REAL ESTATE OPTIMISATION

Earth Regeneration Limited

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Executive Summary

- Government announced in the Queen's Speech, May 2021 that it will progress legislation to improve health and care outcomes through the health and care bill; build more homes through the planning bill and ensure every child has a high-quality education.

- The purpose of this research paper is to help inform these decisions by forecasting, at Local Planning Authority (LPA) level, the future housing, health, and education needs for the next ten years.

- Earth Regeneration Limited (Earth), has developed a Real Estate Optimisation Model (REOM) that forecasts the real estate needs based on Office of National Statistics (ONS), demographic data, Government benchmarks and efficiency indicators.

- Given the changing demographic population over the next ten years this research paper has forecast these real estate needs now, and in ten years time, so that the delivery of these requirements can be strategically planned for.

- 26 LPAs across England have been selected for this report, representing approximately 15% of the population and household units projected for 2043.

Key Findings:

- Whilst the total population is expected to grow over the next decade, the actual age structure will change significantly due to the impact of lower birth rates and an ageing population, which in turn will affect changes in housing demand.

- By 2043, people aged 65 and over will account for 75% of the total projected housing needs.

- The number of primary schools required in ten years, is forecast to be lower than today, creating a surplus of primary schools in several LPAs.

- Contrary to primary schools, the number of secondary schools required in ten years, is predicted to increase in most LPAs.

- The demand for GP facilities is set to grow over the next ten years in line with population growth. Currently the number of small practices represents a significant proportion of the total, with relatively few large practices with more than 20,000 patient list sizes.

Key Recommendations:

- Housing targets need to be set in total for each LPA and by age sector: senior living; family living; starter living, to ensure delivery of age-appropriate developments.

- Investment in schools need to reflect the future demographic needs for the area and at optimum size, be it school enrolment numbers or class sizes.

- The NHS long term plan to deliver integrated care health hubs with patient list sizes of 30,000 / 50,000, needs to be planned for and sites identified for each LPA now, so that the delivery can be phased in over the next ten years as these practice consolidations take pace.

- The strategic delivery of new homes, schools and health hubs requires a step change in approach. Local and national government departments need to work in collaboration, and a three-stage approach similar to HM Treasury business case methodology could be adopted as follows:

  - Strategic plan - establish the ten-year strategic need targets and options for site delivery.

  - Outline plan - carry out target site development options appraisals to optimises value for money. Prepare the LPA's 10-year delivery plan and cash flow together with financing options.

  - Full plan - set out the procurement arrangements, fundamentals of scheme and site planning and development details and demonstrate that the required housing and social infrastructure needs can be successfully satisfied. This could be reviewed as part of the PINS examination process of the local plan and reconciled with the outline and strategic plans.

Contents

1.0 INTRODUCTION

1.1 This research paper has been prepared by Yuchen Wu, a master graduate at University of Reading under the supervision of Amy Colver, Associate Director and Stephen Clarke, Founder Director, of Earth.

1.2 The purpose of this paper was to research at local planning authority (LPA) level the future housing, health and education needs based on ONS demographic data, Government benchmarks and KPI's.

1.3 We randomly selected 26 LPA areas across England. These areas represent circa 15% of total current England household units and circa 15% of 2043 household units projections. The sample also represents 15% of current total population data.

1.4 The Conservative Government elected in December 2019 included a [manifesto](#) pledge to continue the target of supplying 300,000 new homes per year by the mid-2020s. Levelling up requires a multi-faceted approach to refine this target into specific objectives. This paper seeks to identify clearly where the housing needs are, and importantly what age group and type, together with core social infrastructure being schools and health and social care facilities to provide a reference for LPAs to meet this target.

1.5 Optimising the real estate requires a step change and a clear and deliverable 10-year plan. We have set out our findings, trends, and recommendations which we hope will contribute to the proposed planning reforms, Health and Social Care Bill and the Chancellors 2021 Spending Review and how the levelling up fund will operate beyond 22/23.

1.6 All projections for education and health care space needs in this paper were based on a Real Estate Optimisation Model (REOM) developed by Earth. It forecasts real estate requirements now and in say ten years based on ONS demographic data and Government benchmarks. Phase 1 is a desktop needs analysis; phase 2 is a review of the current real estate and phase 3 is the preparation of the strategic plan and the outline delivery plan and phased ten-year cashflow.

1.7 We have run REOM phase 1 for the sample LPAs and this research paper sets out our findings and trends.

2.0   POPULATION PROJECTIONS

2.1   Figures 1 and 2 set out the total population for the sample LPAs in 2019 and forecast in 2030.

2.2   Except for two LPAs the total population is expected to grow over the next ten years. However as set out below this total growth masks the demographic shift towards an aging population and the impact that has on housing needs. This age shift is very profound in some LPAs.
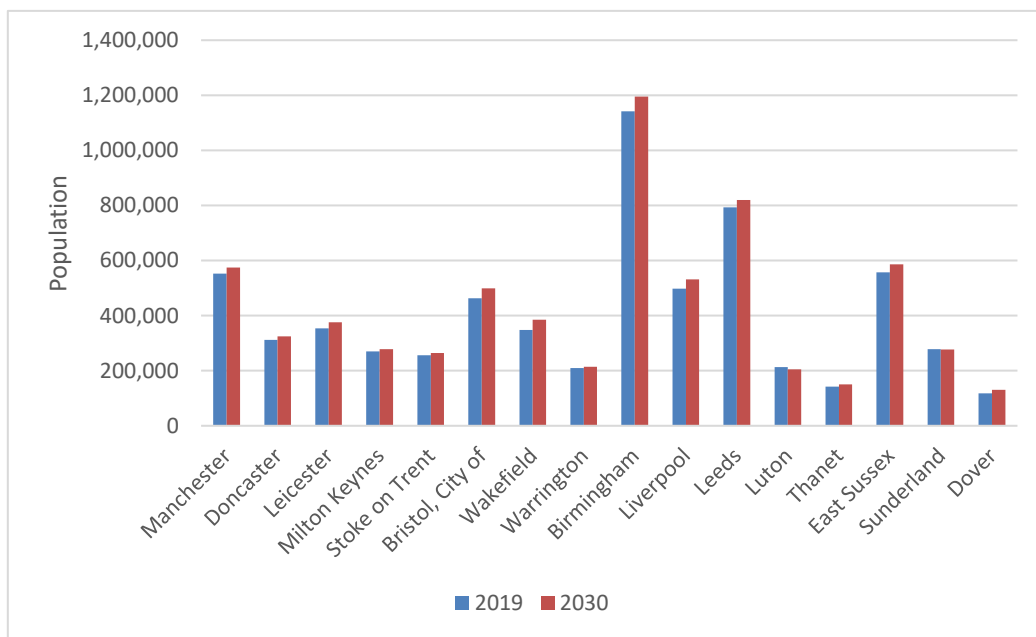

Figure 1: Actual population per LPA in 2019 and forecast population in 2030 *(Source: ONS)*
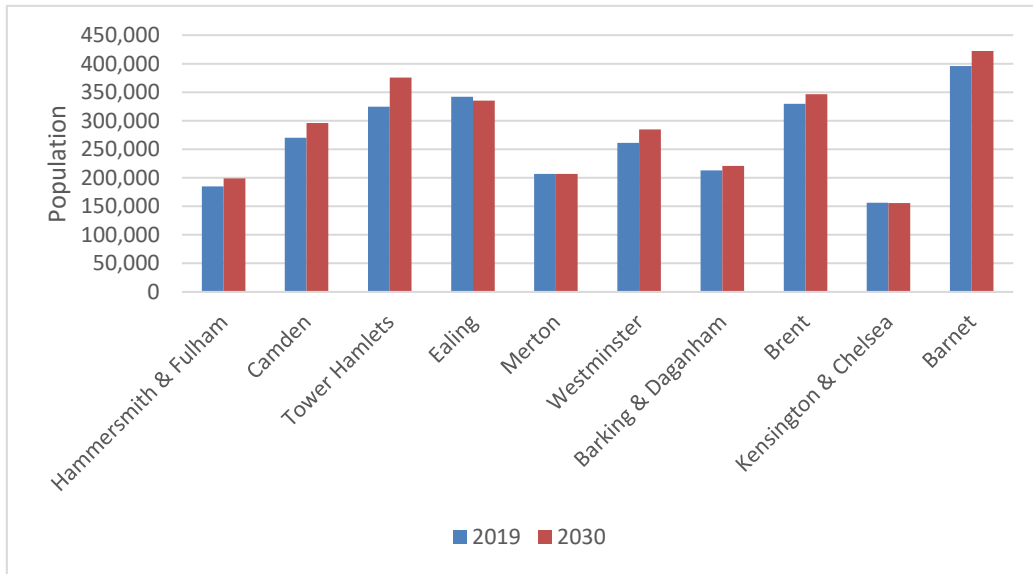
Figure 2: Actual population per LPA in 2019 and forecast population in 2030 *(Source: ONS)*

3.0 HOUSEHOLD UNIT PROJECTIONS

3.1 Figures 3 and 4 set out the housing unit needs projections for the next 25 years in total and for:
- Starter living (under34)
- Family living (35 to 64)
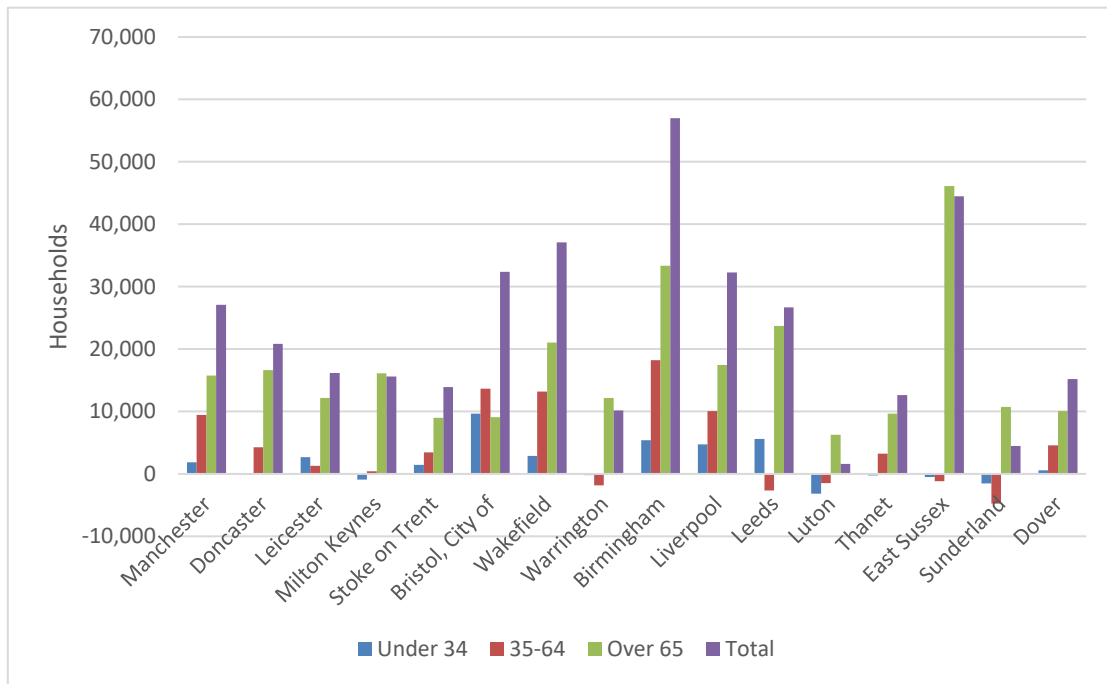- Senior living (over 65)

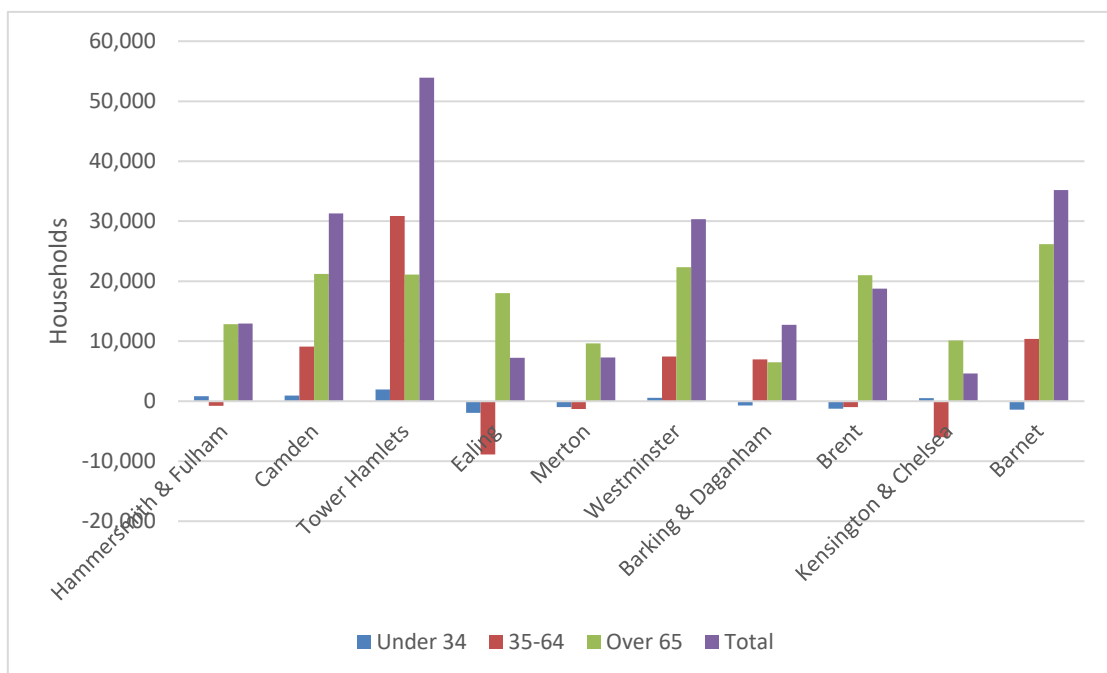Figure 3: Housing needs projection changes from 2018 to 2043 *(Source: ONS)*

Figure 4: Housing needs projection changes from 2018 to 2043 *(Source: ONS)*

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3.2   Housing needs findings:

3.2.1   ONS household projections reflect the changing demographics. These projections set out the housing needs and whilst not a forecast of how many homes should be built, they inform the type of housing required and the age profile of the occupiers.

3.2.2   As shown in Figures 3 and 4, those aged 65 and over will dominate housing demand over the next 25 years due to the impact of declining birth rates and an ageing population. In the 25 sample LPAs, the majority of them have a demand for senior living that accounts for half or more of their total housing needs.

3.2.3   Over the next 25 years, 75% of all housing unit projection needs are for the over 65 year olds in a yearly average basis at 17,125 units, and 20% for family living and 5% for the under 34 year olds.
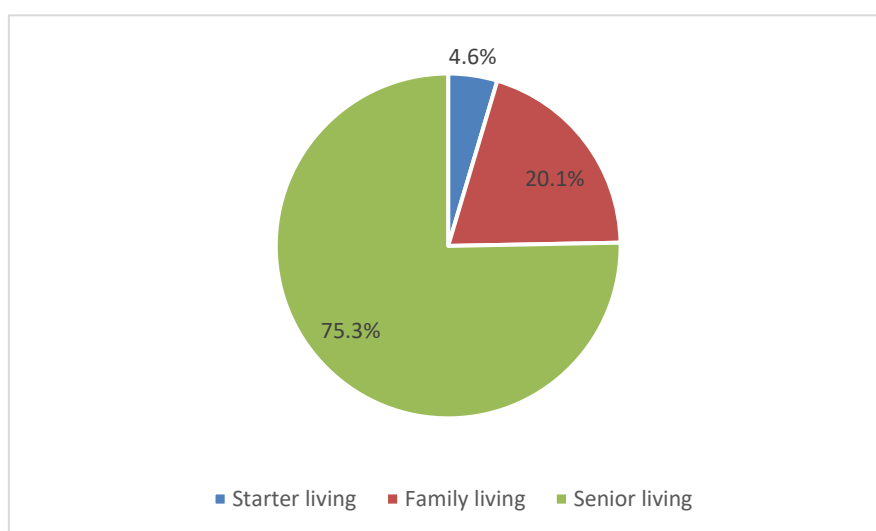

Figure 5: New housing demand forecasting *(Source: ONS)*

3.3   Housing Recommendations

3.3.1   The number of new households in England is projected to grow by 150,000 per year according to ONS over next 25 years. Currently, many households take up more housing space than they actually 'need' if they can afford to, affecting the actual housing demand. To address this, house target should reflect the need so that the market supply addresses the actual need and be set by category.

3.3.2   The new homes target of 300,000 per annum should be divided specifically by needs type as above and by LPA together with a ten-year cumulative target in line with the needs projections. Planning policy should promote senior living accommodation and

appropriate sites especially in urban areas where the need is profound in a similar way to family living houses and starter living houses.

3.3.3 The delivery plan for the new homes needs to be integrated into the strategic plan alongside the need for schools and health facilities below.

4.0 EDUCATION NEEDS PROJECTIONS

4.1 Projections are based on Earth's REOM model. Demographic projections from ONS were combined with government benchmarks to forecast the primary and secondary school needs changes in ten years time.

4.2 Figures 6 and 7 set out the primary school needs currently and in ten years. Using REOM model, demographic data for each LPA and indicators such as average school enrolment are combined and analysed to produce predicted numbers of schools.

4.3 Figures 8 and 9 set out the secondary school needs on a similar basis to primary schools again using national average pupils per school.
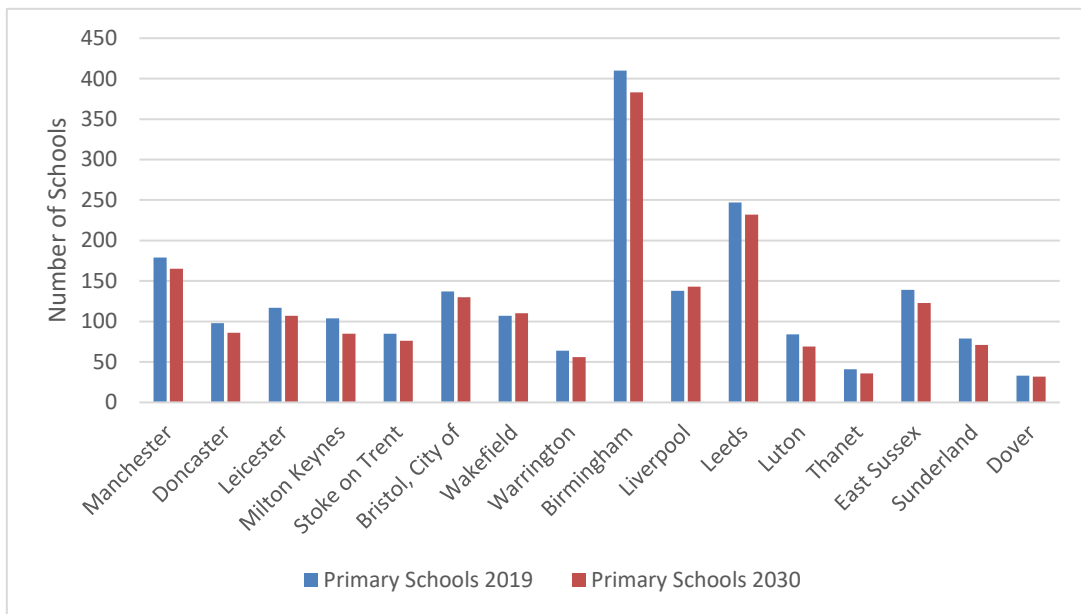

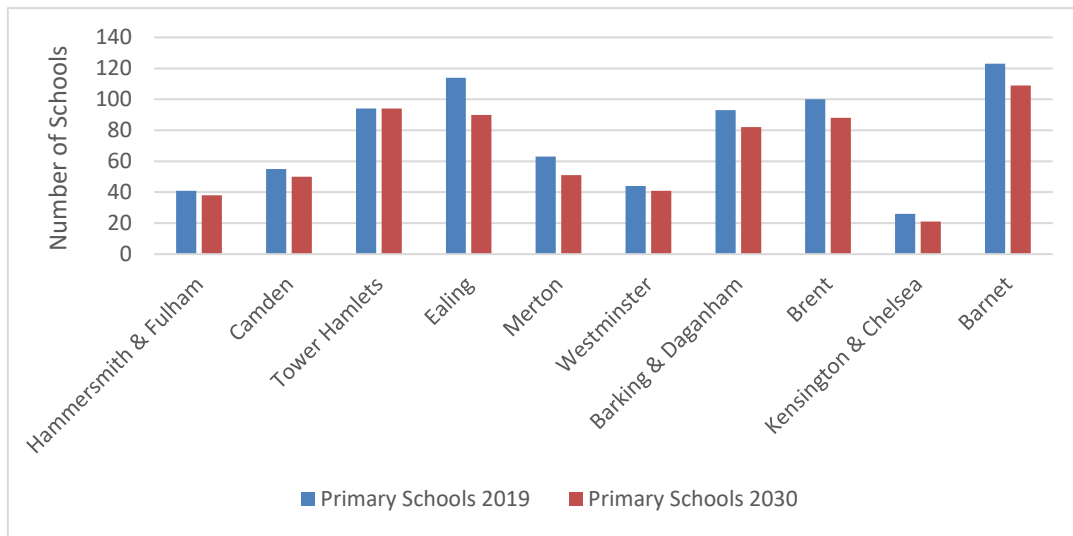Figure 6: Primary school needs changes from 2019 to 2030 *(Source: REOM)*

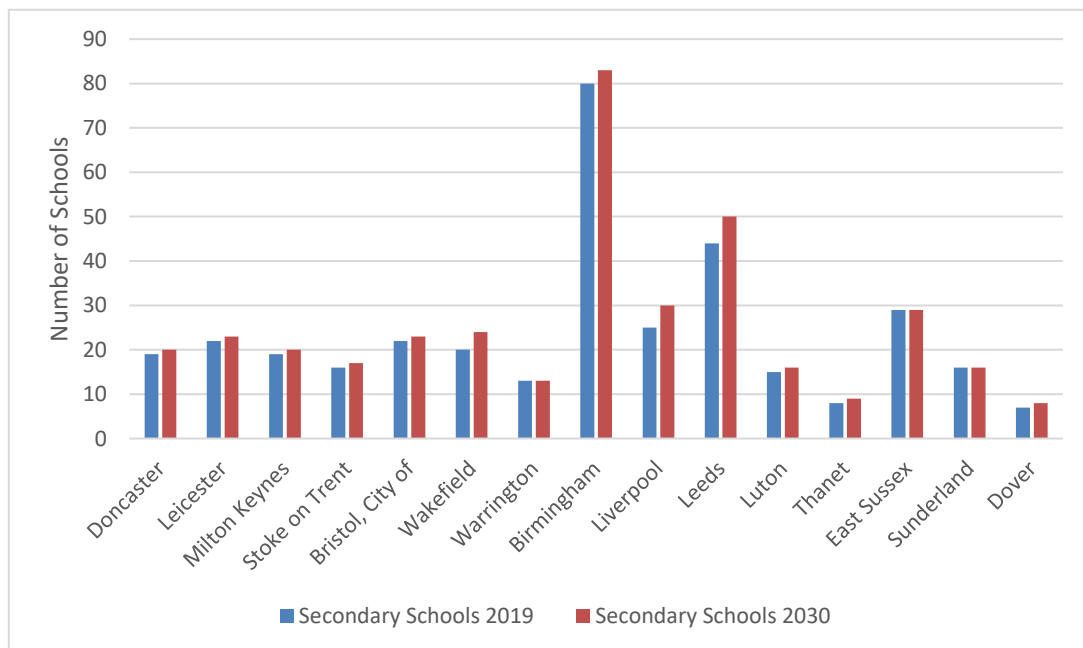Figure 7: Primary school needs changes from 2019 to 2030 *(Source: REOM)*

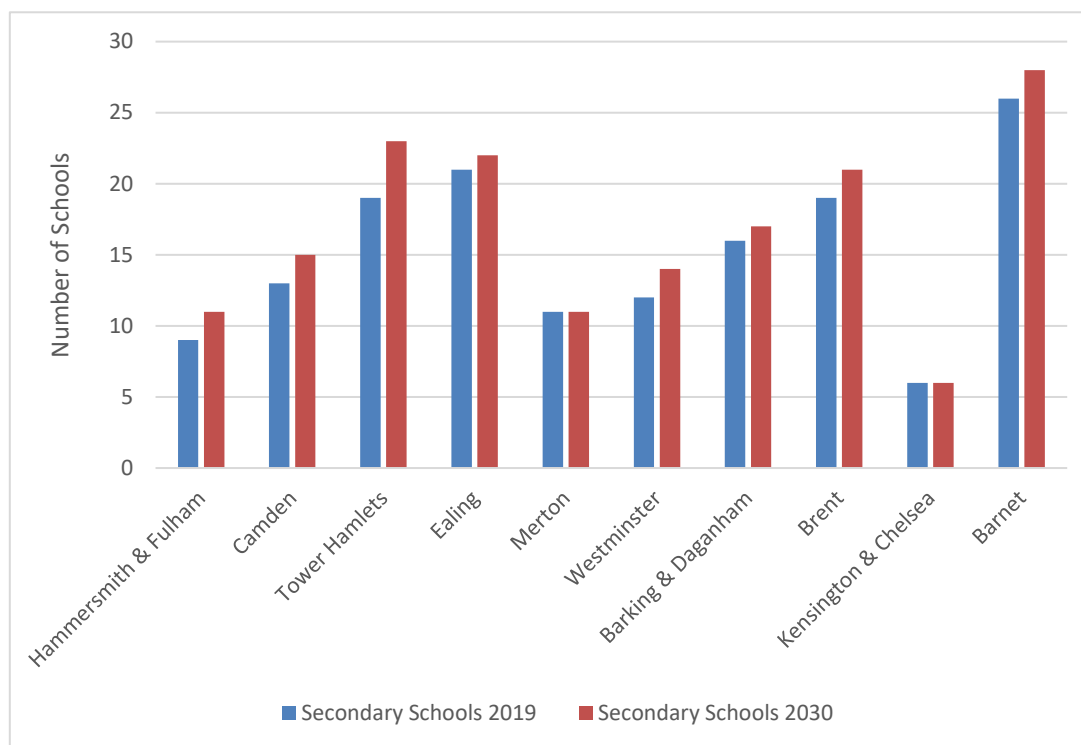Figure 8: Secondary school needs changes from 2019 to 2030 *(Source: REOM)*

Figure 9: Secondary school needs changes from 2019 to 2030 *(Source: REOM)*

4.4 Education needs findings:

4.4.1 The demographic data indicates a surplus of primary schools in most LPAs in ten years. The decline in primary age children indicates a need to consolidate schools and provides an opportunity to release sites for development subject to a review of current school enrolment capacities and class sizes.

4.4.2 Conversely, the demographic data indicates the need for more secondary schools in most LPAs in ten years time.

4.4.3 According to Department for Education, the average primary school has 282 pupils on its roll in 2019. Figures 10 and 11 illustrate the current total number of primary schools in the sample LPAs together with those that are 50 % larger than the national average.

4.4.4 Respectively, the average secondary enrolment size is 965. Figures 12 and 13 illustrate the current total number of secondary schools in the sample LPAs together with those that are 25% larger than national average.
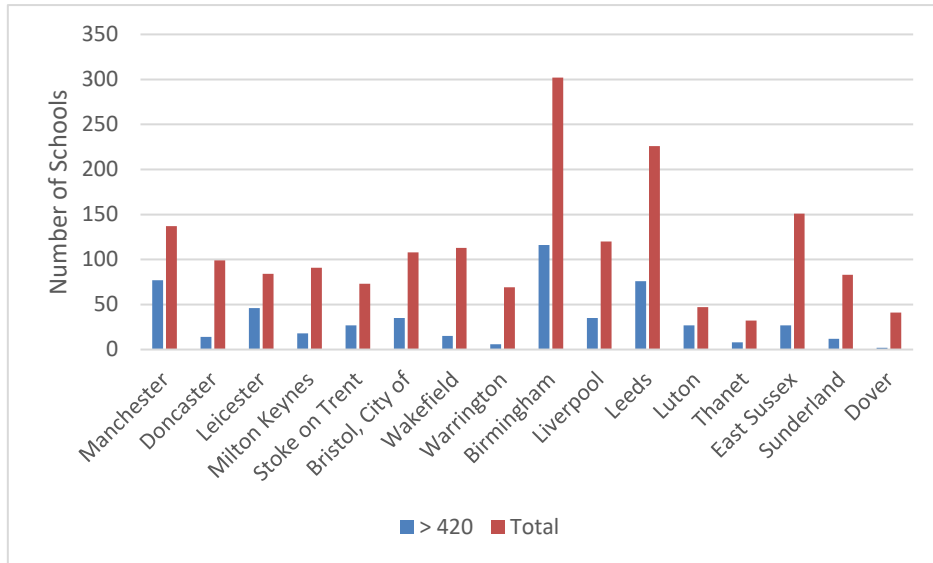
Figure 10: Total primary schools and those above 420
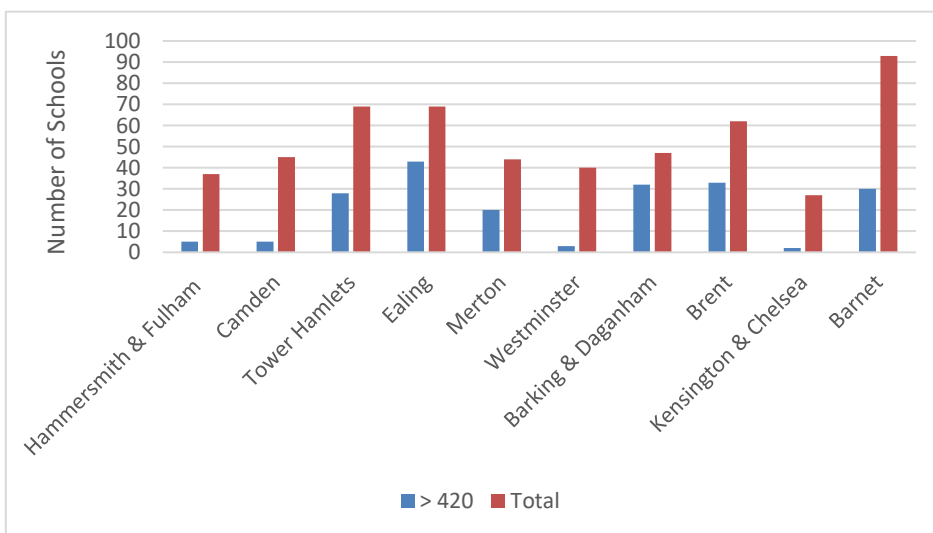*(Source: Department for Education)*

Figure 11: Total primary schools and those above 420
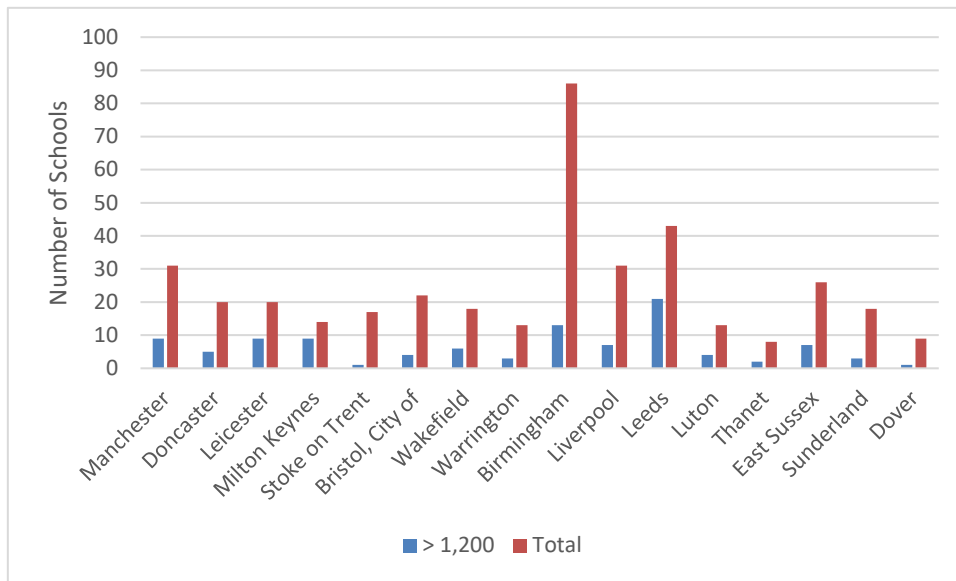*(Source: Department for Education)*

Figure 12: Total secondary schools and those above 1,200
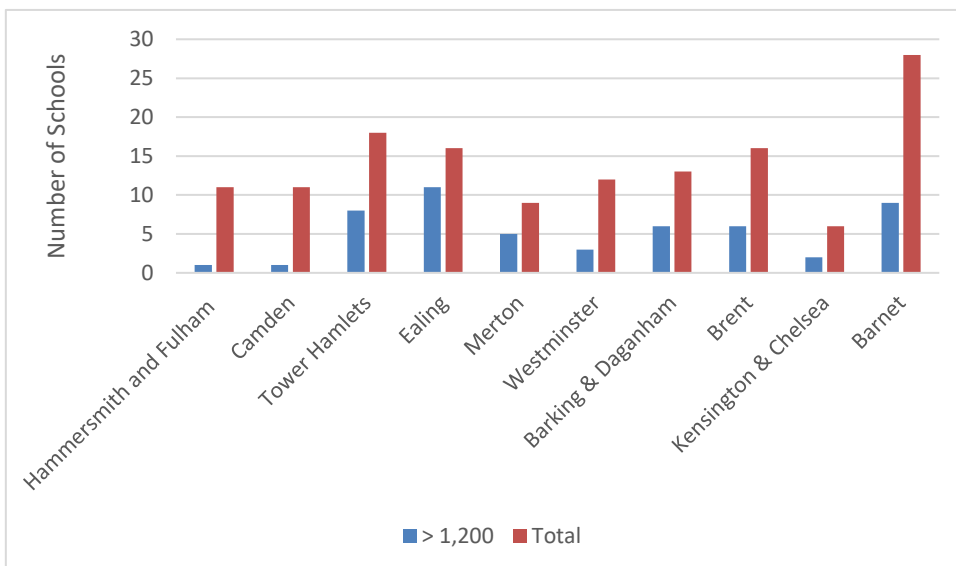*(Source: Department for Education)*

Figure 13: Total secondary schools and those above 1,200
(Source: Department for Education)

4.5   Education Recommendations

4.5.1 To assist school planning an optimum pupil school benchmark should be agreed as there is currently a wide range of school capacities currently. Additionally, school planning can be based on an optimum class size. Without these agreed benchmarks for schools in ten years' time, consolidations and closures will be difficult to support as will the need for further investment in both primary and secondary schools.

4.5.2 Planning policy should identify future primary and secondary school sites together with surplus sites and acquisition sites.

5.0 HEALTH NEEDS PROJECTIONS

5.1 Projections are based of Earth's REOM model. Data like demographic changes from ONS were combined with government benchmarks to forecast the GP needs changes in a certain period of time.

5.2 Figures 14 and 15 present the GP surgery needs currently and in ten years. These projections are based on a current average patient list size of c 8,500 to set out the demographic change on a consistent basis.

5.3 The NHS long term plan refers to future practice patient sizes of 30,000 to 50,000 and the graphs also include the impact of creating these integrated care hubs based on 2030 demographic forecast data.
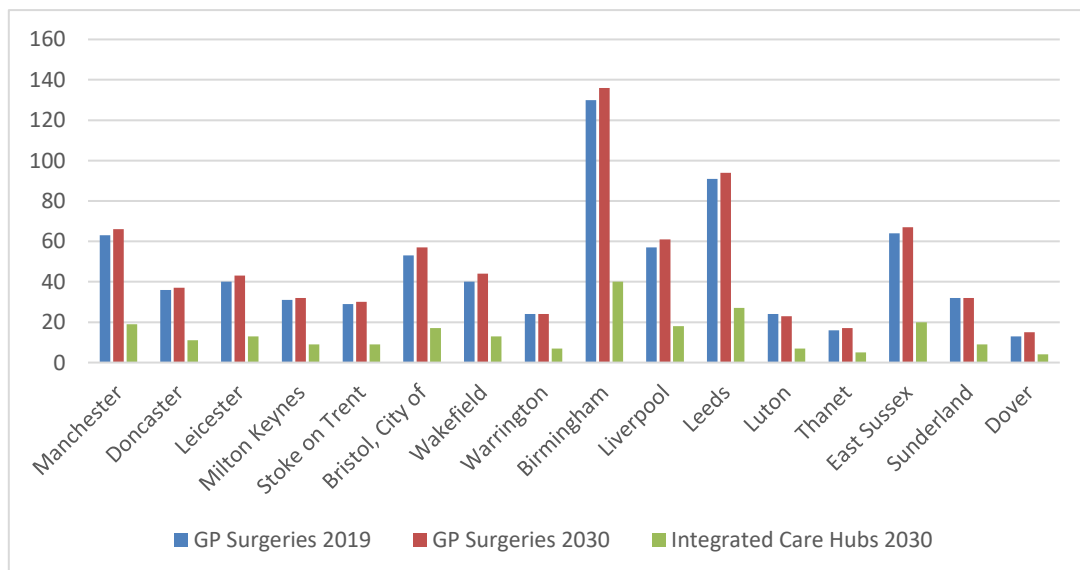

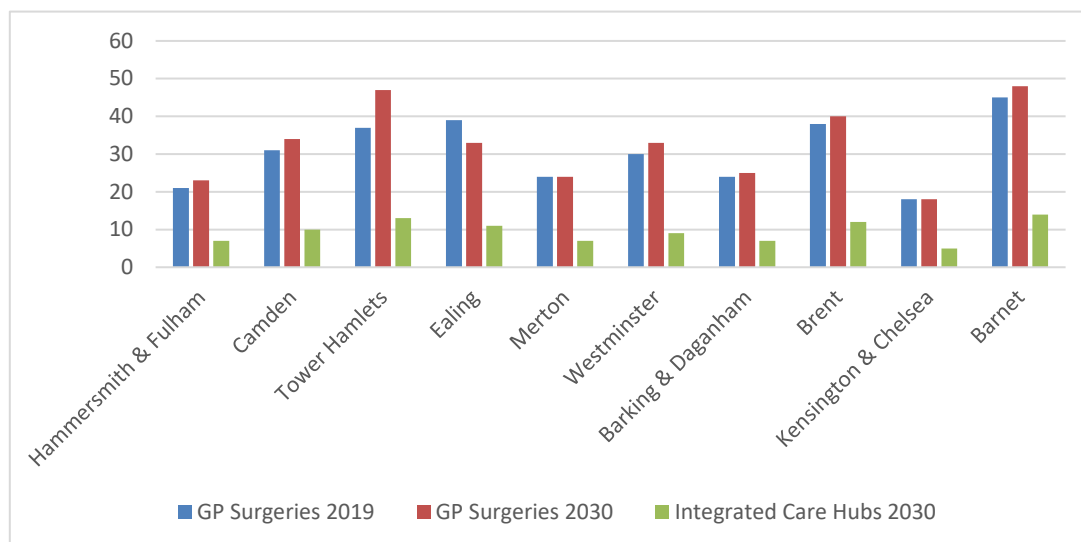Figure 14: GP needs changes from 2019 to 2030 *(Source: REOM)*

Figure 15: GP needs changes from 2019 to 2030 *(Source: REOM)*

5.4   Health needs findings:

5.4.1   The demographic data indicates a need for additional GP facilities in all LPAs in ten years' time. The demographic data and benchmarks like average GP practice list size were introduced and integrated through the REOM model to present the GP needs changes.

5.4.2   The future demand for GP facilities needs to have regard to optimum GP patient list sizes in the NHS ten-year plan. Currently there are several small GP practices and in some LPA consolidation into large practices is starting to take place.

5.4.3   To illustrate this Figures 16 and 17 set out the percentage of current surgeries with a list size below 5,000 patients and those above 20,000.

5.4.4   Figure 18 sets out the current sites operated from for those practices with patient list sizes over 20,000. This illustrates the current level of consolidation in the sample LPA's.

5.4.5   There are in some areas a considerable number of small GP practices as highlighted in figures 15 and 16. Conversely, in most areas there are very few large practices and where there are these are either due to GP mergers or where there are already health hub facilities. As indicated in figure 18 these single site health hubs are very few. For these large practices, the vast majority still only have one or two sites, indicating that integration is still in its infancy and there is still much room for improvement.
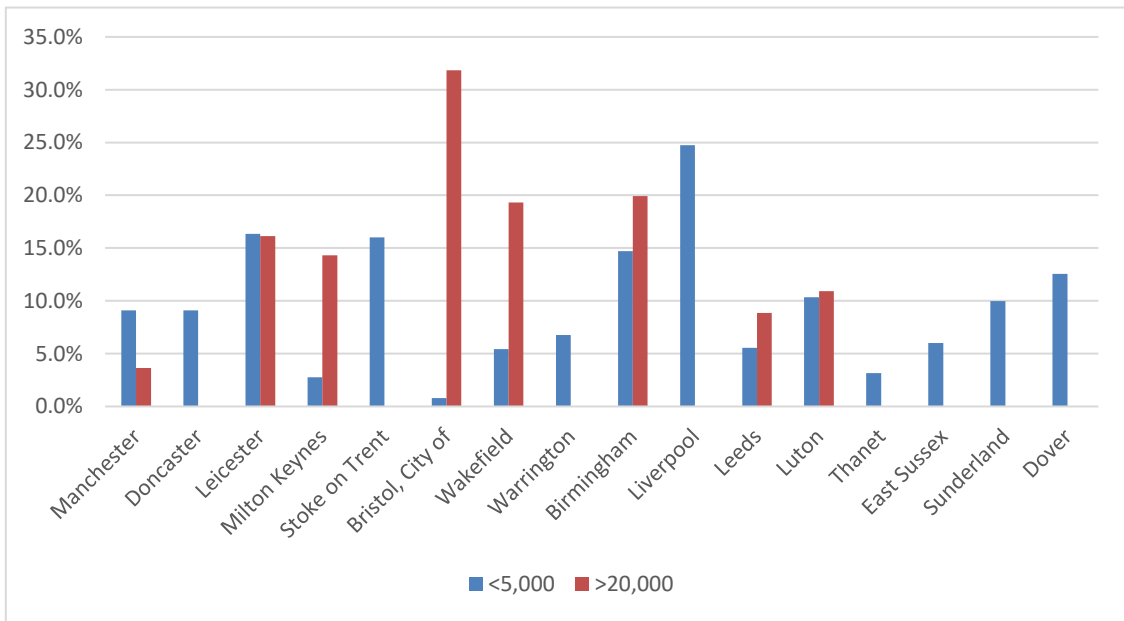
Figure 16: % of GP practices with list size below 5,000 and above 20,000
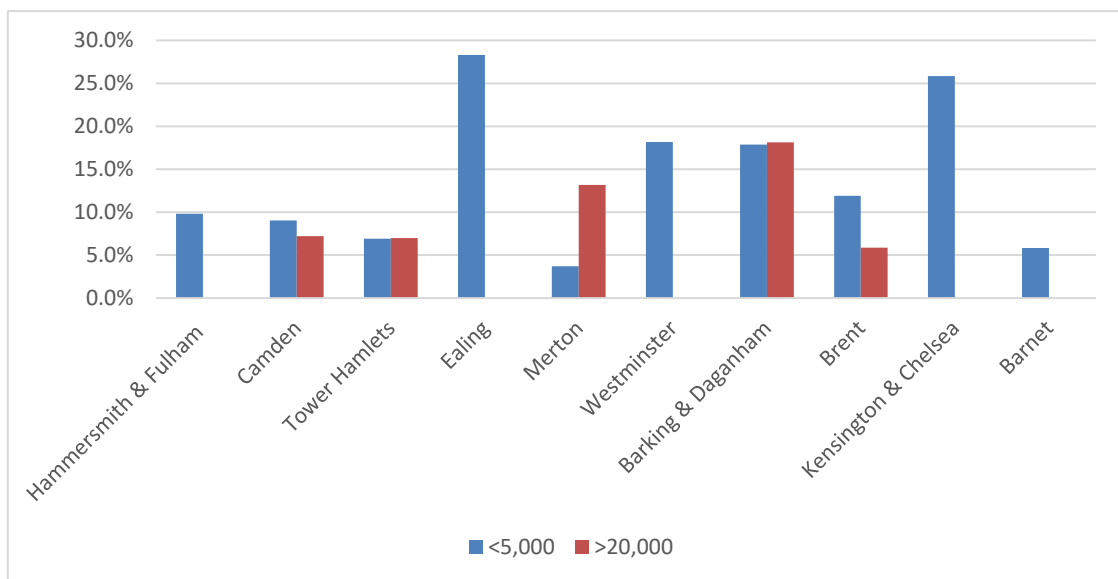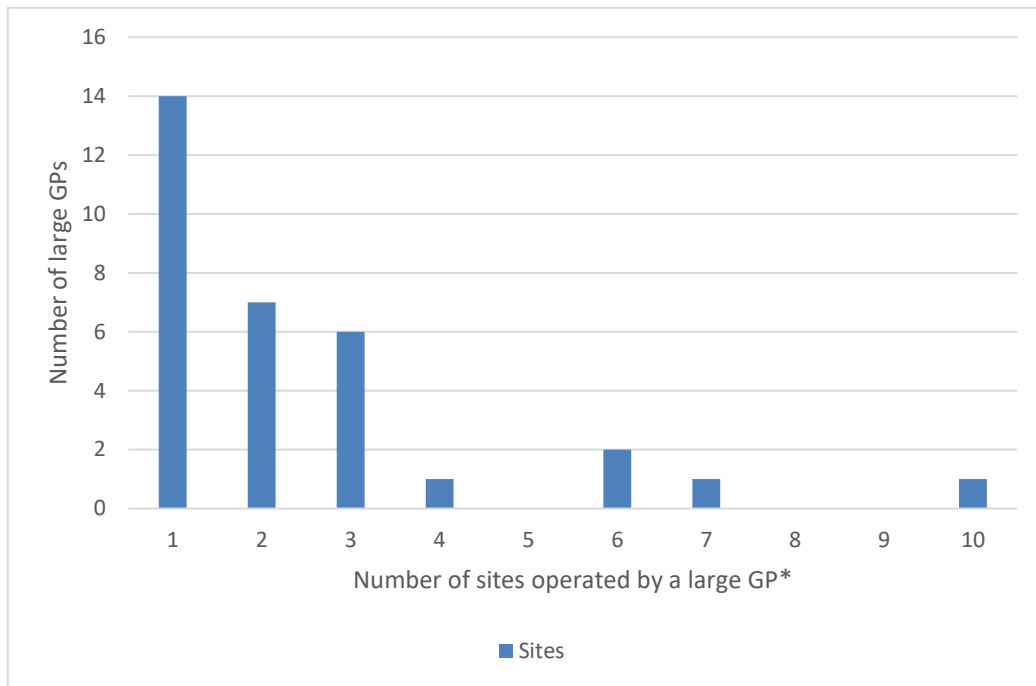*(Source: NHS Catalyst)*

Figure 17: % of GP practices with list size below 5,000 and above 20,000 *(Source: NHS Catalyst)*

A large GP has a patience list size of 20,000 or more.

Figure 18: Number of sites operated by large GPs (*Source: NHS Catalyst*)

5.5   Health Recommendations

5.5.1   To assist health hub planning and the facilitate the creation of 30,000 /50,000 integrated care hubs, Building, and Design best practice guidelines need to be issued to the LPA's and NHS providers for strategic planning purposes

5.5.2   In addition, place level model methodology needs to be developed so that LPAs and NHS providers can forward plan for these hub sites having regard to the forecast demographic patient activity needs and planned housing

5.5.3   The timing and delivery of co locations following mergers needs to be either phased over a period of time and have regard to existing lease lengths or, forward fund the integrated care hub site acquisitions and buildings.

6.0 SUMMARY RECOMMENDATIONS

6.1 Housing targets need to focus on the needs for the area to ensure delivery of age-appropriate developments.

6.2 Investment in schools need to reflect the future demographic needs for the area and at optimum size be it school enrolment numbers or class sizes.

6.3 The NHS long term plan to deliver integrated care health hubs needs to be planned for and sites identified for each LPA now so that the delivery can be phased in over the next ten years or so.

6.4 The strategic delivery of new homes, schools and health hubs requires a step change in approach. Local and national government departments need to work in collaboration, and we believe a three-stage approach similar to HM Treasury business case methodology could be adopted as follows:

- Strategic plan - establish the ten-year strategic need targets and options for site delivery.

- Outline plan - carry out target site development options appraisals to optimises value for money. Prepare the LPA's 10-year delivery plan and cash flow together with financing options.

- Full plan - set out the procurement arrangements, fundamentals of scheme and site planning and development details and demonstrate that the required housing and social infrastructure needs can be successfully satisfied.
  This could be reviewed as part of the PINS examination process of the local plan and reconciled with the OP and SP.

7.0 CONCLUSION

7.1 As the UK emerges from Covid and we embark on building back better this research paper has identified the strategic real estate needs for housing, health and education together with some recommendations for the delivery of these needs.

My thanks go to the public sector officers who have encouraged this paper and to Yuchen Wu, a postgraduate at the University of Reading and a scholar from Tianjin University, who has prepared this paper.

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Contact

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