brechin

dingwall

auchinleck

dalry

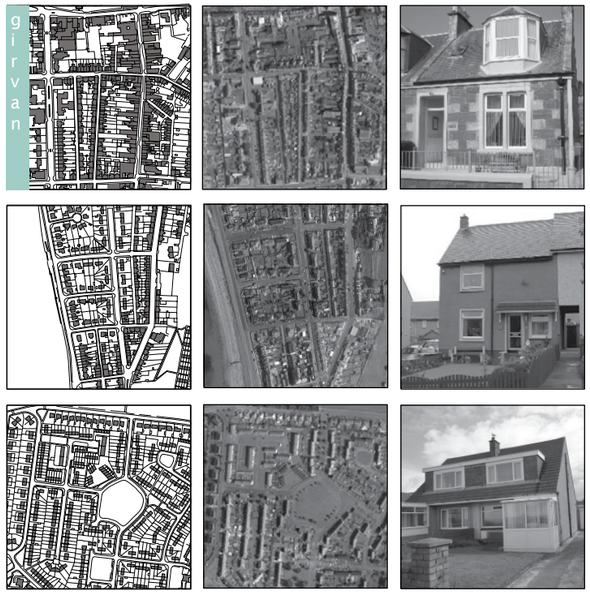
forres

lanark

neilston

← market

industrial



planned

coastal

haddington

kilsyth

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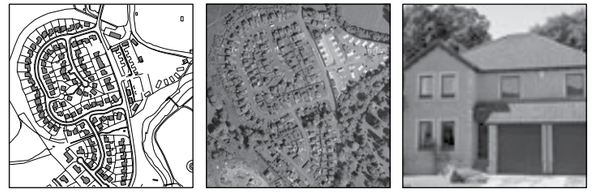
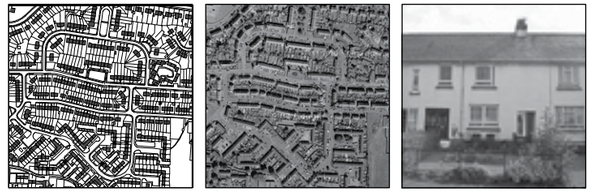


f-william

queensferry



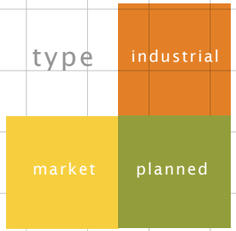
nairn

peebles

tourist →

commuter

plot scale comparison



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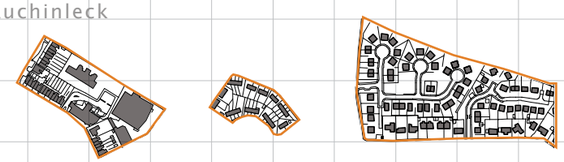

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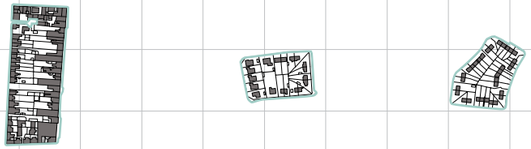

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brechin

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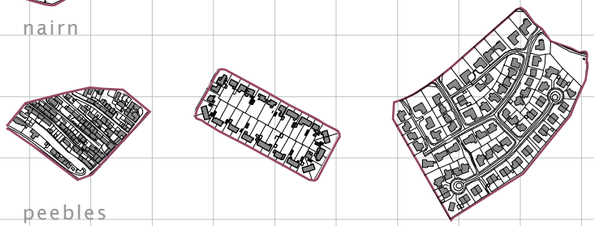
nairn

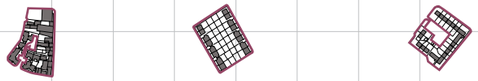


dingwall

castle douglas

haddington

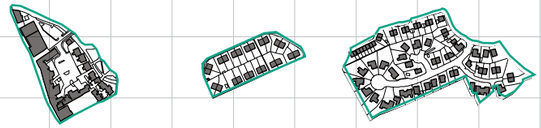
peebles



forres

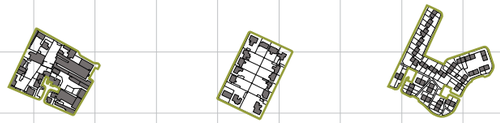
darvel

kilsyth



lanark

huntly



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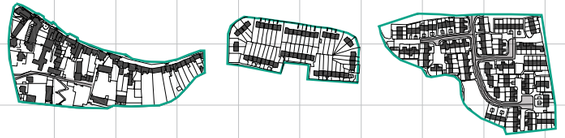

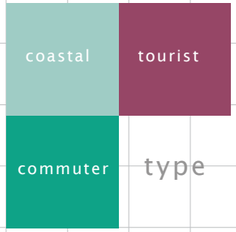

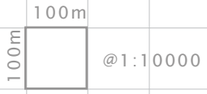

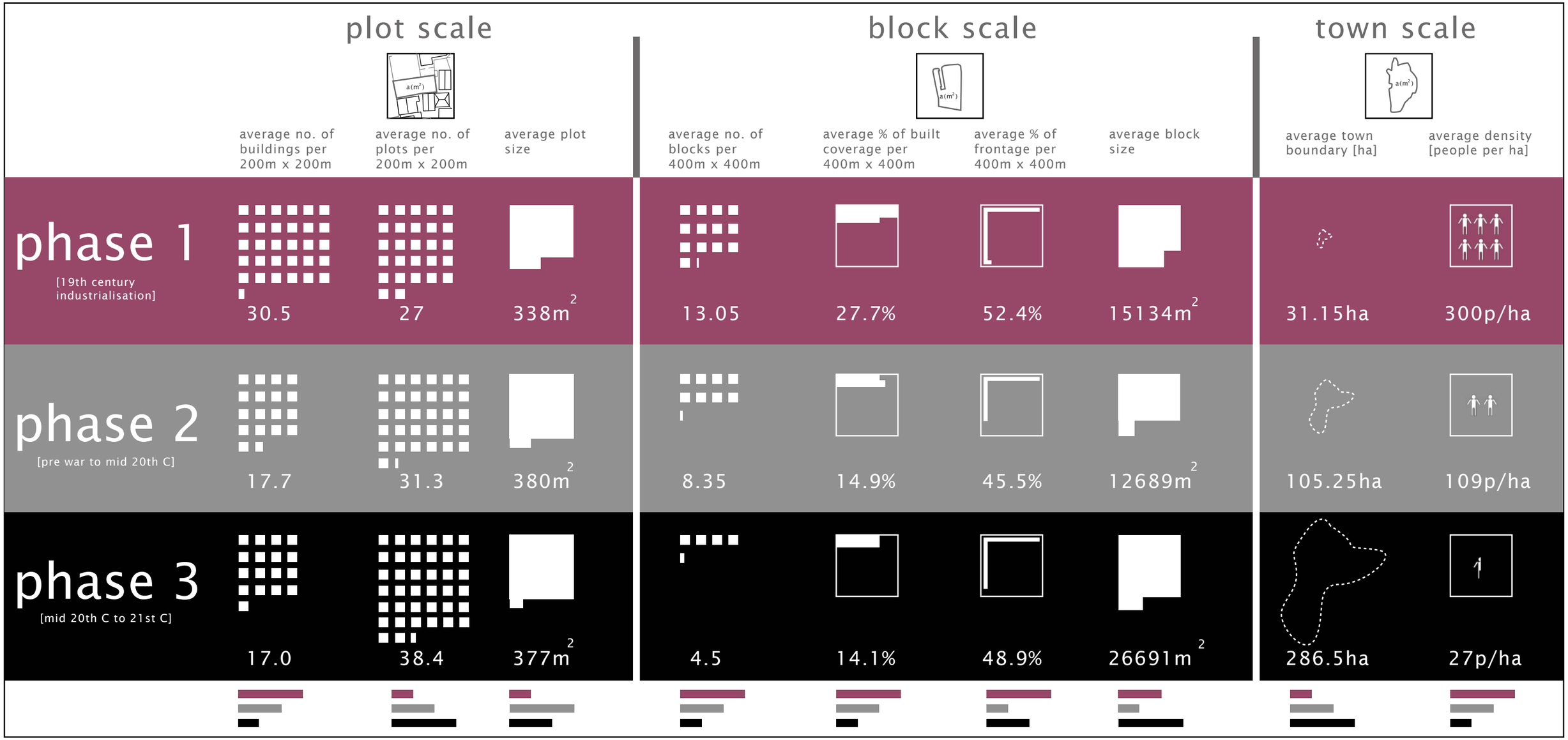
plot scale
block scale
town scale
average no. of buildings per 200m x 200m
average no. of plots per 200m x 200m
average plot size
average no. of blocks per 400m x 400m
average % of built coverage per 400m x 400m
average % of frontage per 400m x 400m
average block size
average town boundary [ha]
average density [people per ha]
phase 1
[19th century industrialisation]
30.5
27
338m2
13.05
27.7%
52.4%
15134m2
31.15ha
300p/ha
phase 2
[pre war to mid 20th C]
17.7
31.3
380m2
8.35
14.9%
45.5%
12689m2
105.25ha
109p/ha
phase 3
[mid 20th C to 21st C]
17.0
38.4
377m2
4.5
14.1%
48.9%
26691m2
286.5ha
27p/ha

summary

The aim of this study was to analyse the physical make-up and changes of twenty small towns over time. Three main timeframes were selected, these related not only to major events but coincided in changing trends in built form. These are:

Phase 1 - 19th Century Industrialisation
Phase 2 - Pre-war to mid 20th Century
Phase 3 - Mid 20th Century to early 21st Century

Analysis at **town, block** and **plot** scale explored a series of physical characteristics that came to define each period. Factors such as town type or economic success did not appear to influence the physical development patterns observed. Instead, chronological trends in terms of block, plot and building typology can be identified across the case studies.

Town Scale Analysis

Every settlement studied grew in area over time from an average of 31.5ha in Phase 1 to 286ha in Phase 3. Despite this the original core, which constituted a small area in relation to the whole, continued to house many key buildings and services over time. Could be observed in the '**key buildings diagrams**' which indicate a dysfunctional relationship between the centre and the edge of the town. Town centres became too small for their hinterlands; in turn new development largely consisted of residential development often neglecting to form a relationship with or improve and expand the core.

Divorce from the centre appears further enhanced when looking at the '**route structure analysis**'. Throughout the case studies, main and arterial roads through settlements can be traced back to their origin. Phase 1 is defined by routes. Towns form around roads and roads define blocks. There are clear and definite connections between built elements and primary and secondary routes. Phase 2 sees a continuation of this, however, new major routes seldom appear. Development is instead focused along quieter secondary roads. Phase 3, however, begins to move away from this traditional pattern. Development no longer focuses on primary or even secondary roads but around cul-de-sacs on internally focused estates. These have very little connectivity or relationship with other parts of the town or the centre. Furthermore, in Phase 3 towns almost always expanded out from the core with new developments further and further away. In many cases walking distance from the centre to edge became too far, the only alternative being transport by car.

Block Scale Analysis

On average, the number of blocks in a 400mx 400m sample decreased from 13.05 in Phase 1 to 4.5 in Phase 3. Block size itself leaps from 15,134 sqm in Phase 1 to 26,691 in Phase 3. Despite this increase the built percentage decreases from 27% in Phase 1 to 14% in Phase 3. This denotes a change from a more dense urban form of building to the suburban.

Plot Scale Analysis

More definitive information can be seen at the plot scale where individual blocks are examined in detail. The Phase 1 block is usually defined by buildings on all sides and often contains a continual frontage around its perimeter. Shape is determined by the roads that form the edges. There is often a direct relationship between the building and the street with few set backs or threshold spaces. There is not always a clear definition of plots in relation to each individual building with the number of buildings often larger (35 on average per 200m x 200m sample) than the number of plots (27 on average per 200m x 200m sample). Internal spaces often consist of many uses, including yards, buildings, gardens and car parking. The differing sizes, shapes and outlines of the buildings further demonstrate a multi-use environment. The blocks are often punctured with routes through or into their centres.

The Phase 2 Block is similarly defined by buildings on all sides and by the shapes of the roads that surround it, although cul-de-sacs and some internalisation of the blocks does begin to appear. Continual frontage is rarely seen and buildings tend to be semi-detached or terraced, with the average number of buildings at 17.7 per 200x200m sample and an average of 31 plots. There is a clear correlation between each building and plot with each residential unit having defined garden space to the front and rear of the property. There is always a garden forming a threshold space between the building and the street. Uniformity between building types becomes extremely apparent at this time with repetition in building size shape and rooflines. Blocks may have some penetration through them in terms of pedestrian paths, but there is no activity in their centres or indication of any use other than residential.

The Phase 3 Block becomes increasingly difficult to describe or define. Large expanses generally define entire estate rather than a series of individual blocks. Generally the block is formed from a lead road with several off-shoots and cul-de-sacs. The lead road may not connect anything and there generally fails to be any definition of shape by buildings or routes. Main roads are almost never articulated and developments often shy away from them all together. The planning of these blocks is messy and often not logical with buildings paced extremely close together and fairly random patterns of built and un-built land. All buildings are set back from the road and each plot has garden space to the front and the back. As Phase 2, there is little evidence of continual frontage. The number of buildings and number of plots is almost identical to Phase 2 with 17 buildings per 200x 200m and 30 plots.

All three phases show similarities in the size of plot with it varying very little through time. Average plot size peaks in Phase 2 at 380 sqm compared to 338sqm in Phase 1 and 377 sqm in Phase 3.

summary

The study reveals differences in the function and build up of the towns can be identified when compared with the Scottish average. As the above findings, factors such as town type do not seem to influence these factors. Instead general trends across small towns can be identified.

Across Scotland the most popular type of housing is flats, forming 33.46% of the overall amount. This is followed by semi-detached (33.8%), detached (20.55%), terraced (19.86%) and finally conversions (2.26%). The case studies examined reveal differing results. Semi-detached is most popular at 35.4%, followed by terraces, (30.5%), detached (20%), flats (5%) and conversions (1%). The significantly lower percentage of flatted accommodation illustrates the now dominant suburban nature of development in these towns.

60% of the towns had higher than the Scottish average of 62.59% home ownership. Of the 40% of towns that had the lowest percentage of home ownership terraced housing was by far the most popular typology. This may cohere to preferences by Housing Authorities to provide this style of accommodation. Among the towns with the highest percentage of owner occupiers the dominant type was detached or semi detached. It may be concluded that the detached or semi detached home is a desirable product.

90% of the sample had longer than Scottish average distance to travel to work (12.58 km). This was coupled with 70% of the sample having a higher percentage of car ownership. The most popular way to get to work was by car (55%), followed by foot (22%), Passenger in a car (8.9%) Bus (7.5%), Bicycle (3.3%) and train (3.3%). This pattern is almost identical to the national averages. However, the percentage of people travelling by foot was higher than average at 22% opposed to 14%. This could be seen as a positive as people are more likely to walk to work where possible. The low percentages of public transport use may imply that these towns are not particularly well served in this respect.

The above information begins to paint a detailed physical picture of these towns and how they developed. From a tight urban core they grew into ever more expansive and suburban settlements. Distinctive character zones can almost always be identified. Individual cores have formed from a holistic reaction to routes and setting, subsequent phases follow national trends in terms of building typology and form. This raises many questions about our approach to building which in many respects ignores ideas of local identity and place making and supports a society reliant on the car. With many town centres unable to support their population with inadequate retail space and increased reliance on the car to enter these cores, populations have become reliant on larger settlements and out of town retail for their requirements. As the need to build continues with a growth in household numbers, it is vital that we address these issues.

conclusion

This document has broken down the physical characteristics that have come to characterise Scottish small towns over time. It has revealed generic patterns of development that have been applied to all settlements regardless of type, physical setting or size. New development has sprawled outwards divorcing itself from town centres. This separation has been exaggerated by the demise of traditional urban form and the introduction of poorly connected estates dominated by cul-de -sacs and dead ends. Building types themselves have become generic and rarely relate to or enhance the original structure or character of each town. The result is a great amount of anonymous housing that has little identity or sense of place.

The three main development periods each reveal their own personality which can clearly be seen in the analysis of block and plot. The earliest stage of development (Phase 1) is the only variable era where settlements have formed according to the routes which run through them, the vicinity to water and resources and relation to the landscape. Phases 2 and 3 respond more to trends in house building. Development in these stages largely consists of new housing regardless of position or distance from local services and amenities. The result is a higher than average reliance on the car which is enhanced by poor public transport.

The purpose of this research is to clearly demonstrate the negative impact these patterns of development have had and how they have eroded the identity of many settlements. It draws a line in the sand opens a discussion about how best to move forward. The demand for housing in Scotland soared throughout the twentieth century. Planning guidelines failed in many ways to keep pace with this growth.

Along with ‘An Comann – Fifty Small Towns In Scotland,’ this research provides a base point on which to reflect upon and move toward creating a cohesive set of urban design and planning guides that can tackle the problems and issues that face small towns today.

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