



An independent assurance of the methodology for  
estimating future pupil numbers and its application

Phase 3

To assure appropriateness, accuracy and transparency of the application  
of the methodology for estimating future pupil numbers.

**edge**analytics

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## Executive Summary

Introduction	<p>This final stage of the assurance process has examined how the existing pupil projection methodology has been applied and the accuracy and sensitivity of the results that have been produced.</p> <p>Included within this final stage has been direct consultation with representatives from the Herefordshire's schools, to discuss the key inputs, methods and process used to produce pupil projections and to gather general feedback on the key issues being faced in the county.</p>
Population forecasts	<p>Since the assurance process began, a new principal <u>population</u> forecast to 2026 has been produced by the Herefordshire Council Research Team taking into account the latest evidence on fertility, mortality and migration and proposed new housing development from the Regional Spatial Strategy.</p> <p>This forecast suggests that school rolls will continue to fall in the short term but that the recent rise in fertility rates will eventually lead to greater stability in pupil numbers.</p> <p>For primary schools, it is estimated that this stability will be achieved from 2012 onwards at a level approximately 6-7% below that of the 2006 position.</p> <p>For secondary schools, with a longer delay in the expected impact of increased levels of fertility, stability will be achieved from 2019 onwards, at a level approximately 16-17% below that of the 2006 position.</p>
Pupil projections	<p>The latest set of <u>pupil</u> projections produced by the Accommodation and Forward Planning (AFP) team at Herefordshire Council has a more limited time-horizon to the population projections but confirms the general fall in school rolls to 2012.</p> <p>The pupil projection model, in its current form, has been in place for a number of years, remaining largely unchanged in terms of structure and methodology. The existing methodology continues to be employed correctly and is able to produce individual school projections albeit with varying levels of accuracy.</p> <p>A number of specific enhancements to the pupil projection methodology are necessary to improve its accuracy and to ensure it provides the most appropriate basis for short-term and longer-term planning in the county.</p>
Accuracy	<p>For Primary Schools, the projection model has a tendency to under-predict reception year pupils but is able to correct itself for subsequent year groups, with a general over-prediction for years 1-6.</p> <p>At a 'primary district' level, pupil projections are generally within 2% of actual number-on-roll (NOR). Accuracy reduces within specific age-groups and further when looking at individual schools.</p> <p>Specific factors that are impacting upon the accuracy of primary school projections include:</p> <ul style="list-style-type: none"><li>• The potential shortfall in GP registration counts, particularly in areas around the border of the County of Herefordshire.</li><li>• The impact of very small numbers upon individual school projections.</li><li>• The existing structure of the projection model, which does not explicitly identify the impact of cross-border flows and new housing developments.</li><li>• The use of 'primary districts' as the basis for the estimation of each school's</li></ul>

reception intake, when in some cases a catchment-based estimation may be more appropriate.

For secondary schools, the overall accuracy of projections by year group suggests a slight over-prediction in year 7, matched by under-predictions in years 8, 9 and 10 and a very slight over-prediction in year 11. The greatest sensitivity is in the year 7 numbers as this requires an accurate allocation of pupils from primary feeder schools.

Greater refinement of the feeder school assumptions and a more complete view of the impact of cross-border flows will improve the accuracy of the year 7 secondary projections.

For both primary and secondary schools it is the transition phase (reception and year 7) which is most difficult to project. Other year groups are less sensitive to over and under-prediction as projections are based on cohort survival of existing pupil numbers taken from each school's census.

#### Sensitivity

The accuracy and transparency of the pupil projection model could be improved in a number of ways:

- Greater integration between the processes of population and pupil forecasting to enable longer-term, county-level, pupil projections to be derived with a time horizon that extends to 2026.
- Specific model enhancements detailed in this report, include:
  - Resolving data quality issues
  - Improving reception year and year 7 projections
  - A more transparent cross border flow analysis
  - Integration of statistics on planned new housing developments
  - Examination of individual school catchments to evaluate the case for a 'catchment-based' estimation of reception intake, rather than a 'district-based' estimation.
- Consultation with schools is a mandatory part of the pupil projection process. Greater sharing of information with individual schools is essential, to improve the quality of data being presented, to encourage input to the projection process and to re-establish a more cooperative planning process.
- Future consultation with schools should focus initially on the analysis of county-level statistics that illustrate the long-term view. This can then be followed with more detailed analysis at a 'district' level and by individual school. This hierarchical approach is recommended, to ensure acceptance of the general trends and issues prior to any analysis at a more local level.

#### Consultation

This last point was emphasised in the review meeting that took place with representatives from the county's schools.

There was a general recognition of the continued impact of demographic change upon the overall number of school-age children in the county but encouragement that recent fertility trends suggest an increase in births within Herefordshire. It was believed that the issues that the recent review process was trying to address have not gone away, they have simply been deferred.

There was a general view from the group, that more clarity was now required on the strategic intent of Herefordshire Council in relation to the future of the county's schools.

The group felt strongly that 'more imaginative' solutions were needed to deal with the 'unique' issues that exist in the county. It was felt that the only solution presented had involved a reduction in school numbers, a process which, once implemented, would be irreversible.

All those present expressed considerable dissatisfaction with the level of consultation that had taken place during the review process, with no opportunity being given to add their specific local knowledge to the process of pupil number projection and to verify the statistics being produced.

There was general agreement that more and better quality information was required; providing schools with accurate intelligence at a variety of different levels (county, districts and individual school catchments).

A number of people expressed dissatisfaction with what they believed had historically been inaccurate projections but there was general agreement that the huge variation in the size of the county's schools and, specifically, the proliferation of small schools, made accurate projections difficult.

#### Assurance

It is clear that any future review of the county's schools that involves major changes to their configuration will need to incorporate a much more substantial input from key stakeholders in the process of generating the necessary evidence base.

With the review process now postponed indefinitely, there is an opportunity to re-establish a constructive dialogue with schools. This dialogue would need to incorporate a *strategic* dimension, which the group felt was important in establishing a vision for the future of Hereford's schools.

In parallel, the dialogue should also focus on the sharing of information with schools to ensure a common understanding of the key issues and to re-establish the integrity of data and methods being employed.

The integration of the population and pupil projection methodologies will create the capability to produce a longer-term view of the impact of demographic change; essential for strategic planning purposes.

A greater degree of transparency when producing pupil projections, combined with the methodology enhancements that are recommended in this report, will provide the basis for re-establishing a collaborative and constructive dialogue between Herefordshire Council, its body of schools, diocesan authorities and local communities.

## 1 SCOPE & ASSURANCE FRAMEWORK

Context During the latter part of 2006 and throughout 2007, Herefordshire Council undertook a major review of the future organisation of its schools. This review was being conducted in the context of:

- Falling school rolls and the associated reduction in Government funding for schools in the county;
- Expected future changes in the fertility, mortality and migration profile of the county;
- Government policy regarding the management of surplus places in schools;
- The Council's desire to continue to secure the best possible educational outcomes for its school pupils.

A similar review process has been undertaken in the neighbouring authorities of Shropshire, Worcestershire, Gloucestershire and Powys.

Following an initial presentation of the results of the review, Herefordshire Council withdrew its proposals and indicated that no closures or major organisations of high schools would be considered during the lifetime of the current administration. The Council stated that it will continue to apply the existing Small Schools Policy for Primary Schools but no closures would happen outside of that policy.

Initial reaction to the proposals was negative, sparking public protests, considerable media coverage and much questioning of the data and methodology which underpinned the recommendations.

Following the withdrawal of the proposals, the Council now wishes to re-establish full integrity of the pupil projection process; to ensure that the methodologies employed to derive the key statistics are demonstrably robust and that they have been applied appropriately, accurately and transparently.

Scrutiny The methodology is to be scrutinised in three separate phases:

Phase 1: To assure the methodology for producing population forecasts for Herefordshire to 2026.

Phase 2: To assure the methodology for estimating future pupil numbers in local authority maintained schools in Herefordshire.

Phase 3: To assure appropriateness, accuracy and transparency of the application of the methodology for estimating future pupil numbers.

This document reports on the third and final phase of the assurance process.

## 2 SUMMARY – PUPIL PROJECTION METHODOLOGY

In recent years, pupil rolls in Herefordshire have been falling as the number of children leaving the school system at year 11 continues to exceed the number of children starting in reception year classes. The most recent evidence suggests that birth rates have begun to increase but the overall surplus capacity currently stands at approximately 15% in primary schools and 7% in secondary, with numbers varying considerably between individual schools.

The projection of school pupil numbers is the responsibility of the Accommodation and Forward Planning (AFP) team within Herefordshire Council's Children and Young People Directorate.

A document describing the methodology, inputs and outputs for the pupil projection process is maintained by the AFP team (Herefordshire Council, 2008a) and was used as the starting point for the second stage of this assurance process, which looked explicitly at the methods being employed.

The Department for Children, Schools and Families (DCSF) has produced its own set of 'best practice' guidelines for school pupil projections. These guidelines are based on evidence gathered from a selection of local authorities and provide a basis for reviewing the approach that is in place in Herefordshire. These guidelines are available online at:

[www.teachernet.gov.uk/management/schoolfunding/Resources/pupilprojectionguide/](http://www.teachernet.gov.uk/management/schoolfunding/Resources/pupilprojectionguide/)

They have been used as a reference point throughout this assurance process.

For a more detailed description and analysis of the population and pupil projection methodology employed, reference should be made to the two previous assurance reports and to the documents detailed above.

The remainder of this document is focused on three key aspects of the pupil projection process:

- Accuracy of the projections (Section 3)
- Sensitivity of the projections (Section 4)
- Stakeholder involvement in the review of the projections (Section 5)

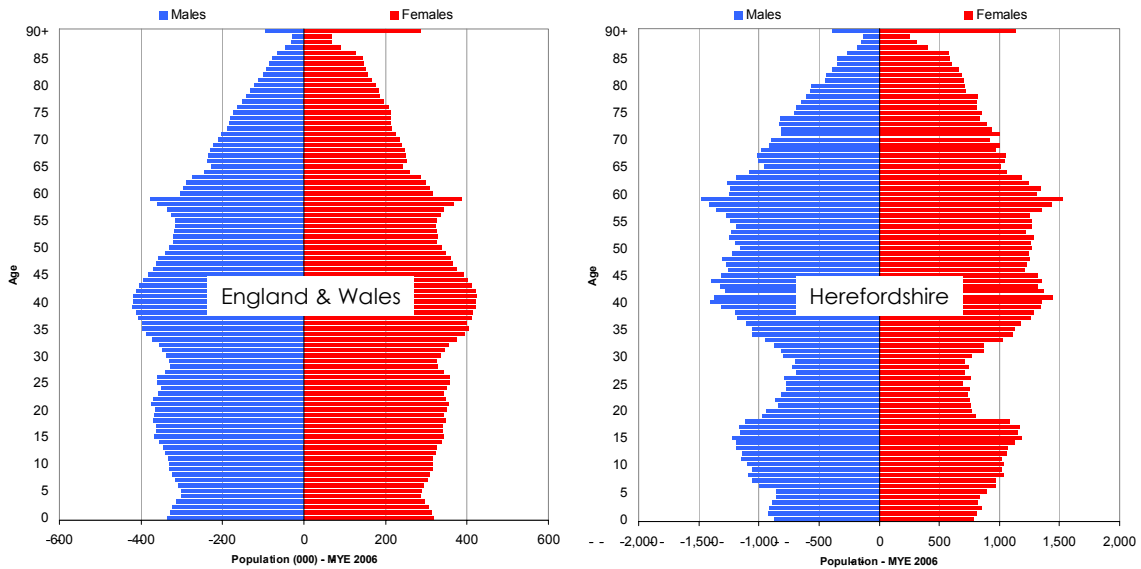
### 3 ACCURACY

#### 3.1 Population Forecasts

At all geographical levels, the population consists of a series of individual 'age cohorts', best illustrated as a population pyramid (Figure 1).

Cohorts 'move' through the population, changing the shape of the pyramid as people age. Each year a new 'birth' cohort is added, deaths reduce the size of each cohort and migration has the impact of either increasing or decreasing the size of a cohort.

**Figure 1: Population Pyramids, England & Wales vs Herefordshire, 2006**



Source: Population Estimates Unit, ONS: Crown Copyright

Source: Herefordshire Council Research Team, 2008

Herefordshire has a very distinctive profile, with a substantial 'bulge' in the pyramid at ages 40-60, relatively small numbers aged 20-30, a smaller bulge aged 10-19 and a narrow base of children aged 0-5.

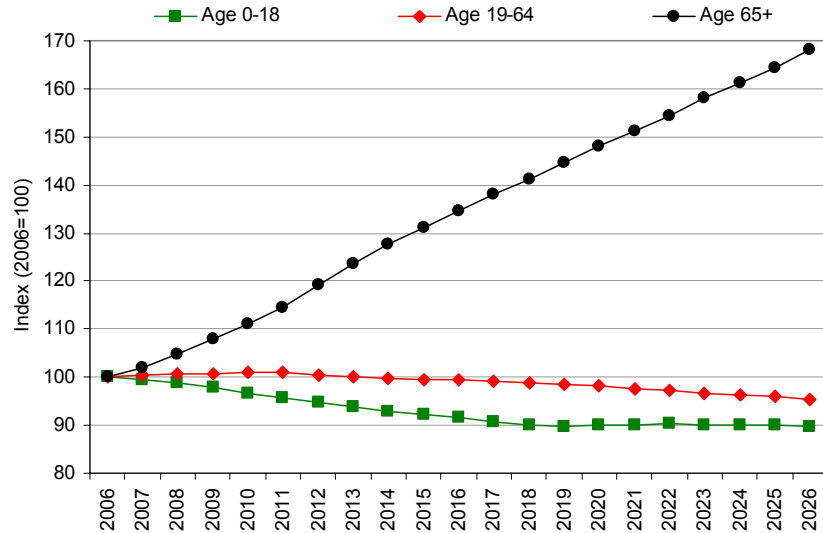
This contrasts to the profile for England and Wales, which has similar bulges but which has a wider base of children in the youngest age-groups and only a slight narrowing of the pyramid between the ages of 25-30.

Herefordshire Council's Research Team has used this 2006 age profile as the basis for its latest population forecast (Herefordshire Council, 2008b). Its principal forecast suggests that the population of Herefordshire will increase from approximately 178,000 in 2006 to over 193,000 by 2026; an increase of 9%. But, as the pyramid suggests, this increase hides significant variation in the growth and decline of the population by age-group.

Figure 2 uses an 'indexed' view of change over time (2006=100) to illustrate how the forecast growth in population is dominated by increases in the 65+ age-group as the post-war, baby-boomer 'bulge' moves into retirement. The number of people of working age is expected to reduce by approximately 5% over the period, whereas the number of school-age children is expected to decline by 10% to 2017 but then to stabilise.

**Figure 2: Population Forecast, Herefordshire 2006-2026**

Values are presented as an index (2006=100)

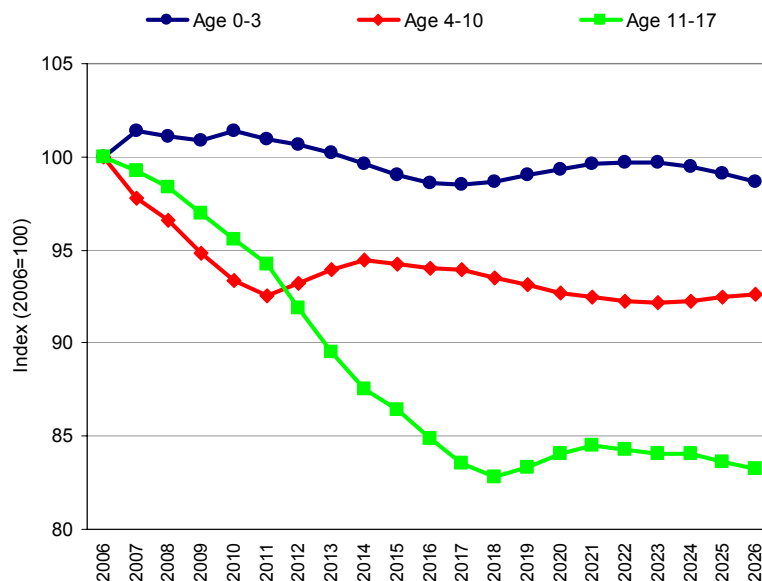


Source: Herefordshire Council Research Team, 2008

There are important differences forecast for the patterns of growth and decline in school-age cohorts. The recent increase in fertility rates is forecast to lead to a rise in those aged 0-3 to 2012, fluctuating around current levels thereafter. The 4-10 and 11-17 cohorts will initially continue to decline in numbers as the pyramid's smaller 'bulge' works its way into adulthood and its current 'narrow base' enters school ages. The impact of the recent increase in the number of births is evident later in the projection period; from 2012 in the case of the 4-10 age-group; from 2019 in the case of the 11-17 age-group (Figure 3).

**Figure 3: Population Forecast, Herefordshire Children 2006-2026**

Values are presented as an index (2006=100)



Source: Herefordshire Council Research Team, 2008

These population forecasts incorporate the latest evidence on changing trends in

national fertility rates, scaled to account for local differences that exist in Herefordshire. In addition, they incorporate the latest intelligence on migration to the county (both from within the UK and from outside the UK) and on the projected number of new dwellings which the previous Unitary Development Plan (UDP) and the new Regional Spatial Strategy (RSS) suggest will be built between now and 2026.

This is a robust forecast of the county's population and should be recognised as the 'principal' forecast, providing the basis for direct integration with an extended set of pupil projections for the county.

All forecasts are sensitive to a number of key inputs and the Research Team at Herefordshire Council are working towards the production of a number of 'variant' projections which will illustrate the potential impact of different levels of fertility, mortality and migration. Variant forecast will also be developed to illustrate the impact of new housing developments.

During the latter part of 2007, an analysis of recent trends in births within Herefordshire was completed on behalf of Staunton-on-Wye Primary School and which included statistics provided by the Research Team at Herefordshire Council. A copy of this paper was provided to the assurance process for review (see references).

The analysis correctly identified the potential impact of the recent increase in fertility in the UK generally and the number of births in Herefordshire, although it did not fully examine how the movement of existing age cohorts will impact upon total pupil numbers.

The paper uses an alternative set of statistics derived from the Local Supervising Authority (LSA) to suggest that there has seen a very significant rise in births during 2008. This will require further confirmation from forthcoming vital statistics.

Migration is also a particularly sensitive component of the forecasting process. The ageing profile of Herefordshire's population is accentuated by the fact that the internal migration trend has been generally for older people to move in and younger people, aged 15-24, to move out. Substantial new housing development, supported by economic growth may change this pattern but the likelihood of this happening between now and 2026 is unclear.

Even greater uncertainty exists over the likely length of stay of the county's migrant workforce who have arrived in substantial numbers from Accession states since 2004. Anecdotal evidence suggests that more permanent migrant communities are developing but it is still difficult to accurately predict what the impact might be upon pupil numbers in the county.

### 3.2 Pupil projections – Primary & Secondary

The latest set of pupil projections produced by the Accommodation and Forward Planning (AFP) team at Herefordshire Council has a more limited time-horizon (currently to 2011) to the population projections. This time-horizon is limited by the availability of data on pre-school children (aged 0-4) derived from the county's GP registration statistics. The first steps have now been made to link the latest set of population projections for the period 2006-2026 to an extended set of pupil projections.

Any review of the long-term future of the county's schools must be underpinned by a longer-term view of the potential impact of demographic change upon pupil numbers. A five-year time-horizon is insufficient to fully understand the likely impact of age-cohorts upon the size of the school age population.

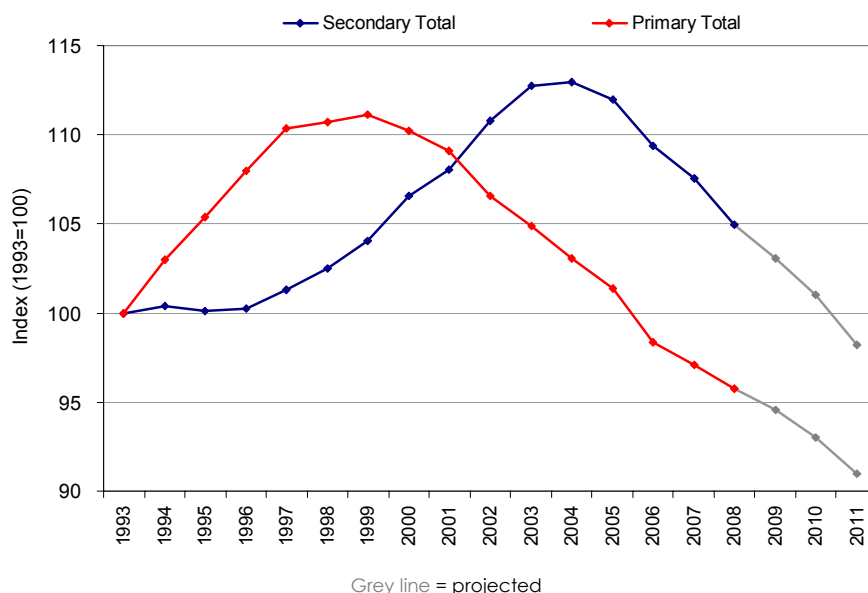
Figure 4 illustrates the trend in primary and secondary pupil numbers since 1993 and appends the latest set of projections for 2008-2011. The age-cohort affect is clearly demonstrated, with the decline in primary pupils reflected in a later, but parallel decline in secondary pupil numbers.

In 2008, primary pupil numbers are approximately 4% lower than in 1993; secondary school pupil numbers remain 5% above the 1993 total.

The overall level of primary pupil numbers is projected to continue to fall to approximately 9% below its 1993 total by 2011; secondary numbers to 2% below the 1993 total.

**Figure 4: Pupil numbers 1993-2007 and Projections 2008-2011**

Values are presented as an index (1993=100)



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

The latest population projections suggest that the decline in primary school numbers would begin to be reversed from 2011/2012 onwards as the most recent increases in births begins to filter through to school-age cohorts.

Secondary school numbers are likely to continue to decline, until the larger birth cohorts enter secondary school, from approximately 2018/2019 onwards.

### 3.3 Accuracy - Primary

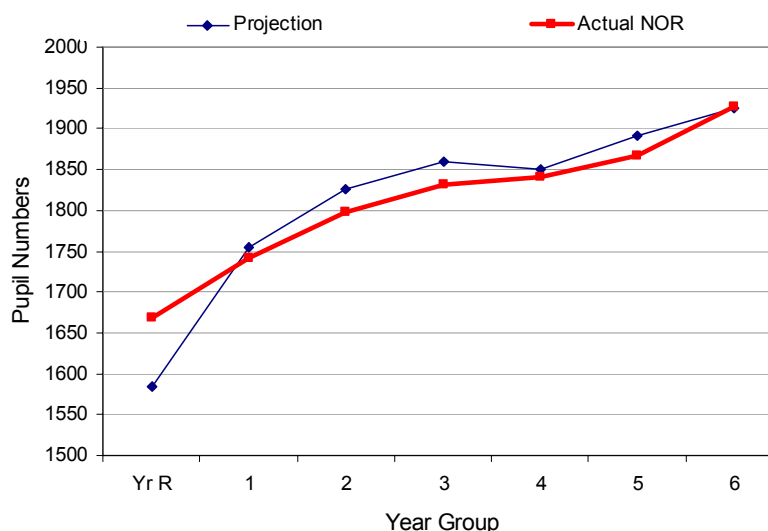
It is possible to conduct a more detailed analysis of the accuracy of the pupil projection process by comparing past projections with actual pupil numbers. This analysis has been completed using data for the last four years, averaged to give an estimate of the consistency of over and under-prediction that is evident. In each case, the analysis presents a comparison of projected numbers against actual numbers in the year immediately following the projection year.

For Primary Schools, the projection model has a tendency to under-predict reception year pupils but is able to correct itself for subsequent year groups, with a consistent over-prediction thereafter (Figure 5).

The reception year projection is subject to significant sensitivity due to the issues surrounding the accurate measurement of children from GP registrations and the variation in the ability of the model to accurately estimate each school's share of the reception year children in its surrounding 'primary district'. In addition, changes in school admissions policies and parental preferences will also impact upon the sensitivity of reception year projections.

Model accuracy improves in years 1-6 because the projection is based on a more 'simple' progression of year groups using historic 'cohort survival' rates; ageing the year groups to account for the transition from one year to the next and for migration into and out of a school.

**Figure 5: Primary Schools: Projected vs Actual**



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

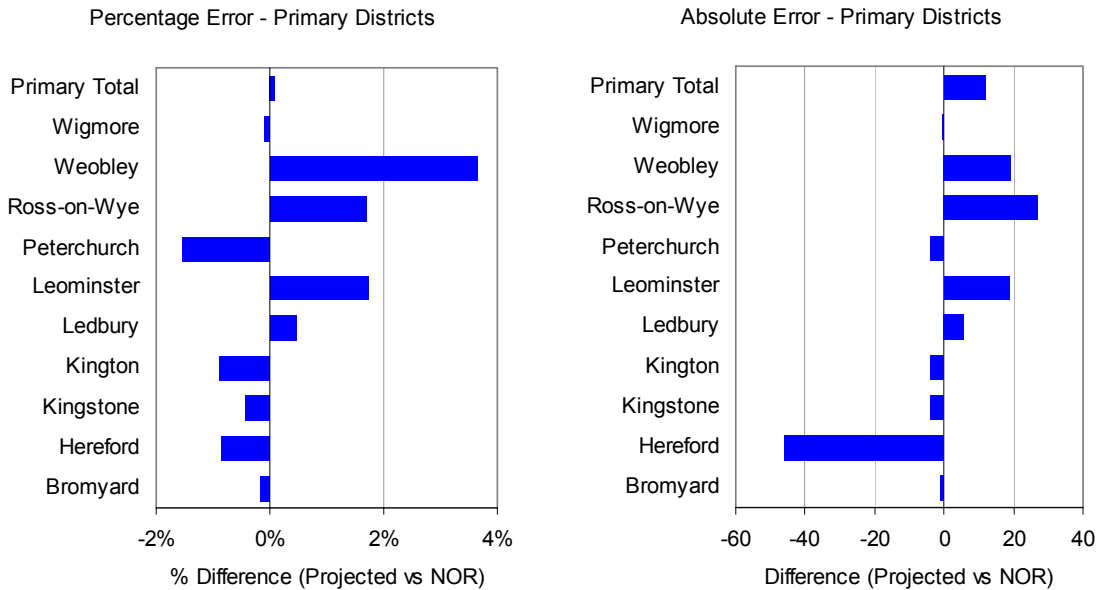
The model is capable of projecting the overall number of primary pupils to within 0.5% but this hides the more significant differences by year group (above) and by school. A more disaggregate set of accuracy checks are presented here for primary school 'districts'. The composition of these districts is detailed in Appendix 2. They are an important part of the projection process as they are used as the basis for allocating reception year children to individual schools.

The impact of 'small numbers' upon projection accuracy is evident from the charts in Figure 6, which illustrate both the percentage and the absolute error, calculated as the difference between the projected number of pupils and the actual number on roll (NOR) for schools grouped into primary districts.

The Peterchurch district has the largest percentage under-prediction but this is based on relatively small numbers. In contrast, the Herefordshire district has the largest absolute under-prediction but this is just 1% of the total NOR. In Weobley, Ross, Leominster and Ledbury there is a tendency to slightly over-predict pupil numbers.

Apart from the Weobley district, which has an error level approaching +4%, all districts have overall error levels within +/- 2%.

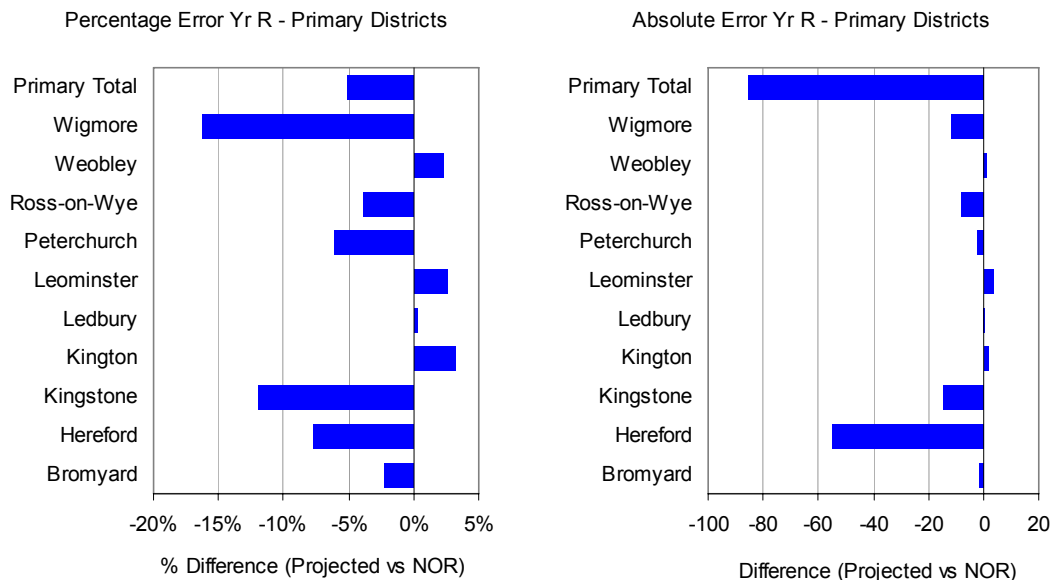
**Figure 6: Primary School Districts: Projected vs Actual (all year groups)**



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

The relatively low levels of accuracy associated with reception year projections is further emphasised in Figure 7.

**Figure 7: Primary School Districts: Projected vs Actual (Reception Year)**



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

The percentage under-prediction is most significant in the primary districts of Wigmore, Kingstone, Peterchurch and Hereford. There is a particular issue in Hereford with the current methodology failing to draw sufficient numbers into the overall reception-year predictions, reflecting the extended draw of some of the city's schools.

For individual schools, the variation in projection accuracy increases further and the impact of small numbers becomes a particular problem. Reception year projections are subject to the greatest volatility in accuracy, which is being driven by:

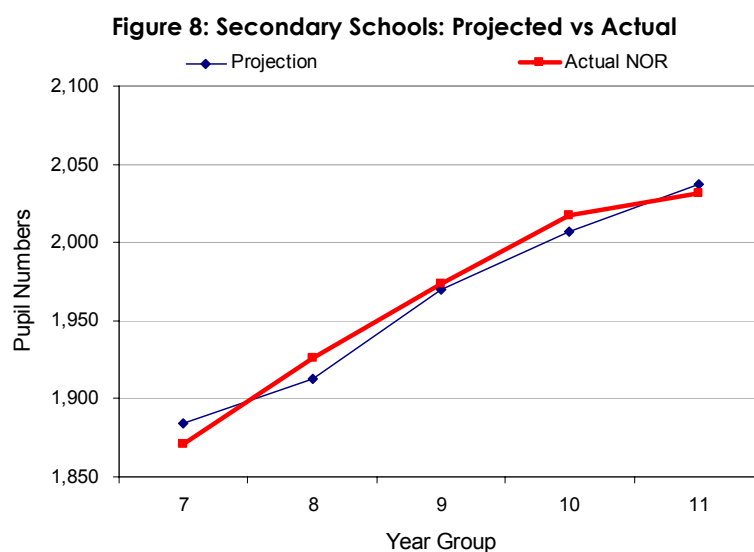
- The potential shortfall in GP registration counts, particularly in areas around the border of the County of Herefordshire.
- The impact of very small numbers upon individual school projections.
- The existing structure of the projection model, which does not explicitly identify the impact of cross-border flows and new housing developments.
- The use of 'primary districts' as the basis for the estimation of each school's reception intake, when in some cases a catchment-based estimation may be more appropriate (although it is recognised that a mixed approach may present additional difficulties).

These sensitivity issues are discussed further in section 4.

### 3.4 Accuracy - Secondary

For secondary schools, the overall accuracy of projections by year group suggests a slight over-prediction in year 7, matched by under-predictions in years 8, 9 and 10 and a very slight over-prediction in year 11 (Figure 8).

The greatest sensitivity is in the year 7 numbers as this requires an accurate allocation of pupils from primary feeder schools. Beyond year 7, projections are again estimated using cohort survival rates (based upon five years of historical evidence) which take into account the movement of pupils from one year to the next and any in- or out-migration that may result.



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

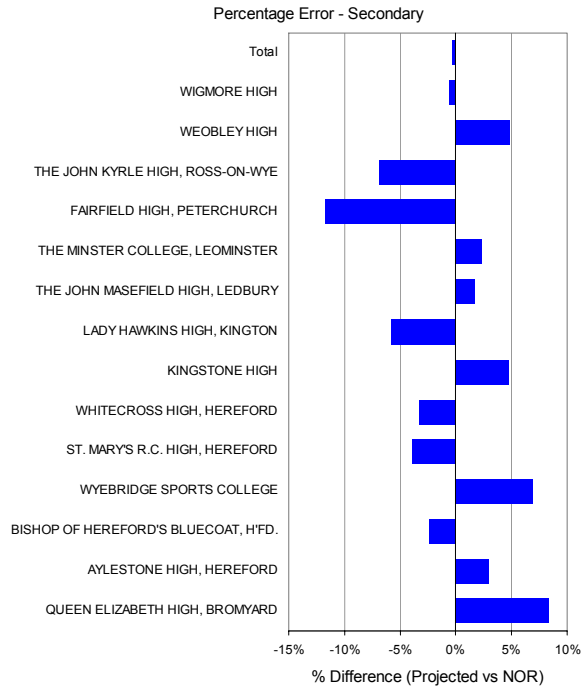
The accuracy of the overall projection for secondary school pupil numbers is again within 0.5% but there is a more variable pattern of over and under-prediction for individual schools. (Figure 9).

John Kyrle High, Fairfield High and Lady Hawkins High have the largest under-prediction, with Queen Elizabeth High and Wyebridge Sports College the largest over-prediction; all in excess of +/-5% of the NOR.

In year 7, the percentage errors are magnified further, with a 25% over-prediction for Wyebridge Sports College and between 10-20% for Weobley High, Aylestone High and Queen Elizabeth High. Under-predictions for Fairfield High are in excess of 20%, for John Kyrle High and Lady Hawkins High, over 10%.

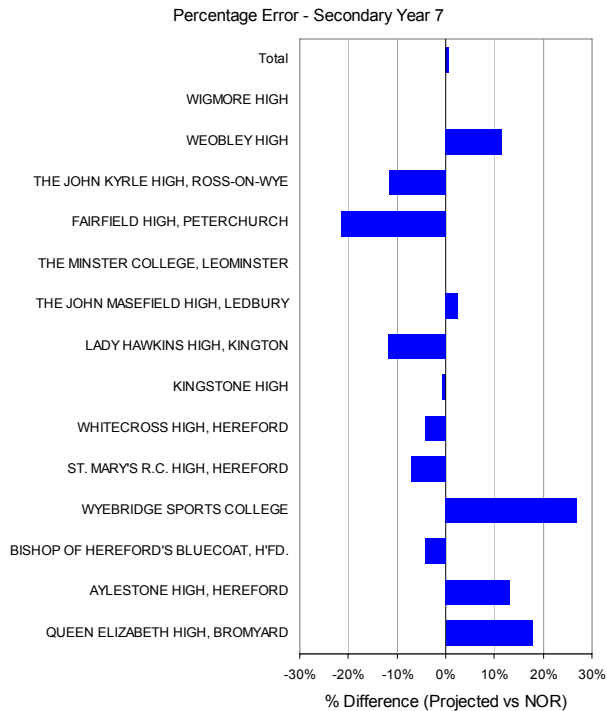
Greater refinement of the feeder school assumptions and a more complete view of the impact of cross-border flows will improve the accuracy of the year 7 secondary projections.

**Figure 9: Secondary Schools: Projected vs Actual**



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

**Figure 10: Secondary Schools: Projected vs Actual (Year 7)**



Source: Herefordshire Council, Accommodation and Forward Planning Team, 2008

## 4 SENSITIVITY

The previous section has demonstrated how the accuracy of the projection model varies depending upon the scale at which the methodology is employed. The level of error is typically greater for smaller schools than larger schools and is particularly magnified in reception year and year 7.

There are a number of key areas of sensitivity which are affecting the performance and acceptance of the projection model.

### Time-horizon

At present, the pupil projection model is limited to a four-year projection horizon. This is perfectly acceptable as input to a short-term planning process but any long-term decisions on the future of the county's schools requires a longer-term view of the potential impact of demographic change.

It is recommended that the intelligence that has been put together for the latest, 2006-based, population projections should be integrated with the latest pupil projections to provide an indicative view, at a county level, of likely pupil numbers to 2026.

The county view will provide an excellent benchmark against which to constrain local forecasts but will also provide for an explicit analysis of specific components of the model without having to tackle school-specific issues.

In addition, it will also allow the analysis of 'variant' forecasts, providing further examination of the impact of alternative fertility and migration assumptions, in particular.

### Projection model structure

The model does not take explicit account of cross border flows, undercounting of GP registrations or new housing development. Rather it uses historical information, based on the last five years of evidence, to apply reception year intake rates, feeder school transfer rates and cohort survival rates to estimate year-group pupil numbers.

This structure makes it more difficult to explicitly identify the different components of change when analysing school-level projections and will make any consultation process very difficult.

### PCT statistics (GP registrations)

There remain some outstanding issues with regard to the accuracy of PCT statistics on GP registrations. This will specifically affect projections for those schools on the border between Herefordshire and Monmouthshire and Powys. These data issues need to be resolved to ensure the most robust data inputs are used in the projection process.

### Cross-border flows

There is significant movement of pupils into and out of the county, with intensities varying depending upon the proximity and quality of schools around the border. It is recommended that a comprehensive 'cross-border' analysis is completed to establish the dynamics of pupil movement across county borders both from and to Herefordshire.

This analysis may require working with, or at least collecting information from, adjacent local authorities but would provide valuable intelligence to the pupil projection process that at present is not available.

The ideal model structure would have cross-border flows handled completely separately, especially in reception year and year 7, where model sensitivity is a particular issue. This would provide a much clearer view of the two-way impact of

schools around the county's border

#### New dwellings

Herefordshire has a relatively low population density but its population is distributed more evenly across the county in comparison to other rural counties.

The pupil projection process needs to incorporate a more explicit account of new housing developments, using information from planning applications and from the UDP/RSS for longer-term developments.

This would be in the form of ad hoc adjustments to specific model predictions based upon available evidence, but must ensure that the impact does not result in any double-counting of the adjustments in subsequent years.

Previous versions of the projection model did incorporate this type of adjustment mechanism but it has not been used in any of the latest statistics produced by the AFP team.

#### Historical data (5 year vs 2 year)

Reception year intake rates and year 7 transition rates are calculated for each school, based upon the last five-years of evidence.

Similarly, the projection of pupil numbers by year group is undertaken by 'surviving' the pupil numbers based upon historical evidence from the last five years for each pupil cohort within a school.

This use of five-year histories is an acceptable approach, in principle, but any local consultation would need to establish whether there had been any significant events within the five-year period which may have influenced individual school projections.

Local knowledge must be taken into account when finalising individual school projections.

#### Feeder-school proportions

Currently, the projection model does not split primary school pupils between secondary schools; rather it assumes that there is a one-to-one relationship between a primary feeder school and a secondary.

Feeder school proportions need to be handled more explicitly to improve the robustness of secondary school projections into year 7, which are susceptible to quite significant variation compared to other year groups.

#### School catchments

The pupil projection methodology does not use individual school catchments directly. Instead, the estimation of reception year children is based upon a percentage intake from the entire 'primary district' within which the school resides.

This is a common approach but is not always uniformly applicable. It is recommended that the recent analysis of individual school catchments that has been completed by the AFP team is extended to:

- Establish where it might be appropriate to use a 'catchment-based' approach to pupil projection (rather than a district-based) for those schools which have a clearly defined catchment geography
- (For a selection of schools) to investigate using 'actual' catchments rather than 'designated' catchments as the basis for pupil projection, given the difficulty of adequately projecting reception year intake.

It is recommended that this catchment analysis is shared with schools; sharing local intelligence to improve model accuracy and acceptance of its outcomes.

#### Consultation

With such a large number of relatively small schools, the process of pupil projection is susceptible to significant sensitivity due to small numbers. Without local consultation and agreement, small school projections will always be subject to significant scrutiny and criticism.

The following section provides some pointers as to how the whole process of consultation with schools might be improved to facilitate a more cooperative short-term and long-term planning process.

## 5 STAKEHOLDER CONSULTATION

### 5.1 Feedback from schools

As part of the Assurance process, a half-day review meeting was organised, to enable representatives from Herefordshire's schools to express their views about some of the issues facing the provision of education in the county and to establish their feedback on the process and methodology for producing pupil projections.

Participants were asked to contribute feedback both on the day and via email, if they thought appropriate. The list of attendees is provided in Appendix 3.

A summary of the key points that were raised and discussed on the day is as follows:

#### County strategy

There was a general recognition of the continued impact of demographic change upon the overall number of school-age children in the county but encouragement that recent fertility trends suggest an increase in births within Herefordshire. It was believed that the issues that the recent review process was trying to address have not gone away, they have simply been deferred.

There was a general view from the group, that more clarity was now required on the strategic intent of Herefordshire Council in relation to the future of the county's schools.

The group felt strongly that 'more imaginative' solutions were needed to deal with the 'unique' issues that exist in the county. The only solution presented involved a reduction in school numbers, a process which, once implemented, would be irreversible.

The high standard achieved by the county's schools was noted, with some concerns that these standards could be impacted by any future reorganisation.

There was considerable discussion around how Herefordshire might make itself more attractive; how it might encourage more people to live and work in the county, to redress the continued reduction in the number of school age children.

It was argued that a full set of 'criteria' for the assessment of the future viability of individual schools was not made sufficiently explicit and that the importance of a school as a focal point of its local community was not given sufficient consideration.

In addition, it was felt by some that the full financial implications of school reorganisation had not been properly examined and that financial savings were not necessarily the most likely outcome.

It was recognised that the opportunity for a 'federation' structure had previously been raised but although its principles had been generally accepted, its outcomes had not received wholesale acceptance.

Greater collaboration between primary and secondary schools within the county was seen as something that should be given a higher priority. The concept of a primary-secondary forum was discussed. It was also recognised that future collaboration between schools may become more difficult as the general reduction in school rolls leads to greater competition for pupils.

It was suggested that an improved understanding of the Council's departmental structure and its relationship to schools would be an aid to future consultation and

collaboration.

### Consultation

On the issue of future school organisation, a consultation meeting between Herefordshire Council and the county's schools took place approximately two years ago.

A further consultation took place during 2007 at which 'round-table' discussions were used to encourage schools to examine the issues being faced. At this event, information was presented on school catchment redefinition but no copies of that information were subsequently provided to schools.

There was no explicit consultation to support the production of the most recent set of pupil projections, generated as part of the school review process. In addition, there was not perceived to be a planned process for consultation after the school reorganisation had been presented and little prior indication of the preferred location for the 'merged' schools.

All those present expressed considerable dissatisfaction with the level of consultation that had taken place, with no opportunity being given to add their specific local knowledge to the process of pupil number projection and the recommendations being made.

### Information provision

Consultation events were criticised for inaccuracies in the data being presented and there was a general lack of confidence in the quality and completeness of information that has been made available to schools.

Providing the most accurate data on schools appears to be a persistent problem as Herefordshire Council typically produce a 'snapshot' view of key data, whereas schools always operate in 'real time', using their most up-to-date statistics.

There was general agreement that more and better quality information was required; providing schools with accurate intelligence at a variety of different levels (county, districts and individual school catchments).

A greater degree of sharing of information was seen to be key to any future collaboration between schools and Herefordshire Council.

A copy of the report produced for Staunton-on-Wye school was provided during the discussion (see previous section). The requirement to produce an independent report of this type is symptomatic of the current lack of trust and cooperation between Herefordshire schools and Herefordshire Council.

### Pupil projections

A brief overview of the pupil projection process was provided, including a summary of the key datasets that were used.

A number of people expressed dissatisfaction with what they believed had historically been very inaccurate projections but there was general agreement that the huge variation in the size of the county's schools and, specifically, the proliferation of small schools, made accurate projections difficult.

The quality of GP registration data obtained from the PCT was discussed. This data is used as the basis for projecting future reception year intake. Herefordshire Council process this data to ensure the correct allocation of postcode information to the

county boundaries. However, there remain unresolved issues with the lack of availability of data from Monmouthshire and Powys GPs whose patients reside in Herefordshire.

All agreed that they would be interested to see a more detailed view of their individual catchments, both designated catchment and 'actual' catchments. A more detailed understanding of pupil dynamics around individual schools would be an important aid to interpreting past and future trends in parental preference and pupil numbers across the county.

The relationship between secondary schools and feeder primaries was discussed. Some primaries have a dominant secondary; others are split between more than one school. It was felt that an accurate reflection of this split was an important component of secondary school pupil projections.

Specific cross-border issues were discussed, with examples of Kington children having to travel to New Radnor for their primary education and Monmouth children coming to Herefordshire; both due to local schools being over-subscribed. It was agreed that greater intelligence on the two-way impact of cross-border pupil flows around the county would be an important aid to any future consultation.

The importance of 'casual admissions' throughout the school year was discussed. The pupil projection model accounts for these flows in its 'cohort-survival' rates which project pupils from one year to the next based upon five-years of historical evidence drawn from the school census.

The impact of new housing developments was discussed. There was little evidence available to provide examples of where new housing developments had had a major impact upon a specific school. However, it was felt that any school level pupil projections must seek to explicitly identify any future new dwelling developments. Information on planned new developments has not been routinely provided to schools and it was agreed that this information would again be an important aid to future consultation.

Migration was discussed as a potential solution to the problem of falling school rolls. It was agreed that 'second homes' and retirement migration did little to aid the issue. There remains considerable uncertainty over the long-term presence of foreign migrant workers in the county. Since 2004, there has been a substantial inflow of migrants from the Accession States but it remains uncertain whether these will continue to be transient in nature or whether a significant number of them will begin to establish roots in the county.

## 5.2 Comments

It is clear that any future review of the county's schools that involves major changes to their configuration will need to incorporate a much more substantial input from key stakeholders in the process of generating the necessary evidence base.

With the review process now postponed indefinitely, there is an opportunity to re-establish a constructive dialogue with schools. This dialogue would need to incorporate an important strategic dimension, which the group felt was key to establishing a vision for the future of Hereford's schools.

In parallel, the dialogue should also focus on the sharing of information with schools to ensure a common understanding of the key issues and to re-establish the integrity of data and methods being employed. A 'hierarchical' approach to the process of information dissemination is recommended, beginning at the county level and then progressing to more local analyses.

It is recommended that Herefordshire Council develops a new 'county-level' view of

primary and secondary pupil projections extending to 2026 and incorporating the latest evidence from the population forecasting process. At this level, it would be possible to provide a general view of demographic issues affecting the county's schools: changing fertility rates; migration rates; new housing developments; cross-border issues; reception year intake rates; cohort survival rates; feeder school transition rates.

This county-level analysis would provide the basis for a 'common understanding' of the issues affecting the county whilst demonstrating the robust application of population and pupil projection methods.

At a more disaggregate level, it is recommended that information is shared with schools, to ensure they are better informed on specific local issues. The type of information to be shared would include:

- Catchment statistics (designated and actual catchments)
- GP registrations
- Proposed new developments
- Cross-border issues

Any future school-level analysis, whether it be for short-term budgeting or long-term strategic planning, must be collaborative to ensure that local knowledge is fully accounted for and that pupil projection statistics are 'accepted' as a robust view of likely future patterns and trends based on the evidence that is available and the local sensitivities that exist.

## 6 SUMMARY COMMENTS

This final stage of the assurance process has looked specifically at three aspects of the pupil projection process:

- The accuracy of the projections
- Those factors which are impacting upon the sensitivity of the projections
- Stakeholder involvement in the review of the projections

At the most aggregate level, projections are accurate to within 0.5%, but this statistic hides the significant variation that exists between year groups and between individual schools.

Variable accuracy is evident for: reception year and year 7 projections; for schools near the county border where there remain issues of data quality; for Hereford City schools which have an extended draw; and for small schools generally due to the difficulty of accurately projecting such small numbers.

The accuracy and transparency of the model could be improved in a number of ways:

- Greater integration between the processes of population and pupil forecasting to enable longer-term pupil projections to be derived.
- Development of an independent 'county-level' projection to complement and constrain the school-level statistics.
- Specific model enhancements targeted at:
  - Resolving data quality issues
  - Improving reception year and year 7 projections
  - A more transparent cross-border flow analysis
  - Explicit integration of statistics on planned new housing developments
  - Establishing the appropriateness of a catchment-based model as an alternative to the existing 'district-based' approach.
- More sharing of information with individual schools to improve the quality of data being presented, to encourage input to the projection process and to re-establish a more cooperative planning process.

## **Appendix 1: Glossary & References**

### Glossary

AFP	Accommodation and Forward Planning
CLG	Department for Communities and Local Government
DCSF	Department for Children, Schools and Families
GIS	Geographical Information System
GP	General Practitioner
KC	Known Children
LSA	Local Supervising Authority
ONS	Office of National Statistics
NOR	Number on Roll
PAN	Planned Admission Numbers
PCT	Primary Care Trust
RC	Roman Catholic
RSS	Regional Spatial Strategy
SC	School Census
UDP	Unitary Development Plan

### References

Building for the Future: A closer look at primary school numbers, on behalf of Staunton-on-Wye primary school. Paper provided to the assurance process.

DCSF (2008) Pupil projection Guide.

[www.teachernet.gov.uk/management/schoolfunding/Resources/pupilprojectionguide/](http://www.teachernet.gov.uk/management/schoolfunding/Resources/pupilprojectionguide/)

Herefordshire Council (2008a) Methodology for Herefordshire Council pupil number projections. Draft internal document, provided for review as part of the assurance process.

Herefordshire Council (2008b) 2006-based population forecasts for Herefordshire. Draft statistics provided to the assurance process.

## Appendix 2: Primary School Districts

Primary District	School	Primary District	School	
Bromyard	BREDENBURY PRIMARY	Ledbury	ASHPERTON PRIMARY	
	BROCKHAMPTON (BROMYARD) PRIMARY		BOSBURY C.E. PRIMARY	
	BROMYARD, ST. PETER'S PRIMARY		COLWALL C.E. PRIMARY	
	BURLEY GATE C.E. PRIMARY		CRADLEY C.E. PRIMARY	
	PENCOMBE C.E. PRIMARY		EASTNOR PAROCHIAL PRIMARY	
Hereford	WHITBOURNE C.E. PRIMARY	Leominster	LEDBURY PRIMARY	
	BURGHILL PRIMARY		MUCH MARCLE C.E. PRIMARY	
	FOWNHOPE, ST. MARY'S C.E. PRIMARY		BODENHAM, ST. MICHAEL'S C.E. PRIMARY	
	HEREFORD, BROADLANDS PRIMARY		KIMBOLTON, ST. JAMES' C.E. PRIMARY	
	HEREFORD, HAMPTON DENE PRIMARY		LEOMINSTER INFANTS'	
	HEREFORD, HOLMER C.E. PRIMARY		LEOMINSTER JUNIOR	
	HEREFORD, RIVERSIDE PRIMARY		LEOMINSTER, IVINGTON C.E. PRIMARY	
	HEREFORD, LORD SCUDAMORE PRIMARY		LUSTON PRIMARY	
	HEREFORD, MARLBROOK PRIMARY		STOKE PRIOR (LEOMINSTER) PRIMARY	
	HEREFORD, OUR LADY'S R.C. PRIMARY		Peterchurch	CLIFFORD PRIMARY
	HEREFORD, ST. FRANCIS XAVIER'S R.C. PRIMARY	LONGTOWN PRIMARY		
	HEREFORD, ST. JAMES' C.E. PRIMARY	MICHAELCHURCH ESCLEY PRIMARY		
	HEREFORD, ST. MARTIN'S PRIMARY	Ross-on-Wye	PETERCHURCH PRIMARY	
	HEREFORD, ST. PAUL'S C.E. PRIMARY		BRAMPTON ABBOTTS C.E. PRIMARY	
	HEREFORD, TRINITY PRIMARY		BRIDSTOW C.E. PRIMARY	
	HEREFORD, ST. THOMAS CANTILUPE C.E. PRIMARY		GOODRICH C.E. PRIMARY	
	HOLME LACY PRIMARY		GORSLEY GOFFS ENDOWED PRIMARY	
	LITTLE DEWCHURCH C.E. PRIMARY		KING'S CAPLE PRIMARY	
	LUGWARDINE PRIMARY		LEA C.E. PRIMARY	
	MARDEN PRIMARY		LLANGROVE C.E. PRIMARY	
	MORDIFORD C.E. PRIMARY		ROSS-ON-WYE, ASHFIELD PARK PRIMARY	
	STRETTON SUGWAS C.E. PRIMARY		ROSS-ON-WYE, ST. JOSEPH'S R.C. PRIMARY	
	SUTTON PRIMARY	ST. WEONARD'S PRIMARY		
	WELLINGTON PRIMARY	WALFORD PRIMARY		
	WITHINGTON PRIMARY	WESTON-UNDER-PENYARD C.E. PRIMARY		
	Kingstone	CLEHONGER C.E. PRIMARY	Weobley	WHITCHURCH C.E. PRIMARY
		EWYAS HAROLD		CANON PYON C.E. PRIMARY
GARWAY PRIMARY		CREDENHILL, ST. MARY'S C.E. PRIMARY		
KINGSTONE AND THRUXTON PRIMARY		DILWYN C.E. PRIMARY		
MADLEY PRIMARY	STAUNTON-ON-WYE ENDOWED PRIMARY			
Kington	MUCH BIRCH C.E. PRIMARY	Wigmore	WEOBLEY PRIMARY	
	ALMELEY PRIMARY		KINGSLAND C.E. PRIMARY	
	EARDISLEY C.E. PRIMARY		LEINTWARDINE ENDOWED PRIMARY	
	KINGTON PRIMARY		ORLETON C.E. PRIMARY	
	PEMBRIDGE C.E. PRIMARY		SHOBDON PRIMARY	
			WIGMORE PRIMARY	

### **Appendix 3: Review Participants**

Rob Ridout	Kingstone High
Jon Barry	Lady Hawkins High
Adrian Long	Queen Elizabeth High
Sara Catlow-Hawkins	Bishop of Hereford Bluecoat School
Julie Powell	Lugwardine
Tracey Neale	Marlbrook
Candyce Garlick	Peterchurch
Andrew Best	Llangrove
Linda Townsend	Lea
Denise Strutt*	Whitecross High
Sister Denise O'Donnell*	Catholic Archdiocese of Cardiff
Dr Ian Terry*	Diocesan Board of Education

\* Invited but unable to attend

## **Appendix 4: Contact Details**

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Peter Boden is Director of Edge Analytics Ltd, a Visiting Research Fellow at the School of Geography, University of Leeds and a member of the British Society for Population Studies.

Peter is Chair of Governors at his local Junior School.