

People, products and places

*Exploring sustainable-living
practices in masterplanned
communities*



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Summary

This summary describes our research work to produce *People, products and places: Exploring sustainable-living practices in masterplanned communities*. The work is part of the 'University of Hertfordshire Lafarge Tarmac Sustainable Living Partnership' which began in 2010.

Scholars at the Centre for Sustainable Communities at the University of Hertfordshire undertook the research in the United Kingdom and Australia over three years. The study has explored what motivates sustainable behaviour and what acts as barriers to it in masterplanned places that have sustainable features in their housing and wider built environments.

In this research we have followed the UK Sustainable Development Commission's definition: 'Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.'

Among our research findings and conclusions are the following:

- ◆ Planning and design approaches vary substantially from place to place within masterplanning practice. Sometimes results on the ground show some slippage from the sustainability intentions laid out in plans and policies. It seems that clearer connections between guidance and masterplanning practice could help avoid sometimes less than optimal outcomes in practice.
- ◆ The 'fit and forget' idea for embedding sustainable infrastructure into dwellings and places has considerable utility. However it has not always worked as intended in our research sites. Residents and other place-users did not always respond in sustainable ways to 'sustainable' fabric. More understanding is needed among practitioners that sustainability comes in part from the interplay between people and things (places and products) in practice – sustainability is not just passively received.
- ◆ Closing the gap between performance ratings (such as of 'green buildings') and actual practice is obviously important if we are to achieve more sustainable outcomes in masterplanned and other new developments. We saw some gaps here too. This should happen at a number of scales – in particular, our research suggests that this is necessary at the level of the dwelling and the wider place.
- ◆ Unsurprisingly, we found varying ideas of what constitutes sustainability among place-users, as well as different levels of commitment to sustainability however defined. This is for a range of reasons, some of which could be tackled at an individual level. Others, however, have more structural origins and require changes to be made at or beyond the site level that masterplanners and those working more broadly in the built environment can have some influence over.
- ◆ While welcomed, passive forms of communication including home manuals (such as guides for using homes and household technologies) did not always work as expected. They were either not used at all or used in unexpected or limited ways. Used in isolation, they thus lacked efficacy as a means to promote and instil sustainable practices among residents. Supplementary, and more active, forms of engaging with residents and place-users on how they can act sustainably in practice seem to work better.
- ◆ There seemed to be constraints to and opportunities for being sustainable tied to different categories of tenure in the masterplanned communities we studied. For example, private tenants in particular did not always have the same level of access to or benefit from some sustainable features of the development. With an expected rise in the proportion of private renters, there is a need to make opportunities for sustainable living tenure-blind.
- ◆ Where there is good leadership from, for example, the developer, a management company or a tenants' organisation, the opportunity and will to undertake sustainable behaviour among individual place-users rises considerably. Across our research we also found that property managers' views about what kind of role they could or should play in promoting sustainable living was quite variable and this had impacts on sustainable-living outcomes.

Through this report and by means of other papers, briefings, website material and presentations we will be sharing our results with as many people as we can. We believe that the whole area of sustainable living offers rich research possibilities that can have very positive impacts on practice on the ground. As the need to make places more sustainable becomes ever more pressing, this summary offers some research findings which we hope will make a constructive contribution to that task.

Introduction and background

Purpose of this summary

This research summary briefly documents a major research project into sustainable living that has been undertaken by researchers at the University of Hertfordshire over the last three years, under the auspices of the *University of Hertfordshire Lafarge Tarmac Sustainable Living Partnership*. A full research report is also available at <http://www.uh-sustainable.co.uk/LAF/>

The international, comparative research has focused on the attitudes and practices of residents and other place-users in sustainable masterplanned communities. To that end we have undertaken research in three places in the United Kingdom and two sites in Australia (details are provided below). This research has been done through five very detailed case studies of masterplanned neighbourhood-scale developments. For each of these case-study sites, claims have been made about the sustainability of the design and/or construction practices employed. In these sites the project researchers have explored what motivates sustainable behaviour and what acts as barriers to it among residents and other users.

These masterplanned sites have had some purposefully sustainable features built in to them, arguably facilitating enhanced levels of sustainable living to be put into practice once they are occupied. We wanted to understand what actually happens when these sustainability-oriented design measures meet lived reality for new residents and other place-users, and what we might learn about helping make places sustainable in future.



Jackson's Landing in Sydney's Pyrmont
Source: photograph by Dr Alasdair Jones

About the research partnership

Originally launched in 2010, the partnership between the Centre for Sustainable Communities at the University of Hertfordshire and Lafarge Tarmac is focused on sustainable living. The Partnership is run by a Steering Group and governed by Terms of Reference which set out the aim of producing knowledge that can be used 'to inform and contribute to the debate on how to shape sustainable communities' (Lafarge Tarmac presentation, 2010). The Partnership Steering Group comprises senior Lafarge Tarmac staff and University of Hertfordshire academics, as well as invited representatives from the development, planning, urban design, building and housing sectors, and a wider Consultative Group has also offered advice. The Partnership is managed day to day at the University's Centre for Sustainable Communities which has directed the research work.

Our research focus and questions

A core component of the activities of the Partnership has been this three-year study of sustainable living. The research programme has been comparative, looking at masterplanned communities in both the UK and Australia. We have gathered views from residents and other place-users, explored documentation about how sustainable such developments are perceived to be and how people living and working in them interact with their sustainability features. The study has sought to explore three key questions and generated some fascinating results reported on below:

- ♦ Do people use sustainable design features built into their homes and wider neighbourhoods in the ways that those features are intended to be used?
- ♦ Can we better understand cultural aspects of sustainable living and the use of sustainable features by focusing on social practices as much as physical infrastructure, materials and technologies?
- ♦ Can we use this understanding to improve urban resilience in the face of climate change?

“Can we better understand cultural aspects of sustainable living and the use of sustainable features by focusing on social practices as much as physical infrastructure, materials and technologies?”

Our theoretical framework and methods

Central to the focus of the study was the observation that things are not always used in the ways in which they are intended to be used. This interest in the intersection between something designed for a particular use and the user of that product of design ('[t]he relationships between people and things', Thrift, 2000: 492) connects to a body of theoretical work in the social sciences referred to as 'material culture'. It also resonates with a related body of work exploring 'social practices', or what has been described as 'the practice of everyday life' (de Certeau, 1984). We were interested in exploring how people 'practise' the physical environment they encounter in and around masterplanned communities that incorporate design oriented towards sustainability.

Another key theoretical aspect was a focus on the use of masterplanning to help design and embed sustainability into new developments: by employing place-shaping devices, invoking principles of urbanism and using materials with properties conducive to enhanced sustainability. We took the view that, to a greater or lesser degree, any study of sustainable living needs to grapple with spatial-design matters, including principles that seek to inform how places can function well. Masterplanned communities seemed a relevant design context because in them there is at least in theory a clear framework for design and development in which to explore sustainability intentions and outcomes.

This was not a quantitative study about the technical performance of materials or places. There is a large body of work of that kind which we did not intend to duplicate. Instead the focus was on qualitative research using established social-science methods to understand more about *why* apparently sensible, technical approaches did not always generate the sustainability outcomes expected, and consider lessons from that.

As noted above, we employed a case-study approach, based on five carefully chosen fieldwork sites in the United Kingdom and Australia. A key aspect of the project was to enable comparative analyses that

case-study research of this kind can afford: between different sites in the same metropolitan area or region; in different kinds of urban, suburban and semi-rural contexts; and between sites across two different urban contexts in the northern and southern hemispheres. Our steering group was very interested in understanding the ways that the Australian and United Kingdom contexts and sites showed similarities and differences and how that might generate new insights.

Sites were selected in order to offer useful comparisons relevant to the research topic. The comparison across two diverse, more economically-developed nations was intended to widen out the breadth of the comparisons. Areas that influenced site selection included comparability in relation to masterplanning status, developer reportage of a sustainable basis for site development, similar housing design standards in relation to sustainability, a variety of locational characteristics in settlement form, and reasonably similar scales, demography, and tenure mix.

The first stage of the research was undertaken at two fieldwork sites in Sydney: the Jackson's Landing development in inner-urban Pyrmont near Sydney's CBD, and Park Central in Campbelltown, in Sydney's outer south-western suburbs. The second stage of work was undertaken in the United Kingdom in inner-urban Brighton at One Brighton; suburban north-west London at Grand Union Village and semi-rural Bedfordshire at The Wixams.

For each of these places, data collection and analysis methods included interviews with experts in the field; around 100 semi-structured interviews with residents and other place-users; a small number of focus groups with residents (some of the UK focus-group work is still underway); thematic analysis of semi-structured interviews and focus groups with residents and other place-users; spatial analysis of each site's masterplan and urban context; a review of relevant policy documents and study of photographic records and observational field notes taken during study visits.



Antias Building in the Jackson's Landing development, Pyrmont
Source: photograph by Dr Alasdair Jones

Reporting on findings

We have previously reported at approximately the halfway stage of the research. The first stage of the research was undertaken in Australia, and findings were reported in an initial research document and at a research conference, *Living sustainably – which way should we go?* (Parham, 2013, see <http://www.uh-sustainable.co.uk/docs/LAFARGEconference2013.pdf>). The second stage of the research then focused on collecting and analysing data pertaining to a similar set of research questions at comparable sites in the United Kingdom. We have also provided regular updates on our Centre for Sustainable Communities website (<http://www.uh-sustainable.co.uk/LAF/>) and have presented (and are due to present) papers at relevant conferences and seminars.

This summary of the final report, meanwhile, has been written as we reach the culmination of our three-year programme of research and related activities. The end-of-research-project conference at which this report is being launched (April 2015) is discussing the full range of comparative findings and has a distinctly applied focus. In both this report and at the conference we are feeding back what we have found out from across the research and considering the complex interplay between the sustainable living intentions of masterplanners and the day-to-day sustainability practices of people living and working in masterplanned communities.

Our findings and conclusions in summary

Introduction

In this research summary document we have not included details of the fieldwork process undertaken at each case-study site. These details can be found in the longer research report referenced above. For reasons of brevity, instead here we focus simply on summarising our research findings and conclusions. The data sources for this summary included readings from the relevant academic and applied literature; masterplanning and other documentation for each of the sites; transcripts of the semi-structured interviews and focus groups; observational data including field notes and photographs; material from 'think pieces' produced over the course of the research; and results from our interim reporting papers and mid-term conference presentations and discussions.

Masterplanning practices

The research highlights that planning and design practices vary substantially from place to place within masterplanning approaches. What constitutes a masterplan is itself subject to fairly wide variation in different places. Masterplanning guidance is being interpreted in a variety of ways that are more or less successful on the ground (in terms of achieving sustainable-living outcomes). It appears that clearer connections between guidance and practice are needed. We saw a number of examples of slippage between defined sustainability proposals and actual practice. There were a number of examples of what happens if elements of the proposed masterplan do not end up being built as part of the development (such as expected public-transport infrastructure). Such gaps between the plan and reality had implications for sustainable-living outcomes. We also saw that other structural aspects had impacts on delivery, including legal structures, political decisions (such as fiscal policy related to house building) and the interplay of demographic and economic forces (like an overheated southeast). These slippages made it harder for residents and other place-users to behave sustainably.

“It appears that clearer connections between guidance and practice are needed. We saw a number of examples of slippage between defined sustainability proposals and actual practice.”



Walkability issues at Park Central, Campbelltown, outer Sydney
Source: photograph by Dr Alasdair Jones

Technological determinism?

A recurrent mode of 'determinist' thinking evident in our research findings is that the building-in of sustainable technologies and systems in buildings and place design and planning means decisions about being sustainable are predetermined for residents and other place-users (the 'fit and forget' idea). Linked to this is a view that with the 'right' technology, infrastructure and systems in place residents and other place-users will simply respond in sustainable ways. On the ground, we found that various aspects of sustainable practice came from an interplay between people and things at the fieldwork sites. We are not suggesting there is no utility in building-in sustainable technologies as these clearly can have positive impacts on building and place use. However we did find that elements of sustainability infrastructure were not always used as expected, as end-users could support, subvert or simply overlook the expectations, techniques and infrastructures through their behaviours. Our conclusion is that education needs to happen not just with those who use places but also those who make them (to challenge sometimes deterministic assumptions that sustainability will just be passively received and not actively developed).

What makes a building or place 'sustainable' in practice?

Closing the gap between performance ratings and end-users' actual practice is obviously important if we are to achieve more sustainable outcomes in masterplanned and other new developments. (For instance, the performance gap in the energy performance of buildings is receiving increased levels of interest within the building industry at present, and is particularly relevant to products and services which can support improvements). This gap happens at a number of scales – including at the level of the dwelling and the wider place in new developments. At the building level, for example, at least some residents have bought into 'green' buildings for resale value rather than sustainability per se, thus it is important that the features of design that render buildings 'green' (in terms of accreditation) correspond to features of design that foster sustainability in practice.

Different perspectives on sustainability

The research has shown evidence of different perspectives on what constitutes sustainability. For some we found that the balance was more towards economic aspects; for others the emphasis was mostly about social and environmental sustainability factors. Not only did the balance between these sustainability aspects vary; there were also different levels of expressed commitment to sustainability (however understood) among end-users of housing and related spaces across the five sites. This was for a range of reasons discussed in the longer research report but had sometimes-negative results in terms of how sustainably people actually behaved as place-users of the masterplanned built environment.

Harking back to the definition of sustainable development noted at the start of this summary, manufacturers, developers and builders to a greater or lesser degree are providing products which are intended to be applied in ways that support sustainability capacity, often understood primarily in environmental sustainability terms. Many of our interviewees and focus-group participants, meanwhile, have understood sustainability as more social or economic: meaning they could live in an area for a long time, for instance, or make a decent profit at resale of their dwelling. Even if not a primary driver, sustainable living in environmental terms is something where residents and other place-users demonstrate considerable goodwill and willingness to alter their day-to-day practices in relation to aspects like food-buying, consumption and waste. In our view, often a lack of 'commitment' to sustainability is as much structurally imposed as individually chosen: such as residents driving rather than using other more sustainable travel modes because provision is perceived as too poor to be a practical choice. The objective reality in some of our sites is inadequate transport infrastructure and overly large walkability radii for services and employment.



*Semi-rural masterplanned site at The Wixams
Source: photograph by Dr John McCormack*

*“often a lack of ‘commitment’
to sustainability is as much
structurally imposed as
individually chosen”*



*Top: Suburban masterplanned site at Grand Union Village
Source: photograph by Dr John McCormack*

*Above: Inner-urban masterplanned site at One Brighton
Source: photograph by Dr John McCormack*

How to communicate sustainable practice?

Quite a lot of our findings are about spatial and materials aspects, but we have also found a fair amount of interesting data about the sustainable-living implications of the nature of communication and learning in masterplanned communities. A notable point from across the research is that the passive supply of communications materials including home 'manuals' (that is, guides for using homes and household technologies) tends to lack efficacy in promoting and embedding sustainable practices. We found that these very detailed and technical guides just 'went on the shelf', so more active approaches including welcome programmes and other ongoing and active, community-based methods may make more sense. When green caretakers or resident support staff have been present they have been able to communicate and instil sustainable ideas, and support sustainable practices, much more effectively than through other, more passive means.

Impact of buy-to-let and mixed tenure on sustainable-living practices

Much of our focus has been on places where most of the housing is owner-occupied or socially rented, but we have some interesting 'individual cases' findings in relation to the impacts of different tenures on sustainable-living practices among place-users. For example in some of our fieldwork sites a proportion of owners were buy-to-let landlords and some research participants (including private renters themselves) perceived that tenants of these landlords did not necessarily have the same level of access to or degree of benefit from engaging with sustainable features. Such findings warrant further exploration, but if accurate may be explained by an assumption expressed by some research participants that tenants would be less interested in sustainability than those with a more long-term investment in the place.

As a member of our steering group noted, amenity benefits, and other benefits like energy-costs savings would be equally available across tenures, and this point should not be discounted.

However, a specific example highlighted in the findings was from one such tenant who explained that information about how to engage sustainably with their dwelling and the development was likely to be given to the landlord rather than being directly available to them. In this instance the tenant had less chance to be aware of features like the site's community café and training facilities, recycling facilities and access to its allotment gardens than would residents who had more direct access to information and support.

Governance and place management

Some of the points that the research has raised are not so much about individual decisions, behaviours and attitudes about sustainable living as about more structural aspects. It is clear from the fieldwork that where there is good leadership (from, for example, the developer, a management company, a tenants' organisation etc.), the capacity to undertake sustainable behaviour in an ongoing way rises considerably. We found that result across the fieldwork sites in both the UK and Australia. Linked to the above, across our research we found that property managers' views about what kind of role they could or should play in promoting sustainable living was quite variable. Some felt it was part of their remit; others did not or only in a very narrowly defined or circumscribed way. Sometimes this was in part because their employers did not emphasise this aspect of their role as being important. We found that this had implications for management attitudes and behaviours with flow-on effects for sustainability performance once the development was being lived in.

Research directions for the future

Areas for further research

The findings from our comparative research have highlighted a number of interesting areas we think would be very useful to study further in a theoretically grounded but predominantly applied way. These were raised in the preceding section in the form of research questions arising from our findings, as is typical in exploratory qualitative research of this kind. Clearly a range of research areas has emerged that we suggest could benefit from further research, including those that follow. (It should be noted that this list is not definitive in terms of topics, methods or research scale.)

The shared characteristics of masterplanning practices that can successfully embed sustainable-living practices – we think that further research into masterplanning practices as a route through which to embed such practices would be helpful. It would act to generate findings and conclusions about such methods and could focus in on the slippage that can happen between intentions and outcomes on the ground. Such work would help reshape and refine both guidance and practice in the field.

The issue of technological 'determinism' – exploring the active interaction of people, products and systems rather than treating place-users as passive receivers of products. Our research suggested that there is still work to be done to ensure that those involved in the masterplanning, development, building and construction fields understand the behavioural implications that come into play with place-users and how these can affect sustainable living.

Being sustainable in practice – the impact of gaps between masterplanning intentions and built form 'on the ground' on sustainable actions by place-users. More broadly, questions of commitment to sustainability – to what extent is this personal, collective or structural? In this vein we feel that further primary research into actual practices relating to commitment to sustainability would be instructive. This would help further distil what commitments people do and do not make to sustainability and

why, and in turn what is causing gaps in commitment (where they exist) and how best those causes might be addressed to support sustainable living.

Communicating sustainable practices – how can this be made more active in nature? A research question stemming from this is how do those involved in design and delivery expect end-users to know, appreciate and work with design features and amenities that have a sustainability imperative? What theory of (in particular long-term) learning underpins this, and what are its implications for better future practice?

Tenure-related issues – how can structural impediments to 'being sustainable' be overcome? A research question this raises for us is how far do, or can, masterplanners and other professionals interested in supporting sustainable living address these issues? With an expected rise in the proportion of private renters in countries like Australia and the UK, how can we make sustainable living 'tenure blind'? How can we learn from countries with historically higher proportions of residents who rent their homes?

Governance and place-management – where are the best opportunities to support sustainable living through excellent leadership? A research opportunity exists to further explore the linked question of whether such leadership makes a generalisable difference, as we found it did in our research sites. If it does, how do planners and other professionals respond now? How could place-makers respond to the need for a body or organisation to take a leadership and co-ordinating role in making sustainable living happen, post-occupancy? Linked research questions that stem from this are: to what extent, if at all, do property managers and related organisations (agents, social landlords, private-sector landlords) view themselves as having a role to play in promoting sustainable living? What would that role encompass? How would that work on the ground? Again, while our own findings suggest that that such a sustainability promotion role is an incredibly important one, it would be helpful to broaden out the scale of such research to test this conclusion more widely.

Next steps

We will be sharing our results with as many people as we can, including through this report, now that we have completed this first substantial research study through the UH Lafarge Sustainable Living Partnership. The Partnership has made possible a research process and outcomes that bring together academic perspectives and methods with a great deal of applied knowledge and expertise from our professional partners. We believe that the whole area of sustainable living offers rich research possibilities that can have very positive, applied impacts on practice 'on the ground'. As the need to make places more sustainable becomes ever more pressing this is a vital area for both theoretical and applied research to make a constructive contribution to that task.

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