Creating an Indicator of Liveability: The Neighbourhood Liveability Assessment Survey (NLAS)

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Abstract

This paper addresses the methodological problem of how to operationalise and measure 'liveability'. Liveability is prominent in New Labour policy discourse and is a theme which overlaps several policy areas concerning neighbourhoods and communities in urban areas. The paper proposes that liveability is a prime cause of neighbourhood-level change in England, especially demand for housing. Whilst liveability is often discussed in this context, objective and reliable measures for it are not. The development and application of a new method, the Neighbourhood Liveability Assessment Survey (NLAS), is explained as a means of deriving a composite index of liveability that takes into account residents' priorities. The NLAS should improve the breadth and quality of research into the effects of neighbourhood level intervention. Such a tool is essential if practitioners and policy makers want to observe and evaluate the impact of their programmes over time.

Since the late 1990s low housing demand and neighbourhood decline have been regarded as particular issues in parts of the Midlands and the North of England. The role of micro-social processes at the neighbourhood level have received particular attention recently because they are the most tangible evidence of change. Agencies delivering Housing Market Renewal programmes are collecting a growing body of small-area data on demographic and socioeconomic neighbourhood attributes but are drawing on secondary data, often from administrative sources. This contrasts with the lack of measures of the direct experience of the environment and condition of a neighbourhood, which can be summed up as 'liveability'. The NLAS aims to fill this gap in the context of a Housing Market Renewal Partnership in the North East of England, 'Tees Valley Living'.

Observable signs of disorder and the design of the built environment influence well-being and neighbourhood satisfaction. This links to how people, with economic means, choose where to live. Indeed, residents' views about improvements needed in their neighbourhood are dominated by liveability issues such as low level crime and the quality of local green spaces and parks. It is what the neighbourhood looks like, in terms of design and how well it is cared for, that appears to be behind these perceptions and therefore the NLAS is a visual inspection of a neighbourhood, performed on foot. A literature review guided the selection of survey items and a consultation exercise allowed resident priorities to be incorporated into the NLAS score with the use of weightings.

Key Words: Neighbourhood, liveability, site-survey

Introduction

This paper addresses the methodological problem of how to operationalise and measure 'liveability'. Although difficult to define, it is argued that liveability should receive more attention as a potential cause of neighbourhood-level change in England, especially demand for housing. The development and application of a new method, the Neighbourhood Liveability Assessment Survey (NLAS), is explained as a means of deriving a composite index of liveability that takes into account residents' priorities.

Liveability is receiving attention at the neighbourhood level where it is implicated in problems of neighbourhood decline and this can be particularly acute in areas of low and changing housing demand. Since the late 1990s these phenomena have been regarded as particular issues in parts of the Midlands and the North of England, the causes of which are complex as they involve interactions at, and between, different levels. These include broader regional and sub-regional drivers, changes in individual preferences and behaviour and micro-social processes at the neighbourhood level (Bramley and Pawson, 2002). These neighbourhood level processes, including changes in demography, turnover and vacancy, have received particular attention recently however the direct experience of the environment and condition of a neighbourhood is being overlooked. This is an important factor in local housing demand and can be summed up as 'neighbourhood liveability'.

The quality of the neighbourhood environment is clearly a priority for residents. Collinge *et al.* (2005) show that residents' views about improvements needed are dominated by liveability issues such as low level crime and the quality of local roads and pavements. This concern was shared by housing practitioners in a 1999 national survey, where almost three-quarters of those reporting low demand in private tenure neighbourhoods reported poor quality environments as a major causal factor (Bramley and Pawson, 2002, p 404). It is what the neighbourhood looks like, in terms of how well it is cared for, that appears to be behind these perceptions and there is an inextricable link to housing demand.

Despite the rising prominence of neighbourhood liveability in many policy agendas, there is a lack of an objective and reliable tool to research the effects of intervention on liveability and therefore to properly assess its causal role in these processes. This

contrasts with the availability of small area data on demographic and socioeconomic attributes. Such a tool is essential if practitioners and policy makers want to observe and evaluate the impact of their programmes over time. This paper will present the development and application of such a tool with reference to the Housing Market Renewal agenda.

The paper will continue by first outlining the recent policy background to the issue of liveability and then go on to locate the context of this research. The next section will briefly consider the term 'neighbourhood' and define its meaning in this paper. The paper will then go on to argue the case for surveying the visual liveability of the neighbourhood with reference to research that explores its role in resident experience and satisfaction. In the next section, attention will turn to the development of the NLAS. Three existing surveys, which have been developed to measure neighbourhood characteristics, are presented and reviewed in order to build on and learn from previous research. The results of a resident consultation exercise are then summarised, revealing resident's priorities when it comes to the different visual cues that suggest good liveability. Finally the paper ends with the results of the first phase of data collection, followed by concluding comments and a description of the next steps that will be undertaken in order to explore the usefulness of the NLAS as an indicator of neighbourhood change.

Policy Background

A step-change in housing policy was signalled by the publication of a document known as the Communities Plan (ODPM, 2003). Past failures in the management of house building and investment were acknowledged and new, long-term policies to manage communities holistically were proposed as a means to ensure their future success as places where people want to live. The plan identified two related problems that were being experienced in England. In London and the South East the problems experienced were affordability and supply whilst in the North and the Midlands low demand, and in extreme cases abandonment, were regarded as the main challenge. In all cases the main theme emphasised by the Communities Plan (2003) was that a sustainable community is much more than the bricks and mortar of a home: decent homes should be in decent places.

The policy instrument introduced by the Communities Plan to tackle low demand in the North and the Midlands is the Housing Market Renewal Fund (HMRF), which will have invested £1.2 billion by 2008 in measures to sustain local housing. The HMRF provides resources to large areas, made up of more than one local authority. Nine 'pathfinder' areas were launched in 2002, including for example the Bridging Newcastle Gateshead pathfinder, in the North East of England, which covers an area of around 77,000 properties. The extent of unpopular housing and low demand is not consistent across these large areas rather, problems are spatially concentrated in smaller areas, commonly and ambiguously referred to as neighbourhoods. This is the spatial level at which intervention is delivered.

The main activity of Housing Market Renewal (HMR) projects is physical change at the neighbourhood level including, demolition, refurbishment and wider environmental improvements therefore HMR and the built and natural environment are inextricably linked. In 2006 Parkinson declared that "[L]iveability is at the forefront of government policy" (p 156). The liveability agenda began with a focus on the quality of public space as a way of improving community experience. Although the term liveability wasn't used, the publication of Living Places Cleaner, Safer, Greener (ODPM, 2002), and the following programme of investment, signalled the start of a coordination of policies aimed at improving the local environment including litter and graffiti, green spaces and play areas. Liveability was then incorporated as a key theme in wider Sustainable Communities agenda in 2003.

Context – Tees Valley

Dunstan is investigating changes at the neighbourhood level in a collaborative project with Tees Valley Living, a Housing Market Renewal partnership. A sub-region in the North East of England, the Tees Valley is a polycentric conurbation that includes five unitary Local Authorities: Darlington, Hartlepool, Middlesbrough, Redcar and Cleveland and Stockton on Tees. The region is affected, in parts, by high concentrations of deprivation coupled with evidence of housing market failure. Both Middlesbrough and Hartlepool were ranked 10th and 14th respectively in the average score of the 2004 Index of Multiple Deprivation at the district level. All districts (excluding Darlington) ranked inside the top 20 for local concentration (ODPM 2004); this highlights the severity of deprivation as the figure is based on the percentage of a district's population that live in the most deprived Super Output Areas. In terms of

the housing market, research in 2002 on sub-regional housing markets identified 60,000 dwelling at risk of low and changing housing market demand (Lee *et al.* 2002). This can be linked to regional trends, such as the decline in labour intensive industries, population decentralisation and projected decline and also local factors such as the concentration of unpopular housing types.

When the Office of the Deputy Prime Minister (ODPM, now Communities and Local Government) announced the selection of the nine Housing Market Renewal pathfinders, the Tees Valley was not included. Lobbying by the Tees Valley Living partnership since May 2003, has successfully raised the profile of the sub-region and secured funding for the first three years of a fifteen year strategy to address the housing market issues in the area. Dunstan is researching the changes being observed in the neighbourhoods designated for intervention, both following the announcement of intervention and the short term effects of intervention.

Defining the neighbourhood

Before going on to discuss the NLAS in more detail it is necessary to consider the term 'neighbourhood' which has been used without defining what it meant by it. Debates endure about the concept of a neighbourhood and its function and relevance to today's society. In the contemporary urban environment the neighbourhood, as a spatial unit, is ambiguous and fuzzy. On the one hand there is the tradition of urbanists and architects, such as Jacobs (1961) and Bentley *et al.* (1982), who make arguments about what neighbourhoods should look like and how they can be designed to work. On the other there are theorists, such as Putnam (2003), who discuss the neighbourhood's contemporary relevance in terms of social capital and the relationship between residential proximity and community bonds and trust.

For the purpose of quantitative research it is difficult to embrace the 'fuzzy' nature of the neighbourhood, particularly for comparative purposes. Small area level data is routinely produced for social administration, organisational and political representation purposes and these socially constructed areas, such as Wards and Super Output Areas are therefore often referred to as neighbourhoods. These administrative units may bear little resemblance to resident perceptions of where neighbourhoods start and end but are 'fit for purpose' for statistical analysis and monitoring. Tees Valley Living has made use of the growing availability of socioeconomic,

demographic and house sales data, down to address and individual point, to provide an alternative to these fixed administrative units. Custom neighbourhoods, with a mean of 1200 dwellings, were drawn by Local Authority officers with local knowledge. Areas of homogenous housing, geographical features such as roads and rivers and local perceptions were all taken into consideration with a view to drawing boundaries that made sense on the ground. The resulting information system is flexible as neighbourhood boundaries can be re-drawn, both to meet changing requirements and to satisfy the demands of other potential users.

A total of 231 neighbourhoods were created within the Tees Valley and for the purposes of this research a purposeful sample of eighteen neighbourhoods were selected. Ten of these are receiving HMRF investment and are referred to as intervention neighbourhoods. A match was selected for each intervention neighbourhood by examining predominant house type and house price trajectories over a six year period[1].

Visually Surveying Neighbourhood Liveability

Lund (2006) criticises "the dearth of baseline neighbourhood information on which to assess the totality of New Labour's initiatives" (p. 188), including HMR. Local Authority areas indeed do not give enough detail, the Census is too infrequent and therefore HMR pathfinders and other partnerships, such as Tees Valley Living, have been tasked to develop local information systems that include indicators to monitor change at the neighbourhood level. As well as using routinely collected administrative data, innovative thinking is helping to identify new data sources, and often combinations of data sources, to produce up-to-date and relevant information, for example gaining access to general practitioner register data from Primary Care Trusts to provide information on the age structure of the population. The good use of secondary data sources contrasts with the lack of measures of the direct experience of the quality of the environment and condition of a neighbourhood, which is referred to here as 'liveability'. The NLAS was designed to fill this gap by providing a liveability statistic, in the form of a composite score, that can be used to complement existing neighbourhood indicators.

[1] There are eight matches, rather than ten, as two intervention neighbourhoods share one match and one intervention neighbourhood is an unusual case and a match could not be found.

"In contrast to decent homes, there is no official definition of a decent neighbourhood in the UK" (Blackman 2006, p 27). Rather, measures of standard of living have traditionally focused on the home, that is, inside the front door. In England, these have developed from the minimal standards of 'unfit for human habitation' to the 2001 definition of decent homes. Decent homes must meet four specified criteria: a reasonable state of repair, reasonably modern facilities and services, a reasonable degree of thermal comfort and must meet the 'fitness standard'. In the 2004 English House Condition Survey (EHCS), 29% of the housing stock was judged to be failing these standards (CLG, 2006) however, of these 6.3 million almost 1.3 million households' problems were also compounded by living in poor quality environments.

Unlike the Decent Homes standard, the measure of poor quality environment used by the EHCS is not standardised and there are no government targets relating to it. Thinking back to the goals of the Sustainable Communities agenda this lack of a definition reveals a disjunction between the goals of the Sustainable Communities agenda and the evidence base being developed. The narrow definition of the Decent Homes standard was discussed by the UK Parliament's Housing, Planning, Local Government and the Regions Committee in 2004, where it was acknowledged that:

> Virtually all the stakeholders … were concerned that the Decent Homes standard should include standards for communal areas and the neighbourhood environment more generally, and that the Decent Homes policy and the Sustainable Communities agenda were insufficiently coordinated and integrated at present. (ODPM/Housing, Planning, Local Government and the Regions Committee, 2004, para 79)

The government declined to act on the above committee's recommendations and therefore it remains the case that there is no agreed definition or measure for what is referred to here as liveability.

Whilst there is a lack of a government definition and measure, there is a precedent for visual inspections as envisaged here for the NLAS. In April 2006 the 'fitness standard' component of the Decent Homes standard was replaced by the Housing Health and Safety Rating System (HHSRS). In order to establish whether a dwelling

provides an acceptable living environment an inspector visually assesses hazards in the home with reference to types and age bands of dwellings and types of household. The NLAS follows the same principles of visual assessment to gather data on the liveability of an entire neighbourhood.

The liveability discourse promoted by England's Communities and Local Government is imbued with references to the visual, graffiti, green space, clean streets. It is indeed possible to walk around a neighbourhood and get a sense of whether it might be a good or bad place to live because we tend to give meaning to visual cues. However there are also substantive and methodological reasons for focusing on visual liveability. Firstly, it is a gap in the statistical data that are available at small area level. Secondly, visual inspection offers the possibility of an objective measure of neighbourhood quality because measures can be tested for validity and reliability. Thirdly visual inspection is cost and time effective compared to interview surveys and can be repeated at intervals to monitor change. Finally, visual surveys do not disrupt or inconvenience residents; this is a vital consideration when conducting research in targeted deprived areas where survey fatigue is a problem.

A visual survey of a neighbourhood can gather information on the variety and form of the built and natural environment and also on the way the built and natural environment is used and cared for. Research on these aspects of liveability is growing. In health literature relationships have been found between the amount of green space in a neighbourhood and levels of mobility, recovery, rehabilitation and general well being. Weich *et al*. (2001), working in the field of psychiatry, found statistically significant associations between depression and the built environment, for example in housing areas where less than a quarter of homes had private gardens and most properties had deck access.

In terms of the way the built and natural environment is used and cared for it is true that some aspects cannot be captured by a one-off visual inspection because they are not necessarily observable when inspections take place, such as noise or anti-social behaviour. However, there are often visual signs such as a main road or graffiti, these are referred to in the literature as 'physical incivilities'. Wilson and Kelling's (2003) term 'broken windows' captures the importance of observable signs of disorder. The visual cue of just one broken window left unattended can signify a 'breakdown of

community controls' and begin a spiral of decline (p 270). Whether this then leads to a real or perceived increase in crime, from this one seemingly insignificant act, the behaviour of residents and the perceptions of the neighbourhood by outsiders can spark a spiral of urban decline.

A further key aspect of liveability is resident perception, Parkinson (2006) states that the ODPM sees liveability "in terms of both observed outcomes and citizens' perceptions of their local urban environment" (p 156). Whilst the NLAS tool is a visual survey, which accounts for 'observed outcomes', a resident consultation exercise was employed to inform the final NLAS score with residents' perceptions, more will be said of this later on.

Developing the NLAS

Three recent studies report researcher administered surveys of the built environment designed to measure neighbourhood quality (Weich *et al.*, 2001; Caughy *et al.*, 2001 and Dunstan *et al.*, 2005). As these survey items were trialled in the field and tested for reliability the starting point for developing the NLAS survey tool was building on this research and applying it to the context of HMR.

Weich *et al.* (2001) were interested in the effects of the environment on mental health. They developed the 27 item Built Environment Site Survey Checklist (BESSC) and compared the relationship between the built environment and levels of mental health in both a physical regeneration initiative in a North London ward and a matched area. In Baltimore City, USA, Caughy *et al.* (2001) hypothesised relationships between the visual characteristics of the neighbourhood, relevant to the health and well-being of families and children and neighbourhood satisfaction. They developed a 45 item instrument. Dunstan *et al.* (2005) developed the 28 item Residential Environment Assessment Tool (REAT) to explore the relationship between the built environment and general well-being.

All three of the surveys mentioned were based on extensive literature reviews. Whilst the study authors came from different academic backgrounds the extent and thoroughness of their reviews were reflected in the overlap of several key authors and theories, for example Newman's defensible space theory (1972). The definition and the size of the neighbourhood spatial unit varied between the three studies and neither

group of authors suggested that their choice of geographical scale was due to anything more than practical data considerations. The commonality however was that they were all walkable, allowing the surveys to be conducted on foot; the neighbourhoods constructed by Tees Valley Living are also walkable.

The 26 item NLAS[2] was developed by grouping the questions used in the three existing surveys and selecting those that had been reported to work well in the field, including inter-rater reliability results. Care was also given to select items that would be sensitive to HMR intervention and that were relevant to the context of low demand neighbourhoods in England.

Resident Consultation

The aim of the NLAS was to use the results to create a single liveability indicator and this involved constructing a composite score. A resident consultation exercise was designed to help with the construction of the score by incorporating weightings that reflect resident priorities.

Research suggests that some liveability items are more important to residents than others. For example, in a survey by Collinge *et al.* (2005, p 5) only 6% thought that road and pavement repairs were important in making somewhere a good place to live, whereas 26% chose street cleanliness. It was decided that the NLAS composite score would be more meaningful if weightings were added to the neighbourhood attributes prioritised by residents. Moreover, just criticism has been levelled at the over reliance of the physical measures and evaluations of housing and neighbourhood quality that depend on the judgements of 'expert' observers (Burisch, 1979 in Pacione, 1982). It was therefore felt that it was important to invite residents to voice their opinion and to get involved, albeit to a small degree, in the research process. With both these factors in mind, a consultation exercise, in the form of a postal survey was conducted.

In order to ascertain priorities, previous researchers have asked residents to select important neighbourhood characteristics from a list, as in Collinge *et al.* (2005), or to indicate the importance of individual items on a Likert scale, as in Dunstan *et al.* (2005), however a more sophisticated technique is available. The paired comparison

[2] A full copy of the NLAS can be obtained by contacting the author

technique allows priorities to be analysed and then ranked. The technique involves asking respondents to indicate their preference or priority when forced to choose between two opposed items; these items are often in the form of vignettes.
It is straightforward to produce paired comparison rankings if each item is compared with each other. However, the number of pairs needed increases rapidly with the number of items. It would have been necessary to produce 325 pairings with the 26 item NLAS survey. This was considered unmanageable and an alternative was sought.

Priority Research Limited is a Yorkshire based research consultancy specialising in supporting public sector clients. They have their own unique software, "Priority Search™" which generates priorities, as described above, however it does so needing much fewer pairs by using a reduced subset cyclic design. The respondent is able to indicate degrees of preference, rather than being forced to make a dichotomous choice and crucially, rather than the output being a ranked list, each item is also given a score that relates to its importance compared to all other items. This software was used to analyse the results of the consultation exercise. The NLAS survey items were adapted to create a list of positive neighbourhood scenarios and the resident was asked to indicate which they would prefer to have in a neighbourhood; for example, 'which do you prefer in a neighbourhood, a well maintained public playground or no vandalism and graffiti?'.

The consultation was carried out in a mixed tenure, inner-urban neighbourhood which was designated for Housing Market Renewal intervention. Surveys suggest that those who live in or near areas designated for neighbourhood intervention may have a greater awareness and sensitivity towards liveability issues as they are more likely to have experience of poor liveability. In a 2004 household survey of residents in New Deal for Communities areas, 33% reported that litter and rubbish in the streets were a serious problem in their area compared to 15% nationally (Collinge *et al.*, 2005, p 14). Also, in the 2005 EHCS (CLG, 2007) it was reported that 29.6% of households in Housing Market Renewal pathfinder areas, experience upkeep problems, compared to 10.1% in other areas.

A local Registered Social Landlord hand delivered 1000 copies of the survey in conjunction with their quarterly newsletter in March 2006. The questionnaires were accompanied by a freepost envelope and the incentive that those returned would be

entered into a prize draw to win £50. The response rate, of approximately ten percent, was disappointing but not surprising given the choice of the postal survey method and the non-standard format of the questions. Nevertheless, the face-sheet variables, gathered in the final section of the questionnaire, revealed that the sample closely matched 2001 census data on the characteristics of the ward where the majority of questionnaires were delivered. The sample was ethnically homogenous; in 2001 98% of the ward was white British and for the sample this figure was 99%. The sample was representative in terms of accommodation type and tenure, with almost 60% living in terraced housing and almost 70% of households either home owners or private tenants. With respect to employment status the sample was overrepresented by retired residents, 31% compared to 12%, and underrepresented by the permanently sick or disabled, 6% compared to 15%. The results of these comparisons were considered satisfactory and therefore the results of the consultation were considered useful and were used as weights in the construction of the NLAS score. The consultation results were also broken down into categories of residents, under 25 yrs and single, 45yrs and under with dependant children and retired. There was consistency between the categories suggesting that the priorities are consistent amongst people at different stages of the life course.

Each of the 26 NLAS items received a score that indicated its relative importance to the respondents compared to the other items. The score was calculated according to the percentage of respondents who placed that item in the top third of their preferences, minus the percentage who placed it in the bottom third. The score has a theoretical range of -100 to 100 however for the purposes of this weighting exercise they were all transformed into a positive number. The scores will be referred to as the 'Preference Scores' (PS). The scores for each of the items ranged from 0.1 to 15.4. The results are illustrated in Table 1 below.

The most desirable neighbourhood visual attributes, according to the sample were low levels of vandalism and graffiti and no vacant or boarded up homes. It is interesting to note that the three items relating to housing form, 'detached or semi-detached housing', 'terraced housing' and 'high rise flats' were all ranked in the bottom five priorities. Although 'detached or semi-detached housing' was ranked highest out of the three, its low overall position suggests that residents are far more concerned with visual signs of incivilities and disorder than the housing offer.

Table 1

Survey Items	Preference Score (PS)
No vandalism or graffiti	*15.4*
No vacant or boarded up homes	*15.2*
No dog litter	*12.1*
No derelict land or wasteland	*12.0*
No litter	*11.7*
Well maintained homes	*11.6*
Good parking arrangements	*10.9*
Pavements in good condition	*10.9*
No fly tipping	*10.9*
No disused commercial and public buildings	*10.9*
No abandonned cars	*10.0*
Housing with a residential or green outlook	*9.2*
Well maintained private gardens	*9.1*
Well maintained green or recreational areas	*8.7*
Garden space at front of properties	*8.6*
Green or recreational space	*8.5*
Hedges or walls protecting privacy at the front	*7.9*
Trees or greenery in public spaces	*7.5*
A public playground	*6.9*
A well maintained public playground	*6.5*
Trees or greenery in front gardens	*6.2*
Detached or semi-detached housing	*6.0*
Neighbourhood watch signs	*5.2*
Terraced housing	*5.1*
Personalised homes	*4.0*
High rise flats	*0.1*

For each of the 26 survey questions the neighbourhood receives a raw score of between 0 and 1, with the value 1 always representing a more desirable state. In order to incorporate residents' priorities into the NLAS score, each raw score is multiplied by an integer weight, which corresponds to its Preference Score. Neighbourhoods with attributes with high a PS receive a higher score. This means that if a neighbourhood had no vandalism or graffiti, the item with the highest preference score, it receives a score, for that item, of 15.4. Conversely, if the neighbourhood had a majority housing form of high rise flats, the lowest preference score, it receives a score, for that item, of 0.1. The final NLAS score is achieved by the sum of each variable. The maximum NLAS score that any neighbourhood can achieve is 225.

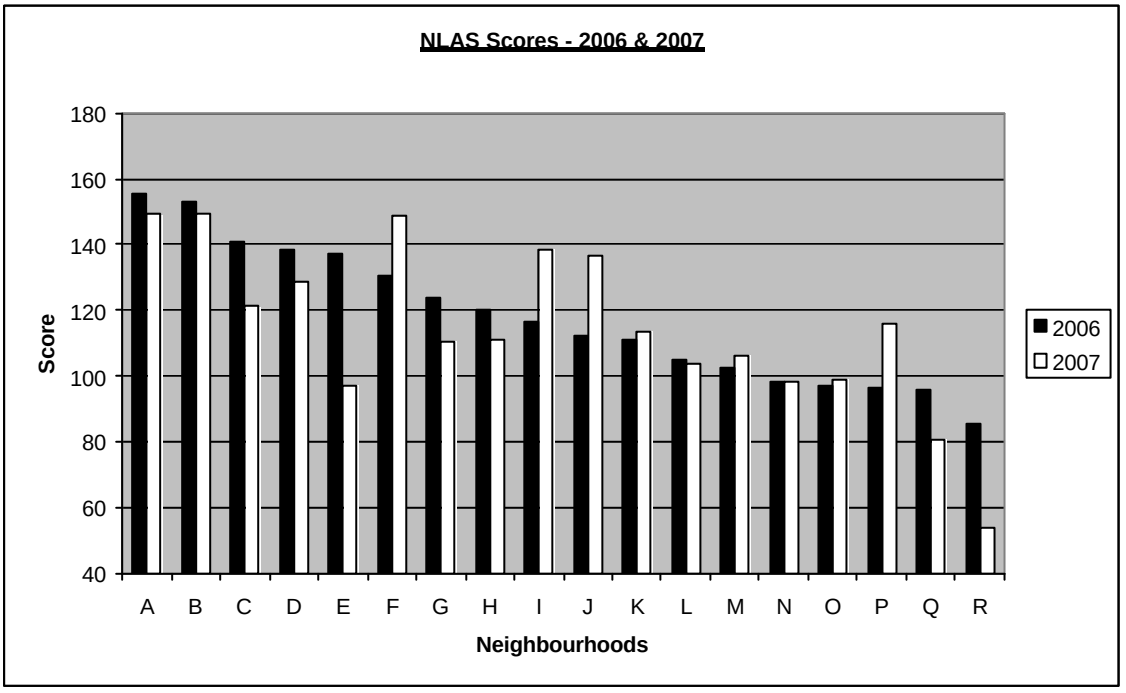
Results

The survey has been conducted twice for all eighteen neighbourhoods in the sample. (T1= June 2006 and T2 = June 2007). Dunstan conducted all surveys and was accompanied by a colleague at all times for safety reasons. In T1 the colleague also

repeated surveys in five randomly selected neighbourhoods to provide information on inter-rater reliability, this was found to be 86%. All surveys were conducted within a period of five days between 10am and 4pm and took approximately one hour per neighbourhood. In three neighbourhoods the raters did not feel comfortable conducting the surveys on foot and instead the neighbourhood information was gathered by a drive through. These neighbourhoods were on the periphery of town centres, there was little pedestrian traffic and it was felt that the researchers would stand out as 'outsiders'.

In 2006 the NLAS results ranged from 85.6 to 155.7 and in 2007 from 53.8 to 149.4 (see Figure 1). 70.1, There were some shifts in the rankings between the two time points, particularly with neighbourhoods in the middle range seeing sharp increases in liveability. However the top and bottom two neighbourhoods remained the same, although the bottom two neighbourhoods saw their scores drop sharply.

Figure 1



Whilst the mean of the whole sample fell slightly from 117.7 to 114.6 there were some interesting comparisons between the scores of the ten intervention neighbourhoods and the eight matched neighbourhoods. In Table 2 we can see that not only did the intervention neighbourhoods' mean liveability score fall, whilst the matched neighbourhoods' score increased, the gap between the two groups widened. This signals that the early stages HMR does impact on the local environment of a neighbourhood and supports the theory that, on some measures, these neighbourhoods get worse before they get better.

Table 2

Neighbourhood Sample	2006 Mean	2007 Mean
Intervention	111.6	101.2
Matched	125.4	131.3

Conclusion and Next Steps

The NLAS is a user friendly, reliable tool that can be used to assess the liveability of a walkable neighbourhood. It is ideal for monitoring change in a small to medium sized sample of neighbourhoods over time. It fills a gap in the current growing body of data being collected to monitor HMRF projects by providing an indicator that describes the direct experience of the neighbourhood and takes into account resident priorities. Given the crosscutting nature of the 'liveability' within the Sustainable Communities agenda the NLAS also has the potential to be useful for evaluating other policy initiatives such as New Deal for Communities and the Liveability Fund pilot projects.

The NLAS is one part of a wider programme of research. Whilst it is clear that the NLAS will be useful in monitoring and describing changes in liveability over time it is hoped that it will prove useful in explaining these changes. Research currently being undertaken is examining correlations between the liveability scores and other indicators of neighbourhood vitality, such as house price and crime rates (strong correlations may signify the existence of a proxy measure which could be used to overcome the time-intensive necessity to visit each neighbourhood individually). The complexity of the issues surrounding low and changes demand means that mono-causal explanations are not considered useful. The final stages in this research will be to examine the role that different levels of liveability play, in combination with other

neighbourhood characteristics, in producing outcomes in housing market success or failure.

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