

Coventry & Warwickshire
Economic Assessment
TOPIC PAPER 1



The Functional Economic Geography of the Coventry, Solihull & Warwickshire Sub-Region

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July 2010

Introduction & Key Findings

This paper explores and details the functional economic geography of the Coventry, Solihull and Warwickshire (CSW) sub-region. Functional economic geographies relate to the real area that an economy operates, rather than looking at areas simply in terms of their administrative boundaries. Understanding these areas is important to ensure that decisions and interventions on the economy are undertaken at the right level to be specific enough to meet local needs, but broad enough to ensure that spill-over effects¹ are contained and addressed.

Following an analysis of commuting patterns, housing market areas, travel to retail & leisure, and economic similarities, the appropriateness of the CSW sub-region as a functional economic area is confirmed. However, the paper identifies a core and a wider functional economic area. The “core” sub-region consists of the southern part of North Warwickshire district, Nuneaton & Bedworth borough, Coventry, Rugby borough, Warwick district, and the majority of Stratford district. This core area has very strong levels of self-containment in terms of commuting (85% of people living in this area also work in the core area), and a well-contained housing market. The northern part of North Warwickshire, the north-western part of Stratford district and all of Solihull actually have stronger connections in terms of commuting flows, housing markets, retail and leisure activities with the wider Birmingham sub-region.

However, given the strong economic similarities between these areas and the core sub-region, along with a history of joint working, means that a wider functional sub-region beyond this close core can also be identified. In addition, consideration of physical connectivity and shock sensitivity would suggest that it is important to consider this wider sub-region when making significant decisions on economic matters. This wider sub-region is the whole of the Coventry, Solihull and Warwickshire (including all districts/boroughs) area.

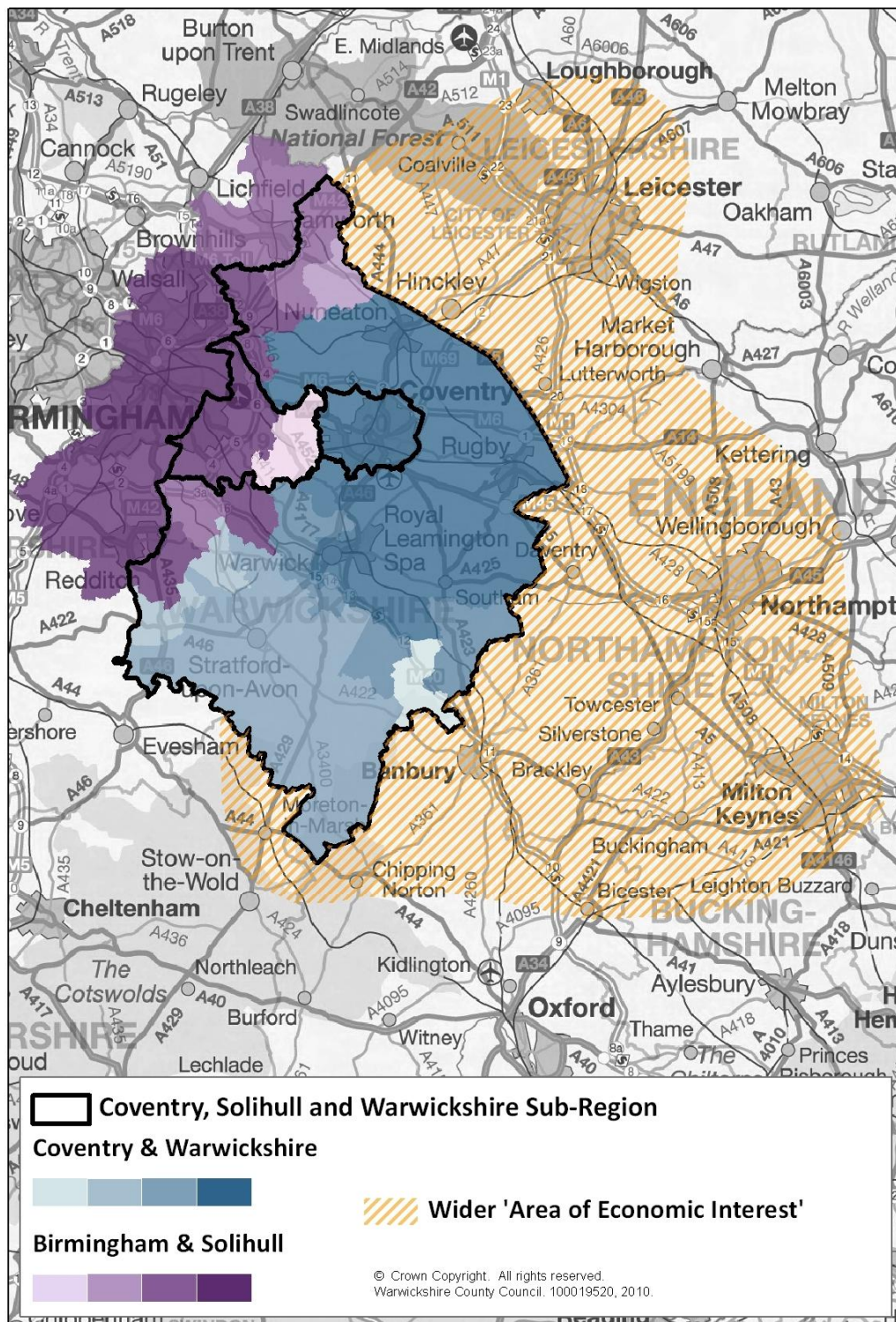
Beyond the core and wider functional sub-regional areas, the consideration of economic similarities and shock sensitivity work suggests that there is much larger “area of economic interest” that the sub-region is rooted within. Ignoring the traditional confines of the regional boundaries, this wider area of economic interest extends northwards to Leicester, eastwards to Northampton & Milton Keynes, southwards to include the upper part of Oxfordshire, the eastern part of Worcestershire, Birmingham, and the southern part of Staffordshire (Tamworth & Lichfield). This broad area is indicated in the map overleaf (although in reality such hard and fixed lines on a map are obviously not so clear).

This suggests three potential levels of partnership working on a geographic scale:

- **Core area** – the focus for day-to-day joint working on economic development, and where strong alignment and commonality of purpose and action is fundamental
- **Wider CSW sub-region** – the appropriate level for strategic discussions on larger actions and interventions, and the area where close alignment and integration of strategies and policies is important
- **The broader “area of economic interest”** – a sensible geographic area to undertake high level strategic discussions on growth and development and general co-ordination of strategic planning.

¹ Spillover effects occur when the effect of an economic action impacts upon those who have not been directly involved in the activity. This is regarded as an externality, and hence a market failure, in economics. Economic activity on the edge of an administrative area may well have costs or benefits that will not solely fall on the original area, meaning that these costs/benefits will not be fully factored into the decision making process.

Core and wider functional sub-regional area, and broader area of economic interest



Source: Warwickshire Observatory (with base data supplied by West Midlands Regional Observatory)

What are “Functional Economic Geographies”?

It is widely recognised that the economic activity does not neatly fit within the administrative boundaries of local government. However, equally well recognised is that there is not a single national economy – different places have different economic conditions, needs and issues. At the sub-regional level, therefore, one can expect to find a network of different functional economic areas. It should be noted that there is no such thing as a single functional economic geography, which you can draw a line around. The economic linkages and flows between different places will inevitably vary depending on what issue or factor you happen to be looking at. In addition, we increasingly operate within a global economy, where decisions taken on the other side of the world can have a significant impact on local economies and communities.

However, what we can do is look at number of different economic factors and understand the various dynamics in operation. From this analysis, we can then construct a “best fit” economic geography where we can be confident in saying the majority of economic linkages and flows exist.

The benefit of understanding these “best fit” functional economic geographies is that decisions and activities relating to the economy can be undertaken at the most appropriate spatial level. Actions taken at a too local level could lead to unrecognised or unaddressed spill-over effects into neighbouring areas; and actions taken nationally could overlook or undermine the particular local economic conditions within a sub-regional area.

Academics have long argued that functional economic areas are the most appropriate unit for economic policy analysis². This is supported by evidence to show that governance arrangements spanning functional economic areas can perform better than areas where arrangements are constrained by administrative boundaries³.

Approach & factors for consideration

The core factors that can be analysed to help inform our understanding of functional economic geographies are:

- Commuting patterns
- Housing market areas
- Travel to leisure and retail patterns
- Economic characteristics / markets for goods & services

This paper draws heavily on significant research and analysis on this issue already undertaken by the West Midlands Regional Observatory (March 2010)⁴ and by consultants PACEC on behalf of the Local Government Association (Jan 2007)⁵. Some additional local analysis on commuting patterns and economic characteristics of neighbouring areas has also been undertaken, in addition to local knowledge, to help refine the final conclusions.

² Fox, K. & Kumar, T. (1965) The Functional Economic Area: Delineation and Implications for Economic Analysis and Policy. *Papers in Regional Science*, 15(1), pp. 57-85.

³ Cheshire, P. & Magrini, S. (2009) Urban Growth Drivers in a Europe of Sticky People and Implicit Boundaries. *Journal of Economic Geography*, 9(1), pp. 85-115

⁴ Analysis of Sub-Regional Dynamics in the West Midlands, WMRO (March 2010)

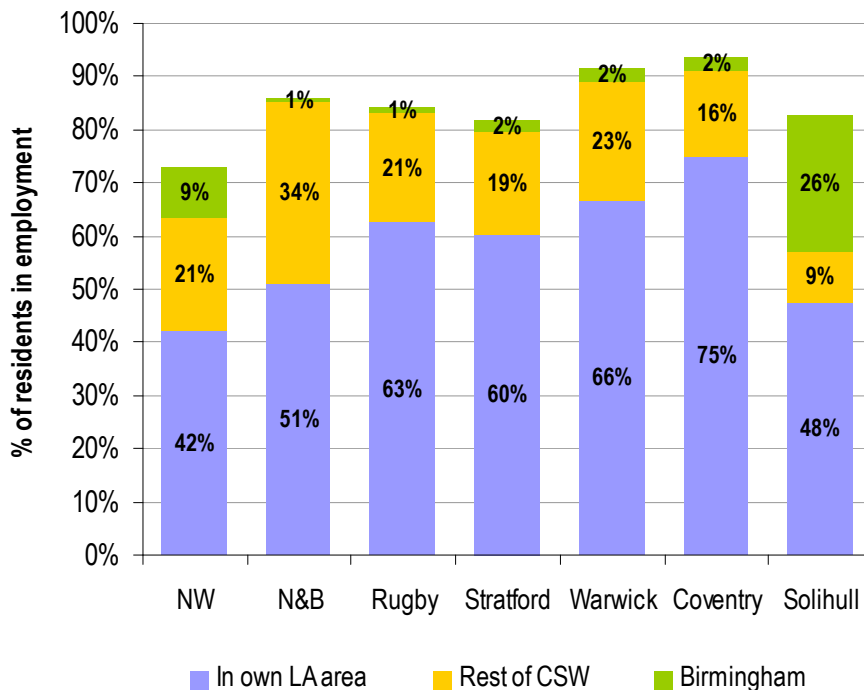
⁵ Thriving local communities: mapping sub-regions, PACEC (Jan 2007)

Commuting patterns

This factor looks at the relationship between where people choose to live, and where people work. Clearly, different communities are made up of thousands on individual travel patterns and so the standard approach is to consider the overall levels of self-containment within different geographic areas (i.e. the proportion of all people who live and work in the same defined area).

The Coventry, Solihull and Warwickshire (CSW) sub-region as a whole has a relatively high overall level of self-containment, with 79% of people who live in this sub-region also working here [Source: Census 2001]. However, this headline figure masks some significant variation across the sub-region. Figure 1 below presents a breakdown of the proportion of residents by local authority who live and work in the same area as residence, who work in the wider CSW sub-region, and the proportion who work in Birmingham.

Figure 1: Workplace destinations of CSW residents



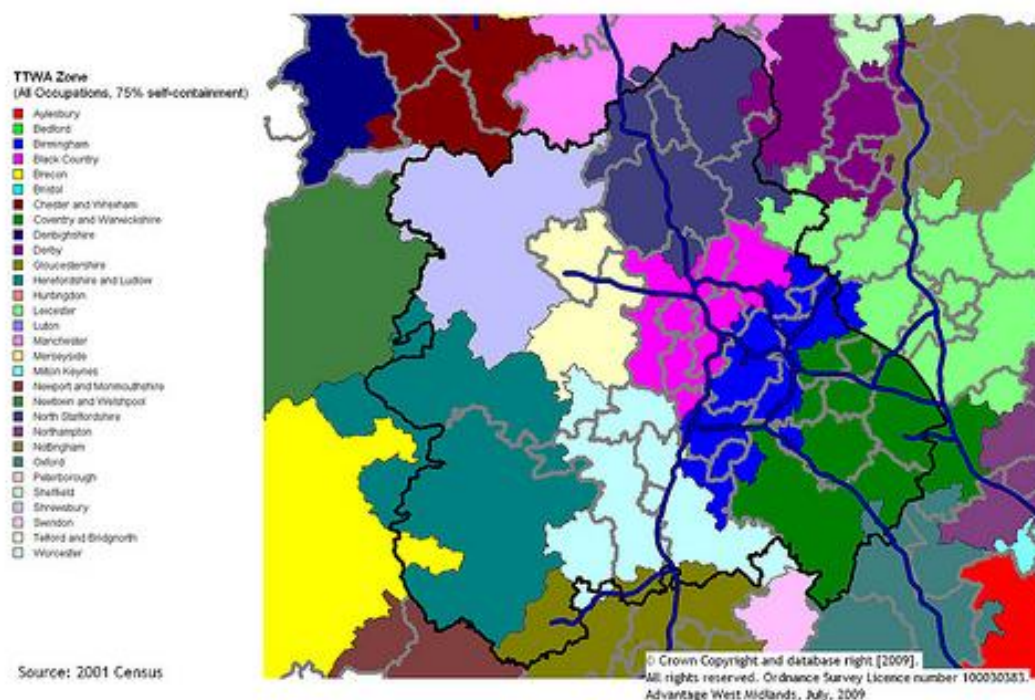
Source: Census 2001

One can see the high levels of self-containment within the individual local authorities of Coventry, Warwick district, Stratford district and Rugby borough (i.e. a high degree of people who live and work in those areas); and then the strong relationship with the wider sub-region for these areas and for Nuneaton & Bedworth (which has very strong commuter links with Coventry). North Warwickshire and, particularly, Solihull have strong links with Birmingham and much weaker links with the rest of the CSW area. 73% of residents in work in Solihull either work in Birmingham or Solihull, and just 9% in the wider CSW sub-region. North Warwickshire has stronger connections with the CSW sub-region, but still over 50% of residents work in either the Borough or in Birmingham. A further 8% work in Tamworth, and evidence from the Annual Population Survey suggests that this has increased significantly between 2001 (Census data) and 2008 – up to 18% of residents.

Analysis undertaken by the WMRO on commuting patterns at the ward level confirms this pattern of a strong commuting relationship between the core sub-regional area of

Nuneaton & Bedworth, Coventry, Rugby, Warwick and Stratford (the green area). It also shows a more disaggregated view of commuting within North Warwickshire (the south of the borough has stronger connectivity with the sub-region than the north, which is really part of a Birmingham sub-region shown in blue) and Solihull (the south-eastern part being more connected to the sub-region than the centre and north of the borough, which are part of the blue Birmingham sub-region). This is shown in Figure 2 below.

Figure 2: Travel to work zones with 75% self-containment in the region



Source: WMRO

While the sub-region does have commuting links outside of the sub-region, these are perhaps not as strong as expected given our substantial boundaries with the East Midlands, South East and South West regions. In 2001, 4.8% of residents in the core area identified above worked in the East Midlands (of which half worked in Leicestershire, and 25% worked in Northamptonshire). Just 1.5% went to the South East region (of which a third worked in the Cherwell district of Oxfordshire), and less than 0.5% work in the South West (of which over half worked in Gloucestershire).

More recent data on commuting patterns has been made available through analysis of the Annual Population Survey. While some care has to be taken with this data (as it is modelled data based on a survey sample rather than comprehensive coverage through the Census), it does give an indication of some general changes in commuting patterns. Generally, commuting distances are increasing meaning that the sub-region is becoming a little less self-contained, and a little more connected to surrounding areas. In particular, the sub-region is seeing stronger links between North Warwickshire and Tamworth; between Nuneaton & Bedworth and south Leicestershire; between the east of the sub-region and Northamptonshire; and increasing commuter flows of sub-regional residents working in Birmingham.

Anecdotally, there is also evidence of stronger links with London and the South-East – train use on lines connecting the sub-region and the South East are seeing

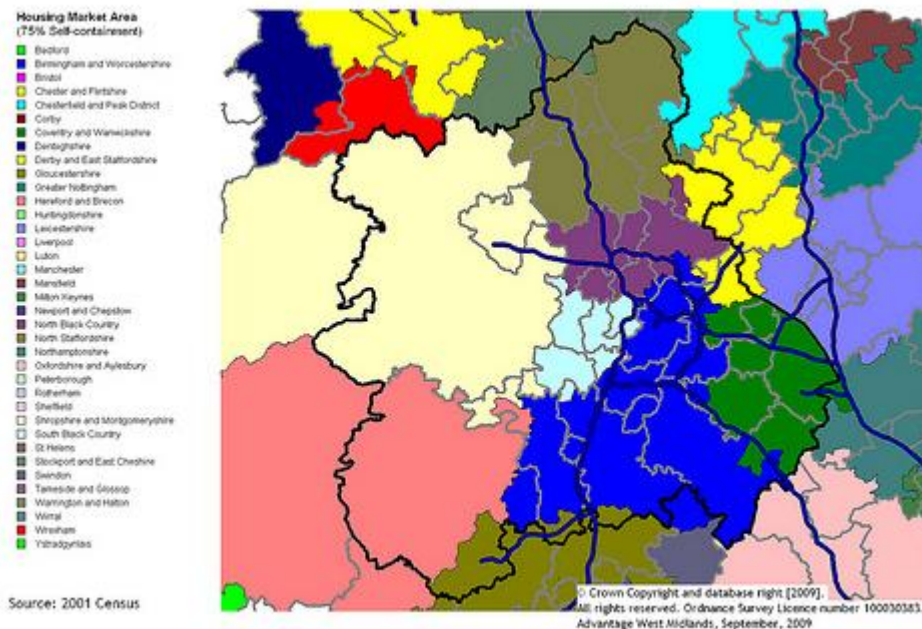
increased patronage (particularly at peak times); and during the recession Rugby saw unemployment increasing partly because of people losing their jobs in London.

Housing Market Areas

This factor looks at geographic areas where the majority of people buy and sell property (i.e. the local search area when considering moving house). It is recognised that, generally, people often move around a fairly small geographic area (accepting that a smaller, but still significant, group of people will undertake large moves – although these are often one-offs due to wholesale relocations, after which local movements will then start again).

Again, an approach of self-containment is used to determine geographies where at least 75% of house moves begin and end in the same area. Analysis undertaken by the West Midlands Regional Observatory based on this criteria identified the sub-regions shown in Figure 3 below.

Figure 3: Housing migration patterns, 75% self-containment



Source: WMRO

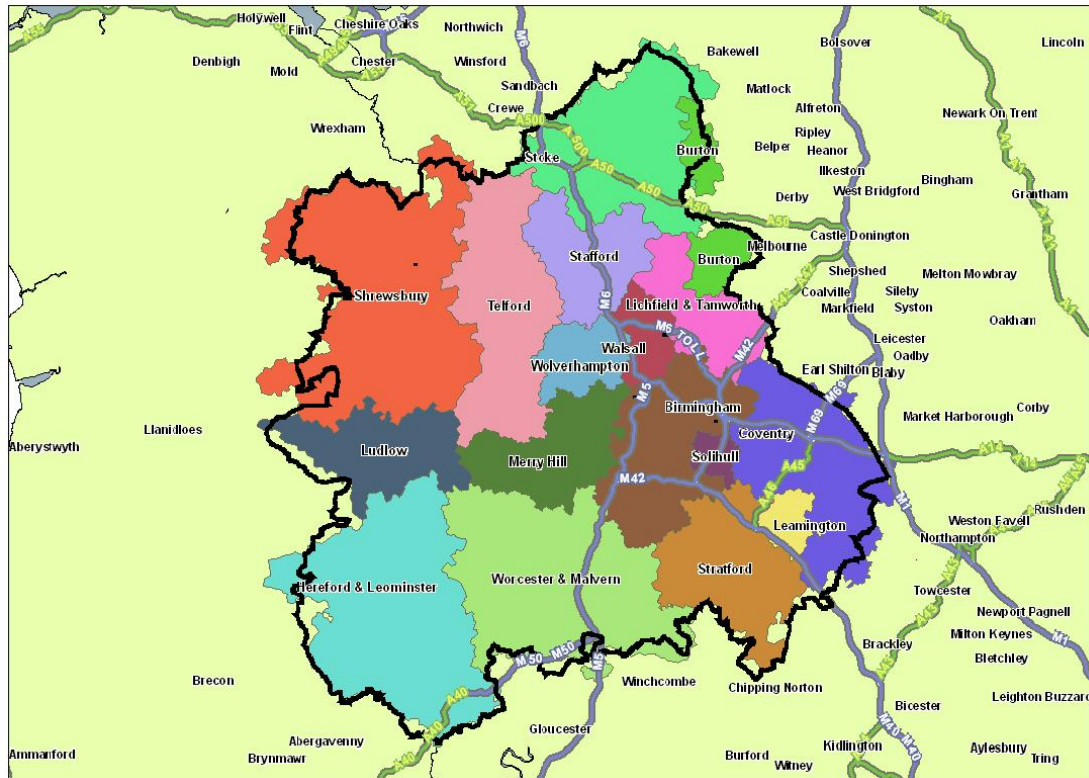
One can see that the patterns are similar (as to be expected) to the travel to work patterns shown in Figure 2 above. Nuneaton & Bedworth, Rugby Borough, Coventry and Warwick all form part of a core housing market area (shown in green in Figure 3), while the northern part of North Warwickshire is linked into a “Derby & East Staffordshire” sub-region and the west and south of Stratford District is part of the “Birmingham & Worcestershire” sub-region. Solihull is wholly within this Birmingham & Worcestershire sub-region.

Analysis undertaken by PACEC also confirms these sub-regional patterns, with very high levels of self-containment (over 90%) for the core sub-regional area identified above.

Travel to retail & leisure

As part of the WMRO's research on sub-regional dynamics, Experian were commissioned to look at retail and leisure patterns (using their significant survey work on leisure and retail activity). Using the findings of a survey question "where do you shop most often for non-food goods like clothes, shoes, jewellery", combined with a gravity model that takes account of how far people are willing to travel for certain retail outlets, 17 sub-regional retail areas were identified (Figure 4 below)

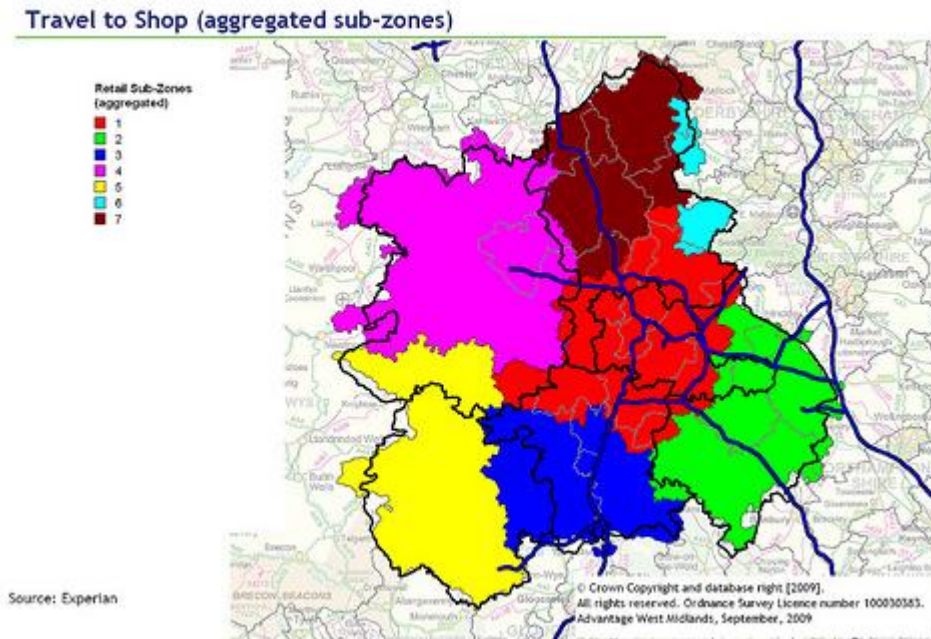
Figure 4: Retail sub-regions in the West Midlands



Source: Experian

When aggregated (based on retail linkages and secondary destinations), the Coventry & Warwickshire sub-region is identified as being fairly well self-contained in terms of retail patterns. Solihull has a much lower retail pull than might be expected, probably due to the proximity of Birmingham. More shoppers who live in Solihull go to Birmingham than Solihull for retail trips, and the flow from Birmingham to Solihull (and Coventry to Solihull) is fairly low, suggesting the relative strength of the local retail offer compared to Solihull's. However, Solihull does have a strong enough retail pull to be regarded as a retail destination in its own right (shown in purple in the map above), but when aggregated falls into the Birmingham sub-region rather than the Coventry & Warwickshire one (Figure 5 below).

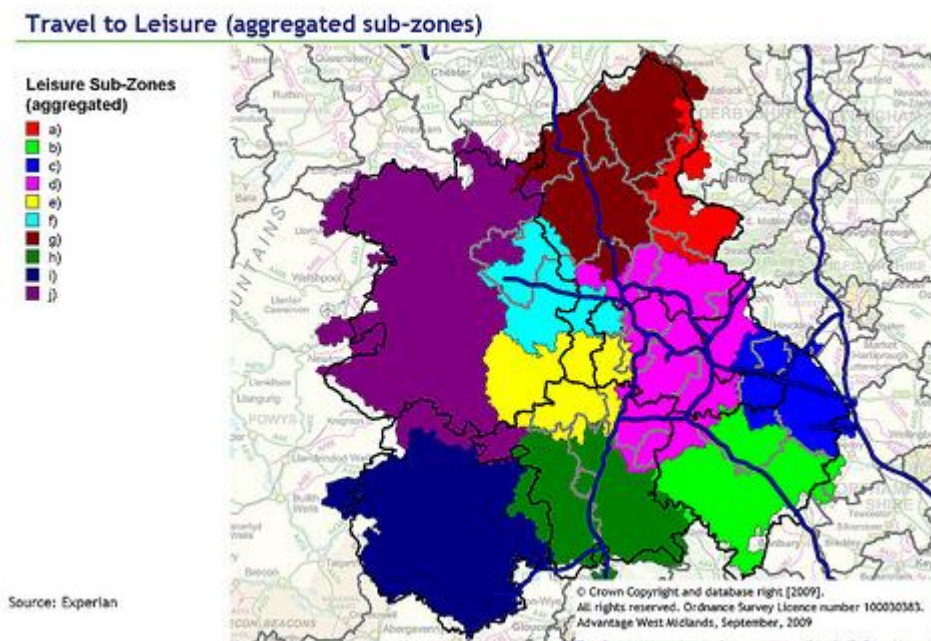
Figure 5: Aggregated retail sub-regions



Source: Experian

In terms of travel to leisure, Experian used their survey data to identify where people will travel for a “big night out”. This analysis shows a clear north/south split in the CSW sub-region, with the south focussed around Leamington Spa and Stratford-on-Avon; and the north focussed around Coventry. The residents of the north and western part of North Warwickshire look more towards Birmingham for a “big night out”, as do residents of Solihull.

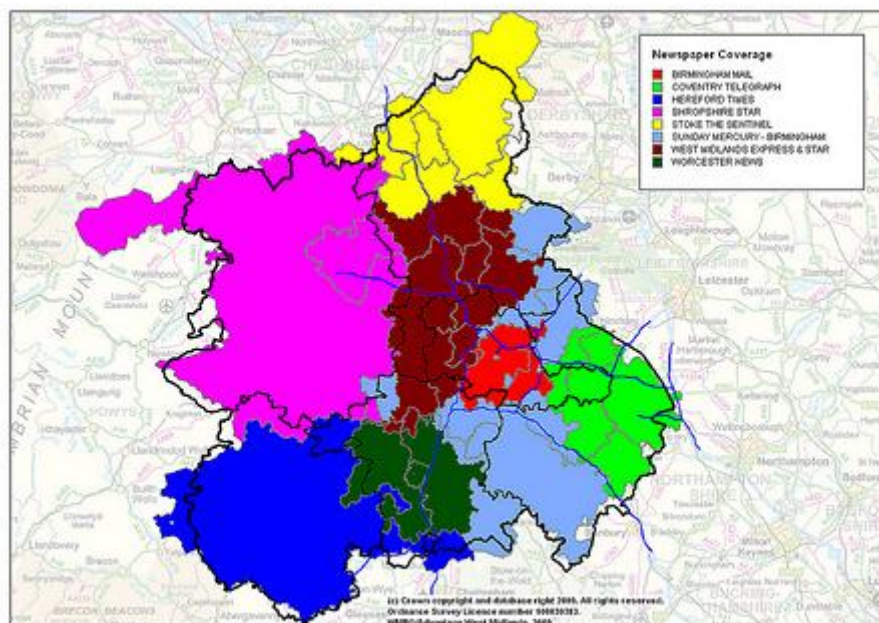
Figure 6: Travel to leisure (aggregated sub-regions)



Source: Experian

The WMRO work also looked at readership patterns of local newspapers to help identify community sense of place and relationships between areas. Interestingly, while the Coventry Telegraph dominates for much of the core sub-regional area, the relationship with Birmingham in Stratford District (along with North Warwickshire and Solihull) is highlighted by the dominance of the Sunday Mercury newspaper (although it should be noted that this paper has less of a geographic focus, and perhaps fills the gap where a lack of other more appropriate local newspapers exists).

Figure 7: Most read sub-regional newspapers in the West Midlands



Source: WMRO

Economic Characteristics

Coventry, Solihull and Warwickshire have, overall, strong economic similarities which set this sub-region apart from the West Midlands. The sub-region has seen strong economic growth over the past 10 years, with total output (as measured by Gross Value Added) increasing on average by 5.3% p.a. between 1995-2007, compared to 4.6% for the West Midlands as a whole. Furthermore, relative economic performance (as measured by GVA per head of population) is much stronger in the sub-region - £19,974 in 2007 compared to just £17,044 for the West Midlands.

The CSW sub-region has seen much stronger employment and business growth than the regional average, and particularly has seen an increase in private sector employment (something that, on the whole, is a weakness for the West Midlands region). The sub-region has a strong shared presence (and historical relationship) in automotive manufacturing, along with wider high and medium technology manufacturing; business and professional services; computing (particularly software development); transport & logistics; and the creative/cultural sector. The sub-region also has a lower than average presence of public sector activity and employment. This common sectoral profile creates strong business and market inter-linkages across the sub-region, and does present a definable local economy.

However, within the sub-region there are some significant variations which largely relate to a north-south split. The south of the sub-region is more dominated by

business and professional services; knowledge intensive services & occupations; and cultural and creative industries. These sectors, on the whole, are more productive and provide higher paid, higher level occupations. The north of the sub-region is more dominated by lower value manufacturing industries; transport & logistics; retail and wholesale, which are generally less productive and provide lower paid, lower level occupations. These differences can be seen in the maps shown in Figure 8 below. Having said this, the analysis above shows strong labour market connectivity between the north and south of the sub-region, suggesting it remains an integrated economy despite this variation in business activity.

Looking beyond the sub-regional boundary, there are also wider economic linkages and similar characteristics with surrounding areas. Figure 8 presents a set of maps looking at concentrations of employment with particular sectors at a larger geographic level (darker levels represent higher levels of concentration of employment). The CSW sub-region is highlighted for ease of reference. The similarities across the sub-region can be observed, but also particular patterns of wider relationships beyond the sub-regional boundary can be observed to some extent. These emergent patterns are highlighted by the orange lines.

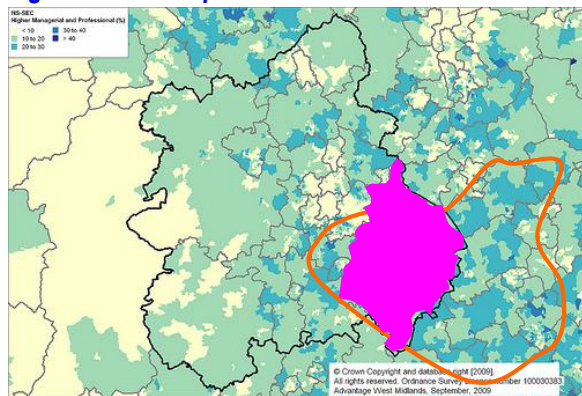
There are clear similarities in terms of high concentrations of employment in business services and private sector knowledge intensive industries between the CSW sub-region and areas to the east and south (moving south through Northamptonshire to Milton Keynes). There is also a reasonably strong relationship in terms of concentrations of higher level occupations between the CSW sub-region and neighbouring areas to the north east, east and south east.

In terms of cultural sector employment, there is a looser relationship between the south of the CSW sub-region and surrounding areas to the south (northern Gloucestershire and Oxfordshire). The transport and logistics sector, as you would expect, is based around the strategic motorway network and so there is a relationship between the north of the sub-region and surrounding areas to the north and east along the M1 (particularly), M42/A42 and A38 corridors.

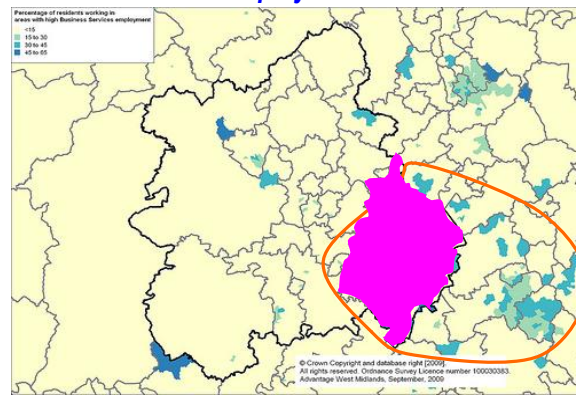
In terms of manufacturing generally, and high and medium-high technology manufacturing more specifically, there is a much wider and less discernable relationship between the CSW sub-region and surrounding areas. The significant concentrations of high & medium-high technology manufacturing (the darkest shaded areas) include the core of the CSW sub-region, but extends northwards up to Leicester, eastwards to Northampton, westwards to Birmingham and the A38 corridor into Worcestershire, and north-westwards up the M6 corridor into Staffordshire. Manufacturing is prevalent across the Midlands area, and it is hard to identify any particular patterns of relationships – although it is interesting to note that the main concentrations of manufacturing employment in the CSW sub-region are largely located on the eastern and northern sides, perhaps suggesting slightly stronger links to the north and east midlands area, while Birmingham, the Black Country, Worcestershire and Staffordshire forms another cluster. In reality, however, there are probably supply chains and business links across the wider Midlands area.

Figure 8: Concentrations of employment in key sectors/occupations

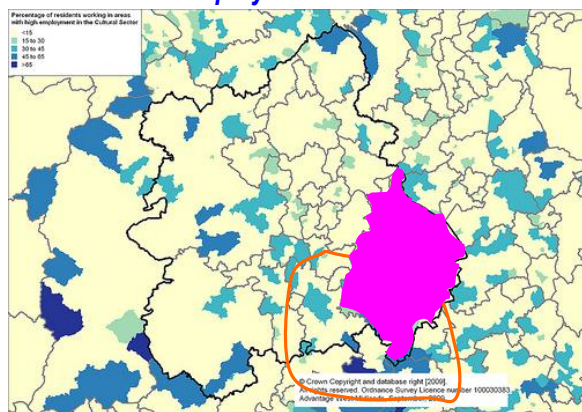
Higher level occupations



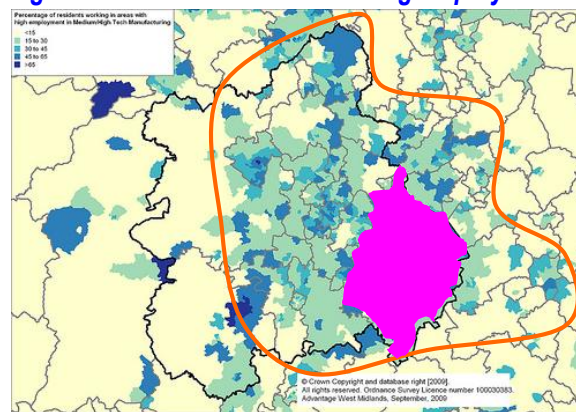
Business services employment



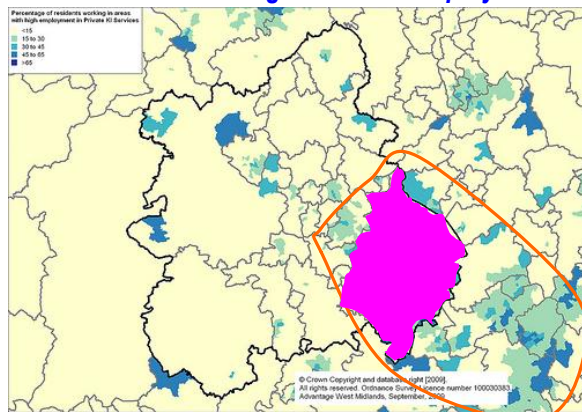
Cultural sector employment



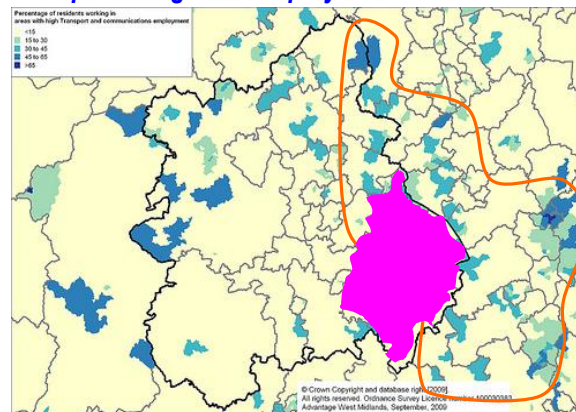
High & medium tech manufacturing employment



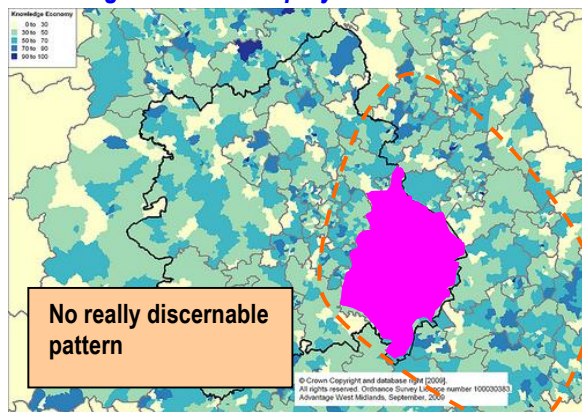
Private sector knowledge intensive employment



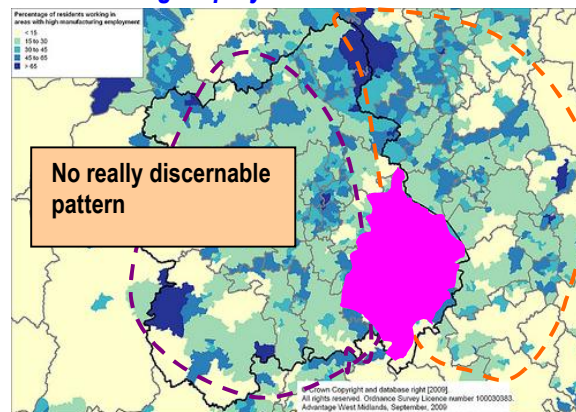
Transport & logistics employment



Knowledge intensive employment



Manufacturing employment



Physical connectivity and shock sensitivity

This final section is a purely subjective analysis, considering the physical connectivity of the sub-region to other surrounding areas (in terms of journey times), and a thought exercise on how significantly the sub-region would be affected by a major positive or negative economic shock in surrounding areas.

In terms of physical connectivity, the CSW sub-region is well located on the strategic transport network, and is therefore well connected. In terms of links to major areas of employment and business activity (generally urban areas), the sub-region is well linked to Leicester (M69); Northampton and Milton Keynes (M1); Banbury, Oxford and the wider south east (M40) and Birmingham (M6, M40 & M42). In terms of journey times, the sub-region is probably more connected outside the West Midlands region than inside, with only journeys to Birmingham comparable to times from most of the key centres in the sub-region to places like Leicester, Northampton and Milton Keynes. Congestion along the M6 means that connectivity beyond Birmingham into the West Midlands (i.e. to the Black Country, Telford, Stafford or Stoke on Trent) is relatively poor, hampering the development of a clear functional economic geography. The southern part of the sub-region has reasonable connectivity with Worcester along the M40/M42/M5 corridors.

In terms of shock sensitivity, this subjective approach essentially asks a “*What if...*” question. What if, say, a major economic shock (such as a closure of a major employer, or the creation of a large-scale employment site) occurred in a key centre, such as Birmingham, Leicester, Dudley, Worcester, Redditch, Northampton, Milton Keynes, Stoke or Oxford? Considering what the implications for the sub-region might be provides some qualitative evidence as to our relative functional connectivity.

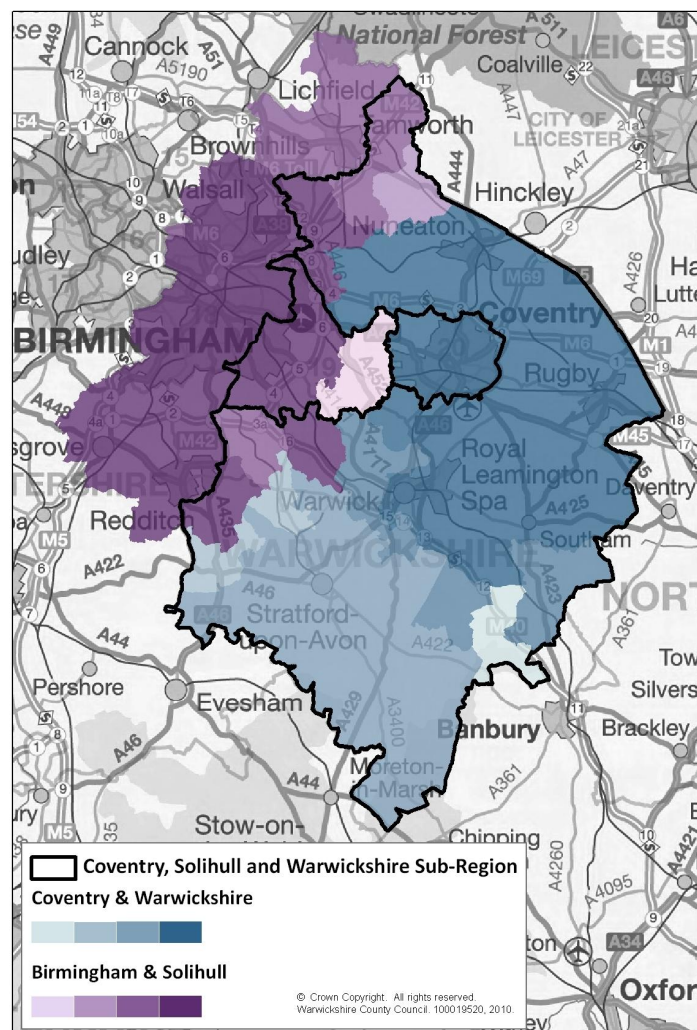
Given the high degree of self-containment identified in the sections above, it is unlikely that in the short-term the sub-region would be particularly affected by an economic shock in these surrounding key centres. There are of course memories of the impact of the Longbridge closure in Birmingham on the sub-region; but the economy is now probably more diversified and there are less major single businesses (with the exception probably of Jaguar Land-Rover) that have the potential to create such a widespread impact. However, over the longer-term, one can imagine that such shocks could create changes in our relationships and connectivity with areas that is worth considering. One can argue that actually economic shocks in places outside the West Midlands (i.e. Leicester, Northampton, Milton Keynes, Banbury) would have a bigger longer-term impact than shocks in the Black Country, Telford or Stoke-on-Trent. I would also argue that shocks in Worcester would be unlikely to substantially affect the sub-region, although something closer to the sub-region (say Redditch) would. The impact of a major shock in Birmingham is debatable, and would probably affect some parts of the sub-region (particularly Solihull and North Warwickshire) substantially, while other parts probably less so. It would also depend on the type of shock, as certain industries and sectors have greater connections (as suggested in the maps in Figure 8 above). This is an area that probably deserves further research in the future.

Conclusions and “Best Fit” Functional Geography

The CSW sub-region is a well contained sub-region in terms of labour movement and commuting; housing markets; retail and leisure activity. The sub-region also contains numerous economic similarities, which means that the area is commonly recognised as functional economic area. Indeed, the PACEC study undertaken for the LGA back in 2007 identified this sub-region (with the inclusion of Costwold District to the South and Hinckley & Bosworth District to the north) as part of their national analysis of functional economic geographies.

However, a more detailed consideration of these different elements has identified a core and wider sub-region. The “core” sub-region consists of the southern part of North Warwickshire borough, Nuneaton & Bedworth borough, Coventry, Rugby borough, Warwick district, and the majority of Stratford district. This core area has very strong levels of self-containment in terms of commuting (85% of people living in this area also work in the core area), and a well-contained housing market. The northern part of North Warwickshire, the north-western part of Stratford district and all of Solihull actually have stronger connections in terms of commuting flows, housing markets, retail and leisure activities with the wider Birmingham sub-region. This is shown in the map in Figure 9 below, which is a re-production of the WMRO’s conclusions on best-fit economic geographies.

Figure 9: Best-fit Core Functional Economic Geographies

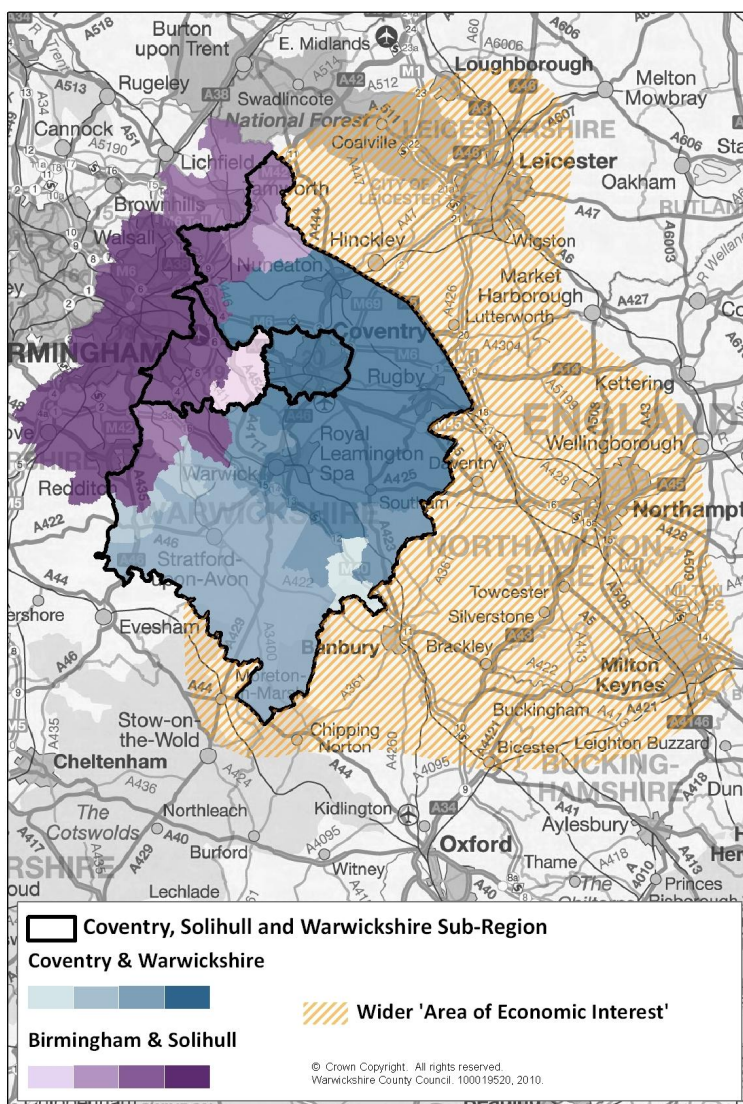


Source: Warwickshire Observatory (with base data supplied by West Midlands Regional Observatory)

However, given the strong economic similarities between these areas and the core sub-region, along with a history of joint working, means that a wider functional sub-region beyond this close core can also be identified. In addition, consideration of physical connectivity and shock sensitivity would suggest that it is important to consider this wider sub-region when making significant decisions on economic matters. This wider sub-region is the whole of the Coventry, Solihull and Warwickshire (including all districts/boroughs) area.

Beyond the core and wider functional sub-regional areas, the consideration of economic similarities and shock sensitivity work suggests that there is much larger “area of economic interest” that the sub-region is rooted within. Ignoring the traditional confines of the regional boundaries, this wider area of economic interest extends northwards to Leicester, eastwards to Northampton & Milton Keynes, southwards to include the upper part of Oxfordshire, the eastern part of Worcestershire, Birmingham, and the southern part of Staffordshire (Tamworth & Lichfield). This broad area is indicated in Figure 10 below (although in reality it would be hard to draw hard and fixed lines on a map).

Figure 10: The best-fit functional economic sub-regions and the wider area of economic interest



Source: Warwickshire Observatory (with base data supplied by West Midlands Regional Observatory)

High level strategic planning on growth and economic development would probably benefit from being considered within this larger area, while more focussed activities and day-to-day joint working should be confined to the wider or core sub-regional area (depending on the issue in question).

It is recommended that further work be undertaken to further develop our understanding of this wider area of economic interest.