GLAINTELLIGENCE

Update 2018-01

2018 GLA School Place Demand Projections

March 2018

Key Findings

- London will need to find places for an additional 4,800 children each year over the decade to 2027/28
- Primary demand will peak at 704,900 in 2018/19 (an increase of 7,000 over current levels). Over the remainder of the projection period primary demand will fall. This is primarily due to a recent fall in births following a period of high growth
- Secondary demand will peak at 479,900 places in 2023/24 (an increase of 77,700 over current levels)
- By 2027/28 London will require an additional 65,200 secondary places, equivalent to roughly 2,200 classes, or 54 standard 1,200-place secondary schools
- Growth in secondary demand is fuelled by the large cohorts currently seen in the primary system passing into secondary education over the next decade
- Over the next five years every London borough will see growth in secondary demand

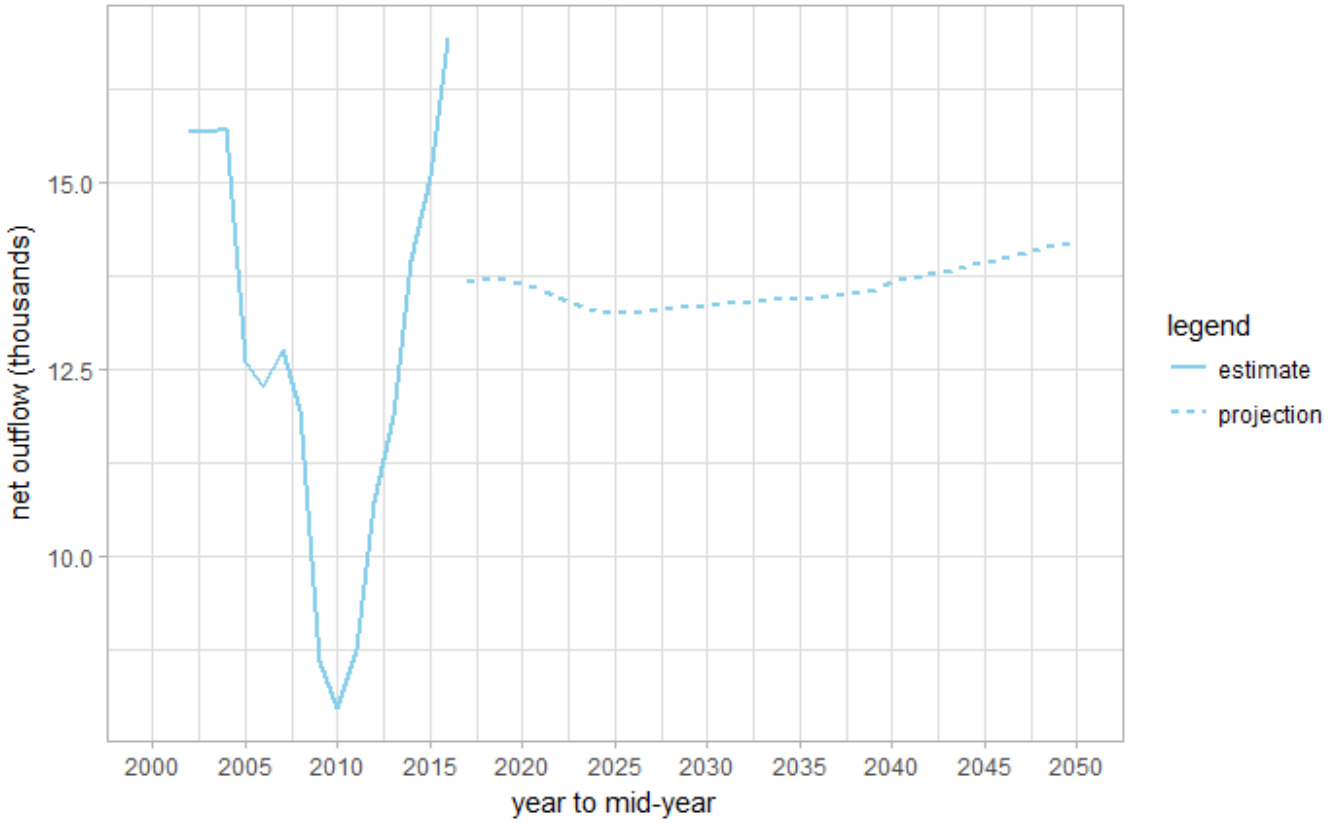
Introduction

In November 2015, the GLA released the first projections of pan-London demand for school places. Their publication provided the first consistent view of future demand for places in state-maintained schools across London. In the years since, the projections have proven a valuable resource in understanding emerging demand and in informing strategic decisions about future provision and funding of places in the capital. This release, the *2018 Pan-London Demand for School Places Projections*, constitutes an update to the 2015 study and incorporates a revised methodology and updated input data.

The growth in London's population in recent decades has created great challenges for local authorities providing places to meet growing demand. Between 2001/2 and 2011/12, annual births in London rose by almost 30,000 (28 per cent), with many individual authorities seeing much larger increases.

The financial crisis of 2008 had a dramatic impact on London's patterns of migration. Outflows from London to the rest of the UK fell sharply in the aftermath of the crisis, with young families moving to the surrounding counties particularly affected. Figure 1 shows historical and projected net out-migration from London of children aged four to eleven.

Figure 1: Past and projected net outmigration from London, children aged 4 to 11

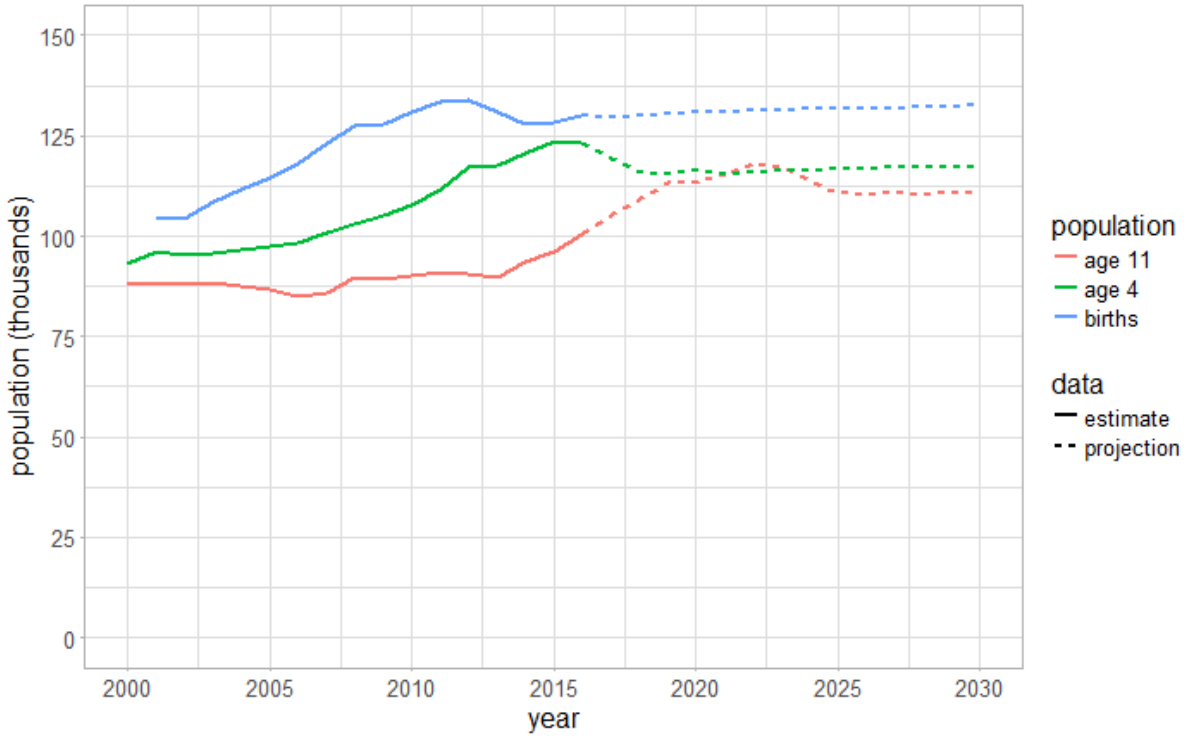


ONS Internal migration backseries, GLA central trend projection

The combined impact of these factors was a rapid growth in the number of children living in the city. This growth put immediate pressure on primary school places, necessitating a huge expansion in capacity. A decade on, local authorities now face a rising demand for secondary school places.

Figure 2 illustrates how past births are correlated with reception rolls and how they are beginning to impact on the number of children seeking a place at secondary schools.

Figure 2: Estimated and projected births and population, London



ONS Mid-year estimates, GLA 2016-based central trend projections

2018 Demand Projection Model

This release provides an update to the work published in 2015[1]. It incorporates updates to both the Department for Education's NPD (national pupil database) and the GLA small area populations projections. The demand projections themselves employ a refined methodology resulting in fewer variants and, hopefully, a clearer set of outputs.

The task of meeting the needs of planners and providers was made challenging by difficulties in defining what 'demand' truly means in this context. At a fundamental level, each child creates demand for a school place which both meets their educational needs and is accessible to them. Complications arise when trying to understand the spatial distribution of demand and to break down that demand into specific types of provision.

When the London Schools Atlas was launched in 2013, it highlighted the diverse range of pupil mobility patterns across London. These patterns are influenced by many drivers, such as: type and perceived quality of school, area of residence, phase of education, transport links, pressure on places and many other factors. The complex nature of mobility makes it difficult to state definitively where demand from a growing population will manifest or where additional provision might best be located to cater for that demand.

The approach set out here recognises the challenges pupil mobility plays but also acknowledges that current patterns of mobility are fundamentally a function of the location of existing provision. Therefore, our approach is to combine a projection of future demand by current patterns of mobility with a projection of

[1] https://files.datapress.com/london/dataset/pan-london-school-place-demand/2015-11-26T11:37:25/Projected%20Demand%20for%20School%20Places.pdf

demand by area of residence. The approach provides a composite measure of future demand at ward level across London.

Since 2015, GLA demography has revised its ward-level projections methodology on which the pan-London demand projections are based. These revisions provide a more robust approach to small area modelling and offer consistency across the suite of GLA projections. Full details of the implementation of the GLA small area population model are available in a methodology paper[2].

Notes on projections

When analysing and quoting the data and information contained in this report and in the pan-London demand model outputs users should be mindful of the following:

Strategic overview
Results are designed to give a strategic-level indication of where additional demand may arise in future. It is not intended that these projections be considered as definitive evidence that additional provision is required in a particular ward. Local knowledge is necessary to understand the complex dynamics underpinning patterns of pupil mobility. These projections are not a replacement for this knowledge.

New provision
Likewise, these projections should not be interpreted as forecasts of future numbers of pupils on roll – growth in roll numbers will be dependent on the location of new provision, which this analysis does not attempt to account for.

Housing trajectories
Housing trajectories used in projections are based on data from the 2016 Strategic Housing Land Availability Assessment (SHLAA). The data used gives assumed annual net change in dwellings by ward. It does not contain information about the mix of housing types and tenures of new development.

Shortfall
No attempt has been made to project shortfall in available places, though the outputs provided could feasibly form an input into such an analysis. London Councils currently produces estimates of capacity and funding shortfall based on their own methodology. Local authorities have plans to address future need and users should avoid drawing conclusions about potential shortfalls without fully investigating current and planned provision.

Comparison with local authority roll forecasts
In light of the above it is important to note that local authorities in London do provide projections of anticipated rolls to the Department for Education on an annual basis. These projections take account of a more detailed local knowledge of housing development, the location and extent of new provision and changes to local circumstances.

Variations between local authorities' roll forecasts and the GLA's demand projections are to be expected, especially in cases where:

- Large-scale increases in school provision are planned which may significantly change future patterns of pupil mobility;
- Large-scale housing development is anticipated – especially in the case of Opportunity Areas. Differences in assumptions about the scale, composition, and phasing of such developments will have significant impacts on the projected number of children resident in the area.

[2] https://data.london.gov.uk/dataset/projections-documentation

The pan-London demand model presented here does not attempt to provide an alternative to these projections; rather it provides a broader strategic overview of where demand may arise. The results contained herein should not be compared to local authority roll projections.

Note on reporting
The projections are produced for academic years September to August. For clarity, outputs are referenced by academic year in the format 2016/17.

Data in the model outputs have been rounded to the nearest single unit. This precision should not be mistaken as an indication of likely accuracy. These detailed results are provided to maximise their utility in further modelling and analysis.

Independent school take-up
These projections are concerned with modelling state school demand across London, and so do not explicitly model independent school take-up. The residual between the demand projection by ward of residence and the ward's resident population are those individuals who do not require a mainstream state school place. This group will primarily be made up of those attending independent school. However, it will also include home schooled, non-mainstream state provision (e.g. pupil referral units, special schools), and others not in mainstream education. This 'non-state' element is an output of model operation rather than an explicitly intended result and is therefore not reported on here.

Data sources
The model has two data inputs:

- 2016-based ward-level population projections – GLA Demography;
- National Pupil Database (NPD, January 2017) – Department for Education

Ward-level population projections
This analysis makes use of the GLA's own 2016-based ward-level population projections. These projections include the latest available housing trajectory data – the 2016 Strategic Housing Land Availability Assessment (SHLAA). The projections were produced using the GLA small area model[3] and outputs by ward are publicly available on the London Datastore[4].

The GLA's population projections are produced for wards as they existed on Census Day 2011. Since then three local authorities: Tower Hamlets, Hackney, and Kensington & Chelsea have adopted new ward boundaries. As the necessary input data is not available for the revised geographies, projections continue to be produced on the old boundaries.

The National Pupil Database
The National Pupil Database (NPD) is a pupil-level database containing information on pupils personal characteristics (age, address, etc.) taken from the School Census as well as attainment data and variables collected from other sources. Access to the data is via application to the Department for Education. The GLA receives pupil-level data containing a limited number of variables for use in specific projects.
The key variables used in this work are:

- Home address of child (coded to Lower Super Output Area)
- School attended
- National Curriculum year group of child

[3] https://data.london.gov.uk/dataset/projections-documentation
[4] https://data.london.gov.uk/dataset/projections

The projection model uses data only for pupils on roll in state-funded mainstream education. It therefore excludes those in special schools and pupil referral units. The school types included in the model are:

- Studio schools
- Academy converter schools
- Academy sponsor-led schools
- Community schools
- Foundation schools
- Free schools
- University Technical Colleges
- Voluntary aided schools
- Voluntary controlled schools

Due to the potentially disclosive nature of the NPD data it is not possible to release the model inputs publicly. All other model inputs are in the public domain.

Methodology

The model operates by determining relationships in the base year between the NPD and the estimated population and then applying these to the projected population. The base year is the academic 2016/17 – the year the NPD was collected.

1. The population data used gives estimated and projected populations for mid-year (30th June) of each year. The NPD extract used is based on the 2017 Spring School Census. This data was collected in January 2017.

   Each NPD record includes the school year[5] of the child. The model assumes that everyone in the school year is the same age at the beginning of the academic year (31st August 2016)[6].

   To align the population data with the school year, the projections are rebased to August 31st. This is achieved by 'rolling forward' the projections by two months. This is done by adding 10/12ths of each year's population to 2/12ths of the following year's population.

2. The population, by ward of residence, in the NPD is compared to the estimated population in the projections in the base year. Where the NPD is greater, the difference is added to the projections so that they are equal. This adjustment is made to affected wards in each year of the projection up to 2027/28.

   This adjustment is made because as a census the NPD is considered a more accurate enumeration of the population than the mid-year estimate. Therefore, where the NPD larger than the MYE this is assumed to be a undercount in the MYE and so the estimate is adjusted accordingly.

3. Where the NPD is less than the estimated population in the base year, the difference is calculated as a proportion of the population estimate. This proportion of the population contains those attending independent school and non-mainstream state schools, and those who are home schooled or otherwise not attending mainstream state school.

[5] Recorded as National Curriculum (NC) year from Reception to 11.

[6] Reception = 4 years old, year 1 = 5 years old, etc.

4. The complement of the non-state school proportion calculated in step 3 is applied to the population projection in each year from 2017/18 to 2027/28. The result is the resident population requiring a state school place, by home ward, in each year of the projection.

5. A set of age and sex specific home ward to school ward flow rates are determined based on the ward to ward patterns of movement observed in the NPD. The rates are applied to the population arrived at in step 4 for the projection years to 2027/28. This provides the state school demand by ward of school.

6. The final projected demand in each ward is arrived at by taking an average of the home ward demand (step 4) and school ward demand (step 5) in each year. The results are then aggregated into Primary (age 4-10) and Secondary (age 11-15) outputs.

This method of calculating demand provides a composite measure that takes into consideration both the distribution of projected population growth and patterns of mobility driven by existing provision

Cross-border mobility

A cross-border flow is one where a child lives in one area and commutes across a border into another area to attend school. Understanding patterns of cross-border movement is important in understanding and modelling future demand for places in London.

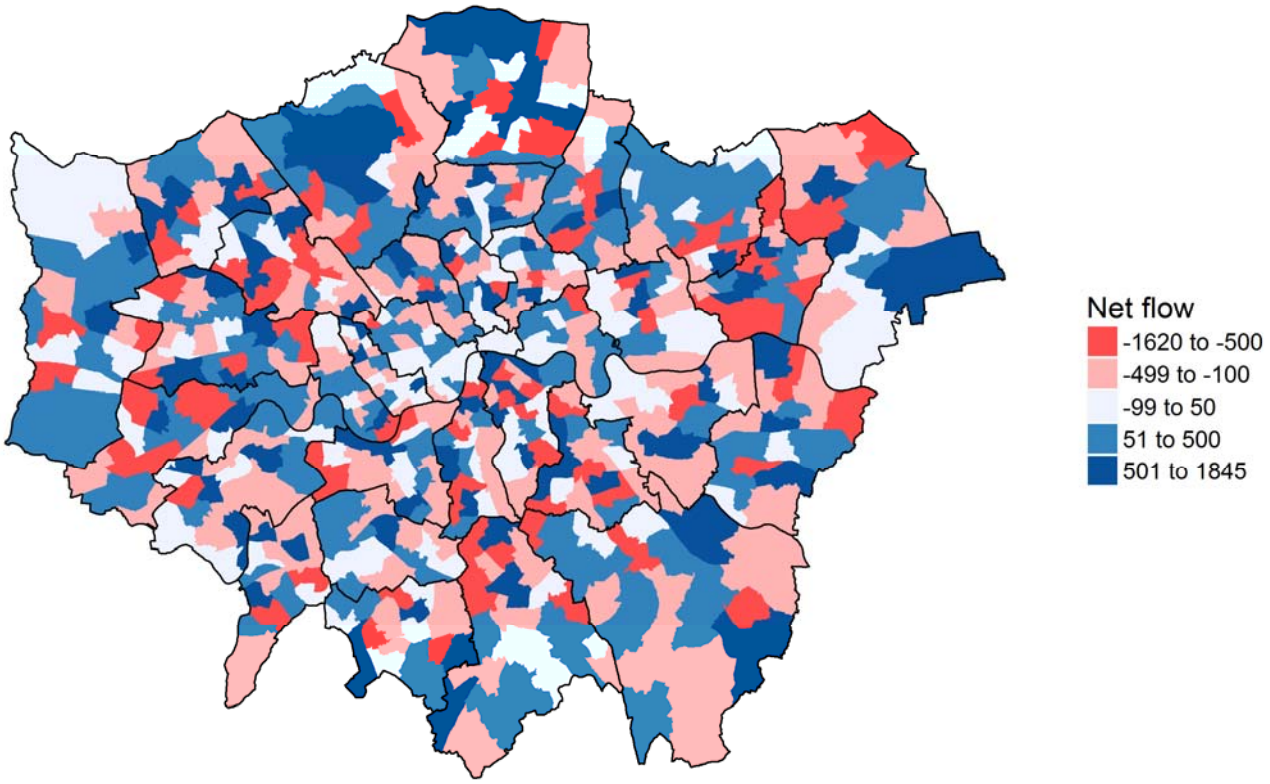
As stated above, the demand model combines two scenarios of future mobility. In the first, future demand is modelled as arising in the ward of residence (i.e. there is no cross border movement). In the second, current patterns of cross-border movement are assumed to persist into the future. The two scenarios are combined into a composite measure.

Due to the greater number of primary schools in London than secondary schools there is less mobility among 4-10 years olds than 11-15 year olds. Figure 3 shows the net flow of primary pupils in each ward in London. Net flow is calculated as the number of children who attend school in the ward that they live in, plus the number of children who commute into the ward for schooling, minus the number who out-commute. Wards which do not contain a school must therefore have a negative flow.

Cross-border mobility is also, to some extent, a function of the size of the wards themselves. Where wards are large children may be less likely to cross a ward boundary during their commute. In more densely populated areas (such as central London) the same distance may take child across more than one ward boundary.

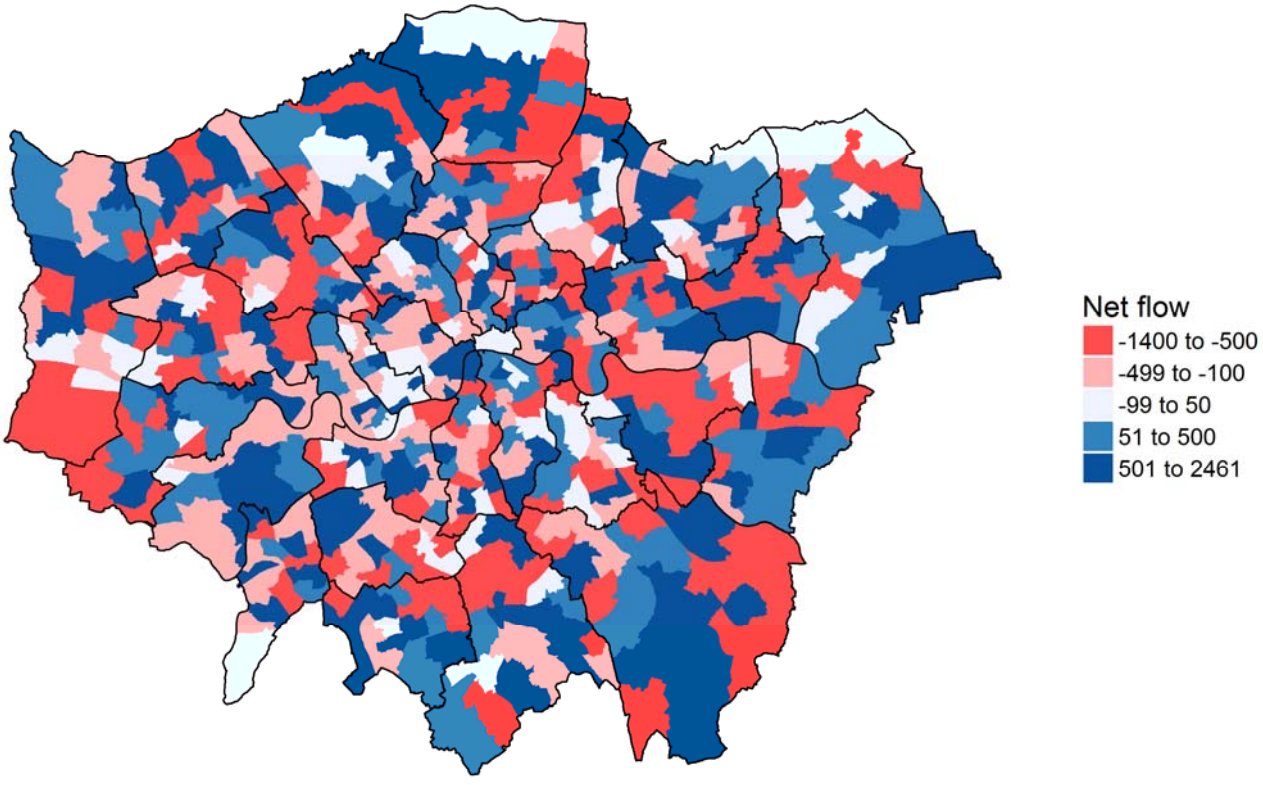
At primary level, there were 312 wards in London with a negative net flow (exporters) and 313 with a positive net flow (importers) in 2016/17. The most significant net exporters are those with a negative net flow of 501 or more. These wards tend to neighbour large importers, as children from wards without a school commute to wards with a school.

Figure 3: Net cross-border flows, primary pupils 2016/17



National Pupil Database, DfE

Figure 4: Net cross-border flows, secondary pupils 2016/17



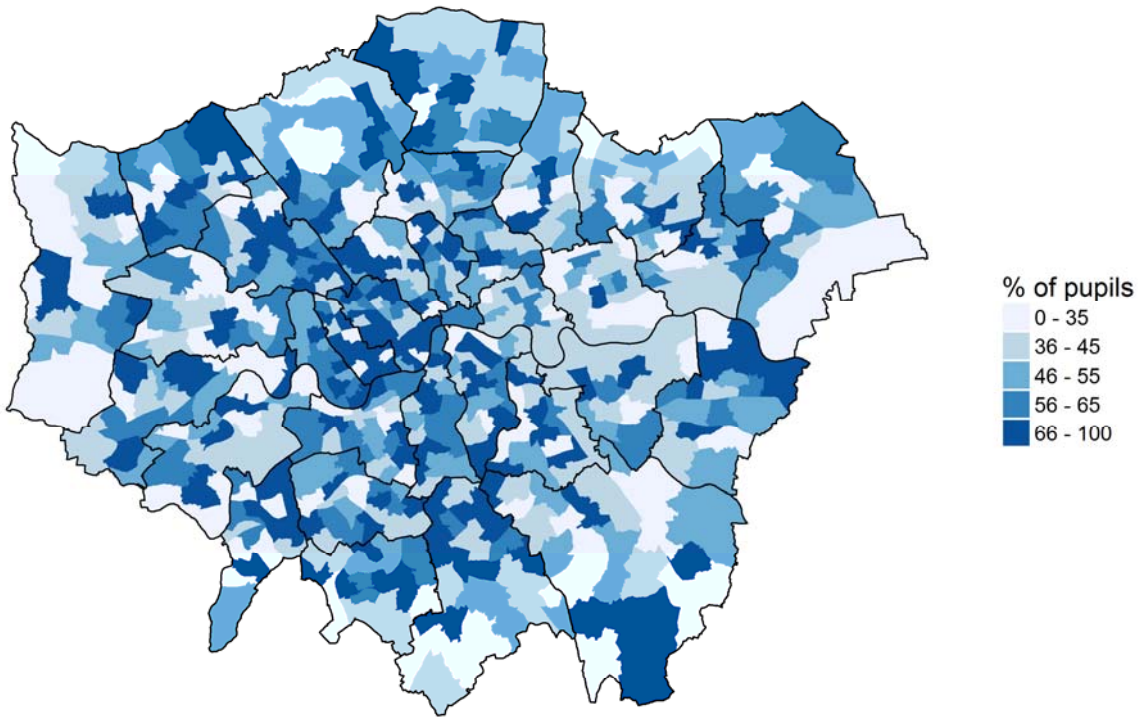
National Pupil Database, DfE

Among secondary pupils cross-border mobility is much more common because secondary schools are less numerous and have wider catchment areas. As a result, more wards fall within the extreme ranges. The relationship between exporter and importer remains but is more complex due to the greater distances individuals are prepared to, or have to, travel to attend secondary school.

Net flows are useful in identifying the overall shape of mobility across London, however they must be used with caution as they can act to obscure detail. For example, Osterley and Spring Grove ward in Hounslow, which has no primary school, has an outflow of 999 residents and no inflow. In Whitefoot in Lewisham 344 primary-age children live and go to school in the ward, 312 live in another ward and go to school in Whitefoot and 1,311 children live in the ward but are schooled outside. These are very different systems but in both cases there is a net outflow of 999 children.

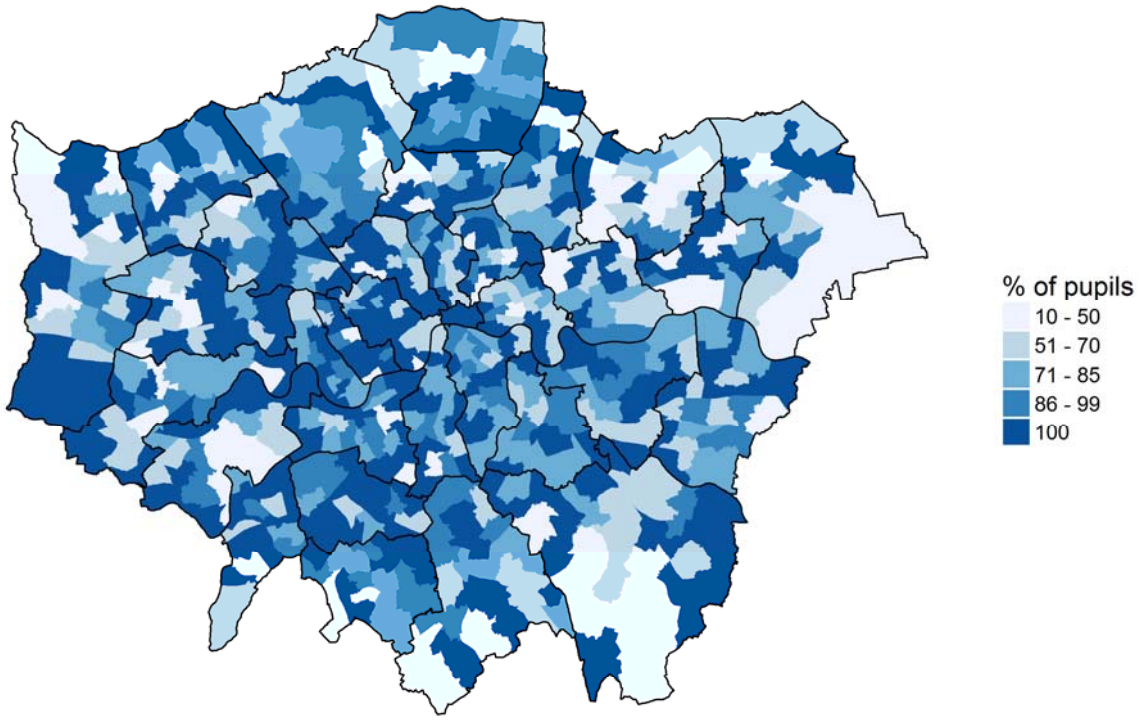
Figures 5 and 6 show the proportion of ward residents who cross the ward boundary to go to school. Across London 49 per cent of primary age children go to school in the ward they live in. Among secondary children just 19 per cent stay in their home ward for school.

Figure 5: Proportion of residents attending school outside their home ward, primary 2016/17



National Pupil Database, DfE

Figure 6: Proportion of residents attending school outside their home ward, secondary 2016/17



National Pupil Database, DfE

Results

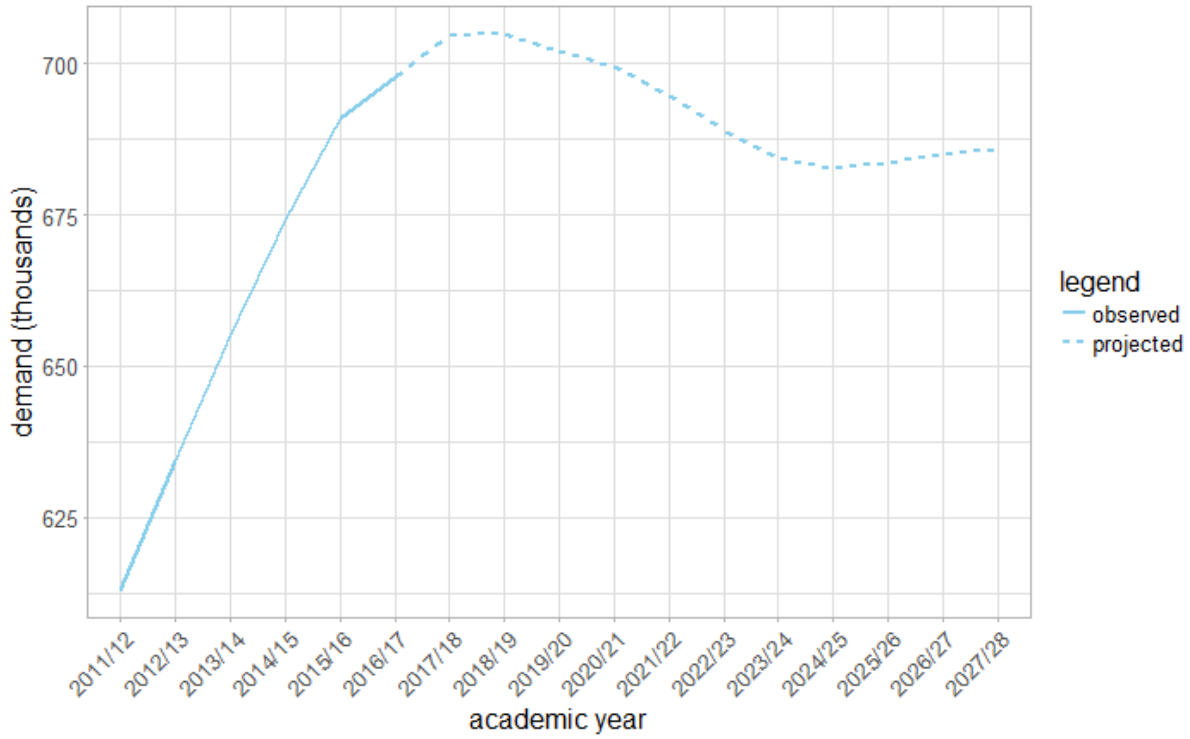
London will need to find places for an additional of 4,800 school places each year over the decade to 2027/28. Demand for places in state-maintained primary schools will peak at 705,000 in 2018/19 (an increase of 7,000 over current levels) and then fall over the remainder of the projection period. Demand for state-maintained secondary places will rise steeply in the first half of the coming decade to a peak of 480,000 places in 2023/24 (an increase of 77,700 over current levels).

Demand for primary school places (age 4 to 10)

The National Pupil Database (NPD) recorded 697,937 children attending mainstream state-maintained primary schools in London in 2016/17. Figure 7 shows how projected demand in London will change over the coming decade. Primary school demand is closely linked to the birth rate and, as Figure 2 demonstrates, 2012 saw a peak in births in London. Those born in the year to mid-2012 entered the school system in 2016/17 and so a similar peak in primary demand might be expected in the current year.

In fact, the peak in demand is projected to be in 2018/19 when 705,000 children will require a primary place. Demand will then fall gradually to a low of 683,000 in 2024/25 before stabilising towards the end of the projection period. Demand is not projected to fall any lower than the level seen in 2014/15. However, by 2027/28 London will require 12,000 less primary school places than are currently needed. This constitutes a fall in demand of around 1.7 per cent.

Figure 7: Demand for State places, London, Primary (observed and projected)

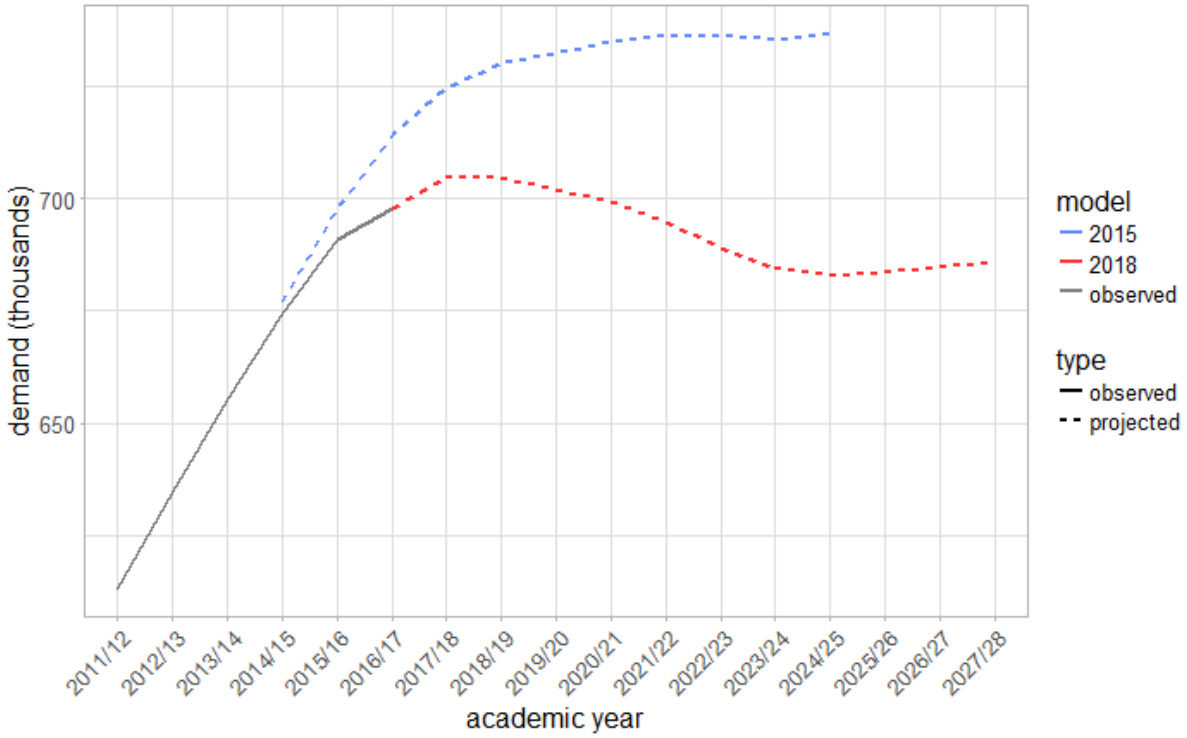


GLA 2018 School Place Demand Projections

Figure 8 compares the previous school demand projections produced by the GLA in 2015 with the latest 2018 demand projections. Primary demand is projected to be lower over the projection period than was the case in 2015. Again, this is primarily a result of the recent fall in annual births which changes assumptions about the projected number of school-age children in the population.

In addition to lower births, migration assumptions have also changed since 2015. This is primarily due to recent signs of economic recovery in London following a period of recession and economic low growth. Recent years have seen a return to the high levels of out-migration seen before the financial crash. Traditionally, young families have formed a significant group in driving net out-migration and so higher levels of overall migration mean fewer families and young children staying in London with an associated impact on school place demand.

Figure 8: Comparison of 2015 and 2018 demand projections, Primary, London

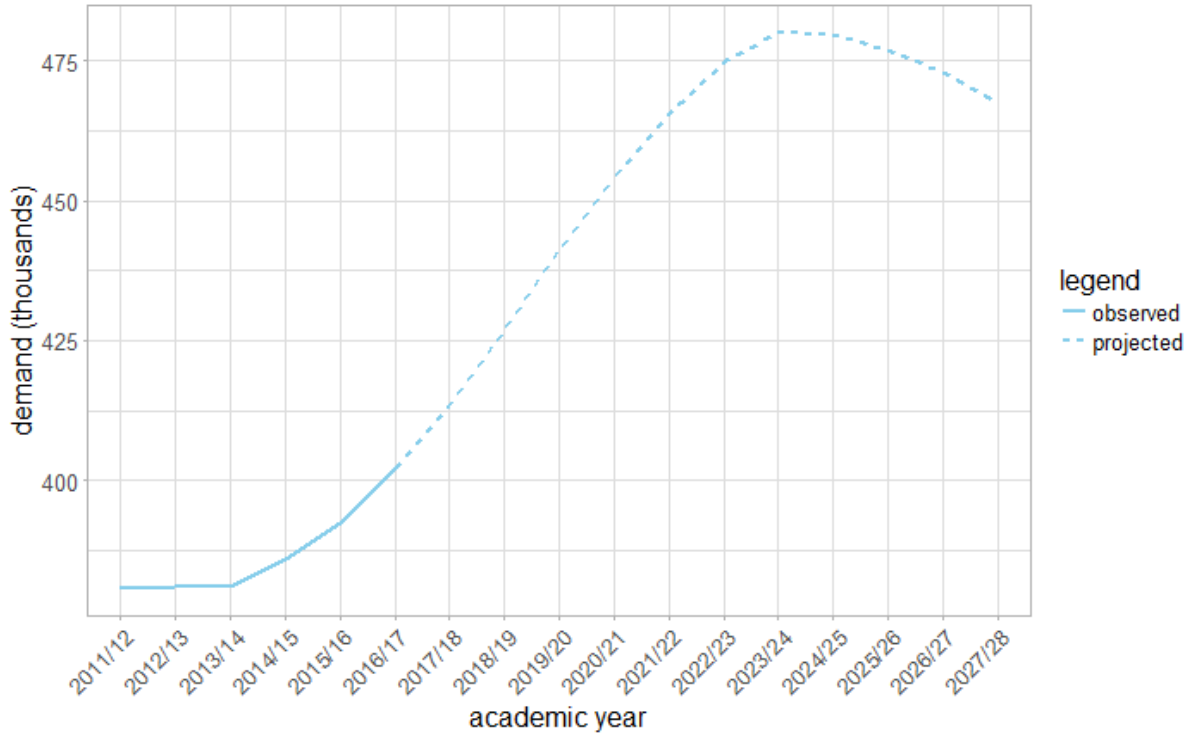


GLA 2018 School Place Demand Projections

Demand for secondary school places (age 11 to 15)

The NPD recorded 402,266 children in mainstream state-maintained secondary school in London in 206/17. Secondary demand is projected to rise on a steep trajectory for the majority of the projection period before peaking and falling back slightly (see Figure 9). The peak in secondary demand is projected to be in 2023/24 when London schools will face demand for 479,900 places. This is an increase of 77,700 over current levels, a growth of 19 per cent. The growth in secondary places is fuelled by the cohorts of the recent period of high birth rates (2006-2012) moving through into secondary school and continues the increases in demand seen since 2014/15.

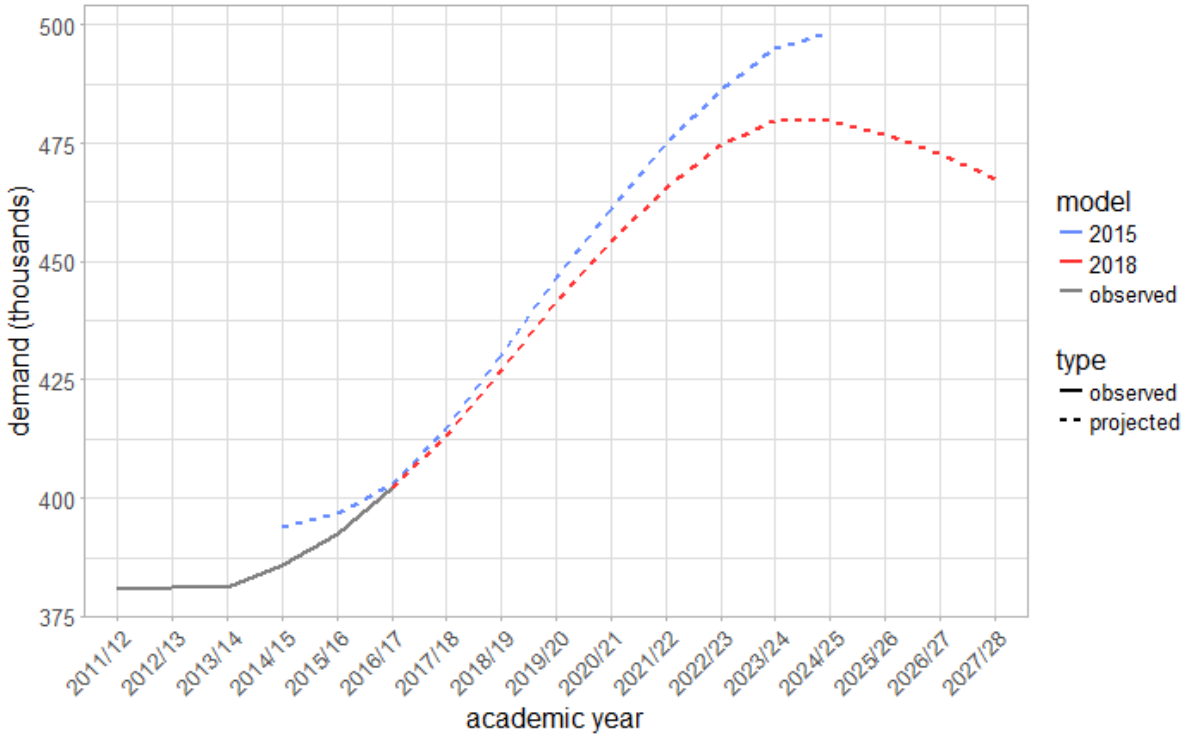
Figure 9: Demand for State Places, London residents, Secondary (observed and projected)



GLA 2018 School Place Demand Projections

Figure 10 compares the 2018 demand projections with the earlier 2015 GLA demand projections. The trajectories are similar in the early part of the projection with the 2018 projection indicating a greater need up to 2021/22. Beyond 2021/22 the effect of the lower birth rate beyond 2012 begins to impact on the projection causing demand to fall back over the final years of the period.

Figure 10: Comparison of 2015 and 2018 demand projections, Secondary, London



GLA 2018 School Place Demand Projections

Note: *The methodology for the 2015 set of demand projections resulted in higher overall demand. This is particularly noticeable in the first year of those projections (2014/15) which appears inconsistent with the backseries. The 2018 projections provide more continuity between observed and projected values.*

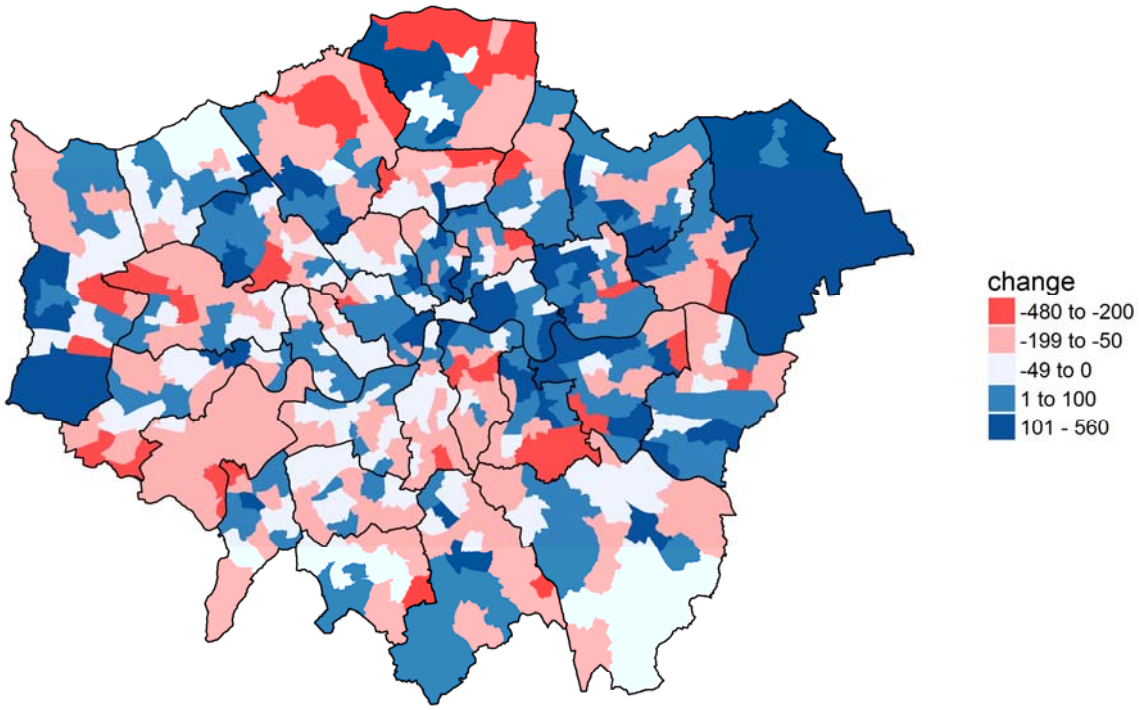
Ward and borough results

Primary

Figure 11 shows how the change in demand between 2016/17 and 2027/28 is distributed among London's wards. It shows that while overall London is projected to see a fall in demand for primary places that this is by no means the case in all wards. In fact, around 40 per cent of wards (a total of 255) will see an increase in demand over the decade.

The ward with the largest projected increase is Stratford and New Town in Newham where demand grows by 560 places over the decade. This coincides with thousands of new homes being built in the East Village and Chobham Farm developments. The largest fall in demand is projected to be in Fieldway in Croydon where demand will be 479 lower in 2027/28 than 2016/17.

Figure 11: Change in state place demand 2016/17 to 2027/28 by ward (primary)



GLA 2018 School Place Demand Projections

Table 1 shows projected change in demand for places by local authority. Havering is the borough with the highest growth in demand with a projected increase of 4,130 places by 2027/28. Eight boroughs are projected to see an increase in demand over the period. Richmond-on-Thames will see the largest fall in demand with 2,520 fewer places required in 2027/28 than 2016/17.

Table 1: Projected demand for state-funded primary places 2016/17 to 2027/28 (borough)

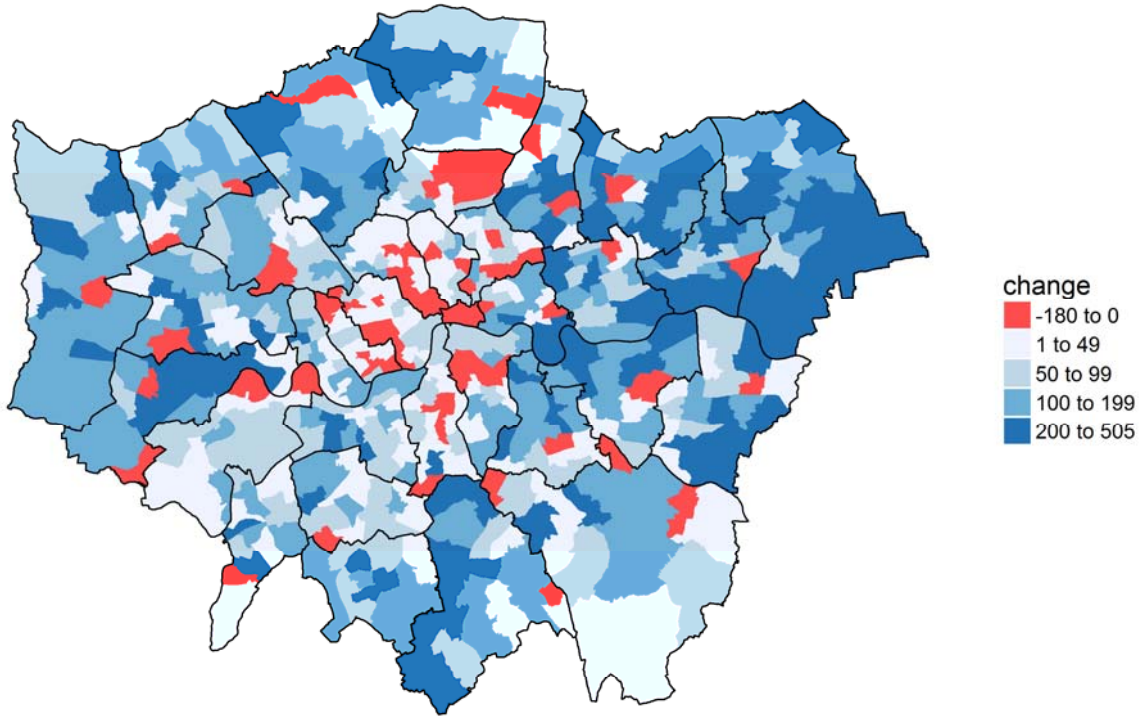
	On roll 2016/17	Growth to 2021/22	Growth to 2027/28
City of London	210	-40	-50
Barking and Dagenham	25,530	-330	120
Barnet	29,320	-640	-1220
Bexley	22,280	310	-200
Brent	27,460	20	-510
Bromley	26,540	-250	-750
Camden	11,230	-530	-210
Croydon	33,290	920	-690
Ealing	30,770	-480	-1,760
Enfield	32,700	-740	-1,380
Greenwich	24,570	430	540
Hackney	18,720	-210	-10
Hammersmith and Fulham	9,610	-110	170
Haringey	20,930	-1,130	-1,380
Harrow	21,040	550	0
Havering	21,520	2,410	4,130
Hillingdon	27,690	310	-210
Hounslow	23,700	-90	-1170
Islington	13,480	-260	140
Kensington and Chelsea	5,950	-430	-800
Kingston upon Thames	12,910	-260	-440
Lambeth	21,180	-930	-1,480
Lewisham	25,260	-550	-1,270
Merton	16,930	-480	-890
Newham	33,880	-130	1,310
Redbridge	28,240	1,590	920
Richmond upon Thames	15,810	-1,070	-2520
Southwark	23,250	-1,080	-1,380
Sutton	17,960	-60	-910
Tower Hamlets	23,230	260	1,390
Waltham Forest	24,470	-140	-510
Wandsworth	18,610	210	-530
Westminster	9,700	-330	-410
London	**697,940**	**-3,260**	**-11,960**

GLA 2018 School Place Demand Projections

Secondary

Figure 12 shows the projected change in demand by ward. Just 74 out 625 wards will see a decrease in demand over the projection period. The largest increase in demand will be in Blackwall and Cubitt Town in Tower Hamlets where an additional 504 places will be needed. A total of 105 wards will see demand grow by more than 200 places over the period.

Figure 12: Change in state place demand 2016/17 to 2027/28 by ward (secondary)



GLA 2018 School Place Demand Projections

Table 2 shows projected change in demand for secondary places by local authority. In the short-term Barking and Dagenham will see the largest increases in demand with growth to 2021/22 of 3,600 places. The largest increase over the full projection period is in Croydon where an additional 4,200 places will be needed by 2027/28. Haringey and City of London are both projected to see a very small fall in demand over the period.

Table 2: Projected demand for state-funded secondary places 2016/17 to 2027/28 (borough)

	On roll 2016/17	Growth to 2021/22	Growth to 2027/28
City of London	50	0	-10
Barking and Dagenham	13,300	3,600	3,700
Barnet	18,230	3,160	2,800
Bexley	14,950	2,310	2,470
Brent	16,360	1,990	2,100
Bromley	16,170	2,180	1,850
Camden	7,440	700	300
Croydon	18,640	3,460	4,200
Ealing	16,210	2,730	2,880
Enfield	19,010	2,700	2,260
Greenwich	12,940	2,040	2,470
Hackney	11,360	1,160	830
Hammersmith and Fulham	5,980	1,180	1,370
Haringey	12,120	730	-10
Harrow	11,730	1,680	2,010
Havering	14,110	2,100	3,780
Hillingdon	15,760	3,150	3,390
Hounslow	13,370	2,930	3,160
Islington	7,290	920	640
Kensington and Chelsea	3,620	350	160
Kingston upon Thames	7,620	1,590	1,530
Lambeth	11,580	1,250	780
Lewisham	12,710	2,700	2,520
Merton	8,200	1,420	1,390
Newham	19,740	2,320	2,980
Redbridge	17,720	2,530	4,000
Richmond upon Thames	7,320	1,560	1,020
Southwark	12,860	1,850	1,230
Sutton	12,520	2,420	2,320
Tower Hamlets	13,640	1,740	2,070
Waltham Forest	14,070	2,190	2,410
Wandsworth	8,900	1,870	2,200
Westminster	6,740	720	420
London	402,270	63,230	65,220

GLA 2018 School Place Demand Projections

Conclusions

After a decade of rapidly growing birth numbers in the capital, annual births peaked in 2012, then fell back, and have remained relatively steady since. As a result, primary demand is anticipated to be at its highest in 2018/19 and then to decline over the following decade as large cohorts of children born during the period of high births move out of primary and into secondary education.

The secondary system in London is poised to see significant growth in demand in the coming years – akin to that seen in the primary sector over the past decade. Given the greater propensity for cross-border movement among secondary school pupils co-operation is likely to be of key importance to ensuring that limited resources are used efficiently and that the needs of the growing population are fully met.

For more information please contact GLA Demography, GLA Intelligence
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