Appendix K: Detailed discussion of methodologies for developing the typology

Stage 1: Identifying the geographical building block for identifying and classifying Conservation Areas

As a starting point, it was necessary to consider which geographical unit would be used to build up Custom Area and non-Custom Area classifications for use in the analysis. Two key factors determined our decision making process:

1) The geographical unit should be sufficiently small scale to ensure that the Conservation Area or groups of Conservation Areas formed a significant part of the geographical area.
2) There should be sufficient data published at for the geographical unit so that it would be possible to capture change in key dimensions of "*Good Growth*" in the analysis.

Based on the exploration of potential *Good Growth* indicators in phase 2, the LSOA geography was identified as the smallest geography with sufficient data coverage to be included in the analysis.

Stage 2: Determining the typology classification to apply

In light of the breadth and depth of data that this project will generate and analyse, we decided to limit the number of area categories to the minimum necessary for the analytical purpose. Our starting point was to apply a three-by-two category scheme, generating six mutually exclusive categories in total i.e. each LSOA would be assigned one of the six categories - these are highlighted in Table K.1 below.

The typology categorisation we have applied differentiates between different types of area based upon the level of urbanisation and whether or not it is an area of Conservation Area designation.

Table K.1: The six typology categories:

Urbanisation category	**Conservation Area status**	
	Conservation Area	Non-Conservation Area
City/Town Centre	---	---
Urban Residential (i.e. non-city/Town Centre)	---	---
Rural	---	---

Stage 3: Determining Conservation Area status

The outcome of this stage was to classify every LSOA in the country as either Conservation Area or non-Conservation Area so that we could compare the performance of both area types on *Good Growth* indicators. Historic England supplied the research team with two separate Output Area (OA) to Conservation Area (CA) lookup tables which were used as a starting point for classifying neighbourhoods as Conservation Areas.

1) *'CAs intersecting Census OAs':* This table contained list of 42,893 OAs and the CAs they intersected with. An additional key variable included in the file 'Percentage of CA in Output Area' measured the proportion of a Conservation Area that is located in that particular Output Area e.g. if half the CA area was located in a particular CA it would have a weight of 0.5 on this measure
2) *'OAs (England) intersecting CAs'*: This table contained a list of 52,831 OAs which at least partially intersected with CA boundaries. An additional key variable included in the file '% of Output Area that CA intersects' measured the proportion of an OA area that contains a CA boundary e.g. if half the OA area intersected with a particular CA it would have a weight of 0.5 on this measure.

These were viewed in conjunction with the boundary data, and we identified a number of areas which did not significantly intersect with OA boundaries. We determined these should be excluded from the analysis as we did not want to classify a neighbourhood as CA if only a very small proportion of that area was within a designated Conservation Area. However, we also wished to ensure that every Conservation Area was assigned at least one Output Area. In order to achieve this we experimented with applying different thresholds of intersection between OAs and CAs. We settled upon the following threshold to ensure all CAs were allocated an OA:

1) An OA is classified as a Conservation Area if at least 15% of the OA intersects with a CA boundary.
2) If less than 15% of an OA is in a CA, an OA will still be classified as a CA if at least 15% of the OA is allocated to a particular CA area.
3) An LSOA is classified as a CA if at least one of its component OAs is classified as a CA.

Note, having applied this threshold to the first iteration of our typology classification, we then further refined this process (see Stage 5 Refining the process).

Stage 4: Determining Urbanisation category

The outcome of this stage was for every LSOA in the country to be classified into one of three urbanisation categories:

- Town Centre
- Urban Residential
- Rural

Areas were classified into these groups using the following determining indicators:

1. **LSOA Rural Urban classification (Source: Office for National Statistics 2011):** The Rural Urban Classification is an Official Statistic used to distinguish rural and urban areas. The Classification defines areas as rural if they are outside settlements with more than 10,000 resident population.
2. **Ratio of workplace to resident population (Source: Census 2011):** Workplace population refers to all people aged 16 to 74 in employment in an area in the week before the Census. The resident population is all people in the 16 to 74 age band who reside in the area. A ratio is created by dividing the workplace population by the resident population.

- Areas were classified as *Rural* where the majority of the LSOA population is classified as Rural.
- Areas were classified as *Urban Residential* if the majority of the LSOA population is classified as Urban and the workplace to resident population ratio is less than 1.3.

- Areas were classified as *City/Town Centre* if the majority of the LSOA population is classified as Urban and the workplace to resident population ratio is more than 1.3.

The same determining indicators were used to identify which of the three urbanisation categories an area was allocated was the same for CA and Non-CA LSOAs. However, one important distinction between our approach for CA and Non-CA areas was that we wanted to ensure that the category assigned to the Conservation Area will then be assigned to all component LSOAs that constitute the respective Conservation Area even where the component LSOAs could potentially be defined as being in multiple urbanisation categories based on the determining indicators. We therefore aggregated the determining indicators to Conservation Area level in order to assign an urbanisation category to LSOAs in Conservation Areas. By contrast, LSOAs in non-Conservation Areas assigned an Urbanisation category at LSOA level.

We acknowledge the approach therefore differs slightly between Conservation Areas (where the entire Conservation Area is categorised and then that category applied to all constituent LSOAs) and non-Conservation Areas (where the LSOAs are directly categorised)

Stage 5: Combining Conservation Area Status and Urbanisation category to create a six way classification

Following the completion of stages 3 and 4, every LSOA was assigned a unique mutually exclusive Conservation Area status and Urbanisation Category. These categories were then combined by concatenating the two classification types to create a final classification.

Stage 6: Refining the process

Following completion of the stages above, we made refinements to both a) the way in which we determine whether an LSOA has Conservation Area status and b) the way in which an area is classified as *Town Centre* or *Urban Residential*.

We made two principle improvements to the way in which we classified areas as Conservation Areas.

- Firstly, we defined areas as Conservation Areas based on their intersection with LSOA boundaries rather than OA boundaries. Having initially set this threshold at OA level, we identified a significant number of LSOAs where only a small proportion of their boundary intersected with any Conservation Area. This overly inclusive approach presented a problem for subsequent analysis, leading to the majority of rural and town centre areas in England being classified as Conservation Areas. As a consequence of this, there were insufficient numbers of Non-Conservation Areas in some Local Authorities and we are unable to produce relevant comparator areas to benchmark the *Good Growth* indicators against.
- The second improvement we made was to determine the intersection between LSOAs and Conservation Areas based on concentrations of residential addresses rather than geographical areas (accessing the available data via Address Base). The advantage of this approach was that we could classify areas based on where people are living rather the overall area of the LSOA which can often include a lot of open space (particularly in rural areas).

The second revision to our typology approach was that we used a different indicator in order to improve the way we classify whether an area is Town Centre or Urban Residential. The principle reason for this is that the workplace/resident population ratio does not reliably capture Town Centre areas as it also picks up employment centres outside of the centre of urban areas including industrial estates, sites of heavy manufacturing, supermarkets, hospitals and larger educational institutions.

We initially explored alternative open data sources to capture Town Centre populations including the DCLG Town Centre definition[1], Valuation Office Agency, ONS VAT based local business units and UK Business Register and Employment Survey (BRES) jobs data. However, we have identified issues with each of these datasets in terms of either suitable geographical level, timeliness or not quite capturing what we wish to measure. Our chosen approach was to draw on the Address Base data on non-residential addresses in order to determine how many Town Centre style businesses are concentrated in particular LSOAs.

[1] Dept for Communities and Local Government produced data on the Location of Town Centres in 2004 'Town Centre and Retail planning statistics for England and Wales'