

A SUSTAINABLE COMMUNITY? LIFE AT DERWENTHORPE, 2012–2015

Derwenthorpe is being developed as an urban extension of over 500 new homes in York to provide a socially and environmentally sustainable community. The scheme is due for completion by 2018. This interim report draws on early residents' experiences to examine the extent to which a sustainable community is developing.

Key points:

- Residents chose to move to Derwenthorpe for the design of the homes, particularly light and space standards, and the scheme's location. Derwenthorpe's green credentials were usually a subsidiary factor or added bonus.
- Nine out of 10 residents were satisfied with their homes, similar to national satisfaction levels for owner occupiers, but exceeding those for social renters.
- A significant early achievement has been the high level of community activity and involvement. Residents' level of connectedness was very high; on average, households cited eight other residents as friends.
- Residents had lower than average carbon footprints from energy use in their homes compared with national survey respondents, as a result of their homes' energy-efficiency standards.
- However, several challenges were evident in providing low-carbon homes, including how to support residents to make best use of energy-efficiency measures, addressing some operational inefficiencies and delivering a communal heating system on a developing site.
- Despite efforts to support more sustainable travel options, it was harder to reduce residents' travel footprints. Few households had reduced their car use, and take-up of the on-site car club was slow. To achieve further travel changes, wider city (and national) transport initiatives are needed.
- Overall, while zero carbon policies have been abandoned nationally, housing providers can help residents to reduce their overall carbon footprints substantially by building to higher environmental standards.

The research

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BACKGROUND

The Joseph Rowntree Foundation and Joseph Rowntree Housing Trust (JRF/ JRHT) are developing Derwenthorpe in York. The vision was to offer “a potential blueprint for family living in a truly sustainable community ‘fit for the 21st century’.” (Derwenthorpe Business Plan, 2009). Derwenthorpe aims to deliver a socially and environmentally sustainable community, with a wide range of interventions to support this vision (see Figure 1).

Figure 1: Derwenthorpe social and environmental interventions



Derwenthorpe residents

In early 2015, 97 households were resident (61 owners; 22 social tenants; 14 shared owners). The scheme had attracted a variety of household types and socio-economic status, although only around one in five owners had children, compared with the majority of renters and shared owners. The key factor in choosing Derwenthorpe was the homes' design, closely followed by location. About half of residents interviewed mentioned Derwenthorpe's green credentials as a reason for moving, but not usually the main one. The community aspect attracted a few residents.

Achievements

Social sustainability

Overall, 91 per cent of residents were satisfied with their homes, approximating to national satisfaction levels for owner-occupiers, but exceeding those for social renters. Residents were particularly impressed with their homes' space and light standards. Lifetime Homes Standards also influenced satisfaction levels, including wide hallways and bathrooms. For some with disabled children, the combination of Lifetime Homes and good design impacted significantly on their lives. Others discussed the future potential usefulness of these features.

A significant early achievement was the high level of community involvement. As well as a residents association, residents supported various community groups; some received initial support from a JRHT community development worker. Residents felt very connected. On average, households cited over 20 other households as neighbours, and eight people as friends.

Environmental sustainability

Residents' overall individual carbon footprints were not significantly different from those nationally. However, the energy-efficient homes lowered carbon footprints from domestic energy use. Residents had significantly lower power footprints (1.53 tonnes per year) than the national sample (2.73 tonnes), although their shopping footprint was higher. The majority of residents were satisfied with their home's energy efficiency. Many remarked on how well their homes retained heat, although some felt they did not perform as well as expected.

Challenges

Social sustainability

Here, success of the mixed-tenure community was variable. Early interviewees were generally positive, but later ones pointed to an emerging sense of difference between tenure types. There were disproportionately more contacts among home owners than between owners and social renters, although links existed across all tenures.

Despite high levels of community activity, perceptions were strong that a similar group of people participated in social and governance activities. A key challenge, common in community involvement, was to ensure that other residents made informed choices about participation. There were calls for more family and sporting activities.

Environmental sustainability

The original intention was to build to Code 4 of the former Code for Sustainable Homes. However, in the prevailing economic climate, the additional costs meant homes were now being built to Code 3 (but still Code 4 for energy performance), highlighting the challenge of delivering affordable and sustainable homes.

Various issues were evident in delivering low-carbon homes. Residents lacked knowledge on usage of many of the energy-efficiency measures, including the mechanical ventilation and heat recovery (MVHR) systems, winter gardens and communal heating system. Some wanted to over-ride some features, such as turning MVHR down or off, and disabling water temperature restrictors. Some reported operational inefficiencies. There were challenges associated with using a communal heating system, including reliability and sequencing problems during construction, information provision and communication with residents, and affordability/sustainability trade-offs.

It was also difficult to change travel patterns, despite efforts to support more sustainable options. While most residents (79 per cent) agreed that living at Derwenthorpe would lead to a greener lifestyle, only a third (33 per cent) thought it would reduce their transport costs. Although bicycle voucher take-up was high, few households had substantially reduced their car use. Initial take-up of the on-site car club was poor, but with signs of improvement as resident numbers increased.

Conclusion

Derwenthorpe was already achieving relatively high levels of social sustainability, demonstrating the value of high-quality design, Lifetime Homes Standards and community activity in supporting the development of sustainable mixed communities.

Evidence on the success of environmental measures was more mixed. While the energy-efficient homes were reducing residents' carbon footprints for power, other footprints were harder to influence. Most residents did not move to Derwenthorpe primarily for environmental reasons. It is difficult and expensive to deliver homes to high eco-standards, and even more challenging for housing providers to influence sustainable environmental practices outside the home, particularly travel. New technologies like MVHR and a communal heating system were also challenging, highlighting the relative infancy of low-carbon home technology, alongside limited information for residents in using their homes.

The early Derwenthorpe experience provides the following lessons for delivering successful sustainable homes and communities, particularly for housing providers.

Social sustainability

Homes:

- Housing design is key to resident satisfaction. Good design is multi-purpose. Energy-efficient features like large windows, and accessibility standards like Lifetime Homes, can improve people's quality of life.

- Building to Lifetime Home Standards can transform the lives of households with disabled members, and enhance living quality for all.

Community:

- Governance arrangements need to be fair and equitable to promote community cohesion.
- Different parts of the community may require different support to develop activities. Greater intervention may be needed to promote the interests of those with more time and constraints on resources.

Environmental sustainability

Homes:

- While zero carbon policies have been abandoned nationally, building homes to high energy-efficiency standards can reduce householders' carbon footprints for energy use.
- Residents need high levels of ongoing information and advice on how best to use their homes' energy-efficiency measures, perhaps through a community engagement strategy.
- Where more complex systems are used (such as MVHR), developers require high skill levels. Residents also need support with operational issues, and information on and/or provision of maintenance services to maximise effectiveness.
- The challenges of using a communal heating system require detailed consideration at all stages of development and operation.

Community:

- Travel-related interventions such as car clubs may need time to establish take-up rates to become viable. Subsidies may be needed initially, raising questions about the timing and approach to establishing sustainable initiatives.
- It may be easier for housing providers to influence short trips (e.g. through bike schemes) than commuting and wider travel patterns. To affect travel changes locally, providers need to influence wider-scale transport initiatives.
- Carbon footprints for shopping are high for those moving into new homes. Housing providers could consider schemes to reduce them, such as promoting community recycling and re-use schemes.
- Providers could also consider their potential role in supporting people to influence their overall carbon footprints via a community engagement strategy.

About the project

JRF and JRHT are developing Derwenthorpe. The developer Barratt is building the scheme of 500+ homes through David Wilson Homes, on land JRHT bought from City of York Council. This interim evaluation report used longitudinal interviews with residents, social network analysis, and a carbon footprint survey tool, REAP Petite, including comparisons with REAP Petite's national data.

FOR FURTHER INFORMATION

The full report *A sustainable community? Life at Derwenthorpe, 2012-15* is available as a free download at www.jrf.org.uk

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