High density, mixed area residents are more likely not to know people in their neighbourhood. This may reflect age profiles and longevity in the area, although further research would be required to establish the drivers of that pattern (Table 18).

Knowing Neighbours	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Many people	24.1	20.1	30.7	31.3	25.9	26.4
Some people	19.7	27.5	29.2	22.7	31.8	26.2
A few people	49.4	47.2	37.9	42.0	41.1	43.5
No people	6.9	5.2	3.2	4.0	1.2	3.9
Total	*100.1*	*100*	*101*	*100*	*100*	*100*

Table 16 Knowing Neighbours (n=1613)

There is also differentiation between different categories of the built environment in relation to indicators of neighbourhood interaction and attachment such as knowing neighbours' names but very little differentiation around the propensity to greet or chat with neighbours (Table 19).

Neighbour Interaction	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Know neighbours' name	82.9	89.9	91.4	87.9	89.3	88.3
Greet or chat	92.8	95.4	95.0	93.6	95.0	94.4

Table 17 Neighbour Interaction Indicators (n=1613)

Friendliness is also differentiated between built environments (Table 20) but there is less differentiation in relation to identity (Table 21). High density, mixed use areas are reported as less friendly and a higher proportion of participants in low density, non-mixed areas reported a sense of belonging. Those living in high density, mixed use areas are more likely to report that the neighbourhood reflects their identity (Table 22).

This is a friendly neighbourhood	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Strongly agree	26.3	29.3	41.3	34.0	43.9	35.0
Agree	45.0	45.8	40.1	42.9	34.3	41.2
Neutral	18.8	18.5	10.9	16.6	17.8	16.5
Disagree	5.9	6.8	5.3	4.6	3.7	5.3
Strongly disagree	3.8	1.5	1.6	0.9	0.0	1.5
Don't know	0.3	0.0	0.9	0.9	0.3	0.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 18 Perceptions of Neighbourhood Friendliness (n=1613)

My neighbourhood reflects the type of person I am	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Strongly agree	24.4	19.4	26.4	20.2	25.2	23.1
Agree	37.2	29.3	30.4	30.7	32.7	32.1
Neutral	17.8	25.3	21.4	23.0	22.4	22.0
Disagree	10.6	12.3	12.4	15.0	10.9	12.3
Strongly disagree	7.2	11.4	5.9	7.4	6.5	7.7
Don't know	2.8	2.2	3.4	3.7	2.2	2.9
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 19 Identity and Neighbourhood by Built Environment Category (n=1613)

I feel that I belong to this neighbourhood	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Strongly agree	29.7	28.7	39.4	30.7	40.5	33.8
Agree	38.8	35.8	31.7	65.0	33.3	34.9
Neutral	18.4	20.4	17.4	16.6	14.6	17.5
Disagree	7.2	9.6	8.4	13.8	7.8	9.4
Strongly disagree	4.4	5.2	2.8	2.8	3.4	3.7
Don't know	1.6	0.3	0.3	1.2	0.3	0.7
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 20 Belonging and Neighbourhood by Built Environment Category (n=1613)

6.3 Biophysical Health

The NSF Resident Self-Report tool has eight indicators of biophysical health including kilometres travelled in private car and the extent of walking and bicycle use. The data on those indicators have already been reported in Table 14 and Table 13 respectively. In addition, there are indicators around encouraging vibrant ecological systems. As Table 23 shows, high density, mixed use areas are particularly low in such activities as composting and organic gardening. However, it should also be noted that only about half of the participants in low density non-mixed use suburbs were involved in organic gardening and around 58.6 percent report composting. This suggests that low density in itself does not generate either vibrant eco-systems or home-based food production.

Activity	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Composts	25.6	45.7	44.7	52.8	58.6	45.5
Organic gardening	25.3	42.6	43.5	45.1	52.6	41.8
Undisturbed wildlife area	25.6	38.9	40.4	43.6	48.9	39.5
Wildlife shrubs & trees	25.6	38.9	40.4	43.6	48.9	56.4
Pond provision	5.0	9.3	11.5	10.1	11.8	9.5
Food, water for wildlife	21.3	46.9	42.9	48.8	54.8	43.0

Table 21 Activities for Vibrant Ecosystems (n=1613)

6.4 Governance and Civic Participation

Use of public space and involvement in local, community groups are both indicators of civic involvement. The use of public space is common among survey participants. Over two thirds of survey participants (69.9 percent) report using public space. This is differentiated according to the built environment category in which participants live. Table 24 shows participants living in high density, mixed use areas have the greatest propensity to use public space with 77.8 percent doing so. By way of contrast, people living in high density, mixed use environments are less likely to be involved in local, neighbourhood groups (Table 25).

Activity	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Uses Public Spaces	77.8	73.8	68.6	59.8	69.8	69.9

Table 22 Use of Public Spaces by Built Environment Category (n=1613)

Involvement in Neighbourhood Groups	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
2-3 times per week	8.8	12.0	11.8	15.3	12.1	12.0
About once a week	11.9	13.0	10.9	14.7	15.9	13.3
Once a month	10.3	14.5	13.7	9.8	11.5	12.0
Less than once a month	6.9	6.5	6.5	6.4	7.2	6.7
No involvement	60.9	53.1	56.5	53.4	52.6	55.3
Don’t know	1.3	0.9	0.6	0.3	0.6	0.7
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 23 Participation in Local, Neighbourhood Groups (n=1613)

6.5 Resource Use, Climate Protection and Minimised Cost

Use of private vehicles is an indicator of resource use and climate protection. Table 15 sets out the average kilometres of vehicle use. The higher the density and mix of an area the lower the kilometres of private vehicle use. The Resident Self-Report Tool also collects self-reported energy and water efficiency. The results of this question and the differentiation between built environment categories is set out in Table 26.

Dwelling Efficiency	% High Mixed	% Medium Mixed	% Medium Non-mixed	% Low Mixed	% Low Non-mixed	% All Areas
Water efficient	73.4	73.5	74.2	76.4	75.7	74.6
Energy efficient	60.6	56.7	54.0	63.6	55.6	58.1

Table 24 Self Assessed Dwelling Efficiency (n=1613)

It is notable that these perceptions of resource efficiency are high with the proportions of householders believing themselves to be water efficient higher than those believing themselves to be energy efficient. This is consistent with the pattern found previously. It is indicative of broader problems of both low awareness of water use and limited understanding of dwelling performance in New Zealand.[5]

7 The Prototype Baseline and National Baseline

This section compares the baseline data from the aggregate of data associated with the case studies in which the NSF was initially tested and the baseline data from the national neighbourhoods survey.

Table 27 presents the baseline results from both the National Baseline Survey and the Prototype Baseline data. It will be recalled that National Neighbourhood Survey has a margin of error at the 95 percent confidence level of ± 3.3 percent. Taking that margin of error into account, the baseline data shows considerable consistency. The parameters that show divergence that falls outside the margins of error are:

- Intention to move because of neighbourhood
- Use of bicycles/walking as public transport for work
- Safe – Considerably less of the national survey respondents feel 'very unsafe' when walking at night or 'do not go out at night' in their neighbourhood.
- Noise – National survey respondents are more likely to find noise as unproblematic.
- Resource efficiency – Participants in the national survey are much more likely to see their house as energy or water efficient.

[5] ***Lietz, K., Bijoux, D., Saville-Smith, K., and Howell, M., 2006, Testing the Prototype Neighbourhood Sustainability Framework, NH102 Report for Beacon Pathway Ltd.***

- Bio-physical health parameters relating to gardening and wildlife – The national survey participants are more likely to report:
  - maintaining shrubs and gardens
  - undisturbed areas for wildlife
  - providing food and water for wildlife, and
  - undertaking organic gardening.
- Minimise costs – proportionately more in the national survey report they are buying more than half their food locally.

Measure	National Survey Baseline	Prototype Baseline
- % intention to move because of housing	13.2	7.1
+ % foot/bicycle/public transport for work/ study	22.88	32.3
- % intention to move because of neighbourhood	2.9	9.7
+ % describing house/garden condition as 'very good'	23.09	21.9
+ % describing walking in street at night as 'very safe'	28.1	18.0
- % describing walking in street at night as 'very unsafe'/ 'do not go out at night'	13.3	28.2
+ % noise disturbance described as 'not a problem'	64.9	46.3
-% noise disturbance described as a 'serious problem'	4.5	10.3
- % no chat or greeting of neighbours	5.6	14.4
- % no neighbours known by name	11.2	16.6
+ % knowing many in the neighbourhood	26.4	22.1
+ % strongly agreeing that the neighbourhood is friendly	35.0	25
+ % strongly agree that neighbourhood reflects own identity	23.1	17.6
+ strongly agree that has a sense of belonging	33.8	28
-average aggregate kms last 4 weeks car use	855.5	649.96
+ % use bicycle/walk for work/study	22.9	21.3
+ % undertakes composting	45.5	34.9
+ % leaves undisturbed area for wildlife	39.5	15.3
+ % maintains shrubs and garden	56.4	29.8
+ % provides pond	9.5	6.2
+ % provides food and water for wildlife	43.0	27.3

Measure	National Survey Baseline	Prototype Baseline
+ % undertakes organic gardening	41.8	25.2
+ % membership and participation in local or neighbourhood groups	44.0	35.5
+ % participation in local or neighbourhood group at least once a month	37.3	25.4
+ % use of local public spaces at least once a month	69.9	65.1
-exceeding average aggregate kms last 4 weeks car use	855.5	649.96
+ % describe house as energy efficient	58.1	38.9
+ % describe house as water efficient	74.6	36.5
+ % who expend more than half of their food expenditure in the neighbourhood	61.4	51.1

Table 25 The Resident Self Report Calculator Calibrating Data

To assess the impact of the data drawn from the national neighbourhood survey, the national neighbourhood survey baseline was entered into the Resident Self-Report Calculator for the case studies with Resident Self-Report Tool calculations. It was found that the differences in the baseline had no impact on the relative order of the case studies in relation to sustainability. However, there was an increased differentiation between neighbourhoods. Because that differentiation is so pronounced, a more differentiated sustainability scale. Table 28 sets out the current and proposed sustainability scale.

Prototype Baseline		National Neighbourhood Baseline	
High Sustainability (15+)	Petone, Ponsonby	High Sustainability (10+)	Petone
Medium Sustainability (10-14.9)	ChCh East Harbourview	Medium Sustainability (4-9.9)	Ponsonby Harbourview
Low Sustainability (<10)	Addison West Harbour Aranui	Low Sustainability (0-4)	ChCh East Addison
		Marginal Sustainability (<0)	West Harbour Aranui

Table 26 Sustainability Bands for Case Studies by Prototype and National Baselines

8 The National Neighbourhood Data and Its Use

The national survey of neighbourhood behaviours and experience is a necessary component of the Resident Self-Report Tool. The findings of the survey are consistent with the prototype baseline data and the relative sustainability of the case studies is maintained when the prototype baseline is replaced by the national baseline data. This suggests that the relativities generated by the NSF tools in relation to the NSF outcomes for sustainability are reasonably robust. The tools and sampling method are described in the body of this report and the instrumentation is in the annexes. The method can be replicated, preferably on a five yearly basis. Recommendations as to an appropriate repository for the tools will be made in the neighbourhoods work on the interface.

The national neighbourhood data can be used beyond the NSF, however, it is a unique database. The sample for the national survey has been drawn specifically to allow Beacon to explore the impact of neighbourhood characteristics on sustainability performance. In particular, the issues of the impacts of both mix and density can be examined both in relation to the NSF's aggregated measure of sustainability and specific performance parameters. This data provides consequently, an opportunity to make research-based assessments of two of the most debated aspects of urban development, design, management and planning – the relative merits of higher density and the relative merits of mixed use respectively.

Many of the performance differences between built environments of different categories can be monetised. For instance, the data presented in Section 5 shows that there can be substantial differences between the behaviour and experiences of people living in different built environments. High density mixed use environments are marked by low private vehicle use, greater likelihood of public transport use, and a greater propensity to walk or to cycle. The value of alternative modes of transport associated with built environments of different types can be converted into both relative public and private costs. Those will be incorporated into Beacon's current research into the value of neighbourhoods.

Finally, the national neighbourhood survey data indicates some areas in which there needs to be active exploration of and responses to two key issues. Of immediate interest to Beacon is the issue of increasing urban density. The second issue is associated with the ageing of the population. The neighbourhood survey data suggests that older people are over-represented in low density built environments. Whether those low density environments are sustainable environments for older people is questionable (Saville-Smith, 2008).

There are both market and regulatory drivers to increased residential densities. The national survey data suggests that high density areas show:

- greater problems with noise
- less gardening
- residents as less involved in providing for wildlife
- less involvement in local, neighbourhood groups
- more use of public spaces.

Ensuring that the problems of higher density are mitigated and the needs of people living in higher density environments are met, is a challenge that will need to be meet both at the neighbourhood level and at the dwelling level.

9 References

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10 Appendix A: National Neighbourhood Survey

CRESA Neighbourhood Survey
Research New Zealand #3798
7 May 2008

Good morning/afternoon/evening, my name is ^I from Research New Zealand. We are conducting research on behalf of CRESA about community development and energy efficiency in New Zealand neighbourhoods.

We are surveying both men and women; in your household we would like to talk to the male aged 15 years and over who has his birthday next. Could you please tell me his name, and may I speak with him please?

This research takes about 10-15 minutes. When would suit, or is now a good time?

IF MALE NOT AVAILABLE, ASK FOR FEMALE

Could you please tell me, of the females aged 15 years and over in this household, what is the name of the one who has the next birthday? Could I please speak with her?

If person not available, ask:

When would be a good time for me to call back to speak to him/her?

Make appointment

Reintroduce as necessary

Good morning/afternoon/evening, my name is ^I from Research New Zealand. We are conducting research on behalf of CRESA about community development and energy efficiency in New Zealand neighbourhoods. This research takes about 10-15 minutes. When would suit, or is now a good time?

Background information only if needed:

- This is genuine market research. I'm not selling anything.
- Information provided is confidential. We report summary results about groups; we do not identify which individuals have said what.
- CRESA or the Centre for Research Evaluation and Social Assessment is a private research company whose research focuses on encouraging community development and sustainable communities.

Read

As part of our quality improvement process, my Supervisor may listen to this call.

Q1 First of all, can you please tell me which of the following statements best reflects your intentions within the next few years? **Read**

1 .....I intend to move because this house is not suitable
2 .....I intend to move because of the neighbourhood
3 .....I intend to move because of other reasons
4 .....I do not intend to move within the next few years
98 ...Don't know ****Do not read****

Q2 And can you please tell me how you usually travel to your main place of work or study? **Probe to check if respondent is a passenger or a driver**

1 .....Public transport
2 .....Driving a car/van alone
3 .....Driving a car/van with household member as passenger
4 .....Driving a car/van with a passenger who is not a household member
5 .....Passenger in car/van driven by a household member
6 .....Passenger in a car/van driven by someone outside your household
7 .....On foot/bicycle
96 ...Other **Specify**
97 ...Not applicable - don't travel to work or study.

Q3 If your household uses one or more vehicles, how many kilometres in total were driven in those vehicles in the last month? A rough estimate is okay.

1 .....Number of kilometres **Specify**
97 ...Household does not use a vehicle
98 ...Don't know

Q4 Now thinking about where you live, do you use nearby open public spaces such as green spaces or public areas such as squares, at least once a month for recreation or meeting people?

1 .....Yes
2 .....No

Q5 Do you take part in, support or help local community or neighbourhood groups in any way? **If yes:** How Often?

1 .....2-3 times a week
2 .....About once a Week
3 .....Once a Month
4 .....Less than once a month
97 ...No – Do not take part in, help or support community or neighbourhood groups
98 ...Don't know

Q6 And do you know: **Read**

1 .....Many people
2 .....Some people or
3 .....A few people in your neighbourhood
4 .....Do not know any people ****Do not read****

Q7 **If 0=4 go to 0, else ask:** Do you know any of your neighbours by name?

1 .....Yes
2 .....No

Q8 Do you chat with or greet your neighbours?

1 .....Yes
2 .....No

Q9 How safe do you feel walking alone in your neighbourhood after dark? **Read**

1 .....Very safe
2 .....Fairly safe
3 .....A bit unsafe or
4 .....Very unsafe
97 ...Not applicable/Don't walk at night ****Do not read****

Q10 How much of a problem is noise from neighbours in your neighbourhood? **Read**

1 .....Not a problem
2 .....A minor problem or
3 .....A serious problem

Q11 Now, on a scale of 1 to 5, where 1 is strongly agree and 5 is strongly disagree, to what extent do you agree or disagree with the following statements? **Probe:** Is that strongly agree/disagree or just agree/disagree?

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Don't know
a. This is a friendly neighbourhood	1	2	3	4	5	98
b. I feel that I belong to this neighbourhood	1	2	3	4	5	98
c. My neighbourhood reflects the type of person I am	1	2	3	4	5	98

Q12 How much of a problem do you believe crime is in your neighbourhood? **Read**

1 .....Not a problem
2 .....A minor problem or
3 .....A serious problem

Q13 Now thinking about your own home, in your opinion, do you live in an energy efficient home?

1 .....Yes
2 .....No
98 ...Don't know

Q14 And do you believe you live in a water efficient home?

1 .....Yes
2 .....No
98 ...Don't know

Q15 Do you use composting facilities in your garden or nearby?

1 .....Yes
2 .....No

Q16 Do you do any of the following activities to encourage wildlife in your garden or outdoor private spaces such as patios? **Read. Code many**

1 .....Leave an area undisturbed for wildlife
2 .....Provide and maintain shrubs or trees rich in nectar, pollen, berries, nuts, seeds
3 .....Provide and maintain a pond
4 .....Provide food and water for wildlife
5 .....Use organic gardening methods
95 ...Not applicable – we have no outdoor spaces or garden ****Do not read**** ;E
97 ...No/none of the above ****Do not read**** ;E

Q17 How would you rate the condition of other homes and gardens in your neighbourhood? **Read**

1 .....Very good
2 .....Fairly good
3 .....Neither good nor bad
4 .....Fairly bad or
5 .....Very bad
98 ...Don't know ****Do not read****

Q18 How much of your food expenditure is spent in your local neighbourhood compared with shops further a field? **Read if necessary:**

1 .....0% -25% - Nothing to a quarter
2 .....26% -50% - Over a quarter to a half
3 .....51% -75% - Over a half to three quarters
4 .....76% -100% - Over three quarters to all
98 ...Don't know ****Do not read****

Q19 Overall, how adequate do you believe the following facilities and services are in your neighbourhood? Do you believe **[insert facility/service]** are: **Read**

	Unavailable and sorely needed	Available but inadequate	Just adequate	Good	Very good	Unavailable but not needed ****Do not read****	Don't know ****Do not read****
a. Local doctors	1	2	3	4	5	97	98
b. Library Services	1	2	3	4	5	97	98
c. Early Child Care Centres	1	2	3	4	5	97	98
d. Shops	1	2	3	4	5	97	98
e. Parks	1	2	3	4	5	97	98
f. Playgrounds	1	2	3	4	5	97	98
g. Sports fields	1	2	3	4	5	97	98
h. Community Centres	1	2	3	4	5	97	98
i. Social Services	1	2	3	4	5	97	98
j. Churches	1	2	3	4	5	97	98
k. Police Presence	1	2	3	4	5	97	98

Demographics

Q20 Now, to help us analyse our data, I would like to ask some questions about you. Can you please tell me, what your annual personal income is? Is it: **Read**

1 .....Up to $15,000
2 .....Between $15,001 and $20,000
3 .....Between $20,001 and $30,000
4 .....Between $30,001 and $40,000
5 .....Between $40,001 and $50,000
6 .....Between $50,001 and $70,000 or
7 .....$70,001 or more
99 ...Refused ****Do not read****

Q21 And can you please tell me what your household's annual total income is? Is it: **Read**

1 .....Up to $15,000
2 .....Between $15,001 and $20,000
3 .....Between $20,001 and $30,000
4 .....Between $30,001 and $40,000
5 .....Between $40,001 and $50,000
6 .....Between $50,001 and $70,000 or
7 .....$70,001 or more
98 ...Don't know ****Do not read****
99 ...Refused ****Do not read****

Q22 Is your home…? **Read**

1 .....Owned mortgage free (by yourself, or someone you live with)
2 .....Owned, but with a mortgage
3 .....Rented through a private landlord
4 .....Rented through Housing New Zealand Corporation
96 ...Other **Specify** ****Do not read****
98 ...Don't know ****Do not read****

Q23 How many people live in your household in each of the following age groups? **Read**

1 .....People 5 years or younger **Specify**
2 .....People 6 years to 16 years **Specify**
3 .....People 17 years to 64 years **Specify**
4 .....People 65 years or more **Specify**

Q24 And finally, does anyone living in your household need assistance with every day tasks because of a disability?

1 .....Yes
2 .....No
98 ...Don't know

Closing Questions

Q25 Thank you for that. Do you have any other comments you'd like to make about the subject of this interview?

1 .....Comments **Specify**
2 .....No

Q26 May I please confirm your name in case my supervisor needs to check on the quality of this interview? **Record first and last name**

Q27 And can I just confirm that you are the *male/female* in the household who is 15 *years or over*, and has the *next birthday*? **Code "Yes" if all three elements are confirmed. If answer to any element is "No", code No.**

1. ....Yes
2. ....No
98. ..Don't Know**Do not read**
99. ..Refused**Do not read**

Those are all the questions I have. Thank you very much for your help. My name is **Q0IV** from Research New Zealand. If you have enquiries about this survey, please ring the Project Manager, Bronwen Hansen on our toll-free number: 0800 500 168. (Wellington respondents 499-3088)