# Geography of Housing Market Areas in England

# Stage 1 Report

**Review of Existing Methodologies for Defining HMAs, and Appraisal of their Utility for Affordability Analyses, Local Housing Strategies and Spatial Planning**

**September 2009**

# Introduction

This stage of the research has three main elements.

An assessment of approaches to HMAS including a review of studies from different parts of the country is complied. The alternative HMA boundary definitions are examined in detail in the North West region. The appraisal assesses the robustness and appropriateness of the different methodological approaches taking into account both the principles on which they are based and the appropriateness to NHPAU of the potential boundaries generated.

A review of approaches to affordability is undertaken with a view to the implications for potential HMA geographies and time series monitoring.

A review of the implications for spatial planning and local housing strategy of the different approaches to defining HMA geographies is undertaken. This involves interviews with housing strategy officers in the selected case study areas. The review of the relationship with spatial planning examines the following issues:

- The fit between functionally derived HMAs and existing planning geographies at regional and sub-regional levels as well as local authority districts.
- The fit with National Park areas
- The extent to which the HMA boundaries can provide a fine-grained view of the housing market impacts of urban-rural interactions.
- Issues raised in Planning Inquiries and Examinations in Public based on interviews with Inspectors.

The report is split into three parts Part A addresses methodological issues in the identification of HMAs, Part B considers differences in HMAs and the

implications for monitoring local housing markets together with affordability measurement and Part C examines the interaction between HMAs and local housing strategies and spatial planning. These sections inevitably overlap and in the interest of ensuring clarity there is a degree of repetition in the text.

# PART A METHODOLOGICAL ISSUES

## 2. Review of the Theoretical Basis and their Practical Identification

The purpose of this section is to examine the theoretical issues that underlay the concept of a housing market area (HMA) and to review the procedures that are followed to establish a geography of HMAs. The paper is not concerned explicitly with the interface between these geographies and policy but does consider how some of the geographies that have been developed for policy have been constructed. It begins by looking at the theory of urban housing markets before detailing technical planning guidance. The final half of the paper reviews academic studies and policy driven case studies of HMA geographies. The conclusions summaries the main issues and sets out recommendations for the way forward.

### Theory of Urban Housing Markets

The essentials of the theory of urban housing markets were developed by Alonso (1964), Muth (1969) and Evans (1973). They develop the concept within an urban area that is characterised by the following key assumptions:

- the town or city occupies a featureless plain, so any topographical features that might distort key relationships are ignored,
- employment is concentrated in the city centre, the central business district, and households make a fixed number of work trips a week

The housing market in this model is assumed to have perfect information and that households then make bids for particular locations and through this process a price surface emerges. In this housing market the law of one price holds but prices vary with distance or accessibility from the city centre. In deciding the price to bid households take into account the transport cost of any location to the CBD. Households are prepared to bid a higher price for an

equivalent house (of the same size etc) in more accessible locations with lower travel costs than one on the periphery.

In this model, known as the 'access-space' model, the price of housing per square metre declines with distance from the city centre. Muth (1969) demonstrates mathematically within the confines of the strict assumptions that for a stable long run equilibrium the house price gradient has to be a negative exponential function with house prices decreasing at slower rate with distance from the city centre. This basic model assumes that all housing quality (including types) are the same and that there are no neighbourhood preferences within an urban area. These can be accommodated but the model becomes more complex and essentially a house price becomes a function of its location, housing characteristics and neighbourhood attributes and these prices are determined by a 'unitary' market defined by the urban area.

A hedonic house price model has become popular as a way of estimating these relationships using multiple regression analysis. It is not the intention here to provide a full review or critique of the wide literature on hedonic price studies and the considerable debate about their application. Studies typically relate to one defined urban area. The data sets which were available as much as any theoretical arguments determine the 'measurement' of the housing and neighbourhood characteristics and this can bias the specification of hedonic models. Unless the attributes are appropriately and fully defined then the results can be misleading but there is no agreed theoretical basis on which to select and define relevant characteristics. This means that hedonic models are subject to omitted variables bias. Or to put it the other way, the hedonic approach is fundamentally dependent on having specified the model correctly. As a consequence price differences between areas may be found where none actually exist.

**Table 1 Definition of Variables**

| Variable | Description | Source |
|---|---|---|
| Detached | Dummy variable for individual property type | HMLR 2002 house price data |
| Terrace | Dummy variable for individual property type | Derived from HMLR 2002 house price data |
| Flat | Dummy variable for individual property type | Derived from HMLR 2002 house price data |
| Distance to city centre | Distance to city centre from centroid of output area in km | Calculated using coordinates of central points of output area |
| Distance$^2$ | (Distance to city centre from centroid of output area in km)$^2$ | Calculated using coordinates of central points of output area |
| O pp 1 rm | % of 1 room properties in output area | UK Census 2001 |
| O pp 2 rms | % of 2 room properties in output area | UK Census 2001 |
| O pp 5-6 rms | % of 5-6 room properties in output area | UK Census 2001 |
| O pp 7+ rms | % of properties of 7+ rooms in output area | UK Census 2001 |
| O pp detached | % of detached properties in output area | UK Census 2001 |
| O pp terraced | % of terraced properties in output area | UK Census 2001 |
| O pp flats | % of flats in output area | UK Census 2001 |
| O pp not ground floor | % of households with first floor as lowest floor level in output area | UK Census 2001 |
| S pp detached | % of detached properties in super output area | UK Census 2001 |
| S pp terraced | % of terracrd properties in super output area | UK Census 2001 |
| S pp flats | % of flats in super output area | UK Census 2001 |
| S pp 1 rm | % of one roomed properties in super output area | UK Census 2001 |
| S pp 2 rms | % of two roomed properties in super output area | UK Census 2001 |
| S pp 5/6 rms | % of five/six roomed properties in super output area | UK Census 2001 |
| S pp 7+ rms | % of properties of 7+ rooms in super output area | UK Census 2001 |
| S pp social rented | % of social housing in super output area | UK Census 2001 |
| S pp private rented | % of private rented housing in super output area | UK Census 2001 |
| S households per hect | Households per hectare in super output area | UK Census 2001 |

Source: Jones et al (2009)

To illustrate the application of a hedonic model a study of five UK cities by Jones et al (2009) is briefly outlined. The data is a combination of Land Registry information on each transaction and Census data as set out in Table 1. Census variables beginning with "O" are measured at Census output area level and are included in the model in order to enhance the basic property

characteristics derived from Land Registry data. Variables beginning with "S" are those measured at Census super output area level and represent measures of neighbourhood effects.

**Table 2 Hedonic Regression Results for House Prices in Five UK Cities**

| Variable | Edinburgh | | Glasgow | | Sheffield | | Leicester | | Oxford | |
|---|---|---|---|---|---|---|---|---|---|---|
| Constant | 11.84 | *** | 11.50 | *** | 9.77 | *** | 10.91 | *** | 11.91 | *** |
| Detached (d) | -0.17 | *** | -0.55 | *** | 0.20 | *** | 0.17 | *** | 0.08 | *** |
| Terrace (d) | -0.42 | *** | -0.48 | *** | -0.29 | *** | -0.17 | *** | -0.10 | *** |
| Flat (d) | -0.39 | *** | -0.70 | *** | -0.26 | *** | -0.45 | *** | -0.43 | *** |
| Distance to city centre | -0.12 | *** | -0.07 | *** | 0.1 | *** | -0.12 | *** | -0.01 | * |
| Distance2 | 0.003 | *** | 0.003 | *** | -0.01 | *** | 0.02 | *** | | |
| O pp 1 rm | | | 0.003 | * | 0.01 | *** | 0.01 | *** | 0.03 | *** |
| O pp 2 rms | -0.003 | *** | -0.01 | *** | | | | | -0.02 | *** |
| O pp 5-6 rms | 0.01 | *** | 0.002 | *** | 0.002 | *** | 0.004 | *** | 0.004 | *** |
| O pp 7+ rms | 0.02 | *** | 0.01 | *** | 0.01 | *** | 0.01 | *** | 0.01 | *** |
| O pp detached | 0.004 | *** | 0.01 | *** | 0.002 | *** | | | 0.002 | * |
| O pp terraced | -0.003 | *** | -0.002 | *** | -0.001 | *** | | | 0.001 | ** |
| O pp flats | -0.003 | *** | -0.002 | *** | -0.001 | ** | | | 0.003 | *** |
| O pp not ground floor | 0.001 | * | -0.001 | ** | | | 0.01 | *** | 0.003 | ** |
| S pp detached | | | -0.01 | *** | | | | | -0.01 | *** |
| S pp terraced | | | -0.004 | *** | -0.001 | *** | -0.001 | ** | | |
| S pp flats | | | | | 0.01 | *** | 0.01 | *** | 0.01 | *** |
| S pp 1 rm | 0.04 | *** | -0.01 | *** | 0.02 | *** | | | -0.02 | *** |
| S pp 2 rms | -0.002 | * | 0.01 | *** | -0.01 | *** | | | 0.02 | ** |
| S pp 5/6 rms | -0.003 | *** | | | 0.009 | *** | 0.002 | ** | -0.003 | ** |
| S pp 7+ rms | 0.01 | *** | 0.03 | *** | 0.01 | *** | 0.002 | ** | 0.01 | *** |
| S pp social rented | -0.01 | *** | -0.01 | *** | -0.003 | *** | -0.01 | *** | -0.01 | *** |
| S pp private rented | 0.01 | *** | 0.01 | *** | 0.01 | *** | 0.003 | *** | | |
| S households per hect | -0.001 | *** | -0.001 | *** | 0.002 | *** | -0.002 | *** | -0.004 | *** |
| Adjusted R square | 0.40 | | 0.29 | | 0.53 | | 0.43 | | 0.50 | |
| No. of observations | 15,91 | | 18,06 | | 5,77 | | 2,58 | | 10,36 | |

*** significant at 1%; ** significant at 5%, * significant at 10%

Source: Jones et al (2009)

The hedonic model applied transforms the dependent house price to natural logarithms so a log-linear relationship is estimated. The results of the models for individual cities are summarised in Table 2. With the exception of Glasgow (0.30) the adjusted R squares are in a range between around 0.40 and 0.52. The main accessibility measures are distance and squared distance from the city centre, and they follow broadly theoretical expectations house prices decrease at a decreasing rate with distance from the city centre (negative and positive coefficients on the variables respectively).

This example is evidently based on limited data from just the Land Registry and the Census and following the earlier argument it can be considered to be under specified. For example more detailed housing characteristics variables (floor area, plot size) and other geographic variables (such as land use; local school quality natural and man-made amenities; open/green space: industry; noise disturbance; etc) could influence prices. There may also be interaction between variables. On the other hand the R square values are quite high for this type of study. These issues are returned to later.

With these provisos empirical studies of the access space model can support the theory but there are a number of theoretical issues raised by its application. First it presumes a dominant city or town centre that represents the key point of accessibility and major locus of employment. The modern city has a more decentralized structure of employment and in some areas there may not be a dominant location that is the focal point for local housing markets and hence the clear peak of the urban house price gradient. England includes sub-regions with several towns, none of which are dominant in the housing market and that instead the key accessibility relationship is linked not to the centre of the town with the largest population but the point of greatest 'regional' accessibility within the inter-urban road network. More generally commuting trips are no longer necessarily only from suburbs to city

centre because subcentres exist within a city-region and these may also make house price gradients difficult to identify.

However, the case study above suggests that there often is a dominant accessibility locus within a city-region from which a negative exponential house price gradient flows. At the same time in some towns there are also high proportions of retired people whose location decisions are not based on employment location and whose numbers may actually be sufficient for their preferences to dominate the spatial structure of house prices. These areas may pose particular problems for the empirical analysis. Such households may often have bought outright without the aid of a mortgage and so market data from mortgage banks will exclude them. There is therefore a trade off because data sets based on mortgage applications have detailed information on housing characteristics but suffer from incomplete coverage of the market.

The assumption of a unitary housing market within an urban area in which the law of one price holds has also been the subject of considerable academic debate and challenge. The heterogeneity of housing not only suggests the potential for different but related sub-markets for distinct house types and/or neighbourhoods but also that with all the imperfections of the market that follows there should not necessarily be a presumption of equilibrium. Setting aside the equilibrium issue there is a range of factors linked to the localization of household mobility and the slow response of new house building to price rises that lead to a view that short term price differences in different parts of an urban market may persist into the long term. In other words differences are not be arbitraged away across the urban housing market because there are numerous factors that limit the responsiveness of new supply and/or household mobility.

The concept of the submarket implies that the urban housing market may be segmented on the demand and supply side of the market. From a demand

perspective households may form distinct 'consumer groups' with associated housing preferences and tastes that are in turn linked to stage in the family life cycle, size and composition, and socio-economic status. These 'consumer groups' may also have similar constraints in their search and information costs. In parallel the housing stock (supply) is also segmented into product groups (Maclennan *et al,* 1987) that represent relatively homogenous dwellings and hence close substitutes to the demanders of housing. The existence of submarkets implies segmented demand is matched to the differentiated housing stock and results in differential prices to be paid for given attributes in different market segments. A list of studies of the existence of submarkets is given in Table 3 that reveals in most cases analyses conclude that they exist. It is still possible to argue that the identification of submarkets could stem from an inadequately specified hedonic model.

The constraints on market adjustment between submarkets means that excess demand for particular dwellings (and their close substitutes) will drive prices in that submarket upward but not in other submarkets. Alternatively in submarkets where there is, excess supply the relative submarket price will be deflated. The result is that different parts of an urban housing market may have very different house price inflation trends (see Jones et al, 2003 for an example).

This discussion of HMAs has set out the arguments about unitary and segmented markets within urban areas and suggests there are potential problems in the research in distinguishing between the two. It is useful to clarify these issues in relation to tests for defining HMAs.

## Table 3 Studies of Submarkets

| Authors | Study Area | Study Date | No. of Test Segments | Sub-markets? |
|---|---|---|---|---|
| Straszheim (1975) | San Francisco Bay, USA | 1965 | 81 | Yes |
| Schnare and Struyk (1976) | Boston, USA | 1971 | 2/3/2 | No |
| Ball and Kirwan (1977) | Bristol, UK | 1970/ 1971 | 8 | No |
| Palm (1978) | San Francisco Bay, USA | 1971 & 1978 | 2/7 | Yes |
| Sonstelie and Portney (1980) | San Mateo, USA | 1969/ 1970 | 25 | Yes |
| Goodman (1981) | New Haven, USA | 1967 – 1969 | 5/15 | Yes |
| Dale-Johnson (1982) | Santa Clara, USA | 1972 | 10 | Yes |
| Gabriel (1984) | Beer Sheva, Israel | 1982 | 3 | Yes |
| Bajic (1985) | Toronto, Canada | 1978 | 3 | Yes |
| Munro (1986) | Glasgow, UK | 1983/ 1984 | 2 | Yes |
| Maclennan *et al* (1987) ; Maclennan (1987) | Glasgow, UK | 1976 & 1985/ 1986 | 5 | Yes |
| Michaels and Smith (1990) | Boston, USA | 1977 - 1981 (pooled) | 4 | Yes |
| Rothenberg *et al* (1991) | Des Moines, USA | 1963 & 1971 | 6 | Yes |
| Hancock (1991) | Tayside, UK | 1977/ 1978 – 1986 | 6 | Yes |
| Allen *et al* (1995) | Clemson, USA | 1991 | 3 | Yes |
| Adair *et al* (1996) | Belfast, UK | 1992 | 7 | Yes |
| Maclennan and Tu (1996) | Glasgow, UK | 1984 & 1990 | 25 | Yes |
| Goodman and Thibodeau (1998, 2003) | Dallas, USA | 1995-1997 | 90 | Yes |
| Bourassa *et al* (1999a) | Sydney & Melbourne, Australia | 1991 | 5 | Yes |
| Watkins (1999, 2001) | Glasgow, UK | 1991 | 8 and 6 | Yes |
| Fletcher et al (2000) | Midland Region, UK | 1994 | 18 | Yes |
| McGreal et al (2000) | Belfast, UK | | | Yes |
| Berry *et al* (2003) | Dublin, Ireland | 1997-2001 (pooled) | 4 | Yes |
| Bourassa *et al* (2003) | Auckland, New Zealand | 1996 | 18 | Yes |
| Kauko (2004) | Amsterdam, Netherlands | | Various | No |
| Bates (2006) | Philadelphia, USA | 2000 | 6 | Yes |
| Bourassa et al (2007) | Auckland, New Zealand | 1996 | 33 | Yes |
| Goodman and Thibodeau (2007) | Dallas, USA | 2000-2002 | 372 | Yes |
| Pryce and Evans (2007) | Kent, UK | 1996-2004 | Various | Yes |
| Tu *et al* (2007) | Singapore | 2000 | 8 | Yes |
| Keskin (2009) | Istanbul, Turkey | 2005 | Various | Yes |

Source: Jones and Watkins (2009)

## Tests for HMAs and Submarkets

One way to embrace both the unitary and segmented local HMA concepts within a hedonic price framework is to view a HMA as a tiered entity with neighbourhood/ house type characteristics having a localised influence that can also be seen as the basis of submarkets. These factors such as school catchment areas can have a significant influence on where people want to live within a HMA and hence on the price people are prepared to pay for housing. However, it can be argued that they do not influence the fundamental spatial house price structure of the whole HMA. For the purposes of this research which is concerned with the identification of HMAs the analysis may not be damaged by excluding variables that only have a neighbourhood influence. This hypothesis could be tested by comparing hedonic regressions with different variable sets utilising different data sets. Following this perspective a potential test is based on the differences in the coefficients in estimated spatial prices surfaces. For example with travel costs potentially varying between urban areas the house price gradient will vary between HMAs, in other words the coefficient on the distance variables (in a hedonic model) will differ. Similarly with different levels/distributions of income across HMAs this will also give rise to different coefficients on the housing attributes too. Another alternative is to identify where the house price gradient turns up as it comes under the sphere of influence of the next urban area but there must be doubts about how this could be achieved.

There remain substantial theoretical and practical issues for any attempt to apply hedonic price functions to identify HMAs. First, there is evidence of ripple effects between local HMAs within a housing system that can be viewed as dynamic (Bramley et al, 2008; Jones and Leishman, 2006). It could be that standardised house price levels in adjacent areas could be the same by chance but the trajectories of prices could be very different, one rising, the other falling. This occurence would also fail the equilibrium assumption of

hedonic functions. Second, comparison of the coefficients in hedonic models can be misleading because the models have missing significant variables. This problem is exacerbated by the lack of theoretical rationale for selecting variables and the resources required to undertake a national analysis (as noted earlier these studies have previously only been undertaken at the urban or sub-regional level). The one exception was a large CLG funded national study of England reported in Bramley et al (2008) that concluded, "…the models …are not so precisely fitting in all cases as to give grounds for complacency…..".

An alternative approach is to focus on the central dynamic of the access-space unitary model which is the journey to work. On this basis the area of the HMA is determined by how far people are prepared to commute. Although there are already sub-regional areas termed travel to work areas (TTWAs) defined on this basis (Coombes and Bond, 2006) these definitions do not focus on the highest income groups who are willing and able to travel furthest. The commuting patterns of high income earners may therefore be a useful starting point to the analysis of HMAs.

But there are other ways of looking at definitions of HMAs by thinking about the internal housing market dynamic. Households who move house, whether they have a member who is working or not, are adjusting their housing requirements and so mapping the migration patterns provides another basis for determining the boundaries of HMAs. This process of household mobility and market bidding can be seen as the basis for the spatial price structure.

This discussion has therefore established three potential starting points for to the identifying of HMAs: the analysis (a) of commuting flows perhaps restricted to high income earners, (b) of migration flows or (c) of differences in coefficients in a hedonic price model. These tests need to be capable of distinguishing between HMAs and submarkets.

A submarket can only exist where the interaction between segmented supply and differentiated demand creates significant price differences (after standardising for differences) for some product types. However, economic theory does not offer a precise prescription or a working definition or dimensions of housing submarkets. Tests of submarkets have therefore usually taken some a priori grouping of housing based on type or area or both and have applied a fairly standard three stage test procedure. First, house prices are decomposed house into their component parts. This decomposition largely uses hedonic modelling techniques. The second stage requires that the price of a standardised (hypothetical) property is compared statistically using a Chow test. This test compares the hedonic regression equations calibrated for each (potential) submarket and identifies whether there is parameter/ coefficient equality. In other words, it tests whether the implicit prices for individual attributes (as revealed by the coefficient estimates in the hedonic models) exhibit any statistically significant differences in value. Third, where there appear to be statistically significant price differences, a Weighted Standard Error test is also computed. The WSE test compares the accuracy of the price estimates generated when submarkets are identified with those derived from a single model covering the entire local HMA.

Jones et al (2003) have shown how submarkets identified by these standard tests also reflect relatively closed migration patterns within a city. These tests can also be applied to areas defined either by reference to theory or through some clustering technique based on physical characteristics. There have been attempts to identify submarkets using an 'agnostic' approach, starting with a single postcode area and then tested the validity of pooling data from other areas on the basis of an F-test on regression equations. Using a computer algorithm, the process was repeated until no further pooling of areas is valid. Hancock and Maclennan (1989) test the feasibility of this approach that employs hedonic regression to generate constant-quality estimates of house

prices at the postcode sector level in Tayside, Scotland. They then apply a computer algorithm to determine whether postcode sectors might be combined to form a single market. Specifically the algorithm follows the procedure outlined above, it calculates a Chow test for parameter stability in the hedonic models. This test is used to determine whether or not the price of the different attributes (as revealed by the hedonic models) exhibit statistically significant differences between postcode sectors. In the absence of any significant difference in the parameter estimates (attribute prices) postcode sectors can be combined. When two postcode sectors are combined a new model is estimated and the process is repeated for the next neighbouring locality. The end result is a set of independent submarkets each of which exhibits a single equilibrium price. Submarket areas defined in this way tend to be very disaggregated when compared to HMAs. In addition, despite the intuitive appeal of the method, the results have been shown to be highly sensitive to (i) the starting point chosen and (ii) the size of the spatial units employed. Some starting points lead to the determination of more submarket areas than others. Smaller spatial units lead to more disaggregated structures.

The methods employed have become increasingly complex for example using the residuals from the hedonic equations to assign dwellings to submarkets. A recent alternative has developed a novel empirical approach grouping areas on the rate of house price change and contiguity.

Comparison of the underpinnings and tests for submarkets and HMAs demonstrates that there are overlaps with the alternative migration and hedonic approaches applied. The successful identification of submarkets involves cumbersome tests that have generally been applied taken the HMA as given. HMAs implicitly encompass at least an urban area whereas submarkets can be neighbourhoods. Studies have found that adjacent urban submarkets have distinctive price patterns over time so simply grouping areas on this basis will not identify HMAs. This at least arguably rules out

the use of price movements as an approach to defining HMAs. Having reviewed the theoretical basis and potential tests for HMAs (and submarkets) the discussion now turns to practical applications by first examining planning guidance and then case studies.

## Planning Guidance for Housing Market Areas

This brief review of planning approaches to defining HMAs considers both the Scottish and English guidance. HMAs have been applied by the planning system in Scotland since the 1980s and planning advice on defining a HMA has evolved. The definition has had periodic marginal changes and the most recent version published gives the following definition:

> "*A Housing Market Area (HMA) is a geographical area where the demand for housing is relatively self contained, ie where a large percentage of the people moving house or settling within the area have sought a dwelling only within that area"* (Scottish Executive, 2003, para 20)

This planning advice suggests reference to housing search patterns and directs readers to the practicalities set out in a research manual (DTZ Peida, 2003).

This research manual identifies HMAs in a series of stages:

1. Identification of major core centre and settlement hierarchy ranked by size within a structure or strategic plan area. The main centres are taken to be the anchors to which the precise spatial definition or boundary will be drawn around.
2. Determine household movement/ migration patterns from the principal anchor urban area to surrounding lower order settlements

and if a set proportion of purchasers are from the anchor area (10% is suggested) then they are incorporated into the anchor HMA.

3. If the percentage is less than the (10%) benchmark but still "still not neglible", say 5%, then the research should examine the proportion of households moving from the 'satellite' area into the anchor HMA. If this proportion is substantial, 8% is recommended, the community is incorporated in the anchor HMA.
4. If this second test is still inconclusive then the two preceding tests are repeated only for new housing.
5. The final test for inclusion, if the preceding steps are inconclusive, is to consider the general migration patterns of the satellite area and their interaction with an enlarged anchor area including other areas incorporated by the above steps.
6. Finally a spatial definition to the HMA is established by drawing a continuous border around the outermost settlements.

This procedure is repeated for the unallocated areas to test whether they can be grouped with lower ranked anchor HMAs. The system of HMAs derived in this way is then subject to potential revision because of projected policy initiatives that may influence the boundaries and finally to consultation and feedback by stakeholders.

The English government has also published a housing market assessment manual developed by DTZ Peida (2004) that identifies broad approaches to defining a local HMA for the first time. It is less directive but offers two dimensions to a definition – HMAs are areas within which people are prepared to search for housing and geographical areas which contain both the origin and destination of the great majority who move home. The manual suggests that a 70% containment benchmark would be appropriate for a HMA. 'Specific' guidance on HMA definition only emerged with the Advice

Note (CLG, 2007a) which discussed three main approaches to HMA definition but avoided clear recommendations. In outline, these approaches centred on:

*House price levels and/or rates of change*
*Household migration and/or search patterns*
*Travel-to-Work Areas and/or other functional areas*

These options were not specified in any precision, so almost any plausible approach adopted to defining HMAs can be said to fit to some degree with an option that the Advice Note had recognised. How regional authorities have responded to this guidance and a more detailed critique of this guidance is reported in Section 3.

This planning advice in England and Scotland has a strong element of pragmatism and the theoretical base is not fully explicit. The Scottish approach is not necessarily transferable south of the border. A key reason for this is that Scotland has a relatively widely spaced settlement pattern with each sub-region having a distinct urban hierarchy which fits with the assumption of the method that each HMAs has an urban core. As already noted, England has numerous sub-regions with much more complex polycentric sub-regions where this model may not work. Coombes (2009) simulates the simple 70% containment rule and has shown that for the area covering the East Midlands, East, London and South East regions and finds that the ensuing geography has a range of limitations as a basis for local housing strategies.

## Academic Case Studies of HMAs

There are few academic studies that have identified HMA geographies and discussed these relationships. This section reviews the detail of four studies in different regions – the west of Scotland, the North West, the North East of England and the south eastern regions noted above. The comparisons

examine the implications of changing definitions and the relationships between HMAs and TTWAs.

*West of Scotland*

The first academic study is by Jones (2002) and derives HMAs based on migration patterns within the occupied sector. The spatial focus of the analysis is the area broadly defined as mainland west central Scotland. The migration data is derived from the Land Registry/Register of Sasines covering the ten year period 1984 to 1993. The approach is based on the grouping of **settlements** to establish HMAs by examining migration interaction. These settlements range in size from the city of Glasgow to small villages, their attraction is their internal coherence.

The HMA is based on the notion that it can be defined as a contiguous area comprising a settlement or group of settlements with a high degree of housing market self-containment, and where in-migration from outside the immediate HMA is of only minor significance. The former principle is initially applied but there is no a priori theory to guide choice of the precise spatial containment. The initial benchmark of a HMA is taken to be 50% of house purchasers moving within the area, but this is later relaxed.

The grouping of settlements is undertaken using an iterative algorithm in which 'open' settlements are married to 'closed' settlements which already meet the containment criterion. Twenty two HMAs are identified from this algorithm that satisfy the 50% closure criterion. The city of Glasgow is by far the largest with the next largest almost a fifth of its size. Some quite small HMAs are also identified based on towns that have closed housing markets. If we now add the criterion, the lack of interconnection with surrounding areas, the simple containment benchmark is augmented and can be rewritten as:

- at least 50% internal migration, or

- in-migration from an adjacent HMA equivalent to less than 5% of the market.

Based on these criteria one seaside resort area, a residue in the containment algorithm, would qualify as a HMA giving 23 (50%+) HMAs in all.

The basic algorithm is based entirely on a self-containment criterion and there are still significant flows between HMAs especially from Glasgow to adjoining areas. Therefore the HMAs do not meet the original second criterion set out above. Further detailed research shows that this out-migration from Glasgow is to adjoining settlements (rather than the HMAs as a whole). This suggests a little fuzziness at the edges of HMAs, and a different algorithm could include these within Glasgow.

Jones (2002) next applies the two test criterion simultaneously, namely the 50% containment benchmark **and** in-migration from an adjacent HMA equivalent to less than 5% of the market to derive a system of (50%+) HMAs. This reduces the number to just 11 (50*%) HMAs. The Glasgow HMA now incorporates the surrounding areas within the Clydeside conurbation. Some small HMAs still remain as entities in their own right but HMAs with significant pair-wise migration inter-flows have been combined. This system of (50%+) also broadly satisfies our third test with respect to TTWAs; there are a number of minor discrepancies at the margins of the enlarged Glasgow HMA.

Jones (2002) reapplies and extends the algorithm to meet a criterion of 60%, but only a few areas meet such a criterion and yet he finds there would still be one strong pair-wise migration inter-flow. A 60*% definition would leave only 6 HMAs, less than the 9 TTWAs within the study area. A 40% benchmark would create at least 41 HMAs with many of the suburban satellites of Glasgow meeting this criterion but with significant flows between areas. Overall the 50*% benchmark Jones argues best achieves the original

theoretically driven criteria while at the time best meeting the third test: a close (embedded) relationship with TTWAs.

These results provide useful insights into the open structure of spatial housing markets: 23 HMAs are identified based on the simple 50%+ criteria but there are still significant migration links between these HMAs defined in this way. This does not satisfy the second test. Extending the 50% containment criterion to include weak inter-connectedness reduces the number of HMAs to 11, and achieves the a priori theoretical understanding of HMAs. The region is dominated by the city of Glasgow, and migration patterns appear to ensure an immediate house price spatial arbitration process which can encompass large areas. Yet there are also relatively small communities in rural areas and some free standing towns which have relatively closed HMAs.

*North West of England*

A delineation a system of HMAs for the North West of England has been undertaken by Brown and Hincks (2008). The region has approximately 6.9 million people and two major cities, Liverpool and Manchester. The research is based primarily on migration data between wards from the 2001 Census but the first stage is to consult estate agents to identify prima facie HMAs and thereby to provide 43 core points for the analysis. A 70% containment criterion is used to define a HMA and is applied to both the percentages of in-migrants and out-migrants into an area. The authors use a more sophisticated computer algorithm than Jones (2002), a hierarchical step-wise aggregation procedure, that groups wards on the basis of migration between and within areas. The first round of this procedure finds that not all 43 potential HMAs by estate agents achieved the target 70% containment and so the analysis is repeated and ultimately 25 are identified.

The reduction from 43 to 25 HMAs through strict application of the 70% containment criterion removes a number of small rural HMAs where the market may be distorted by second home purchases. After further consultation with estate agents some small towns are included in larger HMAs. The geography of these 25 HMAs show they are not entirely consistent with local authority boundaries. Comparison of the 25 HMAs with the 23 TTWAs in the region reveals similarities in more urban areas. The differences between HMA and TTWA boundaries in rural areas leads the authors to suggest varying the self containment criterion by type of area.

*North East of England*

A study by Coombes et al (2006) seeks to provide a set of policy relevant definitions of HMAs in the North East that can be used for different contexts. In particular it examines how different approaches to this task meet the criteria given in the guidance manual (DTZ Peida, 2004). Unlike the North West study the analysis is based entirely on migration statistics from the 2001 Census: the method was essentially that used to define TTWAs and did not involve identifying urban centres around which to build the HMA. The study teased out key characteristics of the migration data (see more detail in Champion and Coombes 2008); however the data also has the key benefit of allowing separate analyses of different tenure groups, thereby revealing that areas with high levels of social housing have low mobility compared with other areas. A response to this in Coombes et al (2006) was to include non-movers in their research, which meant that the containment criterion of 70% for movers had to be replaced its equivalent of 97% (when non-movers are included).

HMAs are again identified using an iterative procedure that follows the basics of Jones (2002). First, areas are ranked by the set criteria, if the worst does not meet the criteria then reallocate to maximize the integration of flows, and

repeat until the criteria is met for all the groups. The results again find that HMA borders split local authority areas. The southern HMAs straddle the regional border with Yorkshire and Humberside. The study then changes the containment criterion to 65% or 96.5% and shows how a rather different map is produced.

Finally the analysis delineates tenure specific HMAs by looking at moving groups rather than individuals. The results are useful for the owner-occupied groups but the analyses of social housing renters is affected by the patchy distribution of this type of housing, whilst a single HMA was found to cover the whole country for private renters because of long distance moves by students. The study argues that the 65% (96.5%) self-contained owner occupied analysis which leads to 10 HMAs is the most appropriate definition for policy purposes. As with all assessments in the past the criteria for making a choice between different sets of boundaries are at least partially subjective.

*Southern/South East Regions*

Coombes and Bond (2009) show the results of some of these analyses to the area covering the East Midlands, East, London and South East regions (nb. all these analyses were national in coverage, it is only the individual reports which focus in on particular parts of the country). The results have London as a very large HMA that includes much of the South East region but at the same time they also find some small HMAs which meet the same criteria. It is argued that this approach has identified genuine differences between areas in people's areas of house search and mobility: it remains an issue whether directly reflecting these extreme contrasts in the HMA definitions means that these definitions would need amendment for policy purposes.

## HMA Studies for Public Agencies

Studies for regional public agencies have essentially applied one of three approaches considered within the selected case studies considered in this section. HMAs within the regional policy context is considered in Section 3 together with ….. Here the analysis focuses on the methods applied.

*ECOTEC (2006a) Study of North West using a Travel to Work Area based Methodology*

Employment centres are first selected with a workplace population of at least 5000 people within and surrounding the NW region as centres of potential HMAs. There are 109 qualifying centres in the region, and 57 outside which are seen as having an influence on areas within the region. Travel to work patterns are identified and mapped at ward level from the Census 2001. These data are applied to generate HMAs by allocating wards based on at least of 10% of the economically active population travelling from a given ward to a centre. All the areas of influence identified in this way are then plotted to identify all overlaps and underlaps (areas not included in any area of influence). Where one area of influence is completely included inside another, or there is a considerable degree of overlap, they have been merged into one housing market area. This process has been followed for smaller centres (from 5,000 to around 15,000 employees) which have housing market areas that clearly overlap with a larger adjacent employment centre. Wards not included in an area of influence by the 10% threshold were allocated "to a neighbouring employment centre where the inhabitants were most likely to work or which had a large employment base".

There were significant overlaps between catchment areas, especially in the urban areas around Manchester and Liverpool, urban areas in between and Preston. To accommodate overlaps were permitted for Liverpool and Manchester and represented as higher order HMAs. This process created 45

housing market areas for the North West, ranging from small, discrete local markets to larger ones based on cities or towns. The only major catchment areas within the region which extended into other regions or countries are Chester, Congleton, Manchester and Stoke-on-Trent. The same may be true of Carlisle, but the authors did not access data for Scotland. There were also relatively few cases where employment centres outside the region attracted North West residents, with Stoke on Trent an important exception.

The 'upper tier' areas of catchment for the Manchester and Liverpool City Regions identified differ from the administrative City Region areas to which authorities in those areas are working. The HMA boundaries are also not aligned necessarily with local authority boundaries and in many cases do not this geography.

The same approach was applied by ECOTEC (2006b) for the West Midlands.

*DTZ Peida Study of East Midlands based primarily on migration patterns*

The analysis begins with a map representing an initial hypothesis based on around 70% of moves are within each HMA (drawn from 2001 Census) plus a series of questions about overlaps and inter-linkages. This was followed by a series of consultations with stake holders in a series of workshops and further data analysis before a final map was produced. The further data analysis involved travel to work patterns, employment concentrations, housing affordability and patterns of house prices and price changes.

The research process is based on quantitative data but the final map is a professional judgement drawing on both the data and consultations. The study finds there are a 8 sub-regional HMAs contained within the region and 2 where the core lies outside the region linked to Greater Manchester and

Sheffield. Some 13 local authority areas are identified as being influenced by HMAs beyond the one they are allocated.

*University of Sheffield Study of NW based on House Prices*

This study undertaken as part of a wider study by Nevin Leather Associates (2008) is initially based on the use a hedonic house price regression model based on individual housing and neighbourhood characteristics. The essential idea is that the difference between the estimated price from the hedonic model and the actual price, namely the residual, represents the sub-regional or housing market influence/effect.

House price data is drawn from the period 1996 to 2006 which were standardized for seasonal variation and general inflation. Data on housing attributes was taken from the Land Registry and neighbourhood characteristics from the 2001 Census.

All actual sale and estimated prices are computed for hectare squares and a moving average of the residuals over circles of 5km diameter are then applied to smooth out the impact of variations between individual properties. The next stage is to map these residuals and HMAs are identified by where there is little variation in these statistics.

The authors argue that the findings suggest a central NW housing market covering much of the region but are not formally grouped into the form of HMAs. A map is presented of areas graded by deviations plus or minus up to three standard deviations from the "sub-regional price". The analysis is fed into an existing geography and augmented by evidence from migration patterns and other planning documents. Finally wherever practical, proposed boundaries are aligned with local authority boundaries. This resulted in 29

HMAs and after further consultation with stakeholders the number is reduced to 26.

The same approach is applied again in the North East region as an input to the construction of a HMA geography by the North East Assembly (it also draws on Coombes et al (2006)). The output of using this technique is very similar to that of the North West and does not delineate formal areas nor is it directly used to delineate HMAs. It is only part of the evidence base applied in the process of defining HMAs and the Assembly ultimately decides on only four 'strategic' housing market areas in the North East ( NEA, 2009).

This is the most ambitious of the three examples considered but there are a number of reservations about the research method both in terms of its theoretical basis and a practical viewpoint. The approach ignores the equilibrium assumption of hedonic models and the data averages ten years of regional data thereby assuming uniform price inflation across all HMAs which other empirical analyses shows to be incorrect. In terms of practicality the analyses do not provide a robust replicable methodology to produce a full HMA geography because ultimately the maps could only be used as a guide.

*Overview of Evidence on HMAs*

There are a range of studies with different criteria and, for each broad approach, different studies vary the criteria used and they produce very different HMA maps as a result. As was to be expected, more 'purely' defined HMAs are not consistent with local authority boundaries, nor with regional boundaries. The criteria used for defining TTWAs influenced the suggestion of a 70% self-containment criterion for migration patterns, but it is unclear whether it is transferable to defining HMAs. Many studies are only loosely linked to theory. Many rely on local professional and policy experience. Only one distinguishes between tenure groups.

The different approaches lead to different geographies and there are no clear criteria for choosing between them. This is illustrated in Yorkshire and Humberside where DTZ initially undertook a study using their company's standard approach and generated 14 sub-regional HMAs in 2006 only for ECOTEC based on their standard method to rewrite the HMA geography into 17 areas in 2007. A similar revision process occurred in the South West. The geographies accepted by public agencies are determined ultimately by professional discussions and one result is that they vary considerably in size between regions.

## Conclusions and Implications

There are no easy answers to the construction of a geography of HMAs with both theoretical and practical challenges. The theory at one level is straight forward - the law of one price applies to a HMA but this can only be achieved if the market is closed in terms of buyers and sellers, ie closed migration. Both are therefore different ways of examining the same phenomenon. At the same time the journey to work is a key determinant of a HMA. However, the context for the application of these theories in terms of (urban and rural) settlement patterns, location of employment and the inefficiency of the housing market means that there are no clear regularities.

One important issue to be addressed in the derivation of a geography of HMAs is the distinction between HMAs and submarkets with implications for constructing algorithms that group areas. There has been some discussion about this in relation to migration criteria but not house prices. One simple solution could be to consider only whole settlements as a way of avoiding a misidentification. Submarkets may also be seen as a lower tier within at least some HMAs. One way to consider a tiered view to HMAs is to apply different levels/rules of closure of migration or journey to work patterns (the former was applied by Jones (2002)).

Submarket identification based on house prices have applied grouping algorithms but have assumed the HMA fixed. While it might in principle be possible to draw on this approach an adapted two/three stage submarket test is too complex and experimental for our task. A simple algorithm grouping areas using standardised house prices criteria is still to be identified. It faces a number of considerable barriers that emanate from the limitations of hedonic models – as noted earlier there is a range of limitations to comparing hedonic price functions, and these issues are magnified when using these tests to group small areas such as wards. The use of house prices in isolation also suffers as it is by necessity focussed on only one tenure that is unlikely to be representative of the housing system as a whole.

There are established approaches to identification of HMAs based on migration patterns, with links to the methods for defining TTWAs. The hedonic price method is unproven, and it raises theoretical as well as severe practical issues for this study. At the same time, there are strong arguments in favour of adopting here what is seen as a 'triangulation' approach which does not pursue a single method in isolation.

## Recommendation

The recommendation here is to analyse house prices but to use the results as the 'arbiter' between the 'draft' HMAs produced by various methods associated with different levels of migration or commuting closure. In this way the test of the appropriate set of HMAs would be by reference to the hedonic price coefficients. Some of the studies reviewed combined different strands of evidence, but they all used this evidence simply as a guide, with the HMA boundaries then decided upon pragmatically by negotiation with interested parties. In contrast, the recommended approach here would be the first rigorous or 'pure' application of analyses which examine all three strands of evidence of the geography of HMAs.

The most appropriate data for the hedonic analysis appears to be that produced by the Land Registry as it is the most comprehensive in terms of coverage of transactions, combined with Census statistics and a distance variable from a centre of employment. If the arguments are accepted that the analysis should only be concerned with the fundamental structure, while not ignoring neighbourhood influences completely, this should not be a constraint. Nevertheless given the limitations of this data's housing and neighbourhood characteristics this approach will need to be validated by comparison with some parallel analysis from the more detailed CML data (based only on mortgage backed transactions).

Our recommendation is to produce the final proposed HMA boundaries by initially deriving two candidate geographies based on migration and journey to work patterns (see below). Sets of 'protoHMAs' derived by these methods will then be tested for differences in the hedonic house price functions. It is envisaged a Chow test for parameter stability in the hedonic models will be applied. These tests will need to be mindful of the equilibrium assumption of

hedonic models and be considered in the context of proposed HMA house price trends. Through this triangulation of evidence the central recommendation of HMA boundaries would be produced.

In parallel to the 'central case' analyses just outlined there would be analyses of the migration data disaggregated by tenure to produce specific HMAs for the private rented sector, owner occupation and social housing. There would also be work leading to recommendations on the feasibility of defining a 'nested' or hierarchical set of HMA (or sub-market) definitions incorporating the central case set of HMAs.

## Outline of Alternative Methods

The attached flow diagram shows the basis of four broad alternative approaches to defining HMAs through the analysis of migration or commuting flows, followed by the testing with hedonics analyses (as described above). Each of the four approaches is shown as one of the 'rows' in the figure below: they each provide a potential way of grouping all the wards of England into a set of HMAs whereas, as mentioned earlier, there is no established method of grouping wards into HMAs primarily on the basis of a hedonics analysis. Figure 1 identifies, in *italics* at the top and bottom, the data sets used by one or more of the four alternative approaches; the 'pecked' lines show the stage at which any approach draws on each data set (with the background colouring reinforcing this). For example, the first method shown (ie. the top row in Figure 1) initially draws upon urban area definitions before using the migration data and lastly being subject to the 'testing' with the hedonics.

The approach outlined first is based on that in Jones (2002). This method follows urban economic theory by assuming that urban areas are not subdivided by HMAs, and that each HMA will focus on a significant urban area. As a result, the first step would be to group together all the wards that fall within each defined urban area (nb. it may be helpful to use the strategy developed in the State of the Cities research and ignore smaller urban areas, also splitting urban areas along TTWA boundaries and perhaps also along local authority boundaries so as to avoid pre-judging that there could only be one HMA extending right across and beyond Greater London). The second step then, in effect, allocates all the wards outside the urban areas to one of them, selecting that grouping which maximises the containment of migration flows within the emerging boundaries. At this point in the process there will be one grouping per defined urban area, but it can be expected that some of the groupings will have relatively low self-containment levels (ie. many cross-

boundary migrants). This means that a third step is needed to carry out further groupings until all of the 'protoHMAs' defined meet whatever level of self-containment has been set as the minimum requirement. In this third step, re-allocation could be either of individual wards or of whole groupings as they stood at the end of the second step. This third step reduces the conformity of the results to the theoretical structure in which each HMA is centred on a single urban area, but it does this in order to cope with the reality of English migration geography. The fourth step in the HMA definition process is the 'test' with the hedonics.

The second method shown is based on that of Coombes et al (2006). Here a single step is involved, iteratively grouping wards until all the 'protoHMAs' defined meet the level of self-containment of migration flows that is required. By not requiring the groupings to include an urban area of a given size, the HMAs defined are less likely to conform to the urban-centred theory, but by not being so constrained this method can also produce more technically optimal results. The only other step in the process of this method is the same hedonics 'test' as is proposed for all the methods.

Figure 1 shows as third and fourth alternative approaches what are effectively the parallel options to the first two but with the migration data replaced by commuting, probably with the presumption that this dataset will be restricted to the flows of the high earners in the labour market (professional and managerial workers). In the third alternative approach, the first step of defining 'seeds' to build the groupings around relies not on urban area definitions but on the commuting data: the idea here is to identify the main foci for high earner commuters, but it needs to be recognised that the method for doing this is still to be established. The second step involves allocating other wards to these foci and there are well-established methods that achieve this by maximising the self-containment of flows within the groupings. Figure 1 allows for a third step to check that all the groupings meet the

minimum level self-containment likely to be set as a requirement of well-defined labour market area definitions (for example, the fact that there are several distinct employment foci within Greater London suggests that after step 2 the method would have produced several separate groupings across the conurbation, with self-containment levels that will inevitably be quite low). The final step is the hedonics 'test' of course.

The fourth alternative applies the TTWA definition method to the data on high earner commuting. As with the second alternative approach (Figure 1), only one other step is needed, the hedonics 'test' of the boundaries produced by the analysis.

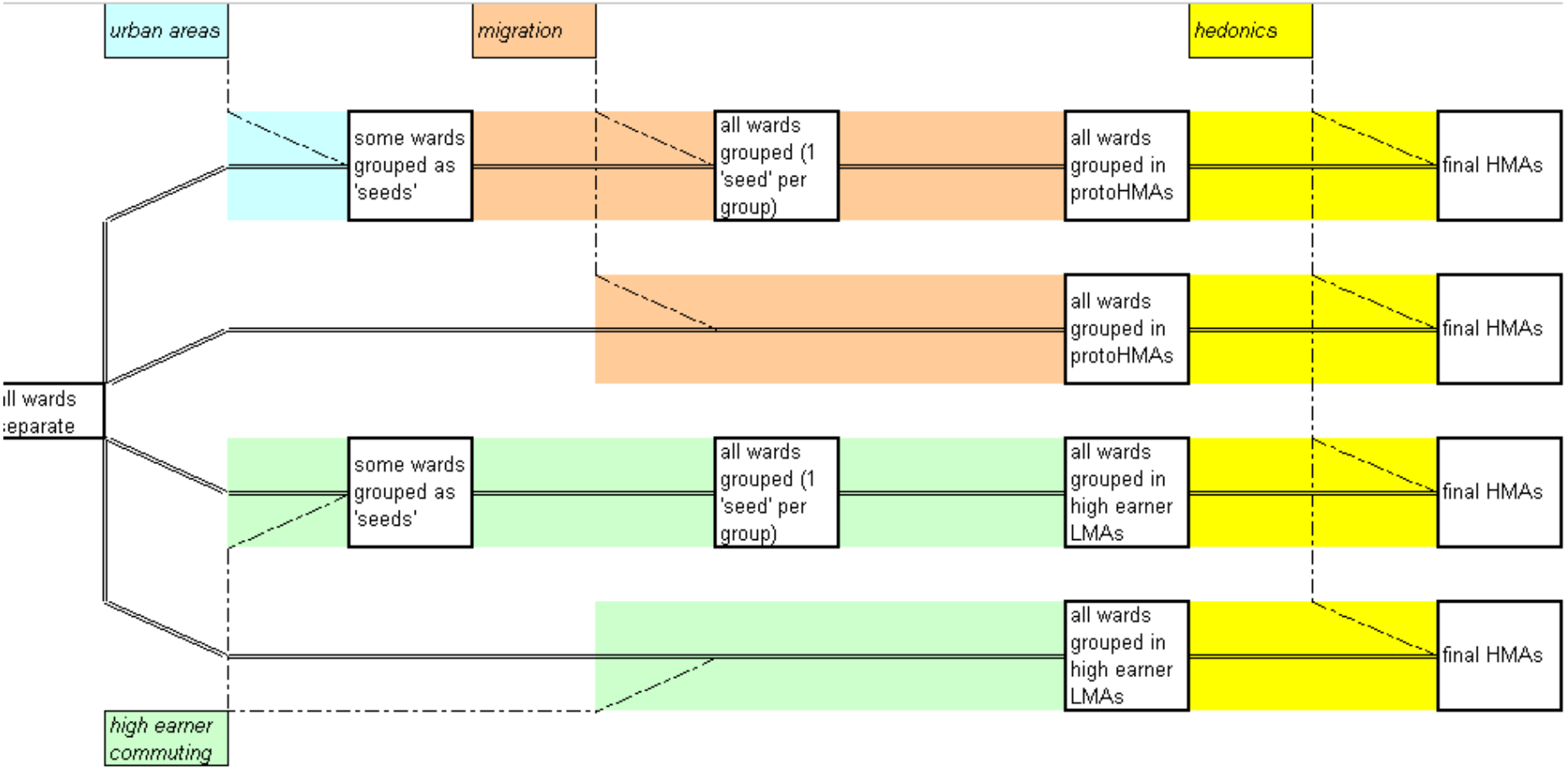
All the four alternatives have the potential to be applied with different minima set for the self-containment of flows (whether these are migration or commuting flows). It was assumed above that some such experimentation would take place, but clearly the scope of this activity will be limited if many of the four alternatives are pursued.

For all the four alternatives, it is possible to add a 'post-processing' step that would evaluate those suggested changes to the recommended HMA boundaries which emerge from a process of consultation with interested parties. At present, this seems less necessary because the emphasis is shifting towards producing HMAs which are as robust as possible rather than definitions which are the result of sacrificing some of their 'purity' and national consistency in favour of usability for one interest group.

If this emphasis on scientific precision is adopted for the HMA definitions, it will increase the need for the one 'down-stream' process which it can be confidently stated will be needed. This step 'best fits' the ward-based definitions into groupings of local authority areas. It is probable that other 'best fits' (eg to postcode districts) will also be needed so as to maximise the

range of relevant data which can be put into the spatial frame which the HMAs will provide. In general, the larger the other building block areas are, the worse the 'best fits' will be: it is suitable to view the ward-based definitions as a Gold Standard while the most accurate 'best fit' set are the Silver Standard and so forth. Some of the potential 'best fit' versions will simply involve too great a distortion of the Gold Standard boundaries to be acceptable.

Of the four approaches, the second and fourth involve the fewest steps and are most readily operationalised. Of the other two, that based on urban areas involves less new software development and so is less likely to encounter delays. There is in effect a trade-off between pursuing more of these four broad alternative approaches and having time to optimise their application, not least by experimenting with different minimum levels of self-containment (or 'closure') of the flows concerned.


urban areas
migration
hedonics
some wards grouped as 'seeds'
all wards grouped (1 'seed' per group)
all wards grouped in protoHMAs
final HMAs
all wards grouped in protoHMAs
final HMAs
ll wards
eparate
some wards grouped as 'seeds'
all wards grouped (1 'seed' per group)
all wards grouped in high earner LMAs
final HMAs
all wards grouped in high earner LMAs
final HMAs
high earner commuting

# PART B DIFFERENCES IN HMA GEOGRAPHIES

## 3. HMAs and Regional Spatial Geographies

### National Policy and Guidance Context

It is only recently that the use of housing market areas (HMAs) have begun to be adopted within the planning process in England. The requirement to define HMAs had been identified in the *Manual of Housing Market Assessment*, commissioned by the government from DTZ Pieda (2004), and subsequent government advice on the preparation of Regional Spatial Strategies (RSS), set out in *Planning Policy Statement 3: Housing* (CLG, 2006), sets out a requirement for local planning authorities and regional planning bodies to '*…have regard to housing market areas in developing their spatial plans…*'(para. 11) and, more specifically, it requires regional planning bodies to set out, in their RSS, '*…a regional approach to addressing affordable housing needs, including the affordable housing target for the region and each housing market area…*' (para. 28) and '*…the level of overall housing provision … distributed amongst constituent housing market and local planning authority areas…*' (para 34). Such housing market areas are also defined in PPS3 as '*...geographical areas identified by household demand and preferences for housing…* (that) '*…reflect the key functional linkages between places where people live and work…*' (PPS3, Annex B: Definitions). Paragraph 11 of PPS3 also emphasises the importance of an evidence-based policy approach whereby local development documents and RSS are '*…informed by a robust, shared evidence base, in particular of housing need and demand, through a Strategic Housing Market Assessment* (SHMA) *and land availability, through a Strategic Housing Land Availability Assessment* (SHLAA).'

Updated guidance on identifying housing market areas was subsequently set out in a CLG *Advice Note: Identifying Sub-Regional Housing Market Areas* (CLG, 2007a) alongside associated guidance on *Strategic Housing Market Assessment Practice Guidance* (CLG, 2007b) and *Strategic Housing Land Availability Assessments Practice Guidance* (CLG, 2007c). The latter sets out the value of strategic housing market assessments (CLG, 2007c: 7) as assisting policy development, decision-making and resource allocation processes by:

- enabling regional bodies to develop long-term strategic views of housing need and demand to inform regional spatial strategies and regional housing strategies;
- enabling local authorities to think spatially about the nature and influence of the housing markets in respect to their local area;
- providing robust evidence to inform policies aimed at providing the right mix of housing across the whole housing market – both market and affordable housing;
- providing evidence to inform policies about the level of affordable housing required, including the need for different sizes of affordable housing;
- supporting authorities to develop a strategic approach to housing through consideration of housing need and demand in all housing sectors – owner occupied, private rented and affordable – and assessment of the key drivers and relationships within the housing market;
- drawing together the bulk of the evidence required for local authorities to

  appraise strategic housing options including social housing allocation priorities, the role of intermediate housing products, stock renewal, conversion, demolition and transfer; and
- ensuring the most appropriate and cost-effective use of public funds.

The *Advice Note,* as noted in Section 2, on identifying sub-regional housing market areas (CLG, 2007a) discussed three main sources of information that might inform approaches to HMA definition (based around *house price levels and rates of change*; *household migration and search patterns*; and *travel-to-work areas and other functional areas*) but recognised the overlaps between them and avoided clear recommendations as to a specific approach that should be adopted. In practice, this gave considerable flexibility to local planning authorities and regional planning bodies in determining their own approaches to the definition of sub-regional housing market areas within their respective regions. Furthermore, the *Advice Note* also suggested that the extent of sub-regional functional housing market areas identified will vary and many will, in practice, cut across local authority boundaries. As a consequence, it suggests that *'…regions and local authorities will want to consider, for the purposes of developing evidence bases and policy, using a pragmatic approach that groups local authority administrative areas together as an approximation for sub-regional housing market areas…'* (CLG, 2007a:para. 9). Indeed, the advice even goes so far as to acknowledge (para. 10) that there may be particular circumstances in which housing markets at the sub-regional level are not the most appropriate spatial level of analysis, although it does state that, in such circumstances, local authorities will need to demonstrate that any alternative approach is likely to provide a credible and robust means of understanding housing markets, as well as enabling a co-ordinated approach to evidence base work and policy making.

In terms of RSS preparation, the *Practice Guidance on Strategic Housing Market Assessment* (CLG, 2007b) also states that *'…regional planning bodies will want to bring together the findings of strategic housing market assessments within their region to provide an up-to-date overview of the constituent housing market areas, particularly in terms of characteristics, structure and linkages between housing market areas…This information will help regional spatial strategies to set out the regional level of housing provision (distributed amongst constituent housing market*

*areas and local planning authorities) and the regional approach to delivering a good mix of housing and affordable housing targets (both for regions and housing market areas) as required by PPS3…' (CLG, 2007b: 62).*

## Review of Regional approaches

A desk-based analysis of appropriate policy and related documentation (where available) for each of the English regions (excluding the North West, as this region covered elsewhere by more detailed case study work) has been undertaken with the aim of identifying the approaches currently taken to the definition of HMAs in particular regions and the subsequent use of HMA level information and analysis in spatial plan making at the regional scale. Because of the different publication dates of the various advice notes and other statements of government policy referred to above, it should however be noted that the regionally based reviews presented below often refer to work on identifying sub-regional housing market areas and/or undertaking (strategic) housing market assessments that were conducted before the latest (CLG, 2007a) advice. In particular, earlier work on housing market area assessments was superseded by the subsequent advice on strategic housing market assessments (SHMAs). Varying degrees of inconsistency in approaches taken to defining HMAs and undertaking assessments can therefore be expected. A summary of the key findings and issues identified for each region is provided below.

### *South West*

DTZ Pieda was initially commissioned by the South West Housing Board to define sub-regional housing market areas across the South West region and the resulting report, *Analysis of Sub-Regional Housing Markets in the South West* (DTZ Pieda Consulting, 2004a), was published in July 2004. The overall objectives were to identify the number and extent of sub-regional housing

markets in the South West; to recommend a common methodology to undertake comprehensive sub-regional housing market assessments; and to advise the SWHB on how best to understand the nature and dynamics of sub-regional housing markets in the region (1.01). The intention was also to contribute to the development of the Regional Housing Strategy (from 2005 onwards) and inform debate on the emerging Regional Spatial Strategy (RSS).

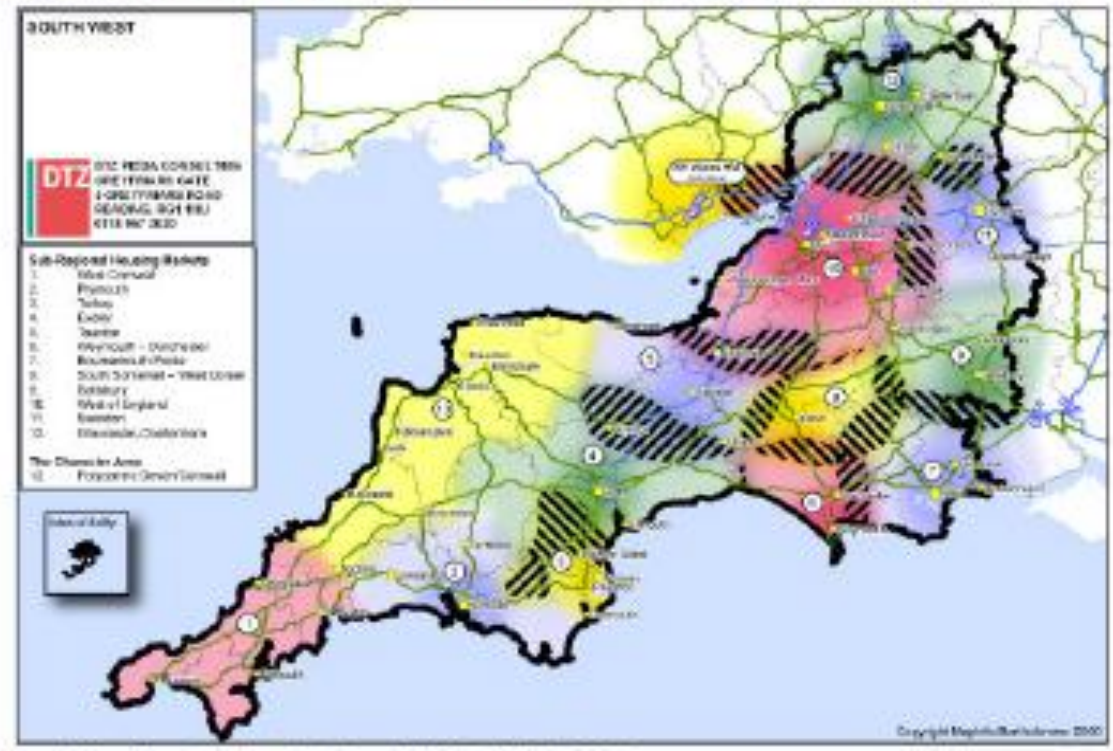
The methodology employed was largely driven by an analysis of household movements and travel to work patterns, supplemented by a range of other information including consultations with local stakeholders. The analysis identified 12 sub-regional housing markets as well as another large area that was not considered to act as a single sub-regional housing market but was nevertheless defined by common housing characteristics and settlement patterns (3.01). The 12 sub-regional housing market areas are generally associated with the Principle Urban Areas (PUAs) and the other larger settlements in the South West, broadly reflecting 'city-region' boundaries for the larger centres, whilst the Polycentric North Devon / North Cornwall (later renamed Northern Peninsula by partner local authorities) character area covers a large, predominantly rural, area with a settlement pattern based on villages and market towns but with no major centres of employment (see figure 1). Areas of potential overlap between neighbouring HMAs were also noted (see shaded areas in Figure 3.1).

The consultant's recommended that Housing Market Assessments for all 12 areas should be rolled out over a period of 3 years, starting with those where there was either particularly pressing issues or where effective sub-regional partnerships were in place. They also suggested that the authorities in each sub-regional housing market area needed to come together and identify core and partner members and that some authorities might need to be involved in more than one assessment because they are on the edge of more than one HMA. Where housing market areas overlapped to a significant degree, the

potential for joint assessments was also suggested. Although a housing market assessment for the character area was not recommended, a joint study of the area to examine shared issues such as in-migration and second homes was suggested. Finally, although housing market areas were considered as having a role to play in resource allocation, the recommendation was that the HMA process should be used to inform allocation decisions by providing a consistent set of information for each sub-region but there should e no attempt to develop a formulaic allocation system based on the HMA process.

**Figure 3.1**

Sub-regional housing market areas as defined by DTZ Pieda



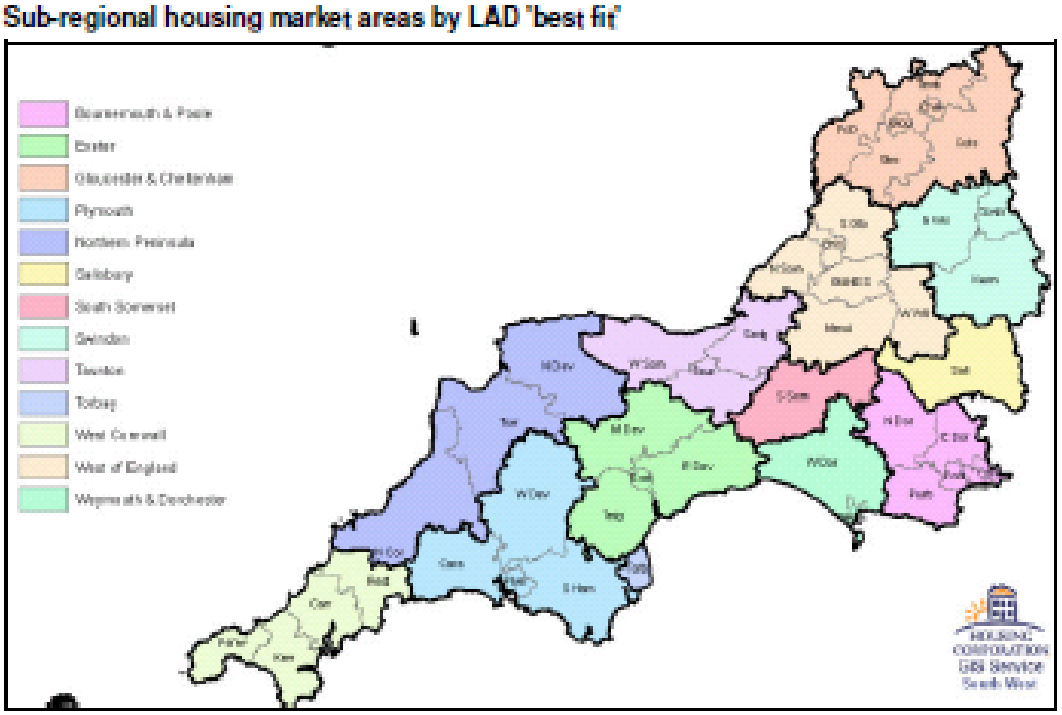
South West Regional Housing Board/DTZ Pieda July 2004

More recent research on the *Methods, Findings and Impacts of the Strategic Housing Market Assessments in the South West* (ECOTEC, 2009) reveals that, following the DTZ Pieda study, strategic housing market area (SHMA) partnerships were established to undertake strategic housing market assessments (SHMAs). To do so, firstly the 12 HMAs originally identified were 'snapped' to the regions' 45 local authority districts along boundary

lines that best fitted for funding purposes and housing targets in the RSS, creating 13 sub-regions (see Figure 3.2). However, several housing market partnerships then decided to work together to produce joint SHMAs (e.g. Exeter/Torbay; Bournemouth & Poole / Weymouth and Dorchester) resulting in 10 separate SHMAs which were largely undertaken between 2006 and 2009. There was, however, little consistency between the methodological approaches taken by different partnerships (except when undertaken by the same consultant) (ECOTEC, 2009: 2.2) and the potential tensions between the principle of undertaking analysis at the level of functional housing market areas and the subsequent practice of conducting analysis at the local authority level is evident (ECOTEC, 2009: 2.3). In this context, the ECOTEC study highlights the potential problems of local authority based assessments that might under-play cross boundary workings of more localised markets as well as reducing attention to functional relationships between neighbouring towns and villages that straddle administrative boundaries. However, this has to be weighed against the practical benefits of using boundaries that will form the basis of future policy, priorities and budget decisions at the local authority level, including the likelihood that new developments around resource allocations, such as multi-area agreements, are also likely to reflect LA boundaries. For these reasons, and because of other considerations such as the availability of better data at the LA level and the lack of precision in defining HMAs in the first place, the ECOTEC study concludes that (2009: 2.3):

> *'…the disadvantages associated with splitting local authorities for the purposes of carrying out SHMAs outweigh the benefits accruing from an attempt to take a whole market view. It is therefore recommended that a pragmatic approach is taken in future whereby SHMAs sub-regions are snapped to local authority boundaries.'*.

**Figure 3.2**

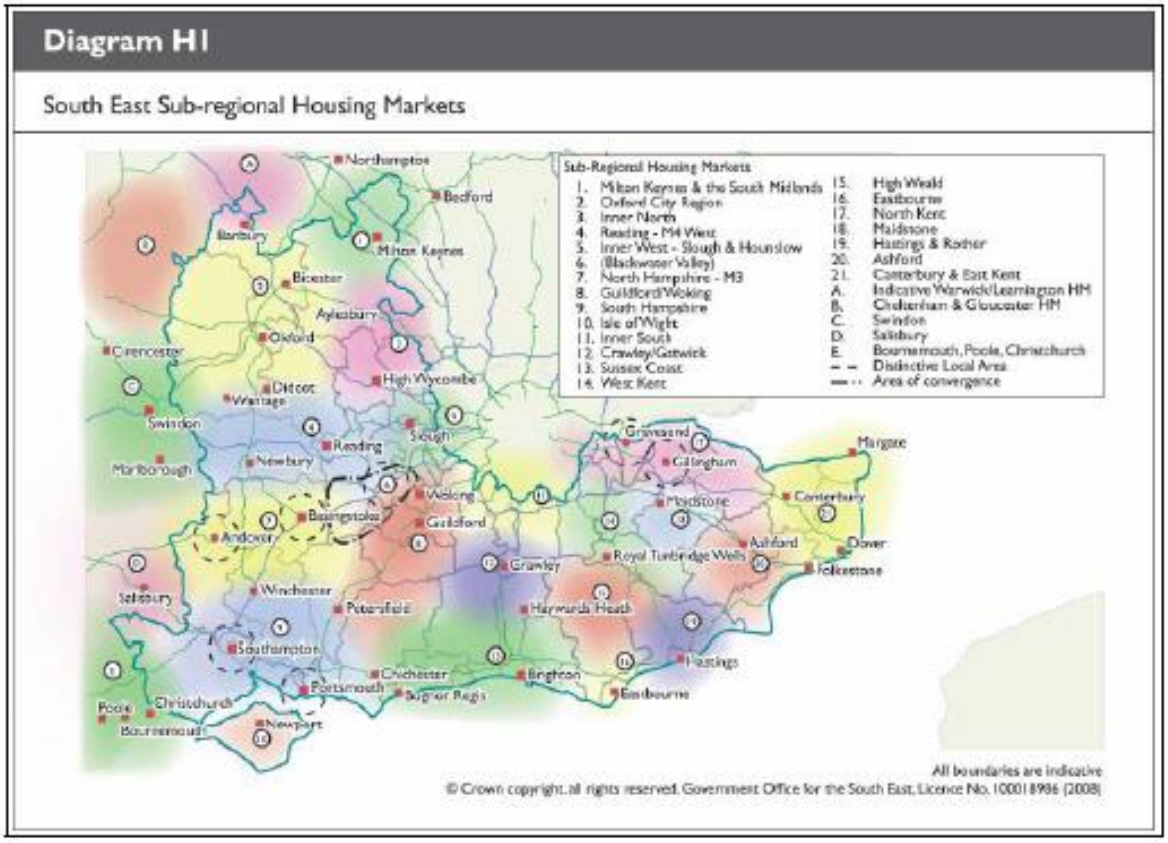



In terms of coverage of rural issues, the ECOTEC study notes that, despite the rural nature of much of the region, the majority of the strategic housing market assessments prepared (with the exception of those for West Cornwall and Taunton / South Somerset) do not provide an insight into how housing markets are operating at a village and market town scale and that, although district level data might be argued as sufficient, this ignores evidence of differences of supply and affordability between urban centres in these districts and their rural communities (ECOTEC, 2009: Detailed Analysis, 12.1.11). There is no detailed analysis of the specific housing issues faced by the region's two national parks of Dartmoor and Exmoor. These are generally split up into different HMAs, although the Exmoor National Park does fully lie within the more generalised Northern Peninsula character area.

***South East***

In the South East, DTZ Pieda prepared a report on *Identifying the Local Housing Markets of South East England* (DTZ Pieda, 2004b) that identified 21 housing market areas across the region. These were subsequently incorporated into the South East Plan (GOSE / South East Regional Assembly, 2009) as shown in Figure 3.3). The South East Plan highlights the importance of joint working in the production of joint strategic housing market assessments (SHMAs).

**Figure 3.3**

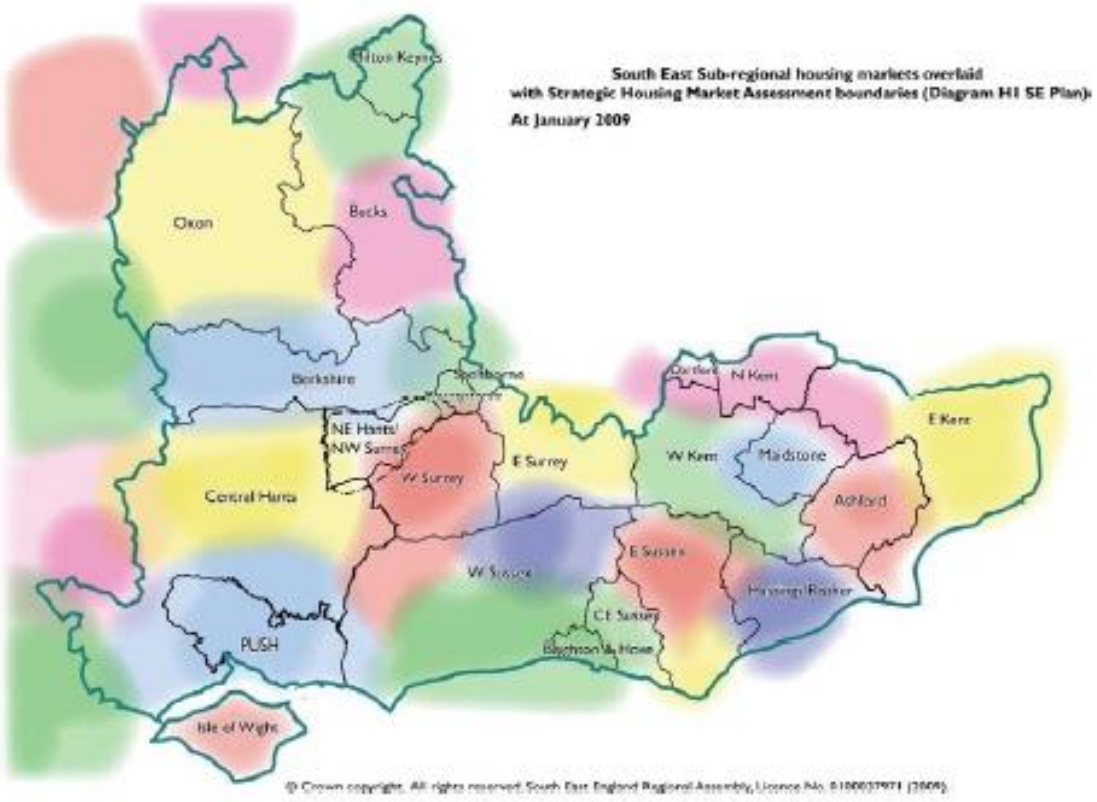



Follow-up research by Three Dragons et al (2009) set out in a report into the regional housing market and strategic land availability assessments in the region, however, reveals that the subsequent SHMAs were largely based on administrative areas (Three Dragons et al, 2009: 4.1), only some of which broadly follow the South East Plan's housing market areas. Although in some

cases, the administrative areas and identified housing market areas generally coincided with each other (e.g. for the Oxford City Region, Ashford, Maidstone, West Kent and, not surprisingly, the Isle of Wight), in other cases there were clear differences. For example, the identified Sussex Coast HMA was broken down into separate SHMAs for Brighton and Hove, Central East Sussex and West Sussex, with the consequence that several towns and urban areas along the south coast (such as Worthing and Newhaven) and a few miles inland (such as Lewes) are considered separately from the Brighton and Hove HMA, whilst the northern part of West Sussex is detached from the previously identified HMAs of West and East Surrey (see Figure 3.4).

**Figure 3.4**

**Comparison between draft South East Plan sub-regional housing markets and those used in practice for strategic housing market assessments**



As part of the research, a significant number of authorities (18 out of 44) said their (S)HMA area was not the same as that suggested in the South East Plan (ibid, 4.3). The reasons given for this (4.3-4.7) included that using areas based on existing joint working would be more relevant and effective; that the areas selected were a better fit anyway; the need for local authority level results to inform the planning process and their own LDF timetables; and the availability of data. Some authorities suggested that the relatively large geographical coverage of some of the originally suggested HMAs precluded the level of sub-area detail previously provided in housing needs studies and, in any case, most results of such studies were typically reported for both HMA and local authority levels (and sometimes sub-markets as well). There was only one recorded example of an authority that was split between two market areas that accepted working across two SHMAs (Three Dragons et al. 2009: 4.9).

In summary, the follow-up research commented that '*… the geography of the SHMAs in the region is a compromise between that set out in the South East Plan and local preferences and established patterns of partnership working*.' (Three Dragons, 2009: 4.9). Nevertheless, the study concluded that although '*… it could be argued that the boundaries used should adhere more closely to those of the South East Plan but this would ignore the important advances made in thinking across a wider market (albeit one which has been fitted around administrative boundaries) and the development of more corporate working within authorities, partnership working between authorities, and emerging better working relationships with external organisations*.' (Three Dragons et al, executive summary, para. 22). As a result, the study merely suggests that it might be appropriate to encourage SHMAs as they are reviewed to consider how they can reflect better the market areas set out in the South East Plan (ibid: 416).

As was also the case in the South West region, different local approaches to the production and content of SHMAs means that the consultants concluded

that there is no plausible mechanism for aggregating the available results to provide a region-wide evidence base, despite advice in PPS3 that RPBs should identify local, sub-regional and regional levels of housing provision taking into account the evidence of need and demand set out in SHMAs (PPS3, 11 & 33) and in the South East Plan itself (para. 7.11) which states that the review of the RSS should be informed by the work of SHMAs (Three Dragons et al, 2.52).

Only six of the SHMAs in the South East reportedly covered rural housing issues (such as affordability, second homes and the predominance of larger properties) and none provided estimates of future need for affordable and/or market housing specifically for the rural part of their area (Three Dragons et al, 2009: 3.30). As with the findings of the South West region, this raises questions as to the value of geographically large HMAs and associated SHMAs in addressing affordability and other issues within the more rural parts of the region. At the time the studiers were carried out, there were no designated National Parks in the South East although future work might need to take additional account of the special status of the recently designated South Downs National Park.

***East Midlands***

DTZ Pieda was also commissioned in 2004 by the East Midlands Regional assembly and the East Midlands Regional Housing Board to develop a methodology for identifying sub-regional housing markets in the East Midland region, identify the boundaries of sub-regional housing markets and the degree to which they overlap and to recommend which local authorities need to work together to undertake housing market assessments within a sub-regional context. The resulting report, *Identifying the Sub-Regional Housing Markets of the East Midlands* (DTZ Pieda Consulting, 2005) was published in April 2005. As with the other DTZ Pieda studies, the methodology employed

largely drew on an analysis of migration and fit with travel to work patterns, supplemented by other information including stakeholder consultation.

The analysis and associated feedback from consultations indicated that the East Midlands could be divided into eight sub-regional housing markets that were contained within the region and two further housing markets where the core of the HMA lies outside the East Midlands but nevertheless covers a significant area within the region (Figure 3.5). The study also identified a number of overlapping areas between these HMAs (Figure 3.6). Although a few of the identified sub-regional housing markets covered a fairly well defined area exhibiting a high degree of self containment (e.g. Leicester and Lincoln), it was notable that many of the areas exhibited signs of overlap (e.g. between Derby and Nottingham) and several fell into areas that had been identified by central government and/or the relevant regional assemblies as within broader growth areas which stretched beyond existing regional boundaries. Thus, although the core area the proposed (at the time) urban development corporation (UDC) to oversee growth in west Northamptonshire largely coincides with the three districts comprising the Northampton sub-region, there are strong commuting flows southwards across regional boundaries towards Milton Keynes. Similarly, the identified Corby-Kettering-Wellingborough HMA is also linked with the Milton Keynes / South Midlands Growth Area. The study comments that the coastal Lincolnshire HMA, which runs along the region's coastal strip, exhibits more of a polycentric structure, being mostly rural in character with a settlement pattern based on villages and market towns and exhibiting issues relating to in-migration and second home ownership. It therefore is based on a series of more localised housing markets (e.g. Skegness, Mablethorpe, Boston) sharing similar characteristics but with little inter-migration between them (3.29-3.30). This area also has connections northwards along the coast into the Grimsby housing market area which lies in the region for Yorkshire and the Humber.

**Figure 3.5**

**Proposed East Midlands Sub-Regional Housing Markets**

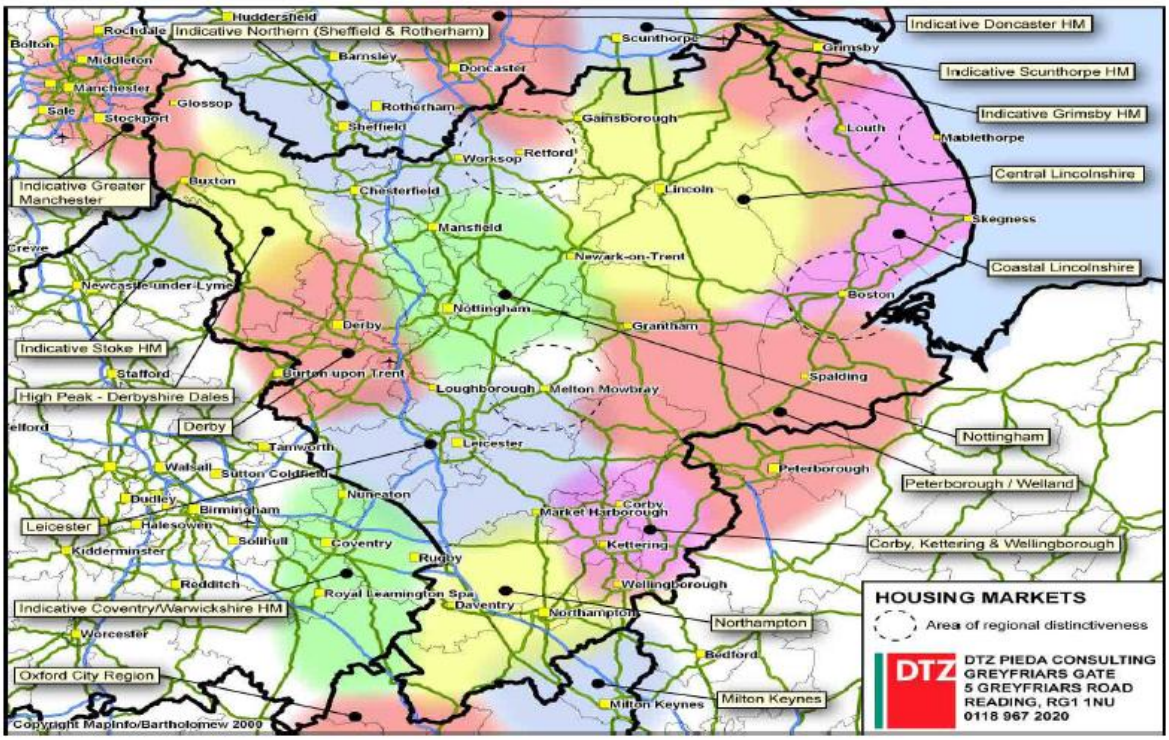
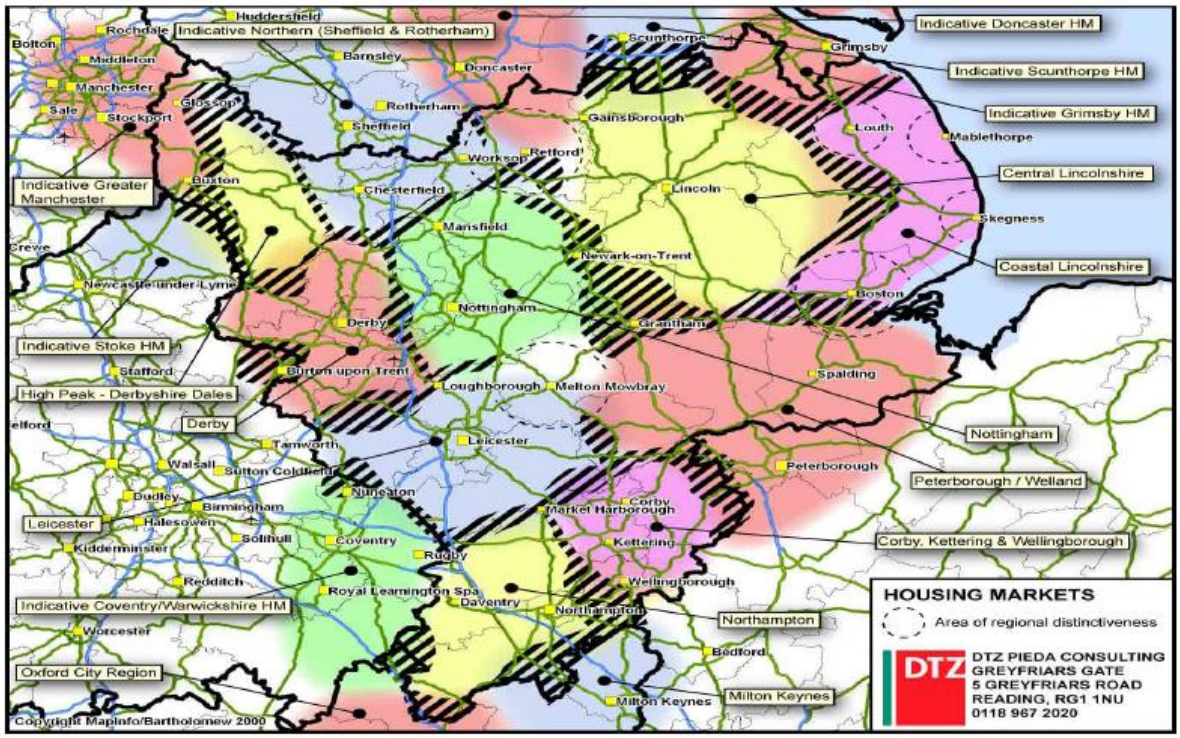



**Figure 3.6 Proposed Sub-Regional Housing Markets with shaded overlaps**

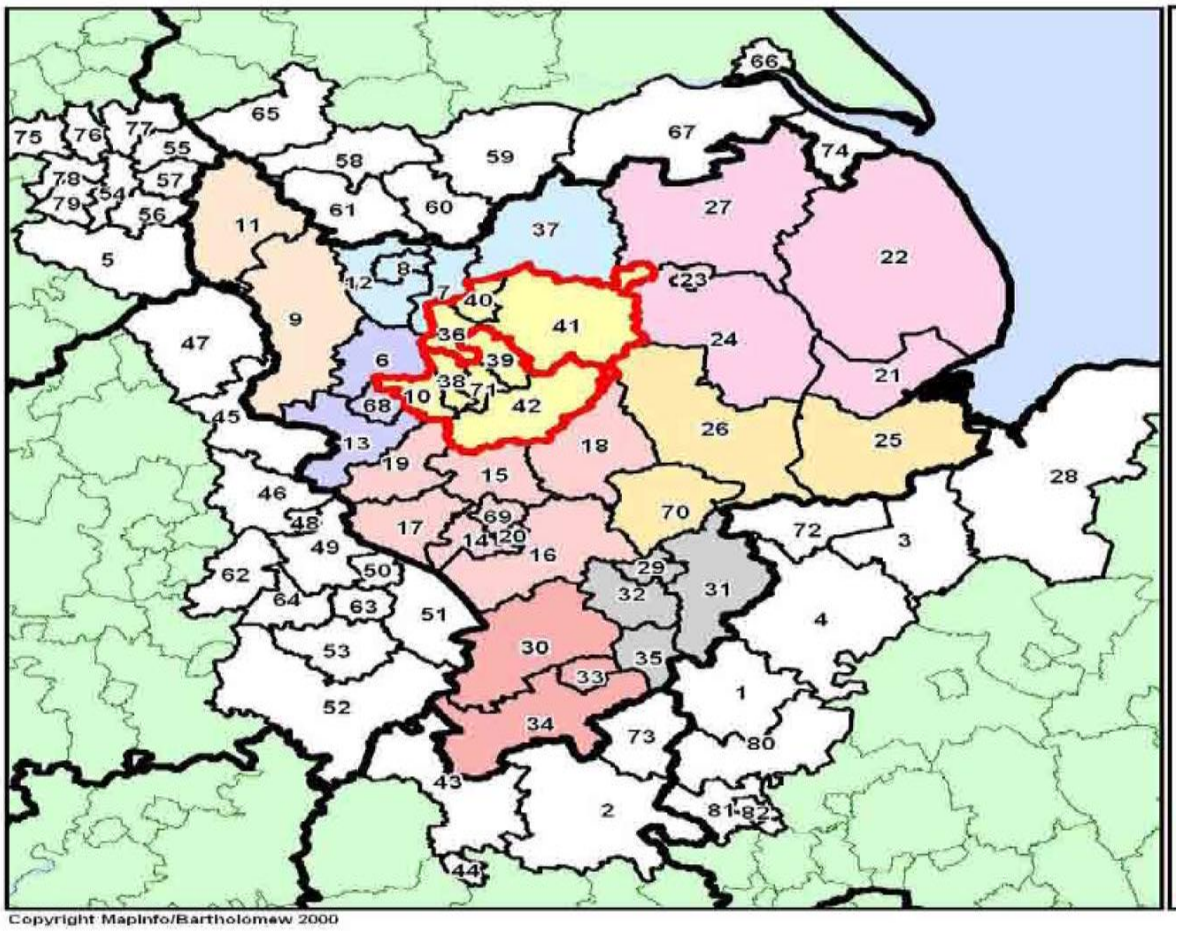


The study also looked at cross-boundary issues and concluded that there were parts of five regions that surrounded the East Midlands that exerted a considerable influence on the spatial pattern of the region's housing markets, thus highlighting the need for effective cross-regional working and co-operation (DTZ Pieda, 2005: 3.47-3.51). As well as the links into Grimsby mentioned above, the strong links from the northern part of the East Midlands region into the travel to work and housing market areas of Rotherham and Sheffield were noted along with the links from the south eastern parts of the region into the Peterborough housing market area within the Eastern Region. Another area of considerable external influence relates to that of the Greater Manchester conurbation on the north western part of the region, adjacent to the identified High Peak – Derbyshire Dales sub-regional housing market and stretching from Glossop to Buxton. The Peak District National Park also lies within this part of the region, mostly within the High Peak – Derbyshire Dales HMA but partly within the neighbouring Greater Manchester housing market area. By contrast, travel-to-work movements from High Peak and Derbyshire Dales are relatively low and the Sheffield / Rotherham markets therefore only marginally extend into the eastern fringes of the Peak District National Park (3.37). The report give no detailed consideration to the special circumstances of a designated National Park in terms of local housing issues or to any potential consideration that (because of its designated status) it might be considered a separate housing market area in its own right.

Having identified the 8 HMAs within the East Midlands and the 2 others (Sheffield/Rotherham and Peterborough) where the core of the housing market lies outside the region but still covers a significant geographical area within it, the study went on to consider the relationship between the identified HMAs and future work on (strategic) housing market assessments. The consultants recommended the adoption of housing market assessment areas based around groupings of local authority districts. In the majority if

cases, these related to single identified sub-market areas (para. 4.06). However, there were some cases which the study recommended should be treated as exceptions. These included a recommendation to undertake a single housing market assessment for the combined Central Lincolnshire and Coastal Lincolnshire sub-market areas (para. 4.07). In contrast, it was felt that a single assessment for the identified Nottingham housing market would be administratively cumbersome, involving eight separate local authorities, and it was therefore suggested that consideration be given to undertaking two assessments, covering the urban core and periphery respectively, albeit with a strong brief to examine how they inter-relate to each other (para. 4.10). Although ideally a single assessment would be prepared for all of the northern (Sheffield / Rotherham) housing market, it was acknowledged that the scale of issues involved and the added complexity of working across a regional boundary could make this difficult. It was therefore suggested that a housing market assessment be conducted for that part of area (incorporating four local authorities) that fell within the East Midlands region with an important component of the brief to explore the relationship with the Sheffield / Rotherham housing markets (para. 4.13). In contrast, it was suggested that a single assessment should be carried out for the identified sub-region that crossed the regional boundary into Peterborough, but that this would logically be led by the East of England Housing Board and Peterborough City Council (para. 4.14). The proposed set of housing market assessment areas is therefore shown by the different coloured areas in Figure 3.7.

**Figure 3.7 Proposed Housing Market Assessment (HMA) Groupings for the East Midlands**



Copyright MapInfo/Bartholomew 2000

Source: DTZ Peida, 2005:30)

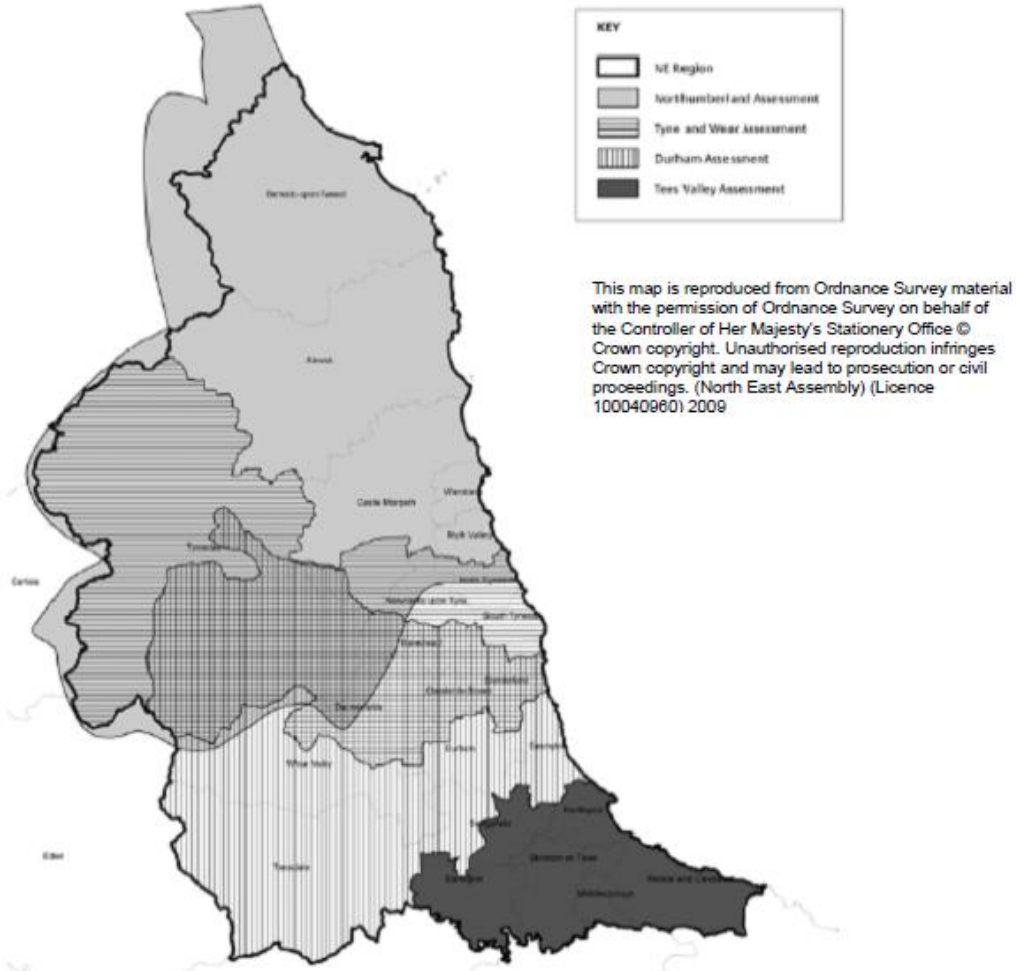
Thus, as was the case in several other regions, the identified sub-regional market areas, that exhibited a degree of in-precision and fuzzy overlapping boundaries (see Figures 3.5 & 3.6 above) were therefore translated into areas based around local authority boundaries for subsequent housing market assessment purposes. No detailed justification, or discussion of the merits, of such an approach are however presented in the consultant's report.

***North East***

In the North East region, the North East Assembly (NEA) has been examining housing markets and market areas within the region for several years. This included an examination of work already carried out by some of the region's sub-regional housing partnerships that was commissioned from Tribal / Centre for Urban and Regional Studies (CURS) in 2008 (*Comparison of Housing Market Areas and Strategic Housing Market Assessments in the North East*, Tribal CURS, 2008). This revealed that different timeframes, datasets, methodologies and overlapping market area boundaries (see Figure 3.8) evident in the existing housing market assessment work carried out within the region made them incompatible with each other and thus incapable of being aggregated to form a consistent overall regional picture.

As a consequence, NEA undertook its own study into *Defining Strategic Housing Market Areas in North East England* (NEA, 2009) from a regional perspective. The study builds on the earlier work by Tribal / CURS and in respect of the previous housing assessments, taking a 'hybrid' approach to identifying sub-regional housing markets that considered functional and migration relationships (including earlier market areas work by CURDS at Newcastle University, 2001 based travel to work areas, and more recent NHSCR origin and destination data) as well as an evaluation of house price data carried out by researchers at Sheffield University (on a similar basis to that already undertaken by Sheffield University for the North West) and consideration of the implications of a retail catchment study undertaken by White Young Green (2006).

**Figure 3.8 Overlapping housing market areas based on existing housing market assessments in the North East**



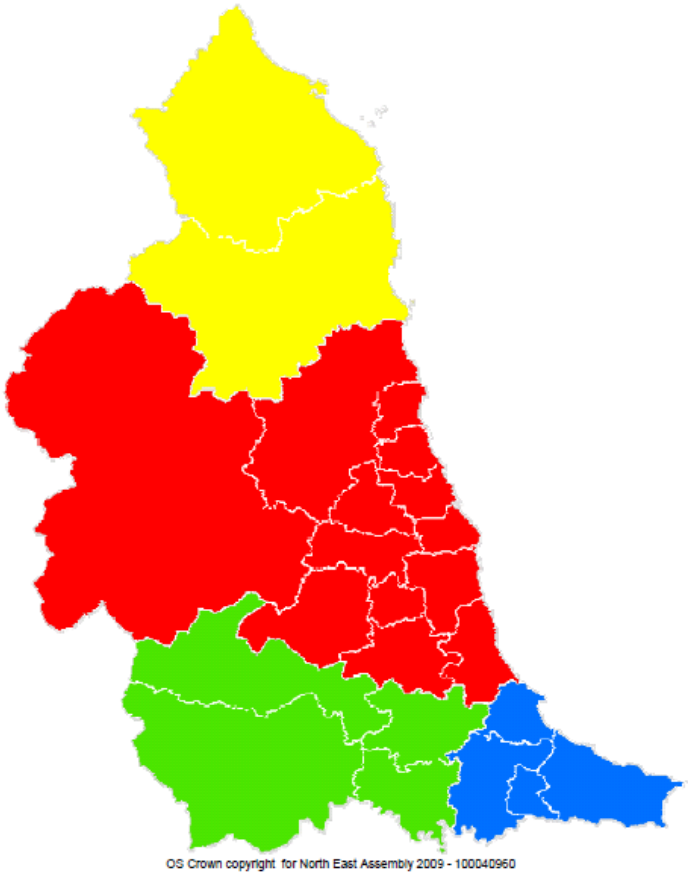

Source: North East Sub-regional HMA/SHMA work and Tribal/CURS (2008)

The earlier work by Tribal / CURS had 'hypothesised' that there were four such strategic housing market areas in the region: one stretching beyond the administrative boundaries of Tyne and Wear into parts of surrounding Northumberland and County Durham; one stretching beyond the administrative boundaries of Tees Valley into parts of County Durham and North Yorkshire; and two much more rural based areas covering western County Durham and northern Northumberland respectively. The subsequent NEA study tested these potential housing market areas using the range of data and analysis mentioned above and informed by CLG's Advice Note (2007a). This work subsequently confirmed the identity of four strategic

housing market areas in North East England (Figure 3.9), although the detailed analysis of migration, travel to work and other data did suggest slight variations to the areas initially hypothesised by Tribal / CURS in relation to which HMAs the districts of Sedgefield and Darlington might be associated with. The analysis of house price data did reveal some differences in sub-regional house prices across the region, generally picking out a number of distinctive sub-regional areas including a northern rural fringe; the Tyne and Wear conurbation; County Durham; Tees Valley and Teesdale with more localised sub areas around Blyth Valley, Darlington and parts of Northumberland (including parts of the Northumberland National Park). The pattern of house prices generally supported the designation of a few, large HMAs and confirmed a clear difference between the two conurbations of Tyne and Wear and the Tees Valley (NEA, 2007: 4.53).

Additionally, the extent of cross-regional relationships were examined and highlighted the links the rural west of the region with market areas in the North West region; Berwick's relationship with the Scottish Borders (but not strongly with Edinburgh); and the Tees Valley's (including Darlington) strong relationship with adjacent parts of North Yorkshire (NEA, 2009: 3.10). The overall conclusion was that, although locally strong in places, the extent of these relationships did not represent large geographical segments or population concentrations within the North East and that, therefore, drawing housing market area boundaries using districts within the North East (whilst recognising the effects of such cross-boundary market activity) could be justified (ibid, 3.11).

**Figure 3.9 Four Proposed sub-regional housing market areas in the North East**




(Source: NEA, 2009)

As was the case with the East Midlands, the resulting strategic housing market areas in the North East were constructed to best fit with existing local authority boundaries at the time, although it is interesting to note that more recent local authority reorganisation has resulted in the abolition of the smaller districts of the shire areas of Northumberland and County Durham and the creation of two new unitary authorities instead. Thus the identified housing market areas do now split the current administrative boundaries of these two unitary authorities as well as incorporating adjacent areas of Tyne and Wear and the Tees Valley. Three of the four areas thus cover more than one local authority (the exception being the North Northumberland area which covers part of the new unitary authority of Northumberland),

necessitating joint working to prepare strategic housing market assessments (SHMAs) for the respective housing market areas and, in the case of County Durham and Northumberland, the need for those authorities to participate in more than one SHMA. The Northumberland National Park boundary straddles the strategic housing market areas for North Northumberland and Southern Northumberland / Tyne & Wear / Northern County Durham, although the report makes no real mention of the Park or any specific issues relating to it.

***Yorkshire and Humber***

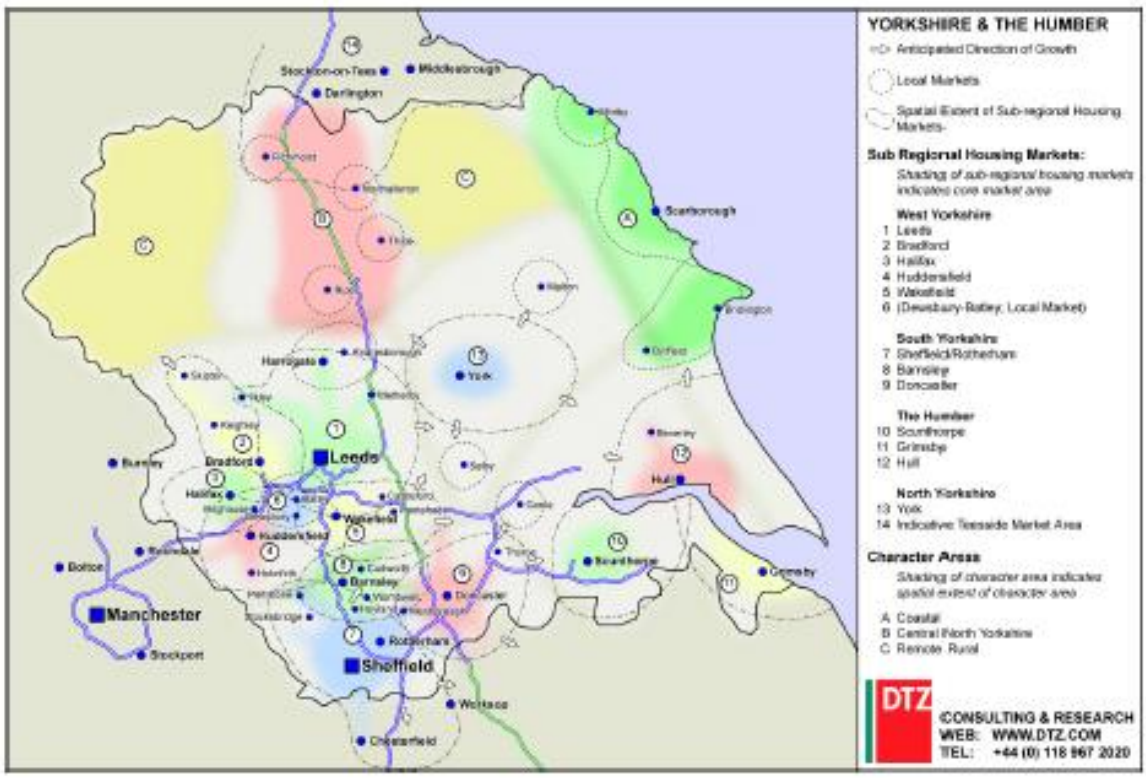
The Yorkshire and Humber Assembly originally commissioned DTZ in February 2006 to identify the pattern of sub-regional housing markets across the region. The methodology employed took account of a range of information including house prices and the distribution of employment patterns and changes over time, but primarily focussed on household and travel to work movements in the region (DTZ, 2006: 2). As in other regions, consultations were also carried out with a range of stakeholders before the report, *Mapping Housing Markets in the Yorkshire and the Humber Region* (DTZ, 2006) was published. The report acknowledged that it was possible to identify markets that exist at three different spatial scales: two large metropolitan markets associated with West Yorkshire and South Yorkshire; a series of sub-regional markets based around the major urban centres in the region including markets that extend out of the metropolitan centres into adjacent rural areas and more freestanding cities and towns in North Yorkshire and the Humber; and local markets, within sub-regional markets, based on small towns or neighbourhoods that have similar characteristics but are not highly integrated (DTZ, 2006: 15). As with other studies undertaken by DTZ in other regions, the latter areas were located in the more rural parts of the region - central North Yorkshire comprising a range of market towns in the A1 Corridor between York and the Tees Valley; a coastal character zone

stretching from Whitby to Bridlington; and a remote rural character zone associated with the Yorkshire Dales and North York Moors National Parks.

All these identified sub-regional and local markets are shown in Figure 3.10. As can be seen, the boundaries of these various identified markets were deliberately left as 'fuzzy' or diagrammatic in nature. The figure also identifies a number of potential cross boundary and cross regional issues by illustrating with an arrow those markets which were felt to have levels of interaction with each other, including links beyond the regional boundaries such as southwards into the East Midlands in the case of the Sheffield / Rotherham sub-regional housing market whilst the northernmost parts of the region (to the north of Northallerton and Richmond) are associated with a neighbouring 'indicative' housing market area of Tees Valley whose main centres lie in the North East of England and thus outside Yorkshire and the Humber. In total, the DTZ study thus identifies 14 sub-regional housing markets (including that of Tees Valley) and three character areas (Figure 3.10).

Following on from the DTZ study (DTZ, 2006), further work was undertaken by a consortium comprising ECOTEC, Nevin Leather Associates (NLA) and Sheffield University in 2007 to further develop a set of strategic housing market areas in the region. The results are presented in the *Yorkshire and Humber Strategic Housing Market Assessment (Phase One Draft Report)* (ECOTEC et al, 2007) and associated *Yorkshire and Humber Strategic Housing Market Assessment Summary Report* (ECOTEC et al, 2008). The boundaries of these revised sub-regional housing market areas are mapped onto local authority (or groups of local authority) boundaries. The rationale for this is summarised in the ECOTEC et al. report (2007: v):

**Figure 3.10 Proposed Sub-regional Housing Markets in Yorkshire and Humber**

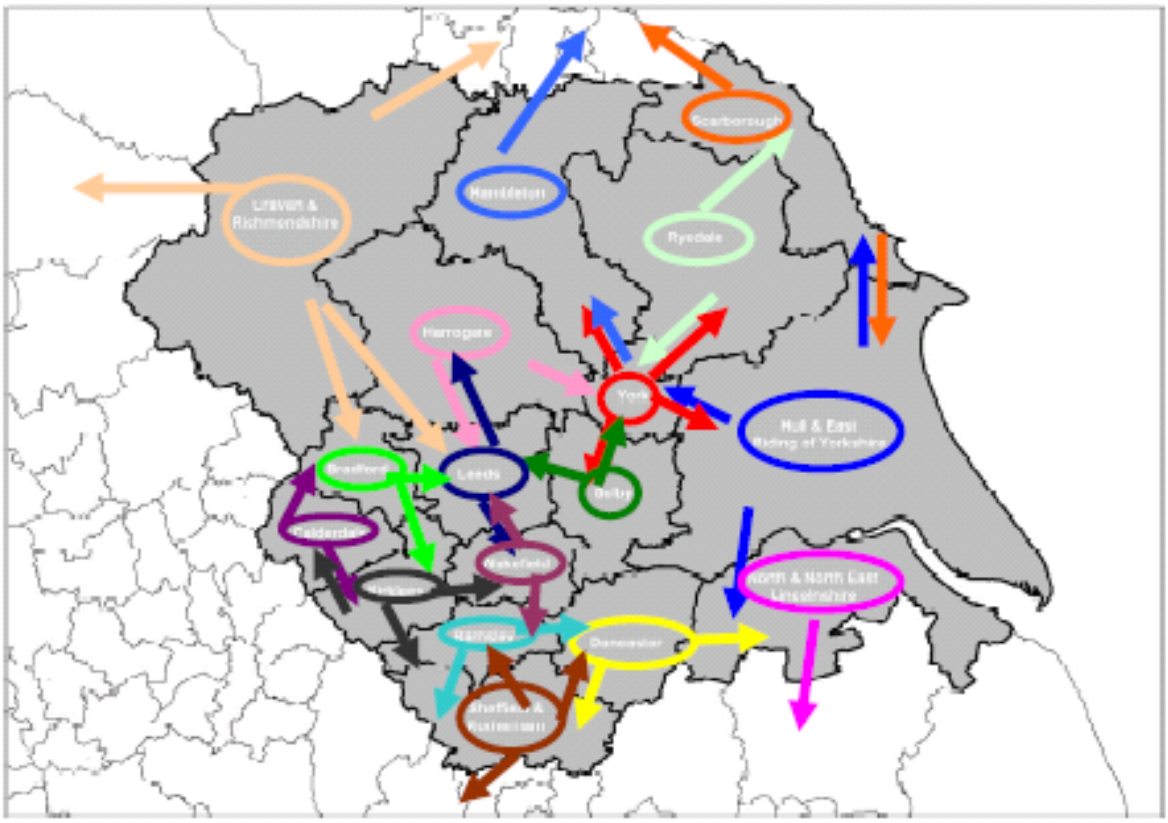



> *'…arguably, it is impossible to derive precise boundaries for housing markets…. Therefore markets tend to be described by the generality of movement or a 'fuzzy' set of boundaries. However there is a practical dilemma in how to take such boundaries forward operationally for the purposes of strategic market assessment and other research, political and administrative processes… The definition of Housing Market Areas also requires a consideration of practical and policy as well as technical issues. Housing markets do not operate on administrative or clearly defined boundaries. However in order for them to be useful in terms of the assembly of evidence and development and delivery of policy it is necessary to identify housing market areas that can be used for this purpose…'*

The report also makes direct reference (ECOTEC et al, 2007: 9) to the advice (quoted earlier) in the CLG Advice Note (CLG, 2007a: 9) that suggests a

pragmatic approach that groups together local authorities as an approximation for sub-regional housing market areas (ECOTEC et al, 2007: 9) and concludes that (ibid, vi and 63), '*… our recommendation is that individual or agglomerations of local authorities provide a pragmatic approach to the definition of HMAs ...*'. Based on this approach, 17 housing market areas (HMAs) for Yorkshire and the Humber were identified (Figure 3.11).

**Figure 3.11 Housing Market Areas and links to wider reference areas in Yorkshire and the Humber**




(Source: ECOTEC et al, 2008)

However, the study also acknowledges that *'… it is important that SHMAs are not restricted to markets operating within the district boundary. The work to examine the extent of housing markets needs to be considered for each SHMA in the context of the markets which have been identified as operating in the region and the places where they overlap or there are strong influences from adjacent areas…'* (ibid, 63). It

therefore recommends that it will be essential to consider the operation of different markets both within and adjacent to the local authorities when SHMAs are undertaken. Where clear connections between such areas (including cross regional connections) could be identified, they were set out in a table included in the annex to the detailed report (ECOTEC, 2007) and were also illustrated diagrammatically (see Figure 3.11) in the associated summary report (ECOTEC et al, 2008). More detailed, individual strategic housing market assessment (SHMA) reports have also been prepared for each of the 17 identified strategic housing market areas in the region.

The more rural parts of the region, and its two National Parks (Yorkshire Dales and Yorkshire Moors) are almost entirely concentrated in the North Yorkshire part of the region which also includes the three character areas originally identified by DTZ (DTZ, 2006). In this context, the report notes (ECOTEC et al, 2007: 16) that some concern had been expressed by stakeholders in North Yorkshire that the identified housing market areas are not the most appropriate or practical for dealing with the issues faced by the more rural areas of the region. This was also reflected in a review of local housing need studies that typically focussed on affordability issues and distinguished a number of relatively small areas within each district. This was not considered surprising by the consultants since those working in the rural economy were likely to relate to much smaller markets and affordable housing needs are more likely to be relevant at such a smaller area level. However, it does again highlight the perceived difficulties in addressing local needs in more rural areas through the medium of, generally larger, sub-regional housing market areas. None of the reports make any significant mention of the particular issues of National Parks, pockets of which cross regional boundaries into the North East (Tees Valley) and particularly the North West (Cumbria) and are split into several identified sub-regional housing markets, albeit mainly concentrated in the sub-regional market areas of Rydale, Scarborough and Craven & Richmondshire.

***West Midlands***

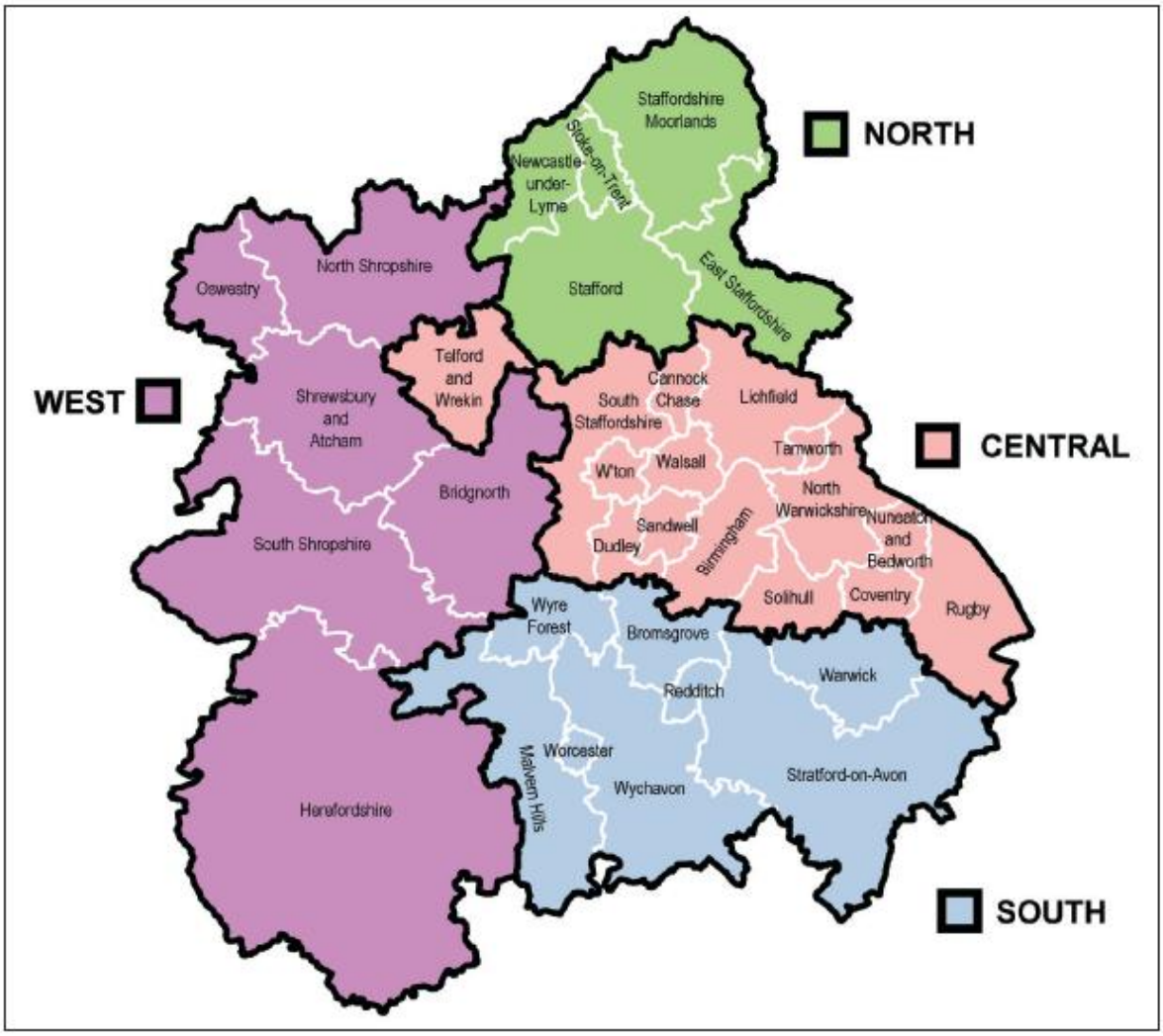
Work on the identification of sub-regional housing markets in the West Midlands region preceded later guidance by CLG and formed the basis of the *West Midlands Regional Housing Strategy (RHS)* published in 2005 (West Midlands Regional Assembly, 2005). The initial research was undertaken by the University of Sheffield and involved an analysis of house price data alongside evidence of functional relationships demonstrated through travel-to-work and other interactions. A wide range of other information, including census migration data, was also used to inform the work and the interim findings were subjected to consultation with stakeholders (WMRA, 2005: 3.3-3.6).

In line with earlier government guidance at the time (e.g. DTZ Pieda 2004), the RHS was required to be based upon an understanding of sub-regional housing markets and to define these without regard to administrative boundaries. However, as noted in a recent draft set of Guidance Notes on the Preparation and Use of Sub-Regional Housing Strategies in the West Midlands (WMRA, 2009: 23-24), in the event ('and by coincidence') HMA boundaries '*…fell surprisingly close to Regional and District Housing Authority Boundaries, except in a few cases where compromise was possible through negotiation with the particular authorities, by including a District wholly within one HMA without prejudicing the integrity of the empirical basis of the major divisions the work identified…*'. Thus, the RHS (WMRA, 2005: 3.15) notes that '*… for pragmatic reasons and for the development of policy, the consultation process suggested the importance of maintaining the integrity of local authority boundaries whilst acknowledging that strategic housing markets do not stop at these boundaries …*' and, consequently, none of the four HMA boundaries in the region identified in the RHS (2005) intersect local authority boundaries (Figure 3.12) but

instead all of the region's local authorities have been fitted within one of four identified HMAs (see Figure 3.12) of the Central HMA; West HMA; South HMA and North HMA, although two shire Counties (Warwickshire and Staffordshire), which at the time were also strategic planning authorities, were split between separately identified HMA boundaries. The recent draft guidance (WMRA, 2009) thus notes that the approach adopted at the time the 2005 RHS was drawn up actually reflects the more recent CLG Advice (CLG, 2007a: 9) on the use of a pragmatic approach that groups local authority administrative areas together as an approximation for functional sub-regional housing markets.

**Figure 3.12**

West Midlands Sub-Regional Housing Market Areas




(Source: WMRA, 2005: figure 3.1d)

Despite this general fit to local authority district boundaries, there were several sub-regional housing market areas where cross boundary issues and interactions were, nevertheless, also identified as being of particular significance: the similarity of housing market conditions between south Solihull (Central HMA) and the South HMA; the relationship between the conurbation (Central HMA) and Bromsgrove and Redditch in the South HMA; the interface between Bridgenorth (West HMA) and Telford and South Staffordshire (Central HMA); the western part of Malvern Hills (South HMA) and the Herefordshire in the West HMA; and Telford's (Central HMA) interface with the West HMA. More generally, the recent draft guidance (WMRA, 2009) highlights a plethora of recent central government advice on the importance of local authorities working together and forming appropriate HMA partnerships to tackle housing issues, including such statements in the Housing Green Paper, Homes for the Future (CLG, 2007d) and the Sub-National Review (CLG, 2007e) and associated Government Response (CLG, 2008).

Although predominantly thought of as one of the most urbanised regions in England, there are nevertheless significant parts of the region that are rural in character, including parts of the Peak District National Park which crosses the regional border with the East Midlands into Staffordshire as well as the remoter rural areas of Shropshire and Herefordshire. Those parts of the Peak District National Park within the region fall within the north eastern part of the North HMA, although little or no specific mention is made in the RHS of the National Park. The RHS does, however, highlight the very different housing issues and challenges faced in the West HMA compared with the other, more urbanised, HMA as a result of its low population densities and remote rural character. The severe resource constraints and low capacities of the smaller districts of Herefordshire and Shropshire are also noted and they are therefore encouraged to work together, thus avoiding duplication of

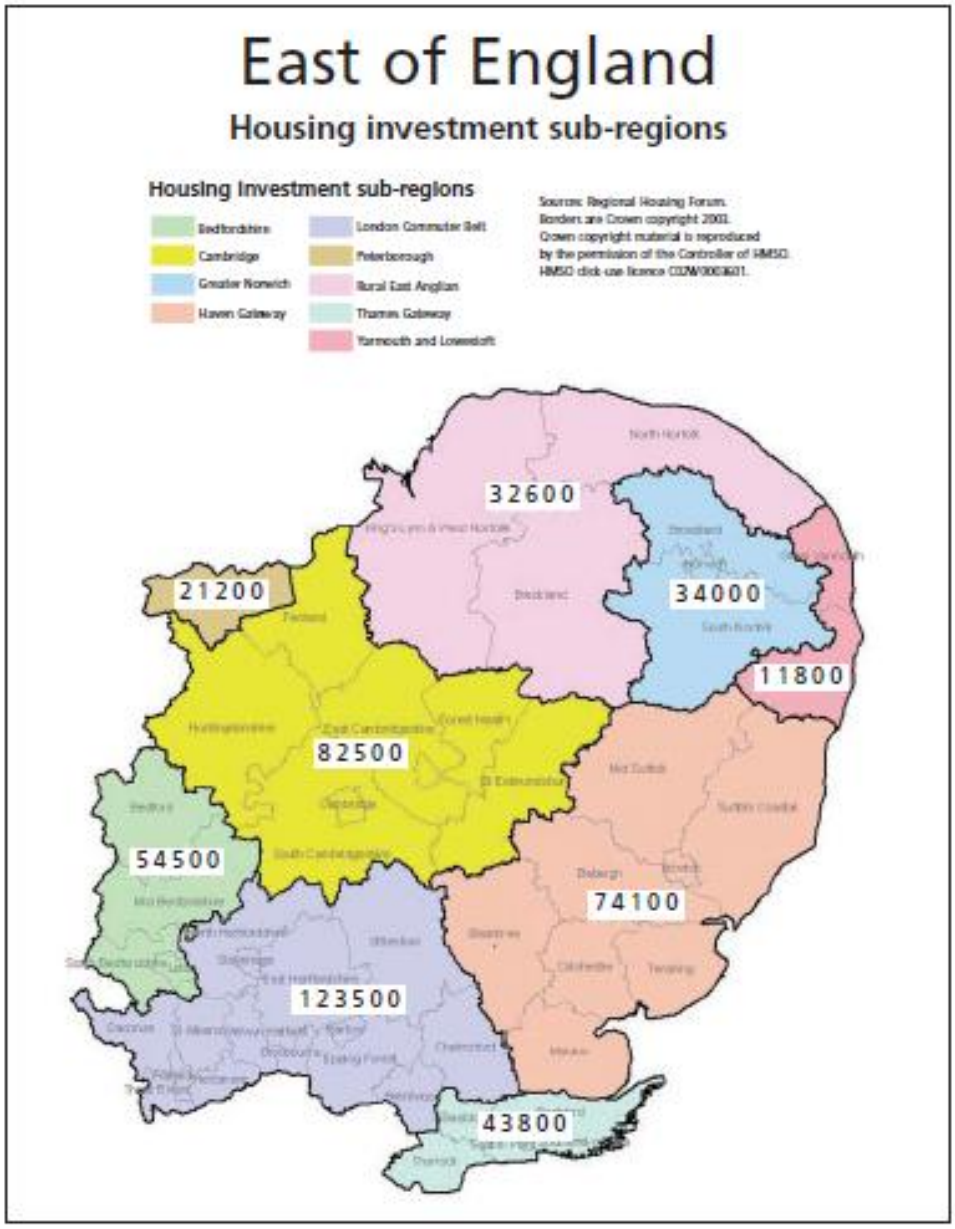
effort, in preparing a single housing strategy for the area (NWRA, 2005: 3.118).

***East of England***

Nine housing sub-regions have been established in the East of England to better reflect the region's differing housing markets (East of England Regional Assembly, 2005a: 4.31). However, it appears that the identification of these sub-regions is actually linked to an earlier, and broader, consideration of the identification of economic sub-regions within the East of England region rather than any specific research on housing markets in particular. Research, originally carried out by SQW Ltd in association with Land Use Consultants in 2002, was commissioned by the then East of England Development Agency (EEDA) and the East of England Local Government Conference (EELGA) as part of the preparation of Regional Planning Guidance for the East of England. The remit for this work included a consideration of '*… the nature and extent of coherent sub-regions within the East of England, defined in terms of their potential for sustainable economic development…*' (SQW and LUC, 2002: 1). This embraced a wide range of considerations including economic futures, environmental characteristics, the influence of London, the geography of deprivation and the geography of (economic) clusters. The resulting typology identified eight 'type a' sub-regions, defined in terms of specific economic drivers; three 'type b' policy areas, defined in terms of their distinctive inter-relationships between the environment and the economy; and a number of additional 'type c' sub-regions, based around corridors and linkages and including inter-regional links. Whilst the latter were illustrated in terms of linear relationships between main economic centres, the 'type a & b' sub-regions were identified (on the basis of 'fuzzy' boundaries) in the consultants' report (SQW & LUC, 2002: A3.6/figure A3.1).

Subsequently, the approximate geography of these generally identified economic sub-regions were used as the basis of policy development within the region's various planning, housing and economic development strategies but, in doing so, were mapped onto local authority boundaries. The resulting sub-regional geography is set out (see Figure 3.13) in the region's revised *Regional Housing Strategy for the East of England: 2005-2010* (East of England Regional Assembly, 2005a). Subsequently, a number of sub-regional strategy and investment plans have been prepared for individual sub-regions in tandem with the overall *Regional Housing Strategy* (EERA, 2005a), including a *Housing Strategy for the London Commuter Belt Sub-Region 2005-2008* (EERA, 2005b) and work by Cambridge University on an *Essex and Hertfordshire Housing Market Study* (Department of Land Economy, University of Cambridge, 2002). Parts of the Broads Authority, established in 1989 with equivalent status to the National Parks, lie within several different sub-regions (Haven Gateway, Yarmouth and Lowestoft, Greater Norwich and Rural East Anglia) within Norfolk and Suffolk.

**Figure 3.13 East of England Sub Regions**




(Source: EERA, 2005: 4.32 – numbers show planned new housing supply figures to 2021)

***London***

Having regard to PPS3 (CLG, 2006) and the CLG Advice Note (CLG, 2007a) on identifying sub-regional housing market areas, the Government Office for London (GOL), the Greater London Authority (GLA) and the London Councils agreed in a joint statement in March 2008 that London (as a whole)

represents an appropriate spatial level of analysis for understanding housing markets and enabling a co-ordinated approach to evidence base work and policy-making across the region (Opinion Research Services, 2009: 1.10). The Greater London SHMA was therefore commissioned with reference to the administrative boundaries of the region. Subsequent work by Opinion Research Services for the Greater London Authority, as set out in the 2008 *London Strategic Housing Market Assessment* (Greater London Authority, 2009) and the associated *Greater London Strategic Housing Market Assessment 2008: Report of Study Finding*s (Opinion Research Services, 2009) therefore covers the whole London region in one assessment. However, it is considered in the context of London's role and position in terms of national housing markets and issues (ibid, 1.13), with London obviously exerting considerable influence on neighbouring housing markets across the neighbouring regions of the South East and East of England and beyond. It is also acknowledged that the region-wide SHMA is unlikely to provide the necessary focus on local issues that may be required for developing housing policies in individual London Boroughs, thus necessitating additional HMAs at a sub-regional level. However, no attempt is made in this report to identify any sub-regional housing market areas or to indicate whether more localised HMAs are expected to be prepared by each London Borough separately or whether there might be joint working in respect of groupings of Boroughs.

## Main Findings and Reflections

This brief review of the identification, and subsequent use, of identified sub-regional housing market areas in each of the English regions (outside the North West case study area) reveals a number of common issues:

- Most regions have engaged in work to identify sub-regional housing market areas from a regional perspective. However, this often does not

start from a blank page, but is influenced by previous work on housing market assessments that has already been undertaken at the local level.

- The methodological approaches adopted to identify sub-regional housing market areas at the regional level have generally adopted a hybrid approach, reflecting the latest government Advice Note (CLG, 2007a), with an emphasis on analysis related to migration and travel to work areas. Some regions (e.g. North East, North West and West Midlands) have also placed emphasis on analyses of house price data and all those reviewed to date have supplemented technical analysis with consultations with stakeholders.

- The adoption of relatively similar methodologies is not surprising since the same consultants (DTZ Pieda, ECOTEC; Nevin / Leather) have often been involved in studies in different regions.

- Where existing work on HMAs has preceded the regional analysis, the methodologies and analyses employed have generally been inconsistent, sometimes involving overlapping boundaries, and are not suitable for aggregation to provide a robust regional overview (this necessitating new regionally based analysis).

- Although technical considerations have been used to generate HMAs, these have generally either been based around local authority boundaries from the outset (e.g. North East) or aligned with such boundaries subsequently for more localised strategic housing market assessment purposes (e.g. South East, South West, Yorkshire & the Humber).

- Although there are clear disadvantages in ignoring evidence that housing market areas often cut across existing local authority

boundaries, unless the resulting HMAs are obviously absurd, there are practical benefits in aligning HMAs to (groups of) local authorities in terms of accountability, delivery, data availability, and spatial planning policy (LDF) preparation and the ease of establishing appropriate partnership working.

- Many housing market areas cover more than one local authority, necessitating the creation of effective joint working and partnerships to adequately address shared housing market issues. However, occasionally (e.g. along parts of the south coast of England) political or other issues appear to have prevented strategic housing market assessments of areas that clearly form a single sub-regional housing market area.

- In some cases, the nature of sub-regional housing markets does not easily fit to local authority boundaries and this has been exacerbated in some places where larger unitary authorities have replaced a greater number of smaller districts (such as in the North East). In such cases, local authorities will need to be involved in more than one SHMA, each of which only covers part of their administrative area.

- Cross regional issues occur to a greater or lesser extent in all regions and necessitates inter-regional co-operation and partnership at the regional and local authority scales.

- Strategic housing market assessments do not generally appear to provide a fine-grained analysis of the issues faced by the more rural parts of the regions, with issues relating to the more rural parts of larger strategic housing market areas often being obscured by the issues and influence of the more urbanised parts of their shared housing market areas.

- The particular characteristics and issues relating to National Parks in planning policy terms are not generally reflected in the identification and assessment of sub-regional housing markets and different parts of individual National Parks have been split between a number of separate HMAs, sometimes also across regional boundaries.

# 4. Variations in Definitions of HMAs in the North West

This section examines the differences of using different approaches to defining HMAS by comparing the spatial patterns of the HMAs defined by three North West studies (ECOTEC, 2006; Brown and Hincks, 2008; Nevin Leather Associates *et al*, 2008). The figures related to the discussion can be found in the Appendix A.

Brown and Hincks and Nevin Leather Associates *et al* identify comparative numbers of HMAs, 25 and 26 respectively (Figures A1 and A2). However, the ECOTEC study identifies 45 HMAs which is significantly more than either of the former studies (Figure A3). The variation in the number of HMAs is a reflection of the methodologies adopted in the three studies. The Brown and Hincks and Nevin Leather Associates *et al* studies incorporate a consultation process with housing market professionals (estate agents) to test and validate the definitional process. In both studies this involved defining a broad set of possible HMAs and refining the HMA geographies according to local knowledge and self-containment thresholds in the case of the Brown and Hincks study. In contrast, the ECOTEC study adopted a much more top-down and technocratic definitional methodology. The approach involved identifying wards with a workplace population of over 5000 which were adopted as seed areas around which HMAs would be defined. The adoption of these areas, however, did not involve any testing of their suitability as cores areas of possible HMAs.

Clearly, the variation in the number of HMAs defined in the three studies has resulted in significant differences in the size, form and coverage of the HMAs defined in the different studies. This is particularly apparent when comparing the ECOTEC HMA geography with the HMA geographies defined by Brown and Hincks and Nevin Leather Associates *et al*. The most striking variation is found across the urban-industrial belt between Merseyside and Manchester. Broadly, the Brown and Hincks study identifies 10 HMAs serving the metropolitan belt and Nevin Leather Associates *et al* identify 7. In contrast, 25 HMAs were identified by the ECOTEC study in the same area. As a result, the HMAs identified in the ECOTEC study are much smaller than those identified by Brown and Hincks and Nevin Leather Associates *et al*.

What the analysis demonstrates is the difficulties associated with distinguishing between HMAs and submarkets. The ECOTEC study identifies Middleton, Stretford, Hyde, Bootle, Huyton, Prescot and Kirkby, for example, as HMAs. However, given that HMAs are intended to represent sub-regional housing markets, it is implausible that these areas represent separate HMAs since many border metropolitan or other urban areas. This problem was not overlooked in the ECOTEC study because a two-tier HMA framework was adopted which identified two upper-tier metropolitan HMAs[1]. However, the adoption of the two-tier framework seems to reflect the inability of the study to reconcile the conceptualisation of HMAs with the methodology that was adopted. The peculiarity of the Central Manchester housing market price structure also means that Nevin Leather Associates *et al* identified what amounts to an urban submarket in Central Manchester.

Even with the adoption of a consultation exercise, however, there is still significant variation in the HMAs defined by Brown and Hincks and Nevin

[1] The two metropolitan HMAs were not included in the look-up file because they adopted fuzzy boundaries and ward allocations could not be distinguished. It was more of an intuitive and suggestive upper-tier definition.

Leather Associates *et al* across the urban-industrial belt. This variation appears to reflect the application of alternative geographical frameworks for constructing the HMAs as well as alternative boundary definition methodologies. The Brown and Hincks study adopted a functional regionalisation approach which resulted in HMAs being constructed from single wards being joined based on the strength of migration flows between each unit. This resulted in a relatively organic evolution of HMA boundaries. In contrast, Nevin Leather Associates *et al* identified areas with similar price structures and grouped these areas to form single HMAs. The problem, however, was that the final step to identify HMA boundaries, following consideration of migration and communing patterns, relied on interpretation of spatial patterns rather than replicable analysis (University of Sheffield, 2005). The interpretive definition of the HMAs across the urban-industrial belt and Central Lancashire appears to have been informed by the city-region concept. The adoption of a city-region framework resulted in fewer HMAs and a less complex HMA geography across the urban-industrial belt especially in comparison to the ECOTEC HMA geography.

In terms of the HMA geographies in Lancashire, there is a degree of consistency in the settlements identified as HMA cores in the Brown and Hincks and Nevin Leather Associates *et al* studies. There is also are fair degree of consistency in the geographies between the two studies with regard to the coverage and size of the HMAs of Blackpool, Lancaster, Burnley, and Rossendale. However, the geographies of Preston and Blackburn do vary in size and coverage; the difference in the latter geography reflecting the identification of a separate HMA for Ribble Valley by Nevin Leather Associates *et al* whereas Brown and Hincks combined the two into a single HMA. With the exception of the Lancaster HMA, the geography of the HMAs identified by ECOTEC is far more varied when compared to the HMAs identified by Brown and Hincks and Nevin Leather Associates *et al*.

The most striking variations are in the size and coverage of the Preston, Blackpool and Blackburn HMAs.

In contrast, there is considerable variation in the HMAs defined for Cheshire across the three studies. Brown and Hincks identify 2 relatively large HMAs covering East and West Cheshire with an additional smaller HMA covering Macclesfield. The size of the HMAs contrasts markedly to those identified by Nevin Leather Associates *et al* who identify a larger West Cheshire HMA serving Chester and a smaller HMA for Crewe and a separate HMA for Congleton. However, the ECOTEC HMAs vary considerably from the Brown and Hincks and Nevin Leather Associates *et al* studies in terms of the number of HMAs, their size and their coverage. This is particularly reflected in the definition of separate HMAs for Northwich and Wilmslow and the inclusion of wards in a Stoke HMA.

Less populated and especially rural areas have long been identified as problem locations when defining functional areas (e.g. Coombes *et al*, 1979). In Cumbria, the three studies identify HMAs around Carlisle, Workington, Whitehaven and Barrow. Although there is consistency in the core settlements used in the definition of the HMAs in Cumbria, the size coverage of the HMAs of each of the settlements varies, some quite markedly. This is particularly apparent in the coverage of the Eden, Workington and Whitehaven HMAs across the three studies. In addition, the Lake District appears to create problems, specifically with regard to the accommodation of Keswick. Nevin Leather Associates *et al* identify a separate HMA for the North Lakes, whereas Brown and Hincks and ECOTEC incorporate Keswick into a wider HMA. The distinction between North, Central and South Lakes by Nevin Leather Associates *et al* does create a problem, however, in accommodating Ulverston and Cartmel which resulted in a small and relatively isolated HMA for the settlement. However, not distinguishing a separate HMA for North Lakes/Keswick has meant that the Brown and

Hincks approach resulted in a peculiar HMA geography for Workington which accommodated Keswick.

In comparing the boundaries of the HMAs from the three studies with local authority and National Park boundaries, what emerges is a set of HMA geographies that vary quite markedly from the underlying administrative geographies. Jones (2002) found a lack of correspondence between HMA and local authority boundaries in west central Scotland and that the local authority areas tended to be larger than the identified HMAs. Due to the number of HMAs defined in the ECOTEC study many of the HMAs tend to serve single local authorities (there are 43 local authorities in North West England – pre 2009 changes) but there is some degree of under-cutting of local authority boundaries (i.e. HMAs are smaller than local authorities) as well as cross-cutting of administrative boundaries (Figure 4). The fact that larger HMAs were defined by Brown and Hincks and Nevin Leather Associates *et al* means that the HMAs tend to cut across local authority boundaries (Figures A5 and A6). This is particularly apparent across the urban-industrial belt. Likewise, there is no correspondence between the HMAs defined in Cumbria with the scope of the Lake District National Park (Figures A7-9). This lack of correspondence is also apparent in relation to 2001 travel-to-work areas in the region. The changes in the TTWA geography between 1991 and 2001 mean that many of the 2001 TTWAs are served by multiple HMAs many of which cut-across TTWA boundaries. This is particularly apparent in the metropolitan areas but also in Cheshire and Lancashire (Figures A10-12).

This brief summary highlights the degree of variation in the spatial patterns of the HMAs defined in the three North West studies. A conclusion that is reinforced when the CURDs approach to defining HMAs outlined in Section 2 applied to the North west produces another geography (for reasons of brevity not presented in the report) .

## Drawing Conclusions

### *HMA size*

No conclusions can be drawn from the NW case study about different definition approaches producing different size HMAs. This is because all the methods appear ***scalable*** (so far as can be understood from available information on their methods). In other words, the same method could be applied to the same dataset *but with one or more key parameter adjusted* and the result would be larger or smaller HMAs. Thus the fact that there are more than twice as many HMAs in the ECOTEC set as in the CURDS set does not reveal anything about the likelihood that an approach based on analysing commuting flows is likely to produce more (and so smaller) HMAs than an approach based on migration flows.

### *Urban/Rural*

It appears that 'pure' migration data analyses – as in the CURDS HMAs – produce boundaries which tend to group urban and rural areas together. Less obviously, they also produce smaller HMAs in more deprived sub-regions (and these tend to be urban), perhaps reflecting more 'constrained horizons' in such areas. The third type of definition – collating selected relevant boundaries such as TTWAs – is similar to the 'hybrid' approach in that it could be implemented in such differing ways that it is fair to say that these might yield many alternative results, of which some may combine urban and rural areas while others tend to keep them separate. As for house price analyses, so far as these were central to producing the Nevin Leather HMAs, they have resulted in a separate 'city centre' HMA in Manchester (but a large undivided Liverpool HMA). With a way to generate HMA boundaries from house price data still a topic of active research, the case study does not provide evidence on how far an approach based on house prices will tend to emphasise and/or separate rural as distinct from more urban areas.

*Local Authority Boundaries*

It seems safe to conclude that the more 'purely' a set of HMAs is based on data analysis – whichever dataset discussed here was analysed – the less likely they are to produce HMAs which consist of whole local authorities (LAs), or to readily respect the NW regional border. This is because those sets of HMAs which either follow the third approach ('TTWAs and other') or an explicitly hybrid strategy are able to 'taken account' of LA boundaries in their trade-offs between the various strands of evidence they have utilised. This is illustrated in the NW case study, where the HMAs of Brown & Hincks and of Nevin Leather – which both drew on multiple data sources – are the more likely sets of HMAs to respect LA boundaries, while also respecting the regional border.

*National Parks*

The evidence of the NW case study confirms what would have been expected: no set of HMAs based on analysing the types of data discussed here is likely to produce boundaries which come close to respecting National Park (NP) designated boundaries. The basis of NP boundaries has led to them typically grouping together more remote parts of the outlying areas of several much more urban sub-regions (eg. Manchester and Sheffield among others fringing the Peak NP). This leads them to being split between several HMAs, each of which includes areas outside the NP as well. The only way to avoid this – it it were thought desirable – would be to put a very heavy 'weight' on the NP boundaries in a hybrid approach that included NP boundaries among the policy boundaries such as LAs which are considered relevant to defining HMAs.

# 5. HMAs and the Structure of HMAs

The review of spatial geographies raises the question as to what the implications of adopting different approaches for defining HMAs are likely to be for understanding and monitoring housing market functioning. This is particularly relevant given that the different approaches, underpinned by

different assumptions, have produced alternative HMA geographies for the same area with the exception of a few areas.

Traditionally, local authority administrative boundaries have been used as approximations to local housing markets largely for practical reasons related to data collection, analysis, and policy development. However, it has been argued that administrative boundaries have little functional meaning within the housing system or economic grounding in their definition to fully justify their use as approximations to housing markets for delivering housing market policy. However, equally problematic is the adoption of alternative methodologies for delineating HMAs, which produce different definitions for different areas, making comparative analysis of housing markets very difficult. Drawing on a few key areas, this section focuses on the implications of adopting different definitions for understanding the structure of HMAs in relation to house prices and house price change; the implications for monitoring stock and stock sales; and the impact for monitoring second homes.

***House Prices and House Price Change***

The urban-industrial belt is an area in which the impacts of alternative boundary definitions on house prices are clearly visible. Table 5.1 compares house prices within the Manchester local authority boundary with house prices for the HMAs serving the same area defined in the three HMA studies (Appendix B provides a comparison of 2008 house prices for the three studies and local authorities). The striking feature of the analysis is the sizeable variation in the house prices resulting from the use of alternative boundaries. The percentage change in the mean house prices between 1995 and 2008 are comparable across the HMAs defined in the three studies. However, the difference between the mean 1995 house price of the Manchester local authority boundary and that of the Manchester HMA defined by Brown and

Hincks is £16,658, a difference of 30 percent. Likewise, the difference between the mean 2008 house price of the Manchester City Region West HMA defined by Nevin Leather *et al* and the mean 2008 house price of the Manchester HMA defined by Brown and Hincks is 23 percent (£40,335). The Manchester HMA defined by ECOTEC is comparable with the boundary of the Manchester local authority area which is why there is comparability between the ECOTEC HMA and Manchester local authority house prices. However, the HMA defined by Brown and Hincks incorporates wards within the Manchester local authority boundary as well as Trafford. The inclusion of the affluent commuter suburbs has resulted in higher mean house prices for the Manchester HMA defined by Brown and Hincks.

**Table 5.1 Mean House Price Trends for Manchester**

| | Manchester Local Authority | Brown and Hincks (Manchester HMA) | Nevin Leather Associates *et al* (Manchester City Region West HMA) | ECOTEC (Manchester HMA) |
|---|---|---|---|---|
| Mean House Price 1995 (£) | 38,128 | 54,786 | 43,988 | 38,931 |
| Mean House Price 2008 (£) | 144,905 | 176,745 | 136,410 | 144,896 |
| Actual Change (1995-2008) (£) | 106,776 | 121,959 | 92,422 | 105,965 |
| % Change (1995-2008) | 73 | 69 | 68 | 73 |

Similar variations in house prices are also visible in the Merseyside area. Table 5.2 compares house prices for Liverpool local authority with house prices for the HMAs serving the same geographical area. There is a degree of comparability in the house price trends between Liverpool local authority and the Brown and Hincks and ECOTEC HMAs. In 1995 the difference between the mean house price of the Liverpool local authority area and the mean house price of the Liverpool HMA defined by Brown and Hincks was 7 per cent and by 2008 the difference had declined to 3 per cent. This reflects the fact that the Liverpool HMAs defined in the ECOTEC and Brown and Hincks

studies are similar in size and form to the Liverpool local authority boundary. In contrast, the spatial extent of the Liverpool City Region North HMA defined by Nevin Leather Associates *et al* is much greater than the Liverpool local authority boundary and the Liverpool HMAs defined in the other two studies. The former HMA incorporates areas of Sefton, West Lancashire and Wirral. With the exception of the depressed area of Birkenhead on the Wirral, these areas tend to act as commuter areas for the Liverpool labour market and consequently house prices are higher in these areas than in the Liverpool urban core. The impact of this is captured in the Brown and Hincks study who define a separate HMA for Sefton and West Lancashire. For the Sefton and West Lancashire HMA, mean house prices increased by £103,997 between 1995 and 2008 from £53,120 in 1995 to £157,117 in 2008 compared to a £93,026 increase for the Liverpool HMA. This represents a difference of 10 percent in the house price increases experienced by the Liverpool and Sefton and West Lancashire HMAs.

**Table 5.2 Mean House Price Trends for Liverpool**

| | Liverpool Local Authority | Brown and Hincks (Liverpool HMA) | Nevin Leather Associates *et al* (Liverpool City Region North) | ECOTEC (Liverpool HMA) |
|---|---|---|---|---|
| Mean House Price 1995 (£) | 39,324 | 42,224 | 48,204 | 40,236 |
| Mean House Price 2008 (£) | 130,805 | 135,250 | 149,674 | 131,245 |
| Actual Change (1995-2008) (£) | 91,481 | 93,026 | 101,470 | 91,009 |
| % Change (1995-2008) | 70 | 69 | 68 | 69 |

Outside of the main metropolitan areas, the variable definition of the HMAs also has implications for house price structure. South Cheshire is an interesting example, particularly Crewe and Nantwich. Table 3 compares house prices for the Crewe and Nantwich local authority with house prices for the HMAs serving the same area defined in the three studies. It is evident

from Table 5.3 that there is comparability in the mean house prices between the Crewe and Nantwich local authority, the Nevin Leather Associates *et al* and ECOTEC studies. In fact, the difference in mean 1995 house prices between the three boundaries is 1.5 percent and this difference fell to 1 percent in 2008. In contrast, there is much greater variation between the house prices recoded in these three boundaries and those recorded for the Crewe and Nantwich HMA defined by Brown and Hincks. In 1995 the difference between the mean house price of the Crewe local authority and the mean house price of the Crewe and Nantwich HMA defined by Brown and Hincks was 11 per cent and even by 2008 the difference had only declined to 10 per cent. The reason for this variability lies in the fact that Brown and Hincks define a single HMA for Crewe and Nantwich which incorporates Congleton. In contrast, Nevin Leather Associates *et al* and ECOTEC define two separate HMAs, one for Crewe and Nantwich and one for Congleton. In terms of the Nevin Leather Associates *et al* and ECOTEC studies, the Crewe and Nantwich HMAs replicates the Crewe and Nantwich local authority boundary. Clearly, this area demonstrates the difficulties posed by less populated and rural areas in identifying functional boundaries particularly where urban areas (e.g. Crewe and Congleton) are disconnected by rural areas.

**Table 5.3: Mean House Price Trends for Crewe and Nantwich**

| | Crewe and Nantwich Local Authority | Brown and Hincks (Crewe and Nantwich HMA) | Nevin Leather Associates *et al* (Crewe and Nantwich HMA) | ECOTEC (Crewe HMA) |
|---|---|---|---|---|
| Mean House Price 1995 (£) | 52,253 | 59,014 | 52,253 | 53,061 |
| Mean House Price 2008 (£) | 164,045 | 183,230 | 164,045 | 165,988 |
| Actual Change (1995-2008) (£) | 111,792 | 124,216 | 111,792 | 112,928 |
| % Change (1995-2008) | 68 | 68 | 68 | 68 |

*Stock and Stock Sales*

**Table 5.4 Stock Trends for Macclesfield**

| | Macclesfield Local Authority | Brown and Hincks (Macclesfield HMA) | Nevin Leather Associates *et al* (Macclesfield HMA) | ECOTEC (Macclesfield HMA) |
|---|---|---|---|---|
| Total Properties 1995 | 1834 | 1671 | 1834 | 865 |
| Total Properties 2008 | 1760 | 1616 | 1760 | 823 |
| % Change in Total Properties 1995-2008 | -4 | -3 | -4 | -5 |
| Total New Builds 1995 | 222 | 187 | 222 | 110 |
| Total Build Count 2008 | 58 | 49 | 58 | 14 |
| % Change in Total New Builds 1995-2008 | -73 | -74 | -73 | 87 |

According to *Planning Policy Statement 11* (CLG, 2009), Regional Spatial Strategies (RSSs) will need to provide housing figures for individual districts or appropriate sub-regional housing market areas. Clearly, the stock of housing is a key structural component of the housing market and feeds into the understanding of the relationship between supply and demand for housing. Table 5.4 provides an insight into the affect of adopting alternative definitions of HMAs on the structure of the housing market for Macclesfield. Macclesfield is a problematic area given its close geographical location to and functional relationship with Manchester. This is reflected in the definitions of the Macclesfield HMA in the three studies. Clearly, the Nevin and Leather Associates *et al* definition corresponds to the boundaries of the Macclesfield local authority area. In contrast, the Macclesfield HMAs defined by Brown and Hincks and ECOTEC deviate from the local authority geography. The difference in adopting the Macclesfield HMA defined by ECOTEC or that defined by Nevin Leather Associates *et al* in terms of understanding the stock composition of the housing markets is significant. In 1995 and 2008, the

difference between the total properties in the Macclesfield HMA defined by ECOTEC and the HMA defined by Nevin Leather Associates *et al* was 53 percent. Likewise, the difference in total new builds between the two HMAs in 1995 was 50 percent which had risen to 76 per cent by 2008.

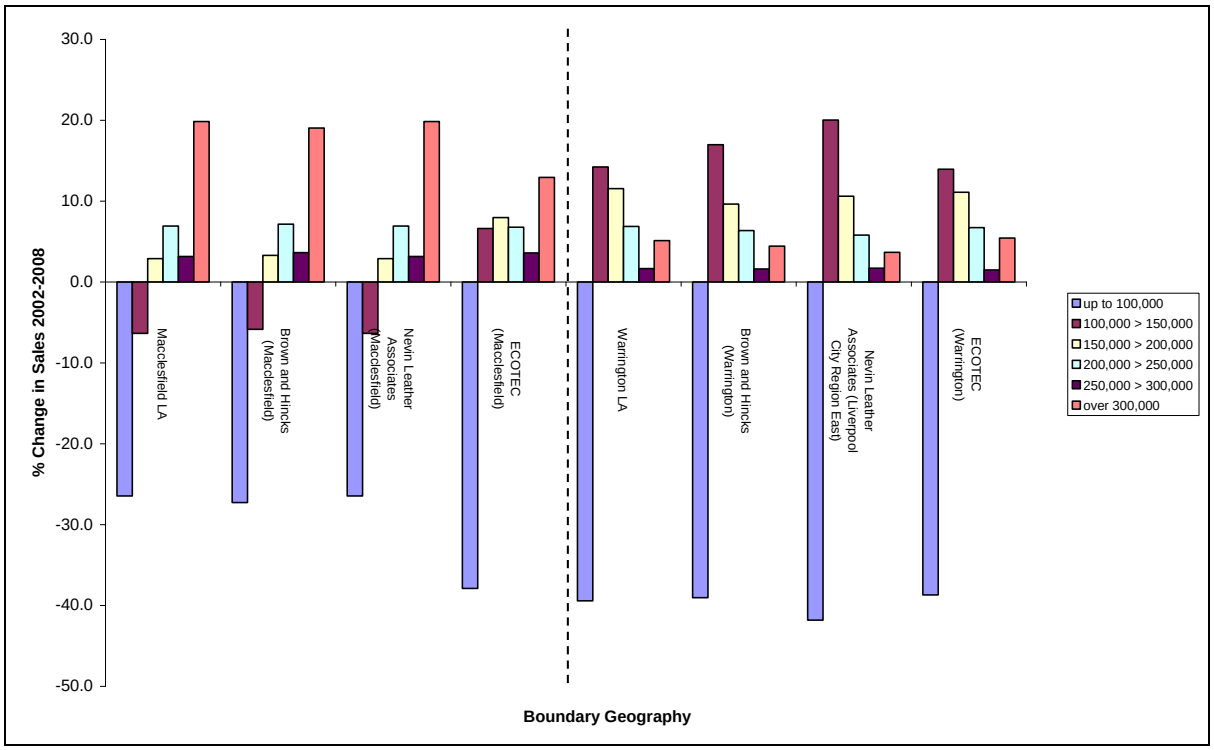
**Table 5.5 Stock Trends for Warrington**

| | Warrington Local Authority | Brown and Hincks (Warrington HMA) | Nevin Leather Associates *et al* (Liverpool City Region East HMA) | ECOTEC (Warrington HMA) |
|---|---|---|---|---|
| Total Properties 1995 | 2186 | 3204 | 4757 | 2217 |
| Total Properties 2008 | 2392 | 3686 | 5290 | 2420 |
| Change in Total Properties 1995-2008 | 9 | 13 | 10 | 8 |
| Total New Builds 1995 | 394 | 628 | 947 | 422 |
| Total Build Count 2008 | 370 | 581 | 754 | 373 |
| % Change in Total New Builds 1995-2008 | -6 | -7 | -20 | -12 |

Similar issues are also evident in Table 5.5 in relation to Warrington. Like Macclesfield, Warrington is a problematic area, arguably even more so, due to its geographical location between both Manchester and Liverpool and its functional relationship to both metropolitan areas. The adoption of the city region framework to inform the definition of HMAs by Nevin Leather Associates *et al* has resulted in Warrington being included in the Liverpool City Region East HMA. The impact of this is a significantly different stock profile than the Warrington local authority area or the Warrington HMAs defined by Brown and Hincks and ECOTEC. Indeed, in 1995 and 2008 the difference between the total stock of properties in the Nevin Leather Associates *et al* HMA and the Warrington local authority area was 54 per cent whilst the difference in the total number of new builds was 58 percent and 51 percent for 1995 and 2008 respectively. Clearly, the impact of such variation

in the stock profile of different HMAs resulting from the use of alternative definitions will be significant for understanding housing supply, demand and need as well as for monitoring house price trends and affordability (Figure 5.1).

**Figure 5.1 Change in Sales for Macclesfield and Warrington**




***Second Homes***

A previous report focusing on housing market trends in North West England highlights the challenges created by second homeownership in the region (Leather and Roberts, 2004). The report identified areas of Cumbria, particularly South Lakeland and Copeland, as having the highest rates of second homeownership in the region. The study recommends undertaking detailed monitoring of second homeownership in 'hot spot' areas. Clearly, the monitoring of second homeownership is important, but as Tables 5.6 and 5.7 demonstrate, the choice of how second homeownership is monitored with regard to the choice of boundary will impact on the understanding of the impact of second homeownership on local housing markets. This is

demonstrated in relation to the total number of second homes in South Lakeland. There is a substantial difference in the total number of second homes in South Lakeland depending on whether the Dales and Rural Kendal HMA is adopted or whether the South Lakeland local authority boundary is used. In 2002, the difference between the two equates to 1032 second homes, a difference of 41 per cent which increased to 44 percent in 2008. In 2008, this resulted in 7 percent variation in the mean second home house prices between the two geographies. Less extreme but still significant is the difference between the total number of second homes for the Whitehaven HMA defined by Brown and Hincks and the Whitehaven HMA defined by ECOTEC. In 2002, the difference between the two HMAs was 19 percent which increased in 2008 to 21 percent. The result of the adoption of the alternative HMA definitions on mean second home prices was a difference of 10 percent between the Whitehaven HMA defined by Brown and Hincks and the HMA defined by ECOTEC.

**Table 5.6 Second Home Trends for South Lakeland**

| | South Lakeland Local Authority | Brown and Hincks (South Lakeland HMA) | Nevin Leather Associates *et al* (Dales and Rural Kendal HMA) | ECOTEC (Kendal HMA) |
|---|---|---|---|---|
| Total Number of Second Homes Counts 2002 | 2500 | 2131 | 1468 | 2097 |
| Total Number of Second Homes 2008 | 1346 | 1134 | 746 | 1109 |
| % Change in Second Homes 2002-2008 | -46 | -47 | -49 | -47 |
| Second Home Mean House Price (£) 2002 | 126,977 | 133,667 | 121,323 | 131,862 |
| Second Home Mean House Price (£) 2008 | 251,084 | 261,255 | 234,089 | 261,542 |
| Actual Change (2002-2008) (£) | 124,107 | 127,588 | 112,766 | 129,680 |
| % Change (2002-2008) | 49 | 49 | 48 | 50 |

**Table 5.7 Second Home Trends for Copeland**

| | Whitehaven Local Authority | Brown and Hincks (Whitehaven HMA) | Nevin Leather Associates *et al* (Copeland HMA) | ECOTEC (Whitehaven HMA) |
|---|---|---|---|---|
| Total Number of Second Homes Counts 2002 | 1310 | 1346 | 1310 | 1096 |
| Total Number of Second Homes 2008 | 794 | 834 | 794 | 661 |
| % Change in Second Homes 2002-2008 | -39 | -38 | -39 | -40 |
| Second Home Mean House Price (£) 2002 | 56,653 | 61,902 | 56,653 | 57,873 |
| Second Home Mean House Price (£) 2008 | 125,330 | 140,018 | 125,330 | 126,539 |
| Actual Change (2002-2008) (£) | 68,677 | 78,116 | 68,677 | 68,666 |
| % Change (2002-2008) | 55 | 56 | 55 | 54 |

The analysis highlights the degree of variation in the spatial patterns of the HMAs defined in the three North West studies. What is apparent from the analysis is the danger in interpreting spatial house price trends as the boundaries of the HMA definition are crucial to the empirical results and this in turn has implications for spatial planning and housing policy.

# 6. Affordability and Housing Market Areas

An important aspect of local HMA is the degree of local housing market affordability. There are a number of different approaches to measuring affordability. Affordability measures range from ratios, such as average price to average earnings and lower quartile earnings to lower quartile house price to the use of residual incomes after housing costs. These approaches have been fully reviewed by Whitehead et al (2009) for NHPAU and it is not our intention here to replicate their analysis but to highlight the key issues for this research.

It explores the way in which affordability measurement is currently approached in practice. The review concludes by addressing whether different measures of local affordability might be used as an additional means of exploring housing market area geographies. It is suggested that, given the problems inherent in measuring affordability including those imposed by data constraints, it is unlikely that measures of this type will be sufficiently robust at local levels to offer a useful basis for geographic analysis.

**Measuring Affordability**

There is an extensive literature that debates the basis for defining households with affordability problems and the means by which affordability should be measured (Hancock, 1993; Hulchanski, 1995; Chaplin and Freeman, 1999; Stone, 2006). The starting point for affordability analysis requires a normative judgement about the costs of provision of an 'acceptable' standard of housing and the income that needs to be left over for other basic non-housing requirements. There are two broad types of affordability measures used: one is based on the ratio of housing costs to income and the other on the residual income remaining after meeting housing costs. The former allows the researcher to identify the proportion of income that should not be exceeded when paying for a home of adequate size and quality. The latter is tied to an assessment of whether the income left over after paying for a decent home is sufficient to allow a 'reasonable' standard of living.

As we note below, the use of ratios dominates practice in the UK. Critics suggest that this type of indicator suffers from the fact that, for those on low incomes, an acceptable ratio (where, for example, one third of income is spent on housing) may obscure the fact that the residual income is well below acceptable poverty thresholds (Grigsby and Rosenburg, 1975). Despite this criticism, however, the use of ratios have tended to be adopted in the interests

of simplicity and because the data requirements are a little less onerous. Nevertheless as we show below they have become more sophisticated.

**Affordability Measurement in Practice**

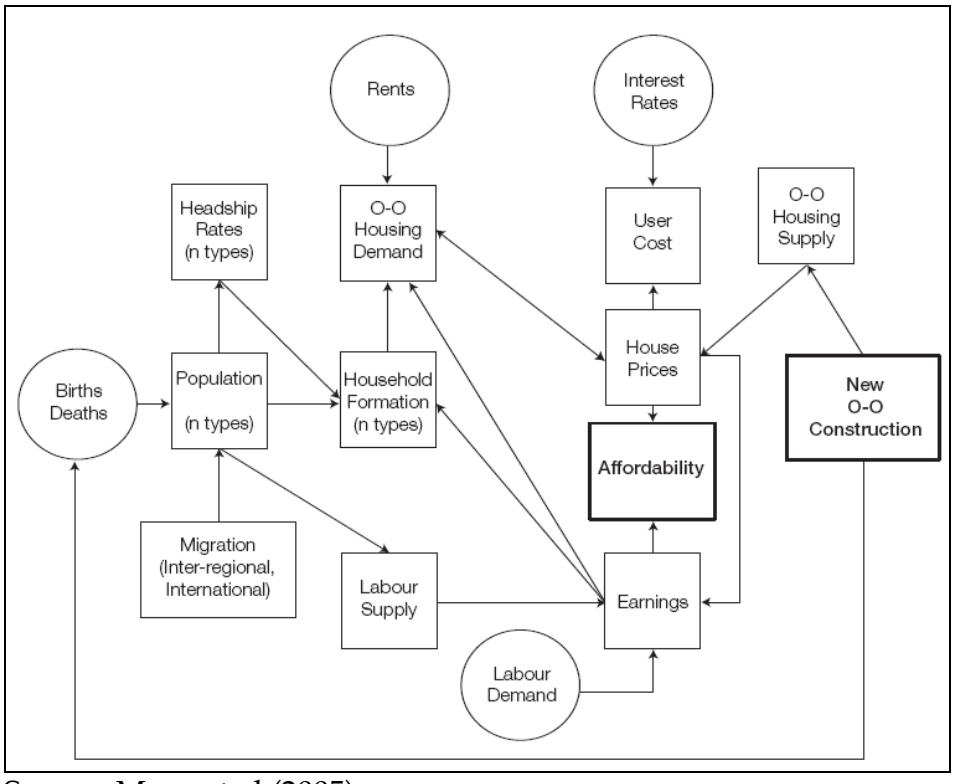
The ratio of average house prices to average earnings is the simplest ratio and there are now long time series for this ratio at national and regional levels. Such a ratio takes no account of interest rates and mortgage repayments and so has only limited applicability as a measure of affordability. An extension of this approach, undertaken by NPHAU (2007) is based the ratio of the lowest quartile of house prices to lowest quartile of earnings for each local authority in England.

More in depth and systematic studies on affordability examining local differences have been undertaken by Bramley et al (2006) for Scotland and Wilcox (2006) for Britain. Unlike the affordability measures above they are not based on (the distribution of) the incomes of the population as a whole. Bramley et al (2006) estimate affordability in a series of steps. First, income distributions for under 35 year olds are estimated in each local authority area. Second, the lower quartile point in the local housing market is calculated as a feasible threshold of access. Finally the percentage of these households able to buy a house at this threshold is estimated on the basis that they could borrow 3.5 times their income with an allowance for family wealth providing help with the deposit.

The approach taken by Wilcox (2006) is similar in that it too focuses on the earnings of young people seeking to buy a home but it targets smaller housing rather than the lowest price housing. The study also first estimates traditional average house price to average earnings ratios for each local authority area for these groups purchasing these house types. Specifically the ratio is constructed based on a mean price for an equal mix of two and three bedroomed houses and estimates of the average incomes of working

households aged 20 to 39 years. The second stage of the analysis by Wilcox (2006) mirrors the Bramley research by estimating the proportion of working households in each area unable to buy a local lower quartile house price of two or three bedroom housing. The analysis assumes a maximum mortgage of 3.75 times income for single earner households (adjustments are made for two earners) and an 18 per cent deposit.

Housing affordability targets have become important in the post-Barker era. These are a key mechanism used in attempts to locate market information at the heart of the evidence base used in planning for housing. An affordability model was commissioned by CLG as a key analytical tool to underpin the response to the Barker Review proposals (see Meen et al, 2005). This model was instrumental in determining the target of reaching 240,000 new homes per annum that was included in the 2007 Comprehensive Spending Review (HM Government, 2007). A similar model with comparable outputs has recently been developed for the Scottish Government (Leishman et al, 2008). The broad structure of the CLG model is summarised in figure below.




Source: Meen et al (2005).

The model works on the basis that prices are determined by the interaction between demand and supply. Housing demand reflects demographic changes (including the effects of migration), earnings (and labour market conditions), interest rates and the relative attractiveness of other tenures (measured by rents). Supply is generated in the construction sector. By matching estimates of household formation that are sensitive to economic change and the number of new homes, it is possible to model the likely effects on housing affordability. The central affordability indicator applied is the ratio of lower quartile house prices to lower quartile earnings. This methodology allows the translation of affordability assumptions in to regional targets for new housing supply.

The central indicator used in this model now appears in other policy contexts. For instance, it is now used as the Government's headline affordability indicator in monitoring the delivery of public sector agreement targets on improving the balance between housing supply and demand. CLG have also been advocating that this measure should be employed at a variety of spatial scales. Recent advice on how local authorities and regional planning bodies might compute key housing market indicators proposes an affordability measure again based on the ratio of lower quartile price (constructed from Land Registry data) to lower quartile earnings (based on the Annual Survey of Hours and Earnings) (CLG, 2007). It is suggested that the indicator be analysed in absolute terms and/or against benchmarks including the historic average ratio, the regional average and an alternative measure based on the ratio of median house prices to median earnings.

Perhaps significantly there has been no clear rationale for the selection of this apparently arbitrary threshold. There has been no overt discussion of the limitations of the measure used, such as the weaknesses of the price measures on which the ratio is based, or the problems with its construction.

**Affordability Measures and HMA Geographies**

The attraction of employing an affordability indicator as those described above is that it relates price change to wider market demand and economic conditions. Affordability measures generally make a link between a normative judgement about the cost of the provision of some form of 'adequate' housing and the minimum 'residual' income required for other basic non-housing requirements. In practice, however, data constraints mean that the construction of robust affordability indicators is problematic. Most indicators consulted in the UK are relatively crude and there are problems of applying them to localised geographies. The reliance on surveys to provide incomes/earnings data means that they are most reliable at high levels of spatial aggregation. The price measures embedded within the indicators are also usually unstandardised.

The most significant constraint to extending the approaches described to local HMAs is the absence of reliable local incomes/earnings data limits the extent to which small spatial building blocks can be used. The studies above use local authority areas as the basic unit of analysis. CLG live table 577 gives the ratio of median house price to median income by local authority district based on earnings data from the Annual survey of Hours and Earnings (ASHE). This is the same data set that the Meen model uses for lower quartile earnings. Beneath local authority level the sparsity of income data limits substantially the sophistication of affordability measures. The Labour Force Survey provides information on individual earnings and the smallest geographical unit is a local authority.. The Survey of English Housing also provides individual income data but is based on a smaller sampling base than the other two samples.

To extend these affordability ratios down to HMAs that are not defined by local authority boundaries will import measurement and data problems. It will require interpolation of income data to ward level by reference to socio-

economic characteristics data from the Census that may be out of date. Commercially produced incomes data in this way, such as CACI and Axiom, are arguably too unreliable at the local level to help solve this problem. One potential way forward in this direction lies in exploring the potential of the ONS synthetic average incomes estimates available at the medium Super Output Area level.

This focus on deriving these more localised ratios neglects the wider dimensions of affordability, especially at the local level. Affordability is not just about access to home ownership but the nature and types of housing available generally and to specific groups of households in particular areas. It can be begin to be seen in terms of the distribution of house prices, the prices of individual property types for which there is a relatively rich database from the Land Registry that can be broken down to postcode areas facilitating use at HMA level. One way forward to avoid the income data impasse is to take certain household types defined by socio-economic-demographic characteristics and assess their affordable options by the interface with the Land Registry data. This approach has been applied for example by the Halifax for key workers such as teachers or nurses on national pay scales. . The potential for this data is shown in the following tables based on Brown-Hincks HMAs for the North West.

## Median House Prices by House Type and HMA in North West 2008

| HMA | Median Terraced House Price £ | Median Semi-Detached House Price £ | Median Detached House Price £ | Median Flat Price £ | All Prices £ |
|---|---|---|---|---|---|
| Barrow-in-Furness and Ulverston | 85,000 | 145,000 | 230,000 | 84,000 | 107,000 |
| Blackburn | 85,000 | 137,000 | 231,500 | 110,000 | 108,000 |
| Blackpool | 105,000 | 140,000 | 245,000 | 119,350 | 130,000 |
| Bolton | 95,000 | 130,000 | 239,000 | 110,000 | 117,000 |
| Burnley, Nelson and Colne | 72,000 | 135,000 | 225,000 | 95,750 | 85,000 |
| Bury and Salford | 106,500 | 135,250 | 225,000 | 124,050 | 124,950 |
| Carlisle | 100,000 | 125,000 | 211,998 | 90,000 | 122,500 |
| Chester | 136,500 | 160,750 | 260,500 | 137,000 | 168,995 |
| Crewe and Nantwich | 113,250 | 140,000 | 243,000 | 112,006 | 147,000 |
| Eden | 151,750 | 177,000 | 285,000 | 129,125 | 190,000 |
| Lancaster and Morecambe | 116,850 | 145,000 | 226,250 | 94,881 | 131,500 |
| Liverpool | 95,000 | 137,500 | 206,995 | 127,500 | 120,000 |
| Macclesfield | 149,000 | 195,000 | 370,000 | 140,000 | 207,725 |
| Manchester | 118,500 | 164,995 | 285,000 | 135,057 | 145,000 |
| Preston | 109,500 | 145,000 | 234,250 | 105,000 | 133,000 |
| Rochdale and Oldham | 90,000 | 130,000 | 210,000 | 115,000 | 110,000 |
| Rossendale | 87,000 | 130,500 | 210,000 | 89,475 | 110,000 |
| Sefton and West Lancashire | 92,000 | 150,000 | 249,950 | 119,950 | 134,998 |
| South Lakeland | 185,000 | 205,000 | 330,000 | 158,500 | 221,000 |
| St Helens | 91,000 | 128,250 | 210,000 | 116,750 | 119,250 |
| Warrington | 103,500 | 138,000 | 235,000 | 115,000 | 134,725 |
| Whitehaven | 88,000 | 115,000 | 203,750 | 89,250 | 112,500 |
| Wigan | 92,000 | 124,950 | 200,000 | 110,000 | 117,950 |
| Wirral | 99,000 | 150,000 | 259,000 | 115,750 | 135,000 |
| Workington | 95,000 | 136,000 | 199,500 | 115,000 | 130,000 |

## Distribution of House Prices in HMAs in North West in 2008

| HMA | up to 100,000 | 100,000 > 150,000 | 150,000 > 200,000 | 200,000 > 250,000 | 250,000 > | over 300,000 |
|---|---|---|---|---|---|---|
| Barrow-in-Furness and Ulverston | 45.9 | 23.9 | 16.7 | 8.1 | 3.2 | 2.2 |
| Blackburn | 44.7 | 28.6 | 12.7 | 6.1 | 2.6 | 5.3 |
| Blackpool | 23.8 | 36.5 | 19.0 | 9.5 | 4.2 | 7.1 |
| Bolton | 34.6 | 35.1 | 15.3 | 7.5 | 2.5 | 5.0 |
| Burnley, Nelson and Colne | 60.8 | 21.9 | 8.4 | 5.2 | 1.4 | 2.4 |
| Bury and Salford | 28.3 | 41.1 | 17.7 | 6.8 | 2.3 | 3.9 |
| Carlisle | 34.1 | 30.4 | 19.9 | 8.5 | 2.4 | 4.7 |
| Chester | 9.8 | 28.4 | 26.6 | 14.5 | 7.1 | 13.6 |
| Crewe and Nantwich | 16.0 | 35.3 | 19.6 | 12.4 | 5.4 | 11.3 |
| Eden | 5.6 | 22.8 | 24.4 | 17.0 | 10.5 | 19.7 |
| Lancaster and Morecambe | 21.9 | 38.3 | 21.7 | 8.2 | 3.9 | 5.9 |
| Liverpool | 33.5 | 36.9 | 17.0 | 7.3 | 2.4 | 2.9 |
| Macclesfield | 7.2 | 21.7 | 19.1 | 15.4 | 8.1 | 28.6 |
| Manchester | 18.4 | 34.9 | 21.8 | 11.5 | 4.2 | 9.2 |
| Preston | 22.4 | 38.0 | 20.8 | 9.9 | 3.9 | 5.0 |
| Rochdale and Oldham | 40.3 | 34.8 | 15.3 | 5.5 | 1.6 | 2.5 |
| Rossendale | 42.3 | 26.2 | 16.0 | 9.5 | 2.8 | 3.2 |
| Sefton and West Lancashire | 26.2 | 33.1 | 20.5 | 10.0 | 3.5 | 6.7 |
| South Lakeland | 4.8 | 17.2 | 19.3 | 18.8 | 11.2 | 28.6 |
| St Helens | 34.5 | 39.7 | 15.6 | 5.6 | 2.0 | 2.6 |
| Warrington | 23.6 | 36.5 | 18.1 | 10.6 | 3.7 | 7.6 |
| Whitehaven | 43.0 | 25.5 | 15.1 | 7.7 | 2.8 | 5.9 |
| Wigan | 34.2 | 38.8 | 15.9 | 7.9 | 1.4 | 1.8 |
| Wirral | 24.1 | 34.5 | 20.7 | 9.0 | 4.4 | 7.3 |
| Workington | 32.4 | 25.7 | 19.4 | 10.3 | 5.5 | 6.6 |

# PART C POLICY ISSUES

## 7. Housing Strategies and HMAs

This section of the report explores the implications of different HMA geographies and different approaches to their definition for local housing strategies and, in particular, for strategies designed to tackle housing affordability problems. The analysis is based on several in-depth interviews with housing and planning professionals. The interviews focused on two geographic case studies in the North West Region: Pennine Lancashire and South Manchester & the Peaks. These study areas were chosen to illuminate two very prominent ways in which the spatiality of affordability problems becomes visible. The first (Pennine Lancashire) is concerned with the degree of variation in demand levels, even over very short distances, within HMAs (and as highlighted in particular in HMR Pathfinders). The second (South Manchester) exemplifies the way in which rural housing markets interact with nearby urban areas with, for example, affordability problems for local residents arising in popular commuter and/or retirement settlements.

A total of ten interviews were conducted: three with practitioners from Pennine Lancashire and seven with respondents from South Manchester (see Appendix X for a respondent list). The interviewees were supplied, in advance of the discussion, with a set of maps of three (Nevin Leather, Ecotec and Brown and Hincks) different definitions of HMAs for the NW. They were then asked to reflect on the usefulness of these different definitions from their local perspective. There were two broad themes considered. First, interviewees considered the extent to which the HMAs reflected their understanding of the workings of the regional and sub-regional market. This required reflecting on issues such as the determination of house prices, spatial migration flows, links to commuting patterns, differences between tenures and sensitivities to micro-locational variations (e.g between urban and rural;

and high and low demand localities). Second, they were asked to think about the implications of the differences in definitions (given the limits to usefulness identified) for the development and implementation housing strategies. This required that respondents considered what the definitions might mean for plan making, S106 polices, undertaking Strategic Housing Market Assessments, and the practicalities of (statistically) measuring and monitoring housing outcomes.

The review revealed a degree of internal consistency and commonality in policy priorities within the HMAs defined in the Pennine Lancashire case study area. The different sets of HMAs defined in the three studies were reasonably consistent in terms of the settlements identified as HMA cores. The main differences related to the inclusion of Hyndburn with Blackburn and Darwen in the Nevin Leather Associates definitions and to the treatment of Ribble Valley which is included the Blackburn HMA in its entirety by Brown and Hincks and part in each of the Pendle and Blackburn HMAs by Ecotec. The Ribble Valley is primarily a rural area which comprises a few smaller towns where house prices are much higher than those in Darwen and Hyndburn. It is thought to be a very different market from that in neighbouring LA and, for that reason, Nevin Leather used its boundaries as a discrete HMA.

The HMAs defined for South Manchester and the Peaks are more varied. Ecotec, for example, sub-divide the Manchester core far more than the others while there is also considerable variation in the HMA geographies of Cheshire. Brown and Hincks separate East and West Cheshire in contrast to Nevin Leather who identify a larger West Cheshire HMA (which includes Chester) and two other smaller HMAs for Crewe and Congleton. The Peaks are also particularly problematic. It is clear that parts of the constituent LAs have links to different urban conurbations (Derby, Sheffield, Manchester)

located in different regions and, as a result none of the definitions are closely related to administrative boundaries and all differ.

Interestingly the working definition of the Peak HMA (which consists of High Peak and Derbyshire Dales LA districts) used to shape the SHMA has been taken from the DTZ Pieda (2005) definition produced for the East Midlands rather than any of the three NW studies. Although it is recognised that settlements such as Matlock and Glossop do not represent substitutes in any meaningful sense, the appeal of the definition used is that there is a degree similarity in terms of the strategic policy challenges faced in the two districts. It is generally felt that, even though the HMA may be limited in functional terms, it serves as a useful basis for framing policy and, as the LAs are also involved in Sub-regional partnership working in both the East Midlands and Greater Manchester, there has been an opportunity to avoid any significant breaks in the 'policy gradient' (e.g. there are no major differences in S106 thresholds, etc.). Although it was acknowledged that rural housing problems often have (at least in part) urban causes, it was not felt that the HMA definition might act as a constraint to developing solutions.

The Peak HMA case exemplifies both the degree of pragmatism that governs the choice of HMA definitions and the way in which policy makers are reluctant to use HMAs in isolation. At a general level, interviewees were acutely aware that ultimately many policy decisions are politicised. This means that working within HMAs that are built from contiguous LAs is highly desirable. It is argued that one of the main contributions of the work on HMAs is that it has served to encourage and foster communication between neighbouring LAs. This has started to yield benefits in terms of improved policy coordination and consistency. At this stage, however, policy coordination stops some way short of taking 'hard' decisions about the location for investment or development, particularly when this might mean differential treatment of neighbouring LAs. In addition working across

regional boundaries, even where 'pure' HMA might suggest that this is important, is very limited to date. These sorts of pragmatic and political concerns have tended to be more important than any concerns associated with weak functionality or the lack of sensitivity to the diversity within areas.

In both study areas, the Nevin Leather definitions have been important in that they have been used to provide the boundaries for SHMAs. These boundaries were thought to be more of a 'policy compromise' which reflected the results of considerable consultation with LAs within the region. Despite this, the resultant HMAs are broadly thought to be sensible, even though there are some parts of the region where the boundaries are contestable (e.g. Bury). It seems clear that the consultation that informed these definitions and their closer relationship with LA boundaries has helped ensure 'buy in' and use (especially when compared to the Ecotec work). This set of HMAs is perceived to have the important additional advantage of matching the administrative geographies at which key housing and local economic data are available.

This makes for an interesting contrast with views expressed about the Brown and Hincks definitions. These were described by interviewees as being 'purer' and 'more academic'. Some interviewees suggested that these appeared to correspond more closely with their understanding of functional markets and that this was reflected in the way they cut across Local Authority boundaries more frequently than the alternatives. Ultimately, however, there was a feeling that this actually made the boundaries less useful in practice.

It was widely recognised that all of the sets of HMAs for the North West have weaknesses. The interviewees, in particular, highlighted the problem of overlapping geographies. It is recognised that some parts of the market are substitutes for localities in other HMAs while others and actually from part of a regional or even national market. Others are under-bounded by current

HMA geographies, particularly within the social rented sector or for low-income groups, and are very localised in scope. It was suggested that there are almost always pockets of self containment, especially where there are high levels of neighbourhood and community attachment, and there are many sub-areas where there are peculiar commuting and migration patterns that are aggregated away at the HMA level. In strategy terms, this internal differentiation limits the usefulness of HMAs as a framework for exploring the interactions between urban and rural areas and the differences between small scale, contiguous high and low demand areas.

Several interviewees were of the view that HMAs tend to be useful as a basis for higher level strategies. At the local level, the HMA geographies were thought to be helpful when they are combined with a more fine grained understanding of the distinct sub-areas (submarkets) that exist within the constituent LAs (as captured in SHMAs and/or Housing Needs Studies). It was argued, more generally, that the utility of the competing definitions is highly dependent on the way in which they are to be used in housing and planning strategies and that different policy challenges require a different understanding of market geographies.

# 8. HMAs and Implications for Spatial Planning

In this section a review is undertaken of the potential implications for spatial planning and local housing strategy of the different approaches to defining HMA geographies that have been set out elsewhere. This has involved interviews with a variety of practitioners involved in spatial planning and housing strategy development at the national, regional and local (case study) level. The review of the relationship between HMAs and spatial planning has generally considered the following issues:

- The fit between functionally derived HMAs and existing planning geographies at regional and sub-regional levels as well as local authority districts (involving a desk and internet based study of documentation primarily

supplied to the research team by the regional representatives on the project steering group) .

- The fit between HMAs and National Park areas, particularly in relation to the two National Parks (the Peak District and the Lake District) with relevance to the case study region of the North West.

- The extent to which the HMA boundaries can help provide a fine-grained view of the housing market impacts of urban-rural interactions.

- Relevant issues that have emerged in Planning Inquiries and Examinations in Public (EiPs) into emerging spatial planning strategies at the regional and local level (based primarily on general interviews with the Planning Inspectorate).

The interviews concentrated on a general overview of perspectives on the definition and use of sub-regional housing market areas from a national perspective (including the Planning Inspectorate, CLG and RTPI) and from an overall regional perspective (including the North West Development Agency and the North West Regional Assembly (now 4NW). This commentary details the findings from the interviews and associated analysis. The findings have also been informed by the discussions that emerged during the workshop on 14th September 2009 in Manchester.

***The Derivation of HMAs***

The development of a consistent and robust methodology to define HMAs is regarded by many of the interviewees to be a valuable exercise. Two specific reasons are given for this. First, a set of consistently defined HMAs would provide a more reliable reference point for local authorities than is currently available. Second, it was recognised that having in place a set of robust and consistently defined HMAs was necessary if the HMA framework was to achieve buy-in from 'users'. Of the three commonly used approaches (house prices; migration and search patterns; and commuting patterns), it was widely recognised that they all have some strengths and

weaknesses and that a combination of the three would best serve the purpose of defining HMAs. This reflects the fact that none of the approaches taken on their own can be expected to capture the processes and circumstances underpinning and driving the way that housing markets function.

In a number of the interviews, questions are raised over the stability and robustness of housing market areas. It is reasoned that individual behaviour can change markedly because of a variety of factors such as changes to school catchment area policies. Likewise, existing policy commitments and new policy initiatives (such as the designation of new eco-towns) can have a marked impact on localised and sub-regional housing markets. Although similar issues can occur with travel to work areas (e.g. the impact of the opening of Toyota in Derbyshire), one interviewee was concerned that housing market areas might prove to be less robust or stable than travel-to-work areas.

This issue was also raised in the workshop discussions in which it was argued that the boundaries of the HMAs need to be stable and have to be able to stand the test of time given their application as a tool for informing policy. As a result, the timeframe for revising the HMAs requires careful consideration and the discussants recognised that a revision every 2-3 years would not be beneficial given the timescales over which policies evolve. However, a10 year revision timeframe was considered to be too long and that policies might suffer from the use of outdated HMAs. Therefore, it was suggested that the revision of the HMAs should take place approximately every 5 years or so.

It is recognised on a number of occasions that in deriving HMAs the tension between pure technical derivation and policy pragmatism would need to be reconciled. A number of the interviewees and workshop discussants commented that the importance of 'practical delivery' will often override technical concerns. This is reflected in the South East Plan in which the HMAs are defined based on groupings of local authorities. Many of the interviewees and discussants recognised that the dominant 'practical' consideration will be whether local authorities served by specific HMAs can work together due to political circumstances. Politics often gets in the way of rational / technical considerations in plan-making and consequently it was argued that

there needs to be a degree of flexibility between the political interests of the policy framework and the technical evidence base. However, political convenience was not seen to be an insurmountable obstacle.

A number of the workshop discussants commented that local authorities need to be encouraged to move away from a politicised way of working to consider more fully market functioning through a 'carrot and stick' approach possibly consisting of incentive funding from HCA for example and/or the adoption of MAAs. Emerging from the discussions was the recognition that the most workable process might be to initially define housing market areas from a technical perspective but then to consider the extent to which appropriate partnerships are feasible, and therefore to adapt the policy framework to make it work as is the case in the derivation of travel-to-work areas. The recommendation was then to validate the boundaries of the derived HMAs by testing out different groupings of local authorities to determine the 'fit' between the 'pure' HMAs and 'politically' derived HMAs.

***The Role and Functions of HMAs***

A number of interviewees and discussants suggest that HMAs should form part of the 'analytical toolbox of planners' but that they are unlikely to ever be adopted as actual planning areas. Rather, their function was widely seen as a tool for informing policy through the contribution to the evidence-base of spatial planning. Indeed, it was acknowledged that HMAs have a key role to play in SHMA but that they do not have a role to play in SHLAAs. In theory, HMAs should be used to inform SHMA and thus the core strategy of the LDF in terms of housing targets and strategic housing policies. However, in practice, there was a feeling that local authorities tend to be rather selective in how they define and use HMA and SHMA to justify their policy action.

One interviewee from the Planning Inspectorate highlights that the new LDF system is still struggling to become established and as a result the Inspectorate are generally trying to be as pragmatic as possible about the tests of soundness. In this context they will not usually find an emerging strategy as unsound simply on technical matters unless backed up by objections or reasoning in relation to the spatial planning

implications. As a result, the interviewee suggested that where local housing market assessments are prepared for geographical areas that differ from the sub-regional housing market areas identified at the regional scale (e.g. in RSS), the Inspectorate is unlikely to pick this up unless the Regional Planning Body has issued a statement of non-conformity. Even when the inspector is faced with the problem of technical inconsistencies, they would still focus on the delivery as they had to recognise both the politics and issues of synchronisation (both at different spatial levels and across different local authorities).

Therefore, the role of HMAs in contributing to the evidence-base for spatial planning through SHMAs appears to be undermined by the limited incentive for local authorities to undertake 'market' assessments. Rather the incentives, both political and practical, are to undertake 'planning area assessments' using local authority boundaries for example. It was recognised that whilst the evidence-base for spatial planning should be used to inform the policy-making process, too often local authorities seem to start with a policy-based position and then seek an evidence base to justify this, rather than undertaking appropriate analysis which is used to inform and develop policy. The interviewee from the Planning Inspectorate commented that this is a further demonstration of the continued need for culture change on behalf of local planning authorities and other stakeholders to fully embrace an evidence-based approach to policy.

However, a positive outcome of the adoption of HMAs has been the encouragement of local authorities to work together. SHMAs have fostered partnership working outside the local authorities and within local authorities there have been changes over internal partnership working. One interviewee commented that there has been more interaction between housing and planning officers through the work of SHMA, and more recently, the interaction has extended to economic development officers. The implication of this is the evidence of greater policy integration within and between certain local authorities.

***Delivery Issues***

It is recognised that the use of HMAs to deliver policy faces a number of challenges including issues relating to HMAs that cut across local authority and regional boundaries; the synchronisation of plan preparation between LDFs and RSS and/or between two LDFs within shared HMAs; and issues relating to specially designated areas such as national parks and growth areas. It was suggested that HMAs that cut-across administrative boundaries would create problems of accountability particularly in terms of issues relating to affordability targets and housing supply. According to one interviewee this issue supports the adoption of a delineation strategy based on adherence to local authority boundaries which would make it easier to identify responsibilities.

Likewise, the issue of how to accommodate the 'Growth Areas' is another example of where cross-market issues will arise. One interviewee highlighted that there is already controversy surrounding how the Milton Keynes Growth Area was handled in the different approaches used to define HMAs. A number of discussants at the workshop from rural planning authorities noted the difficulties created by urban-rural interactions which are complicated and difficult to deal with. One interviewee commented that it is difficult to measure or anticipate the impact of the urban economy and urban housing market on the rural economy and rural housing market. It was recognised that this issue is complicated further when urban centres are surrounded by large expanses of rural areas creating extensive HMAs which can make SHMAs complex.

In both the interviews and the workshop, it is acknowledged that the issue of how to accommodate National Parks in the derivation of HMAs was particularly difficult given their unique policy delivery challenges and planning status. It was suggested that the decision as to whether National Parks should be treated differently in terms of analysis (e.g. having their own housing market area) would need to take account of the circumstances of the individual Parks. For example, the context of the Peak District, surrounded by major urban areas on all sides, is very different to that of a more isolated Park such as Dartmoor. However, it was also acknowledged that all National Parks are driven by specific policy thinking and it is feasible to consider

each National Park to be one HMA. The difficulty in this, however, is that there are multiple layers of bureaucracy and administration and there would be a need to establish unitary authorities in the Parks (not just planning authorities). In addition, the artificial constraint imposed to identify single National Park HMAs would mean that National Parks would become 'planning areas' rather than 'market areas' and in the North West and Derbyshire, for example, it was recognised that this artificial constraint would create peculiar spatial geographies for a number of HMAs.

***Advantages and Disadvantages of Delineating a National Geography of HMAs***

A minority of the interviewees and workshop discussants raised concerns about deriving a set of national HMAs. There was concern that while a set of nationally derived HMAs could be used for analytical purposes, once they exist, there could be pressure to change existing locally derived HMAs to conform to the national boundaries. Even so, the pragmatic needs of policy delivery, funding and initiatives, and accountability are based at local authority boundaries which it was suggested could drive local authorities back to use their administrative boundaries and discourage politicians from buying into the national set. Furthermore, the workshop discussants raised the point that HCA has already agreed with local authorities on their single conversation geographies which they argued would make it difficult for the unilateral adoption of the national set of HMAs.

Despite these concerns there was consensus that a set of nationally defined HMAs could co-exist with the more locally defined ones as they will serve different purposes. It was acknowledged that a national set of HMAs would allow comparisons within and across different regions and across the whole country to be made and could be used to coordinate cross-regional policies interventions. It would also help local authorities and key stakeholders to think strategically in spatial terms beyond their own administrative boundaries and to recognise the reality of the housing market. It was argued that this could enhance partnership working and provide local authorities with a better understanding of the trade-offs involved in planning for the housing market rather than administrative boundaries. In practical terms it was also argued that a national set of HMAs would save resources as local authorities would not have to commission research to derive their own HMAs. However, one interview noted

that because of the contested nature of housing development, it could become a costly exercise if local authorities start to commission research to argue against the nationally derived set of HMAs.

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# Appendix A

## Figure A1 HMAs defined by Brown and Hincks (2008)

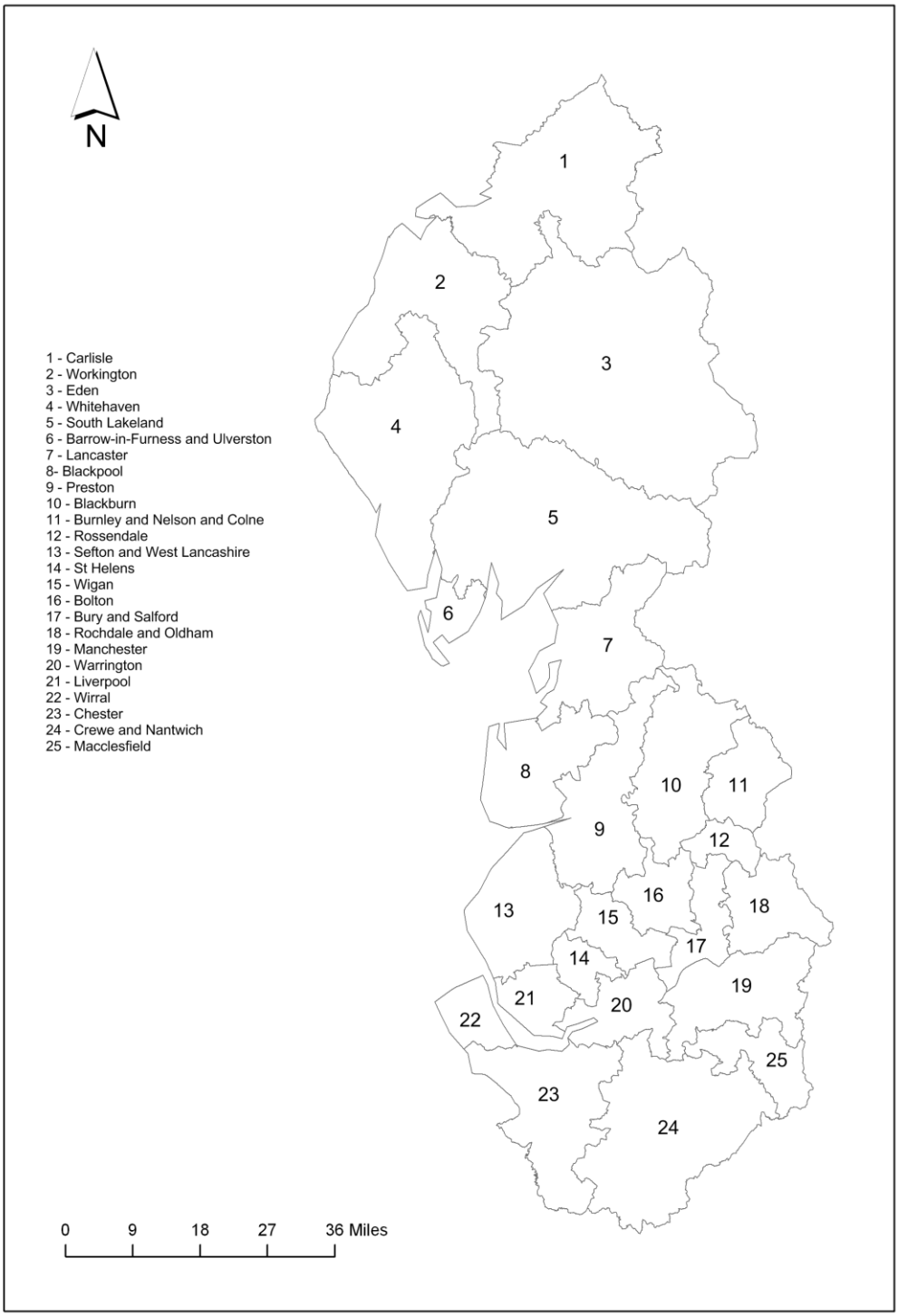

**Figure A2 HMAs defined by Nevin Leather Associates *et al* (2008)**

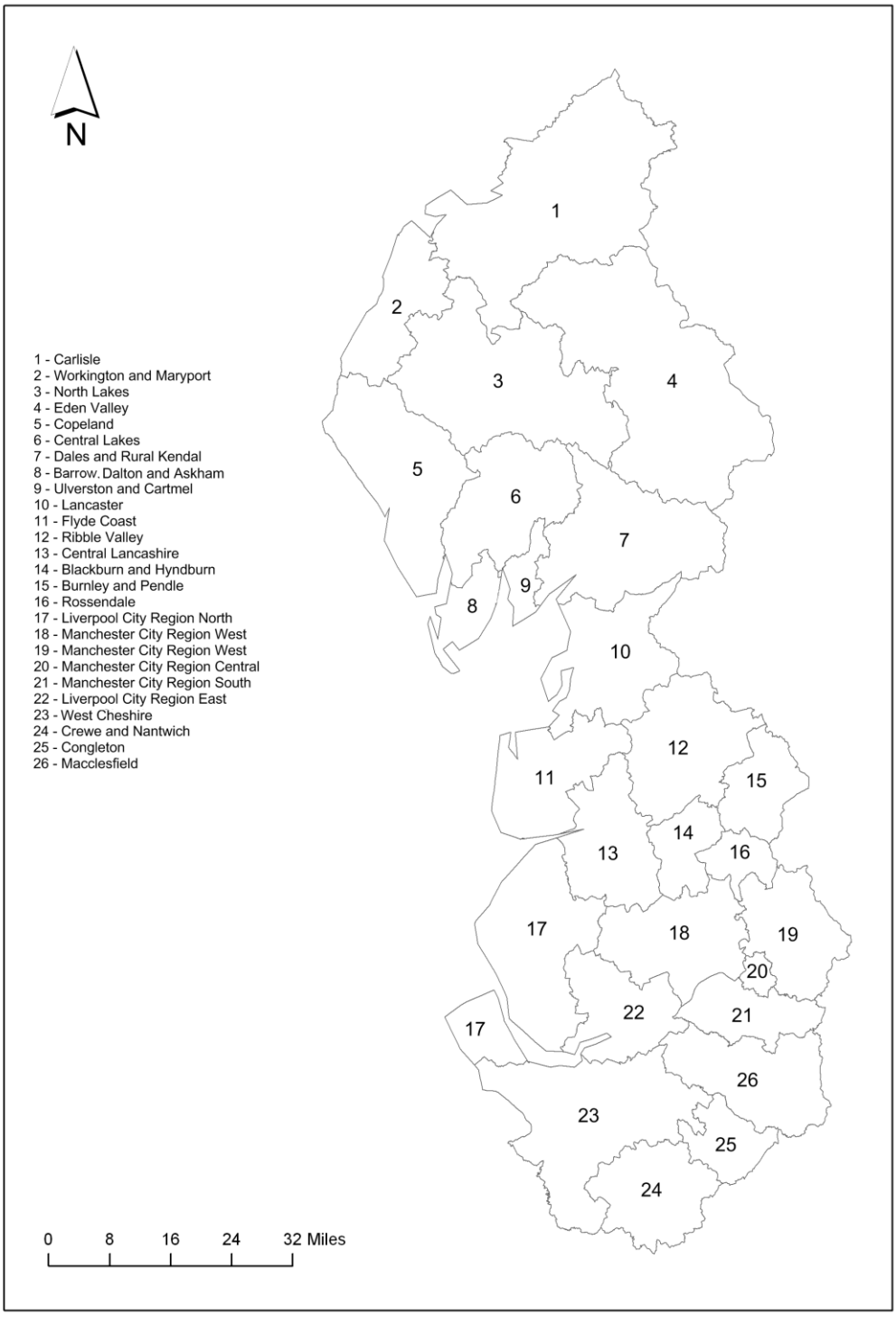

**Figure A3 HMAs defined by ECOTEC (2006)**

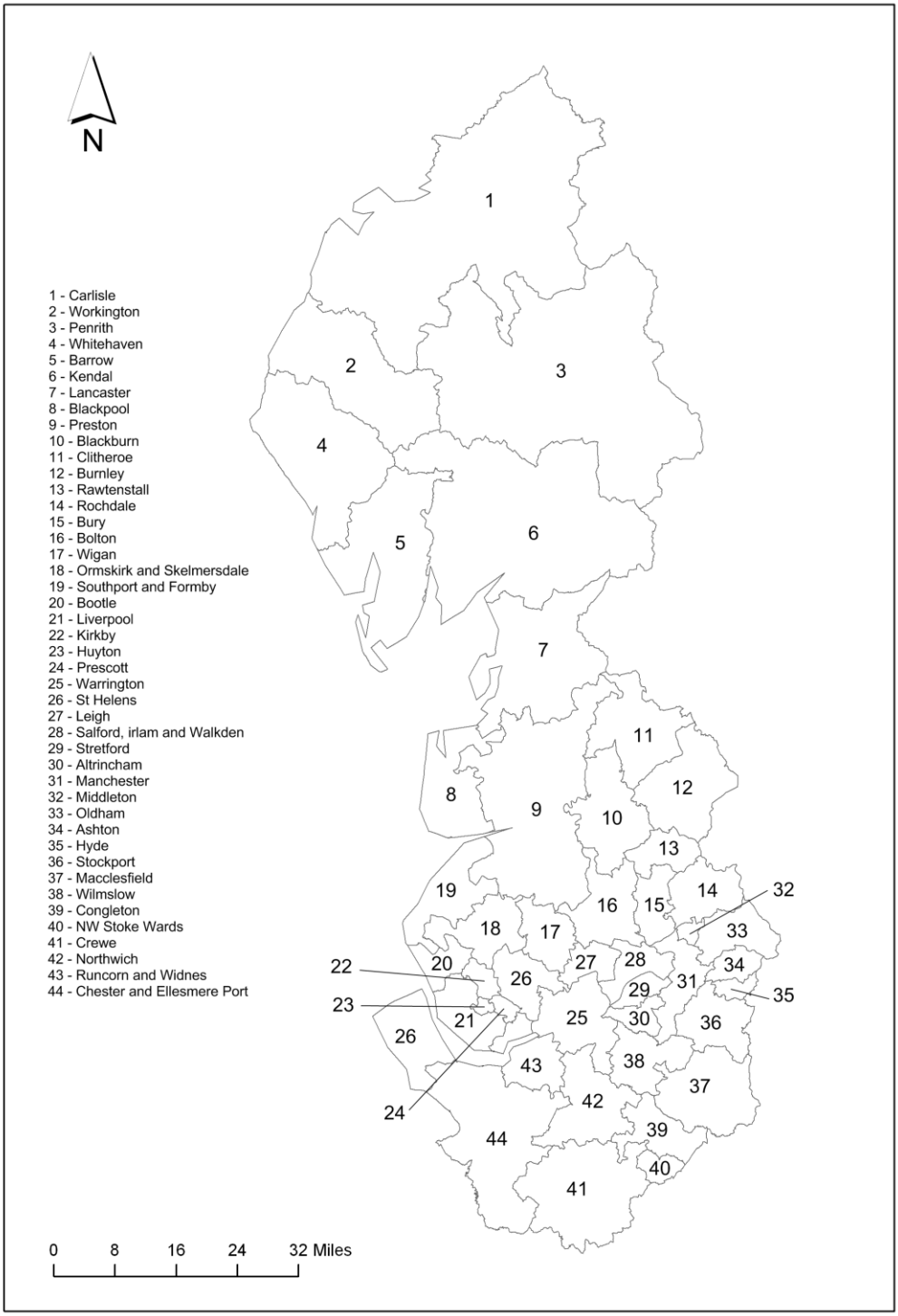

**Figure A4 ECOTEC HMAs Compared to Local Authority Boundaries**

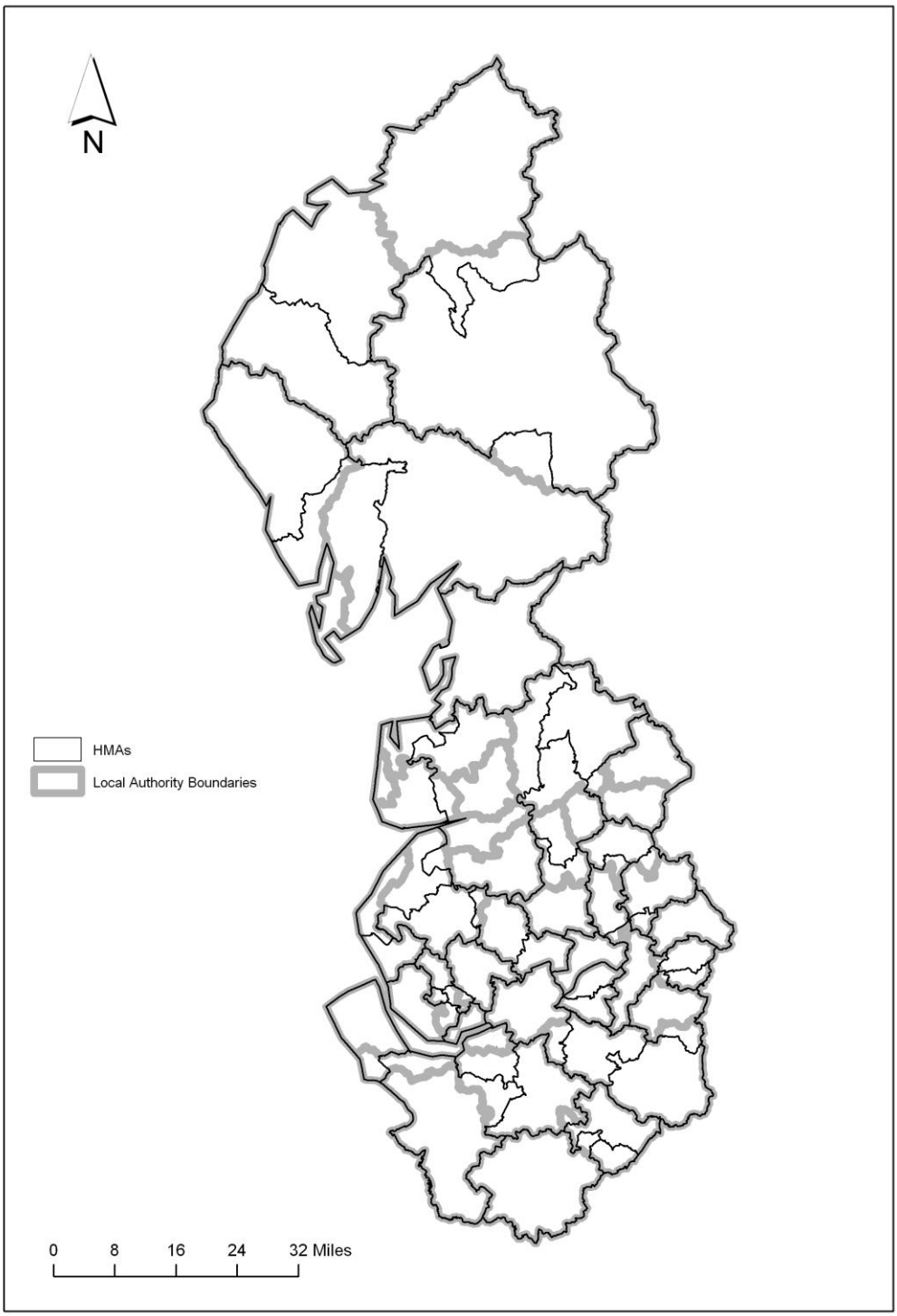

**Figure A5 Brown and Hincks HMAs Compared to Local Authority Boundaries**

**Figure A6 Nevin Leather Associate *et al* HMAs Compared to Local Authority Boundaries**

**Figure A7 ECOTEC HMAs Compared to Lake District National Park Boundary**

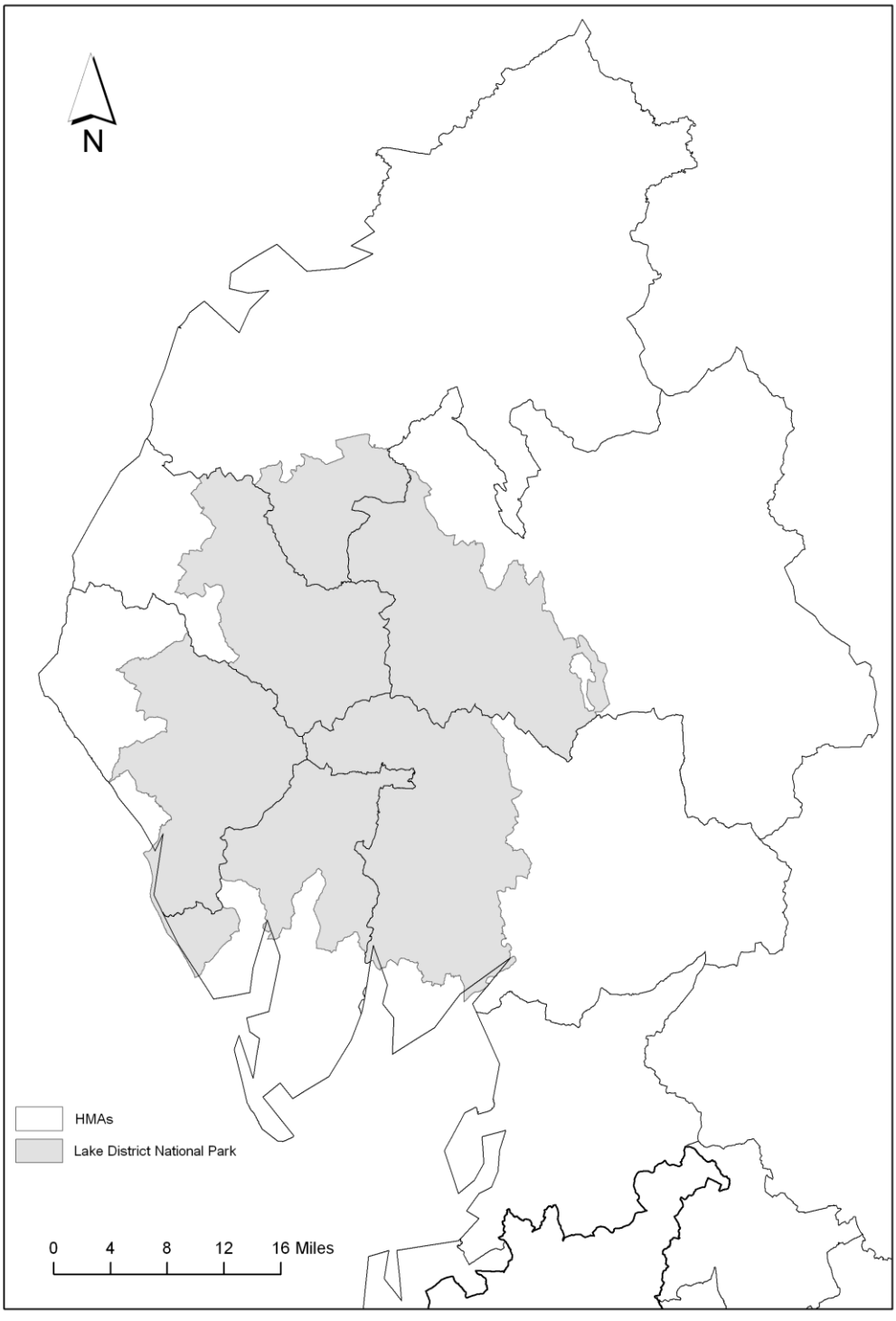

**Figure A8 Brown and Hincks HMAs Compared to Lake District National Park Boundary**

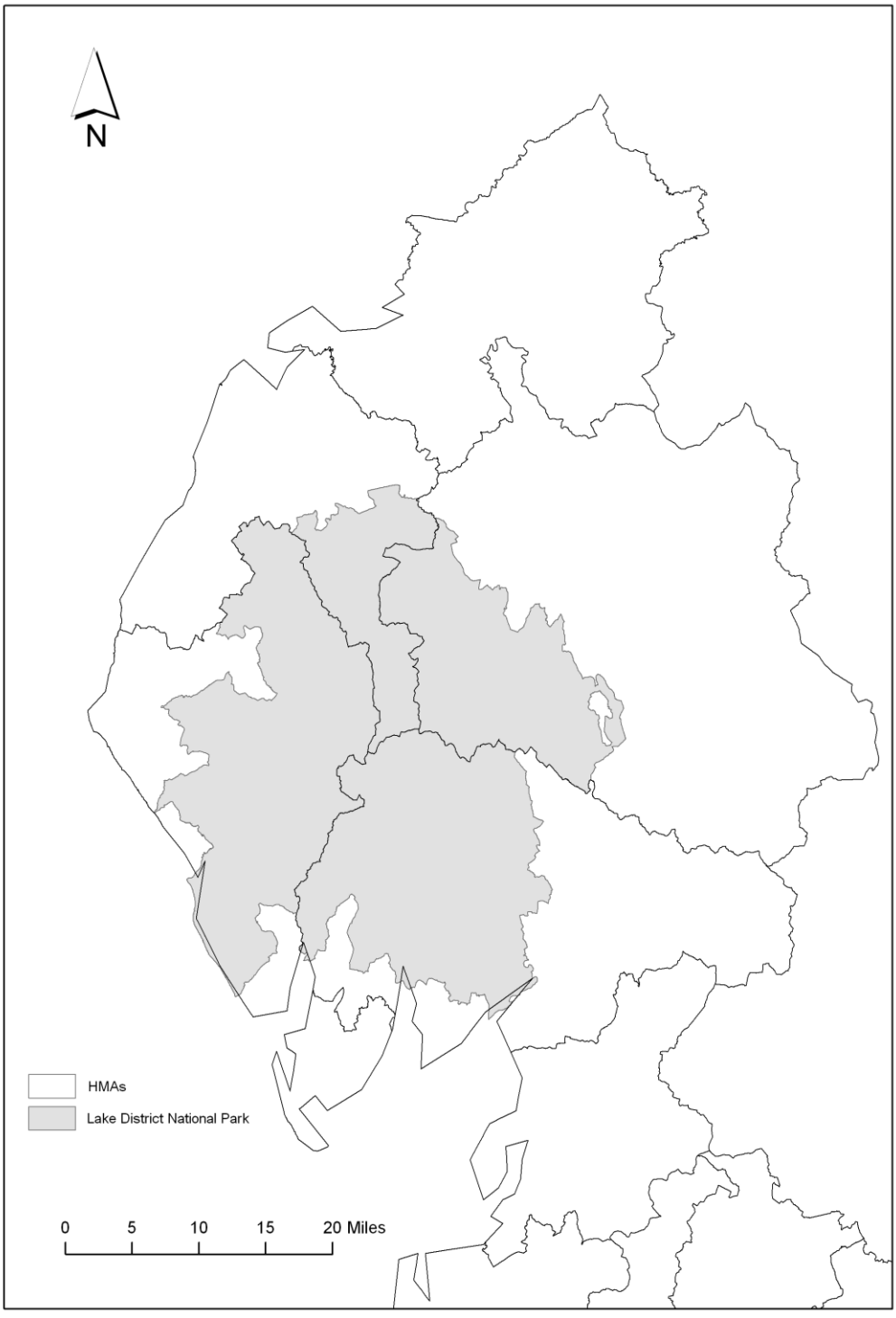

**Figure A9 Nevin Leather Associates *et al* HMAs Compared to Lake District National Park Boundary**

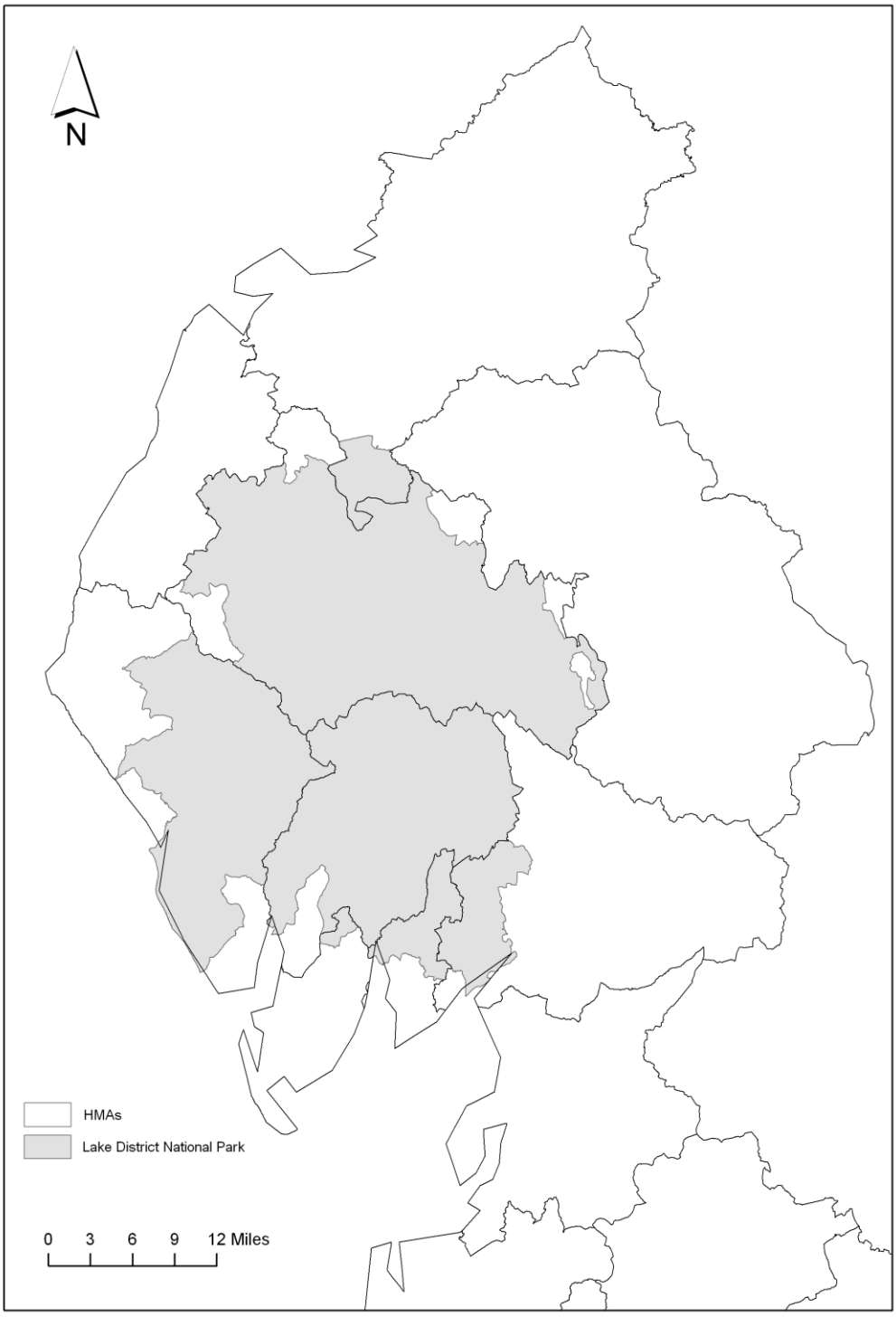

**Figure A10 ECOTEC HMAs Compared to 2001 TTWAs**

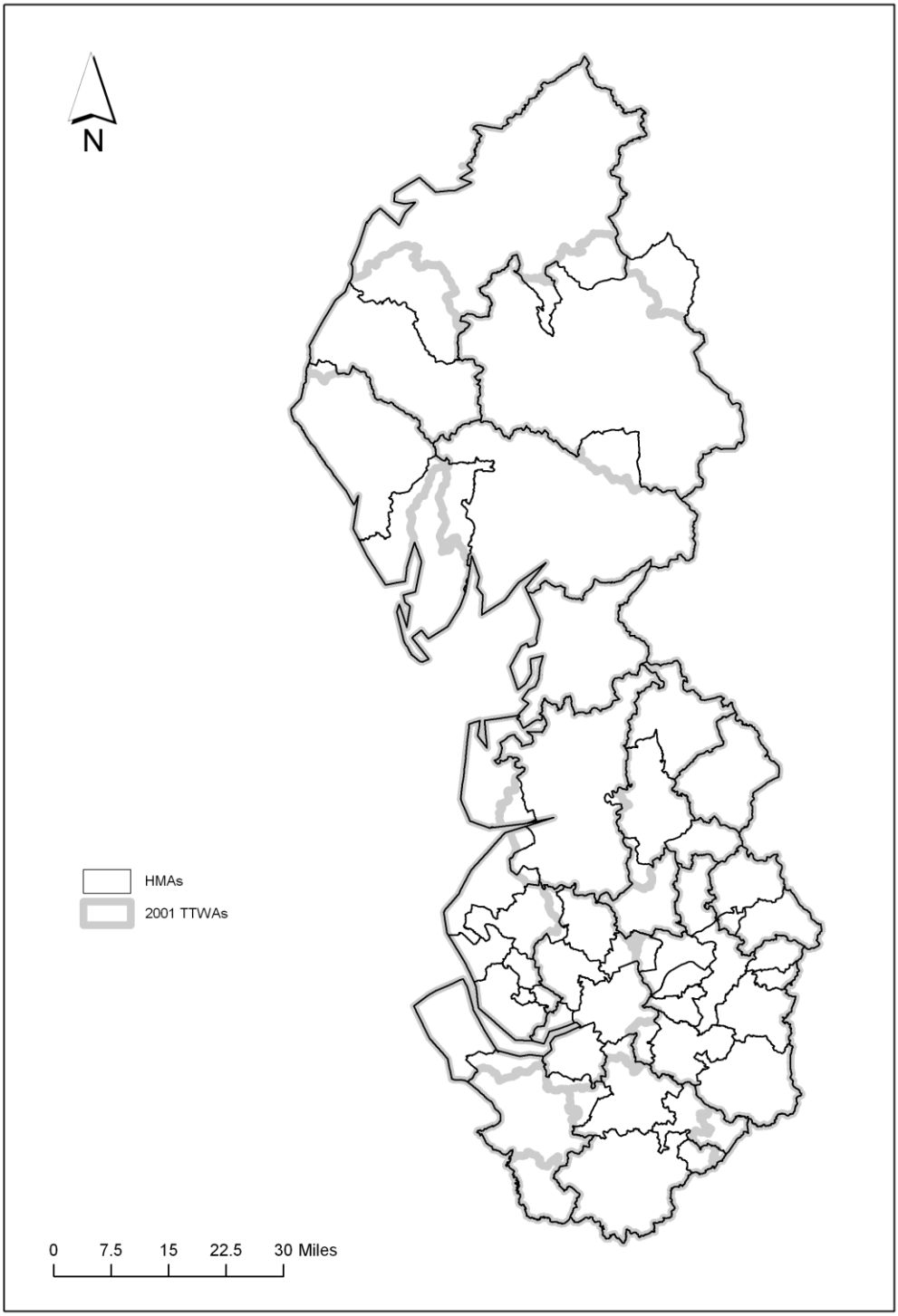

**Figure A11 Brown and Hincks HMAs Compared to 2001 TTWAs**

**Figure A12 Nevin Leather Associates *et* al HMAs Compared to 2001 TTWAs**

## Appendix B – Comparison of House Price Data

This table compares the 2008 mean house price data for local authority boundaries with the mean house price data of HMAs serving the same geographical area. It provides a useful insight into the variation that occurs when using alternative boundaries for the same area.

| | **Local Authority** | **Brown and Hincks** | **ECOTEC** | **Nevin Leather Associates *et al*** |
|---|---|---|---|---|
| **LA Name** | **2008 Mean House Price (£)** | **2008 Mean House Price (£)** | **2008 Mean House Price (£)** | **2008 Mean House Price (£)** |
| Allerdale | 166,150 | 154,115 | 167,070 | 137,900 |
| Barrow-in-Furness | 116,125 | 125,666 | 133,680 | 127,427 |
| Blackburn with Darwen | 115,829 | 132,393 | 122,527 | 112,542 |
| Blackpool | 124,059 | 159,461 | 154,037 | 159,461 |
| Bolton | 139,266 | 141,417 | 139,872 | 136,410 |
| Burnley | 95,841 | 107,137 | 109,590 | 107,137 |
| Bury | 146,443 | 140,836 | 143,802 | 136,410 |
| Carlisle | 145,892 | 143,169 | 150,589 | 146,960 |
| Chester | 210,073 | 201,681 | 198,411 | 196,791 |
| Chorley | 168,731 | 154,775 | 161,952 | 153,915 |
| Congleton | 189,997 | 183,230 | 217,463 | 189,997 |
| Copeland | 126,784 | 140,871 | 127,887 | 126,784 |
| Crewe and Nantwich | 164,045 | 183,230 | 165,988 | 164,045 |
| Eden | 222,378 | 223,423 | 221,985 | 218,193 |
| Ellesmere Port & Neston | 172,961 | 201,681 | 198,411 | 196,791 |
| Fylde | 206,921 | 159,461 | 154,037 | 159,461 |
| Halton | 132,947 | 161,863 | 136,318 | 151,492 |
| Hyndburn | 107,763 | 132,393 | 122,527 | 112,542 |
| Knowsley | 126,744 | 135,250 | 118,636 | 149,674 |
| Lancaster | 154,002 | 156,920 | 154,002 | 154,002 |
| Liverpool | 130,805 | 135,250 | 131,245 | 149,674 |
| Macclesfield | 291,035 | 279,240 | 252,838 | 291,035 |
| Manchester | 144,905 | 176,745 | 144,896 | 136,410 |
| Oldham | 128,897 | 126,176 | 128,897 | 129,610 |
| Pendle | 119,073 | 107,137 | 109,590 | 107,137 |
| Preston | 137,979 | 154,775 | 161,952 | 153,915 |
| Ribble Valley | 235,379 | 132,393 | 208,629 | 235,379 |
| Rochdale | 128,827 | 126,176 | 131,712 | 136,410 |
| Rossendale | 136,277 | 133,595 | 135,041 | 136,277 |
| Salford | 136,300 | 140,836 | 136,300 | 136,410 |
| Sefton | 167,753 | 157,117 | 198,097 | 149,674 |
| South Lakeland | 250,478 | 260,224 | 261,017 | 232,558 |
| South Ribble | 159,277 | 154,775 | 161,952 | 153,915 |
| St. Helens | 132,034 | 130,977 | 130,977 | 151,492 |
| Stockport | 194,667 | 176,745 | 195,669 | 206,467 |
| Tameside | 133,286 | 176,745 | 135,281 | 129,610 |
| Trafford | 245,567 | 176,745 | 299,581 | 206,467 |
| Vale Royal | 197,774 | 201,681 | 198,411 | 196,791 |
| Warrington | 174,577 | 161,863 | 177,356 | 151,492 |
| West Lancashire | 189,041 | 157,117 | 178,028 | 149,674 |
| Wigan | 128,716 | 130,301 | 134,646 | 136,410 |
| Wirral | 162,403 | 162,403 | 165,553 | 149,674 |
| Wyre | 172,889 | 159,461 | 154,037 | 159,461 |