

**Northumberland
School Roll Projections and
Surplus Places
2004-09**

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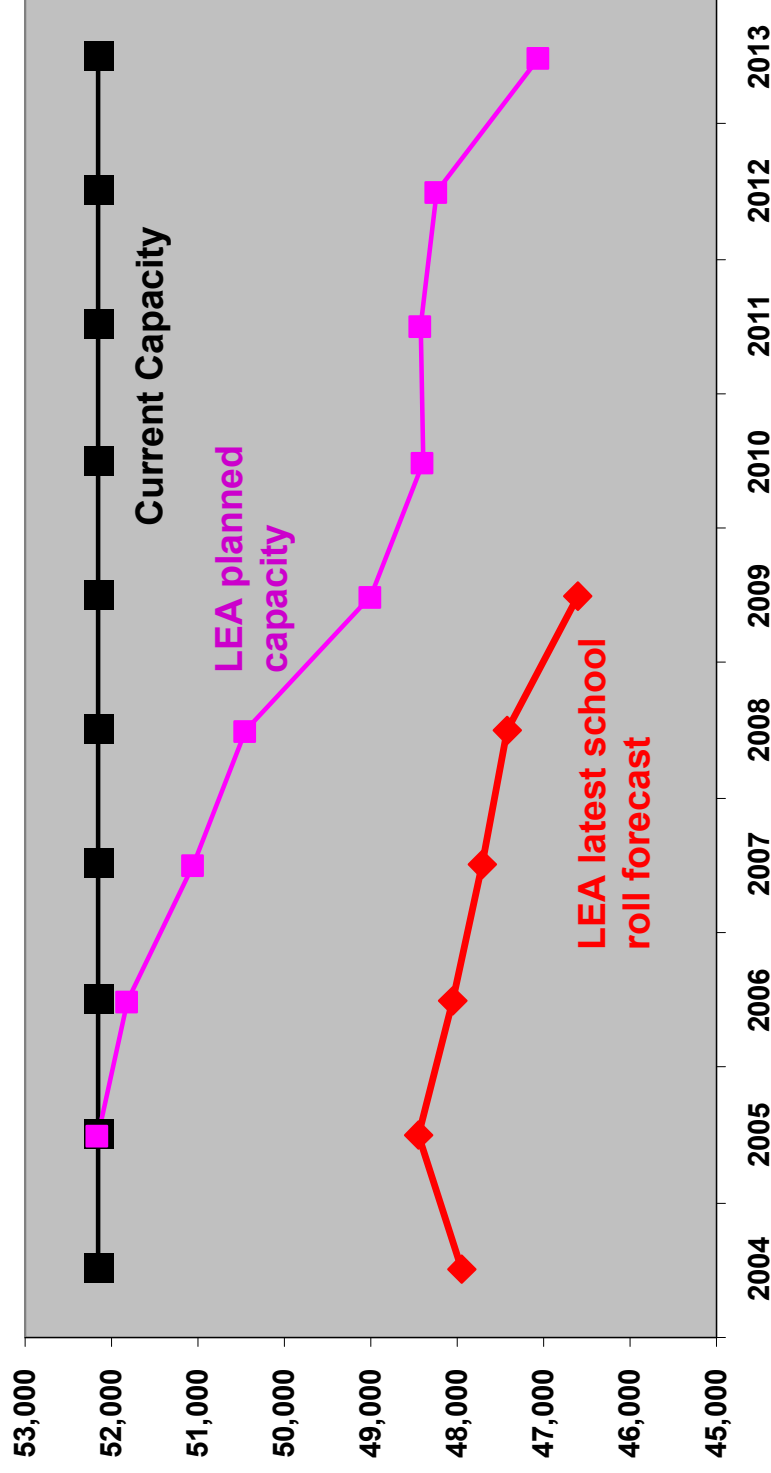
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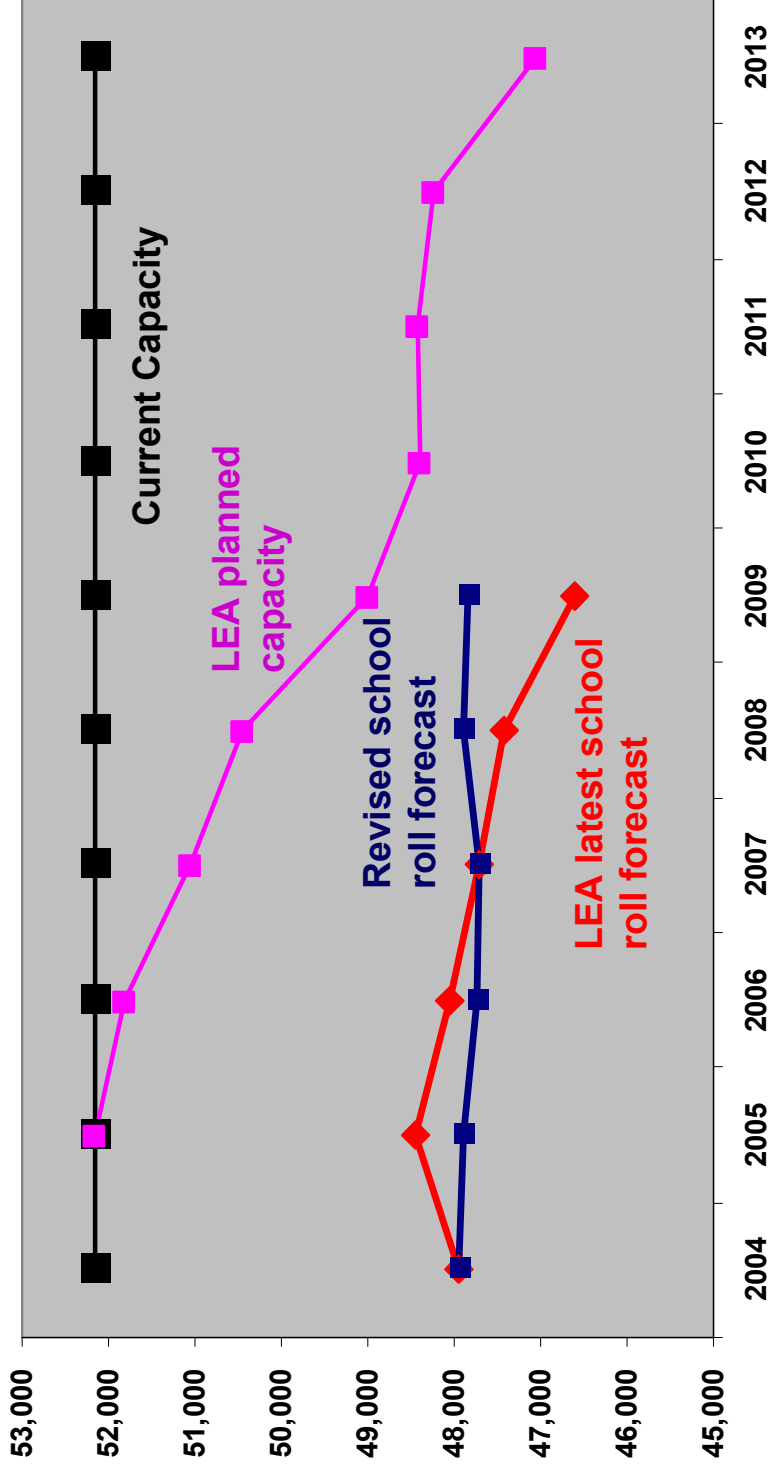
1. LEA School Roll Projections

- The LEA forecasts that school rolls will fall from 47,900 today to 46,600 by 2009, the latest date for which projections are prepared. This is based upon the expectation that birth rates are falling, which will ripple through the school age population over the next decade.
- Based on current school capacity this would mean carrying 5,500 surplus places.
- Through the 'Putting the Learner First' programme it plans to reduce capacity to approximately 47,000 by 2013, or by just over 5,000 places



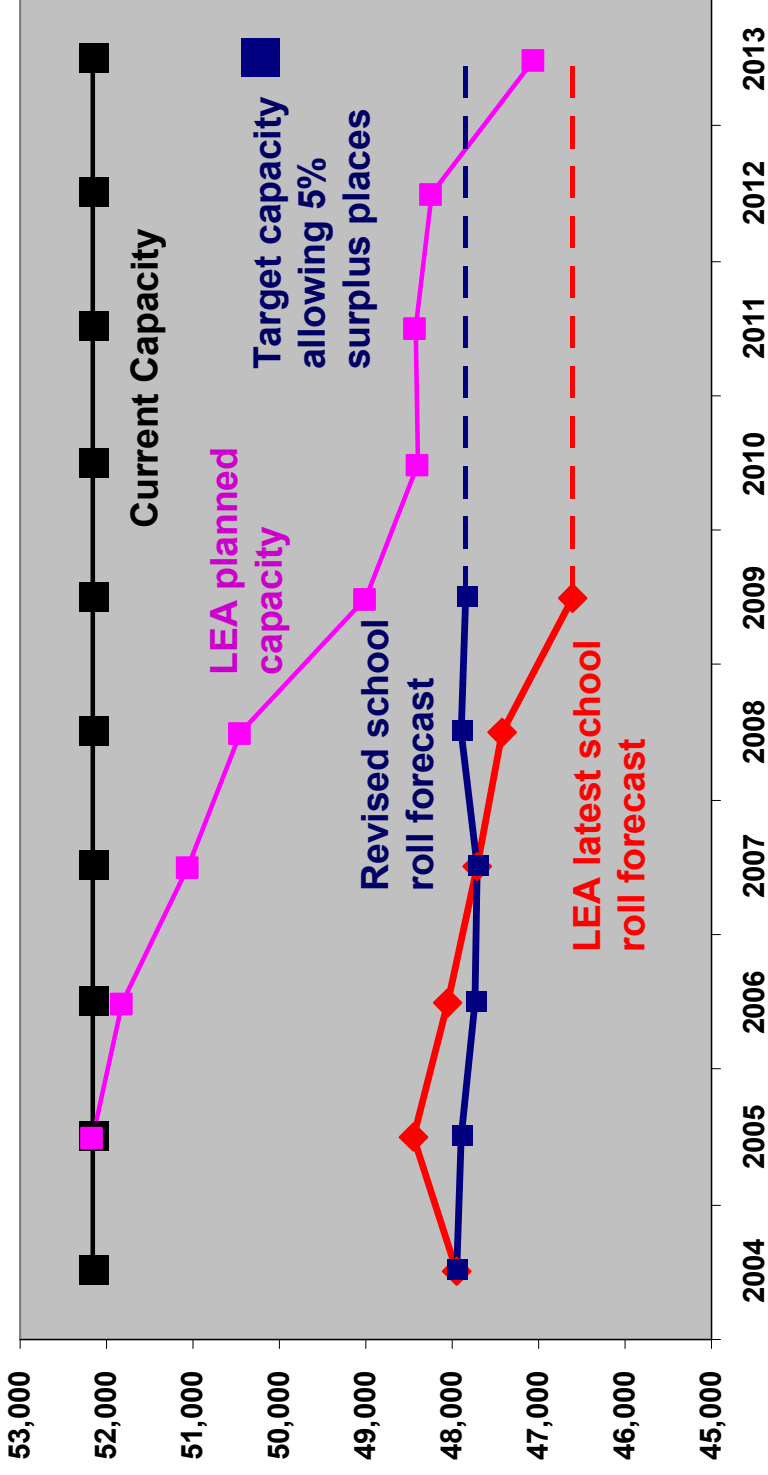
2. Revised Projections

- In contrast to the population estimates used in the LEA's model, recent data from the Office of National Statistics for Northumberland suggest that births increased in 2003, and are likely to have done so again in 2004. This, and adjusting for errors in the LEA's detailed estimating model generate a different forecast for the county's school population by 2009 of just under 47,850, more or less the same as today, and showing a slight increase between 2006/7 and 2009
- Even if the school population rises no higher after 2009 we would face a shortage of school places by 2013



3. Impact on County-wide surplus places

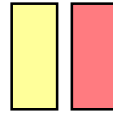
- The LEA's plan will rely upon a continuing fall in the school rolls beyond 2009 for its projected capacity of 47,000 to be sufficient, allowing for a small surplus (approx 5%) for planning flexibility & to allow parental choice
- Based on the revised projection, and assuming rolls rise no higher than 48,000 after 2009, the target capacity, allowing for 5% surplus, would be 50,300, rather than the 47,000 planned by the LEA
- The differences at county level between the LEA's and this revised projection are repeated at school partnership level within the county.



4. Impact on surplus places by Partnership

- School population projections have also been revised at school partnership level, taking account of recent trends in relative population change within the county, and the likely impact of new building development.
- When current school place capacity is compared to the revised population projections at partnership level some important differences emerge compared to the LEA's own analysis.
- On the LEA's view of future school rolls, 7 of the county's 14 partnerships would have more than 10% surplus places by 2009. Under the revised figure this falls to 4: Ashington, Coquet, Berwick and Haydon Bridge. These 4 partnerships account for nearly 70% of the projected surplus places in 2009
- Conversely, the number of partnerships in which there fewer than 5% of surplus places or actual shortages rises from 2 on the LEA's view to 7 on the revised projection: the SE Roman Catholic partnership, Seaton Valley, Cramlington, Prudhoe, Prudhoe, Morpeth and Hexham.
- This suggests that the problem of surplus places requires is focused in a few areas only and that increased provision is required in several parts of Northumberland.

County Plan	Ashington & Hirst														TOTAL
	RC	Seaton Valley	Cramlington	Blyth	Hirst	Coquet	Alnwick	Berwick	Prudhoe	Ponteland	Morpeth	Bedlington	Haydon Bridge	Hexham	
Surplus Places	312	185	691	561	937	629	199	743	216	-232	165	279	640	219	5544
% of capacity	11.0%	8.2%	13.5%	10.4%	14.4%	27.7%	5.8%	21.1%	7.1%	-7.4%	3.9%	7.6%	24.4%	5.3%	10.6%
Revised projection															
Surplus Places	137	63	179	517	919	649	319	685	142	-336	-26	286	675	95	4304
% of capacity	4.8%	2.8%	3.5%	9.6%	14.1%	28.6%	9.3%	19.5%	4.7%	-10.7%	-0.6%	7.8%	25.7%	2.3%	8.3%



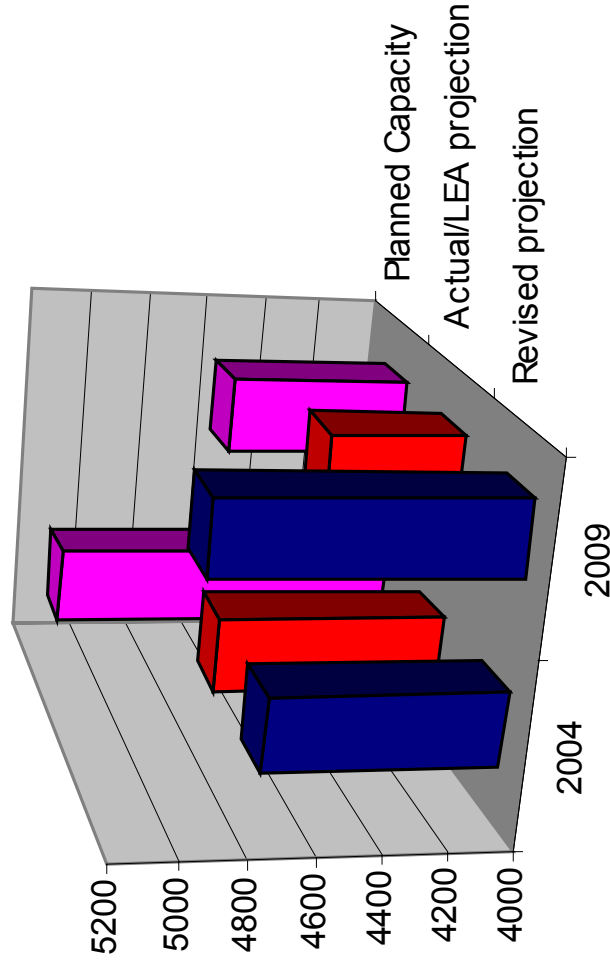
Partnerships with more than 10% of surplus places



Partnerships with less than 5% of surplus places

5. Partnership Highlights

Cramlington



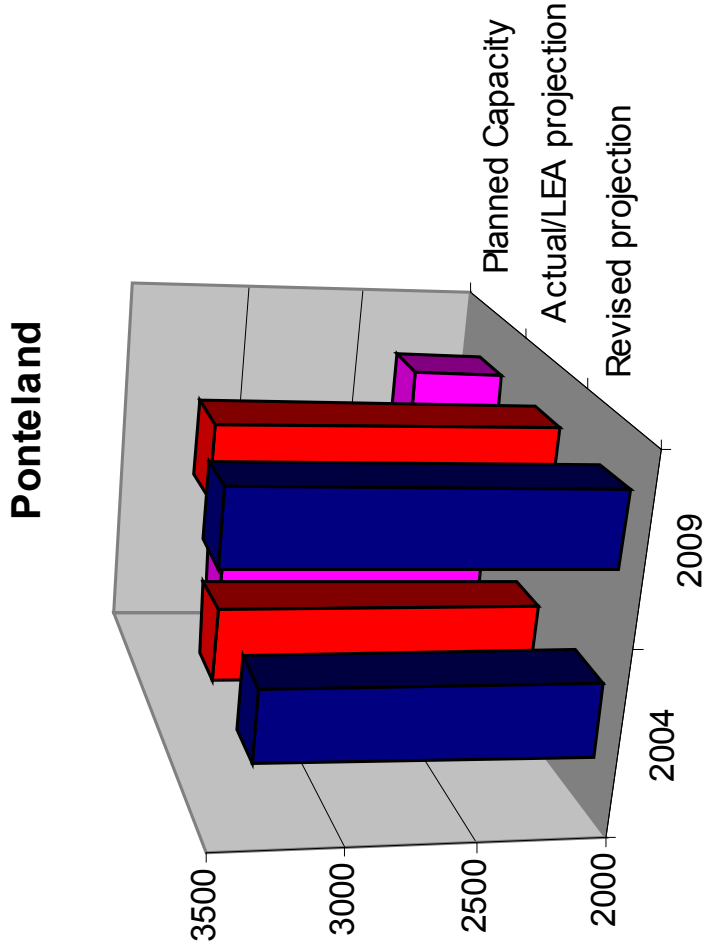
The chart shows actual school rolls and capacity in 2004 (left hand columns). It compares this to projections in 2009 for

- capacity proposed in the County Plan (in purple)
- LEA school population projection (in red)
- revised school population projection (in blue)

- The 'Putting the Learner First' plan proposes to remove 529 school places in the Cramlington partnership, leaving a capacity of 4,595 places following the changes
- The LEA projects school rolls falling from 4,732 to 4,433 between 2004 and 2009, leaving 200 surplus places
- The revised model projects a school population increasing to 4,945 by 2009. This dramatic change reflects the likely impact of new house building forecast by the LEA, but not reflected in their school population projections.
- The 'Putting the Learner First' plan briefly acknowledges this but says only that "should pupil numbers increase it may be necessary to consider two secondary schools in Cramlington."* However, because the shortage of places will be most acute at High School ages it would probably be more cost-effective to build an additional High School within the existing 3 tier structure

* Putting The Learner First, 22 Nov 2004, Part B, p.57

5. Partnership Highlights



The chart shows actual school rolls and capacity in 2004 (left hand columns). It compares this to projections in 2009 for

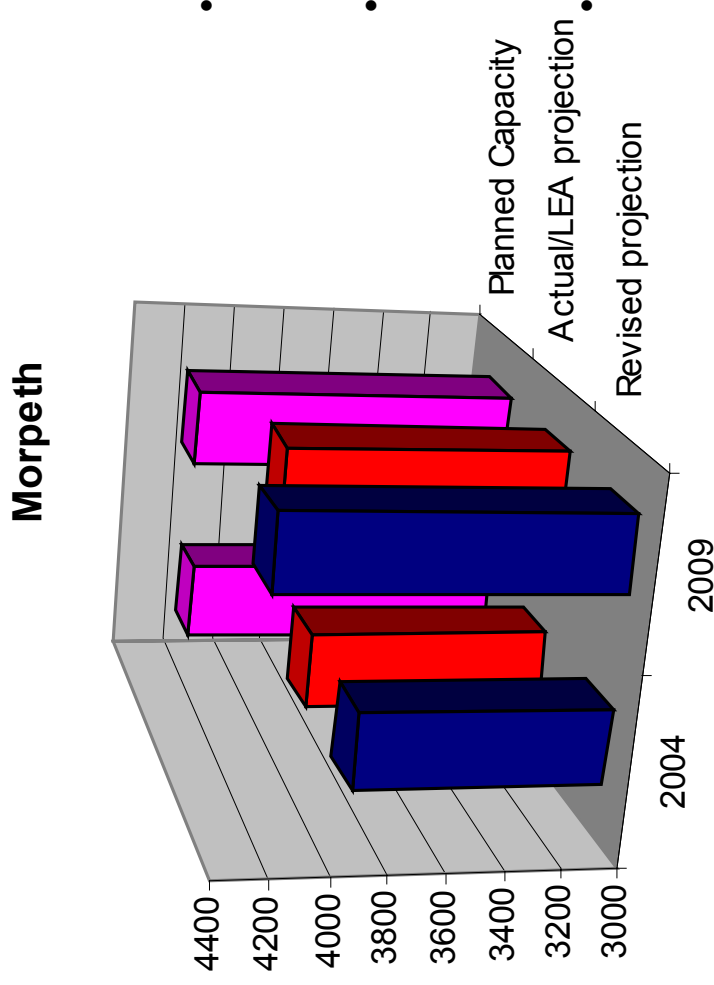
- capacity proposed in the County Plan (in purple)
- LEA school population projection (in red)
- revised school population projection (in blue)

- The 'Putting the Learner First' plan proposes to remove 756 school places in the Ponteland partnership, leaving capacity of 2,385 places following the changes
- The LEA projects school rolls rising slightly from 3,307 to 3,373 between 2004 and 2009, leaving a shortage of over 200 places.
- It reconciles this imbalance by assuming that the 25-30% of pupils at school in Ponteland from Newcastle will not be accommodated in future. This is stated only indirectly: Ponteland Community High would become a secondary school "serving children living in its catchment area"*. No indication is given as to how this will be achieved.
- Similar circumstances apply in Hexham partnership, where the LEA's plan shows a significant reduction in available places below current and forecast demand. It is also expected that some pupils currently at St.Josephs Middle would transfer to secondary schools in Prudhoe and Haydon Bridge
- In the 2004 School Organisation Plan the LEA anticipated that demand in Ponteland from Newcastle might actually increase as a consequence of the Newcastle Outer West area transition from a 3 tier to a 2 tier system, which is an interesting observation on parental attitudes from an LEA also contemplating the same change.
- The revised model projects a school population increasing at a faster pace: to 3,477 by 2009. This assumes a continuation of demand from Newcastle in addition to the local impact of increased young child population.

* Putting The Learner First, 22 Nov 2004, Part B, p.81

5. Partnership Highlights

- The 'Putting the Learner First' plan proposes to add 18 school places in the Morpeth partnership partly through some catchment area changes in the Rothbury area.
- The LEA projects school rolls rising from 3,892 to 4,032 between 2004 and 2009, leaving 183 surplus places
- The revised model projects a school population increasing to the higher level of 4,223 by 2009, which would lead to a slight shortage in school provision. This shortage is likely to be seen at about the same rate at all existing school stages rather than concentrated at High School level.



The chart shows actual school rolls and capacity in 2004 (left hand columns). It compares this to projections in 2009 for

- capacity proposed in the County Plan (in purple)
- LEA school population projection (in red)
- revised school population projection (in blue)

* Putting The Learner First, 22 Nov 2004, Part B, p.57

5. Partnership Highlights - Ashington

	2004		2009	
	Cap- acity	Rolls	Cap- acity	Rolls
Total	6,523	5,971	5,820	5,604
First	2,550	2,216	2,120	2,148
Middle	1,959	1,905	1,800	1,690
High	2,014	1,850	1,900	1,766

- There is little difference between the LEA's model and the revised projection regarding the future school population projections in Ashington. Both show a reduction of some 400 places required between 2004 and 2009. It is the largest partnership within Northumberland.
- The partnership has a structural imbalance between capacity and demand for places, which is reflected at all levels of the school system.
- The LEA's future 3 tier model for Ashington projects a smaller capacity (5,820 places, as shown in the table opposite) than their 2 tier proposal (5,905 places)

Other partnerships with large surpluses:

- Berwick: sparsely populated. Large surplus %s at all 3 stages
- Coquet: surplus %s at all 3 stages; should it be considered together with Alnwick?
- Haydon Bridge: v. sparsely populated, biggest problem is at First School, significant at Middle level. See over

5. Partnership Highlights – Haydon Bridge

	2004		2009	
	Cap- acity	Rolls	Cap- acity	Rolls
Total	2,625	2,147	2,275	1,950
First	1,112	757	765	661
Middle	721	672	760	551
High	792	718	750	738

There is little difference between the LEA's model and the revised projection regarding the future school population projections in the Haydon Bridge partnership, which covers the most sparsely populated part of the county. Both show a reduction of some 200 places required between 2004 and 2009. It is the largest partnership within Northumberland.

On the revised future projection the imbalance remains primarily at the First School age group.

Appendix: Methodology & sources

- The excel based estimating model used by the LEA to create projections for the annual School Organisation Plan has been used to generate the revised projections. The same planning and estimating assumptions are also used except where set out below.
- The model version published with the 2004 School Organisation Plan was used as the foundation for this new exercise (Appendix 9, May 2004). School roll estimates include current and expected usage of Northumberland schools by pupils resident in other authorities, but appear to exclude pupils with Special Needs (594 pupils in Northumberland in Jan '04).
- The model includes actual rolls by each year group from 4 to 17 from the annual census of rosters taken in January each year, and shows historical data for each year between 1999 and 2004. This is shown at county level and at school partnership level. The progression of year groups between years is used to calculate a 'survival ratio'. eg. if there were 500 5 year olds in 2003 and 525 6 year olds in 2004 the age 5-6 survival ratio is 105%. Ratios are calculated for each different age group.
- Recent survival ratios are used to forecast the change of the school population as current age groups progress through the system. To follow the earlier example, if there are again 500 pupils aged 5 in 2004 the use of the 105% survival ratio forecasts that there will be 525 6 year olds in 2005. To avoid undue impact from 'one off' fluctuations from year to year, the survival ratios used are calculated as an average over the whole 1999-2004 period for each age group, but weighted to give more emphasis to those observed in the most recent years.
- Estimating the future number of pupils in the early years is more difficult as it relies upon separate population estimates of 0-3 year olds. The LEA's data is drawn from annual Health Authority estimates of population at each age group from 0 to 3, based upon live births and GP Registrations. For 2003 this data has been superseded in the revised projection by more recent data from the Office of National Statistics (ONS), drawn from a wider range of sources, including the Health Authorities. See next page.
- 0-3 year old population estimates are currently only available for the county as a whole, rather than by school partnership or even district. To estimate how these children will be distributed among the school partnerships once they reach school age, a survival ratio is calculated between the county wide 3 year old population and the following year's 4 year olds on the roster in each partnership. eg. if there were 3000 3 year olds in Northumberland in 2003, and 150 4 year olds in Alnwick partnership in 2004, the Alnwick 3-4 survival ratio for 2004 is 5%. The LEA weights these ratios together for each year between 1999 and 2004 in the same way as for older age groups. This is a concern because it is likely to 'average out' the effect of recent differences in population change within the county, which could have significant repercussions on future estimates of school population at partnership level. Eg. the percentage of the county's estimated 3 year olds starting school in the Hexham partnership has increased in each year since 2000, reflecting an increase in the proportion of Northumberland's population resident in that part of the Tyne Valley in recent years. The use of an average 3-4 survival ratio across all those years fails to capture this trend and is likely to underestimate future school place needs accordingly. Within the revised projection, therefore, the 3-4 survival ratio for each partnership has been calculated using the observed ratios for 2003 and 2004 only, with 2004 given twice the weight of the 2003 figure. It is important to note that while this reflects more recent trends it still does not allow for future changes in the distribution of the county's school age population, which are difficult to predict. For this reason, school roll projections at the partnership level should carry a greater margin for error than the county aggregates – and it would consequently be prudent to allow for a higher % of surplus places in future school planning at individual partnership level.
- The one allowance made in the model for potential future population trends at partnership level is drawn from forecasts of new house building. The LEA includes forecast new houses in each partnership for each year from 2005 to 2009, and assign an assumed 'yield' of primary and secondary age pupils per new house based on ONS and Dept of Environment guidelines (6 school age children per 10 houses). The same yield assumption is used in the revised projection. However, unlike in the LEA's projections, a survival ratio increment is not subsequently added to the future years school population generated by new housing developments as it is more conservatively assumed that such increase is already captured in the calculated survival ratios for existing school population. Only in Cramlington partnership is it currently expected that the future rate of housebuilding will be significantly higher than that seen in recent years. Here, the school population generated from new housing is cumulated in its own right and added to the forecast future school rolls.

Appendix: 0-3 population estimates

Table 1: LEA data

	Population			
	0	1	2	3
1999	3,201	3,245	3,259	3,486
2000	2,743	3,303	3,250	3,436
2001	2,643	3,112	3,348	3,317
2002	2,600	2,693	3,162	3,398
2003	2,548	2,901	3,141	3,087
2004	2,638	2,947	2,985	3,172

Source: School Organisation Plan 2004, based on Health Authority data

Table 2: revised estimates

	Population			
	0	1	2	3
1999	3,201	3,245	3,259	3,486
2000	2,743	3,303	3,250	3,436
2001	2,643	3,112	3,348	3,317
2002	2,600	2,693	3,162	3,398
2003	2,920	2,927	3,024	3,196
2004	3,023	3,163	3,101	3,083

Source: 1999-2002 as before. 2003 based on ONS Population Estimates Unit data, November 2004

- Table 1 shows the most recent data published by the LEA in support of future school roll projections. It shows a reduction in the number of new born children in 2003 compared to 2002, continuing a trend observed since 1999.
- There is reasonable consistency between the LEA quoted sources and ONS estimates prior to 2003, but for mid-2003 the ONS estimates, by contrast, show a marked increase in the new born population, to 2,920 (see Table 2). This is consistent with the data on live births in Northumberland for 2003, which increased from 2,762 in 2002 to 2,934 in 2003.
- For 2004 the LEA quotes a slight increase in the newborn population. ONS population estimates are not yet available for 2004, but the same ratio of increase has been applied between 2003 and 2004 in estimating the 2004 population. This gives an estimate of 3,023 children under the age of 1. The ONS has just quoted an early provisional figure of 3,372 live births for Northumberland in 2004 (email communication from the ONS Vital Statistics Branch, 23 Feb 05), which might mean that the 2004 estimate of 3,023 newborn children turns out to be too low.
- In the absence of any data the LEA estimate that 2005 will see the same number of newborn children as 2004, and the same, hazardous, assumption has been used in the revised projection, ie. a total of 3,023. Based on recent trends this is cautious. These children will become new school entrants in 2009, the last year for which projections are made.
- Survival ratios are calculated between the pre-school age groups in the same way as for school age groups. In recent years the 0-1 survival ratio has been between 108% and 111% and the 1-2 survival ratio has been around 105%. This is much higher than that typically observed between school age groups, and suggests that families with very young children have been moving into the county. This too is likely to increase the school age population in future years.
- The recently observed pre-school age survival ratios are applied to the 2003 ONS population estimates, and the previously documented assumptions on 2004 and 2005 newborn population to forecast new school entrants between 2005 and 2009.
- This enables the correction of an error in the LEA model which 'hard codes' the assumed 2009 new school entrant population as 2,863. The use of more recent data and the calculated survival ratios gives a total of 3,564 instead.

Appendix: Impact on First School Population Projections

- These changes will clearly impact the First School age population before later years, and they suggest that the pattern of recent decline in numbers will be halted by around 2007, and reversed thereafter.
- The use of new data means that by 2009 it is now estimated that there will be some 1,400 more children in Northumberland's first schools than estimated by the LEA. The total population would mean surplus places of some 12.5% of the current First School capacity, rather than the figure of near 20% forecast by the LEA.
- It also suggests that school rolls throughout the entire system will continue to rise in the years after 2009, during which time it is forecast that most of the reductions in capacity envisioned in the 'Putting the Learner First' plan will come into force.

