

North Hertfordshire District Council

Crematorium Feasibility Study

Peter Mitchell Associates

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Executive Summary

This report is an initial study into the feasibility of providing a crematorium at Wilbury Hills Cemetery.

The report illustrates the context of demand for cremation in the UK and examines factors influencing demand for a new Wilbury Hills Crematorium, including:

- Proximity to existing crematoria
- Population
- Age structure
- Mortality rates
- Religion
- Ethnicity

The report examines the impact of the opening of new crematoria upon existing ones, including the relevance of fees.

The report then examines the estimation of potential demand for the new Wilbury Hills Crematorium.

Based upon its proximity to 3 urban areas, the report concludes that a very conservative estimate of demand would be 560 cremations per year at the new Wilbury Hills Crematorium. This would equate to an average of just over 2 funerals per day Monday to Friday.

This author considers that a more reasonable estimate of demand would be approximately 700 cremations per year at the new crematorium. This would equate to an average of nearly 3 funerals per day Monday to Friday.

This demand is sufficiently high to make a crematorium in this location feasible financially. Demand would grow in line with projected increases of 33% in deaths in North Hertfordshire by 2035.

This report was initially focused upon the potential conversion of the existing Chapel at Wilbury Hills to incorporate cremation facilities and thus provide a low cost crematorium option.

Whilst this option offers certain advantages, this report concludes that a new crematorium building on this site would be a better solution and provide a higher level of customer satisfaction.

Whilst the capital costs of building a new crematorium are significantly greater than converting the existing building, this project could be completed by a specialist private crematorium company at no cost to the Council and in fact lead to a new income stream for the Council.

Recommendations

If the Council wishes to continue to explore the option of converting the existing building into a crematorium, the most important issue to overcome is the requirement of s.5 of the Cremation Act 1902 relating to distance from residential properties. This potentially fatal issue should be resolved prior to taking the project any further.

If the Council accept the arguments in favour of a completely new crematorium on the site, the primary consideration must be whether this is a project that the Council would be prepared to fund or whether provision by the specialist private sector would be the better option.

Introduction

North Hertfordshire District Council commissioned Peter Mitchell Associates to undertake an initial study into the feasibility of creating a crematorium at the Wilbury Hills Cemetery in Letchworth.

The study brief includes:

- Identify the potential level of demand
- Provide an indication of the level of capital investment required
- Identify any specific infrastructure issues such as car parking or utilities supplies
- Identify potential procurement options highlighting the risk versus benefits to NHDC that are applicable for each option.
- Identify potential options for future management and operation of the facility once developed.
- Propose a potential layout
- Identify any key issues that will need to be covered in any future Business Case Proposal.

The Author

I am Peter Mitchell, Fellow and Diploma holder of the Institute of Cemetery and Crematorium Management.

Since February 1983, I have worked at all levels in cemeteries and crematoria in both public and private sectors and have been an independent consultant specializing in all matters relating to burial, cremation and exhumation since April 2002.

I have completed a number of cemetery and crematorium feasibility studies for both local authorities and private companies and am very familiar with the issues associated with the provision of burial and cremation facilities. My understanding of these issues is thus based upon both specialist knowledge and practical experience.

Further information is available at www.PeterMitchell.org

Demand for Cremation in the UK

Potential demand for a new crematorium located at Wilbury Hills should firstly be considered within the context of overall UK demand for cremation.

The first public crematorium was opened at Woking in 1885 and the chart below illustrates the percentage growth in cremation since that time:

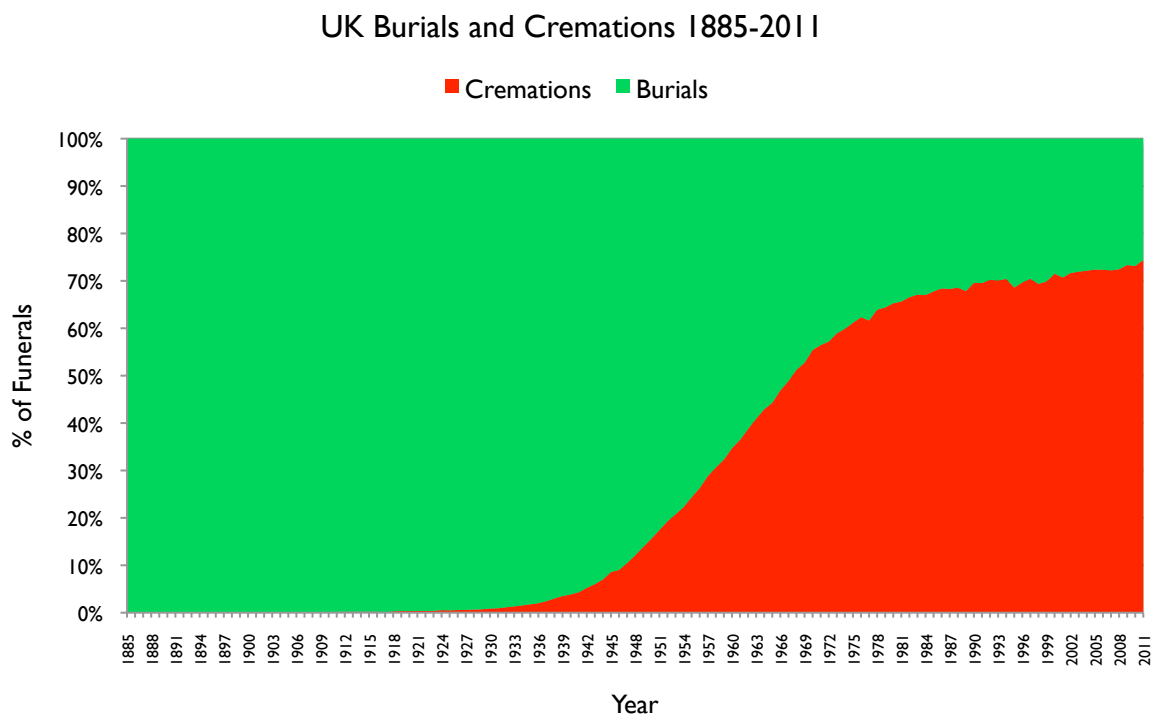


Figure 1: The Growth of Cremation in the UK

The chart illustrates how cremation initially accounted for an insignificant proportion of funerals until the Second World War, after which there was a rapid growth in its popularity.

There are currently 266 operational crematoria and, in 2011, cremation accounted for 413,845 (74.4%) of UK funerals.

One of the key factors in the growth in the popularity of cremation has been the increase in the number of UK crematoria. This has increasingly made cremation more readily accessible to a wider number of people.

The chart below illustrates this link between the number of crematoria and the number of cremations:

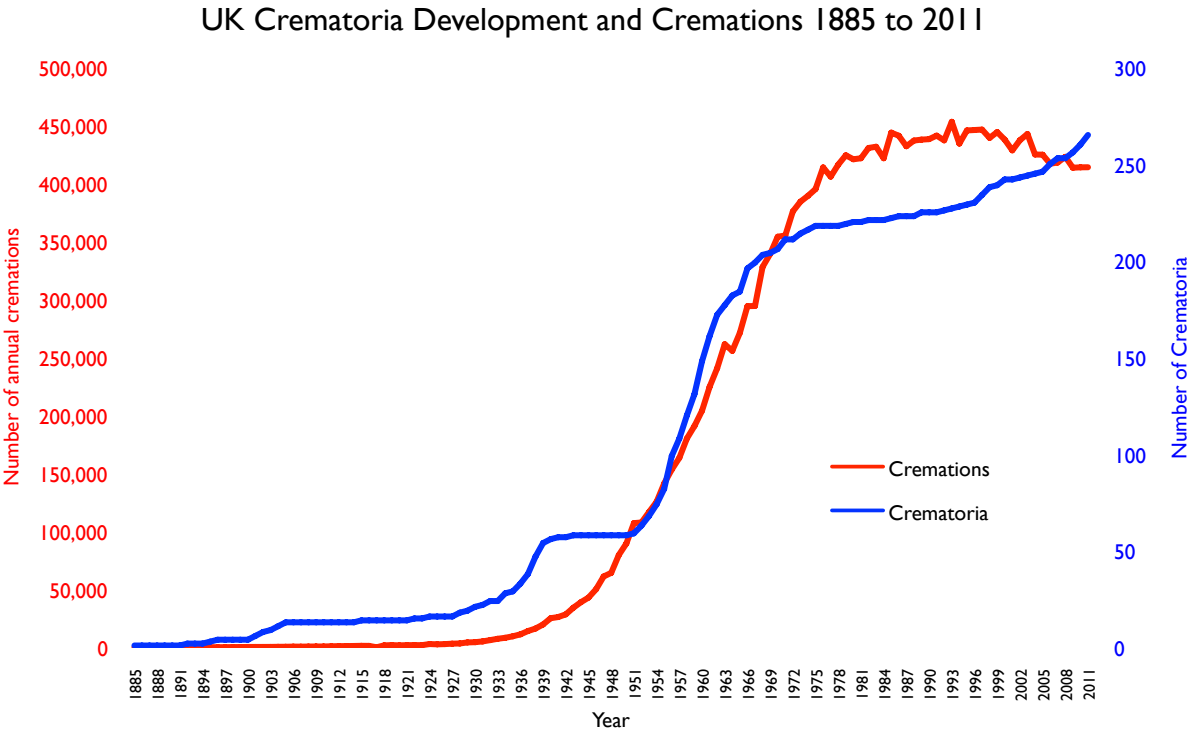


Figure 2: Crematoria Development and the Growth of Cremation in the UK

New crematoria are still being planned and built in various locations in the UK.

In 1995, there were 649,635 deaths in the UK. The annual number of deaths has since fallen by nearly 15% to 556,229 in 2011.

In spite of the decrease in the number of deaths, during the same period the proportion of cremations has continued to rise from 69% to 74%.

This report examines demographic factors later, but at this point the chart below provides a useful illustration of the overall context of the numbers of deaths, burials and cremations since 1885.

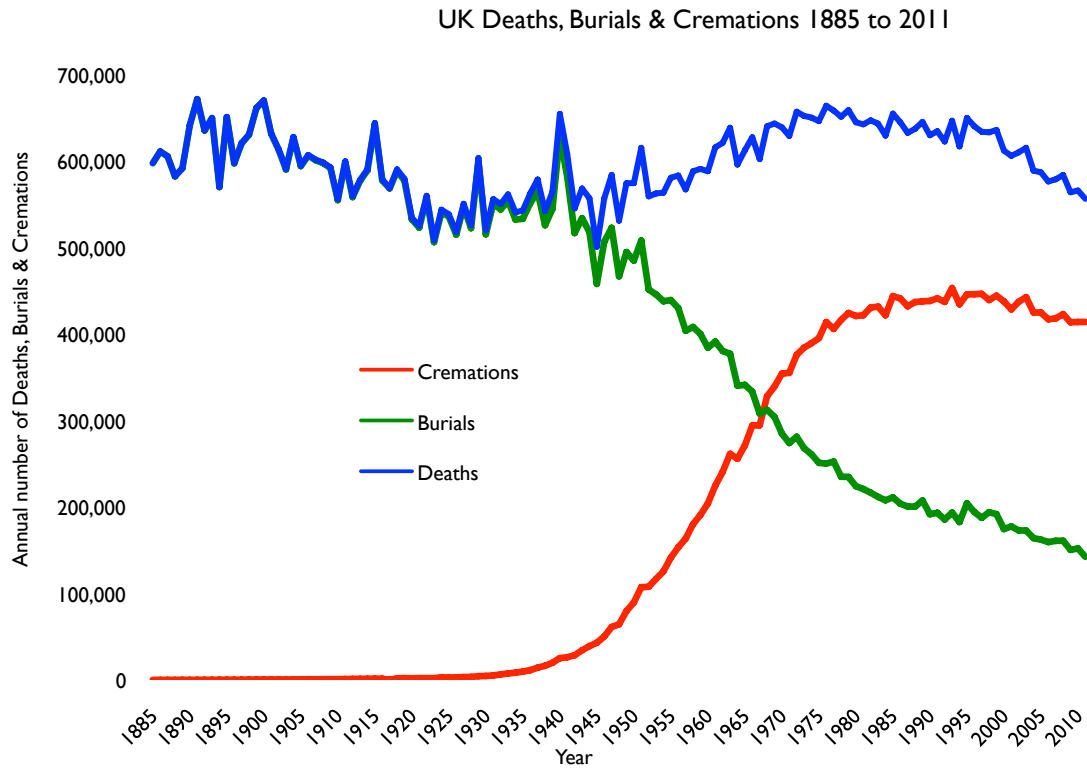


Figure 3: UK deaths, burials and cremations 1885 to 2011

In spite of fluctuations in the overall numbers of deaths, the inexorable rise in the number of cremations is quite evident.

Demand for Cremation at Wilbury Hills

The key factors affecting potential demand for a new crematorium at Wilbury Hills are:

- Proximity to existing crematoria
- Population
- Age structure
- Mortality rates
- Religion
- Ethnicity

Issues to be examined are levels of demand at existing crematoria serving North Hertfordshire; whether people would continue to use these existing crematoria, rather than a new one at Wilbury Hills, and whether demographic factors indicate sustained increasing demand for cremation in the catchment area.

Proximity of existing crematoria

The main urban centres of North Hertfordshire are Hitchin, Letchworth, Baldock and Royston, with the first three lying close to each other. The table below presents approximate distances and travel times from Letchworth and Royston to existing crematoria:

Crematorium	Letchworth		Royston	
	Miles	Minutes	Miles	Minutes
Bedford	21	45	30	60
Cambridge	30	50	20	30
Harlow	28	60	29	50
Luton	10	25	23	40
Milton Keynes	32	60	45	80
Stevenage	11	25	20	35
Watford	26	38	35	50

Figure 4: Approximate travel distances and times

The table below sorts existing crematoria in terms of approximate distances and more importantly travel times from Letchworth:

Crematorium	Letchworth	
	Miles	Minutes
Luton	10	25
Stevenage	11	25
Watford	26	38
Bedford	21	45
Cambridge	30	50
Harlow	28	60
Milton Keynes	32	60

Figure 5: Approximate travel distances and times

The table below sorts existing crematoria in terms of approximate distances and more importantly travel times from Royston:

Crematorium	Royston	
	Miles	Minutes
Cambridge	20	30
Stevenage	20	35
Luton	23	40
Harlow	29	50
Watford	35	50
Bedford	30	60
Milton Keynes	45	80

Figure 6: Approximate travel distances and times

These tables illustrate that, at average driving speeds and conditions, travel times to the nearest crematoria from Letchworth and Royston are 25 and 30 minutes respectively.

Where a Funeral Director’s hearse and limousine(s) lead a cortège of mourners’ vehicles to a crematorium, travel speeds are often much lower than for normal traffic.

This is mainly as a consequence of trying to keep the cortège together when negotiating junctions so that everybody finds their way to the crematorium and arrives together in time for the funeral service.

The approximate travel times given in the tables above should therefore be considered optimistic for funeral cortèges. This means that the closest crematoria to residents of North Hertfordshire are at or even beyond the recognized limit of preferred travel time, as discussed in the Competition Appeal Tribunal Case No. 1044/2/1/04 Judgment of 6th July 2005, where reference is made to the importance of travel times by car in relation to crematoria:

199. It is in our view not difficult to identify why consumers would have a strong preference for using the local or most convenient crematorium. Mourners at a funeral, many of whom are likely to be elderly, would not normally wish to travel long distances if that could be avoided; many elderly mourners may not have transport available to take them longer distances; extra travel is likely to increase the time needed, and also to add to the cost of the funeral in terms of fuel and labour costs; and there may be sentimental reasons for choosing the local crematorium, for example to facilitate subsequent visits to view a memorial tablet, to visit a garden of remembrance, or because a previous family member was cremated there. Those considerations, of a common sense nature, are in our view supported by the evidence before the Tribunal.

207. In addition, there has been no challenge to the evidence, which emerges from the planning decision of 17 February 1999 relating to South Crofty plc in Cornwall, in which the planning inspector said:

“as a rule of thumb, the industry works on the basis that a funeral party should not have to undergo more than 30 minutes drive to a crematorium.”

The key factor for most people choosing a crematorium for a funeral is its location relative to the people who will attend the funeral. There is a general preference to minimize travel times.

In addition to travel time, qualitative factors are also relevant:

Availability of the bereaved family's preferred date and time for the funeral

Particularly during periods of high demand in winter months, people may have to wait up to 3 or even 4 weeks before the crematorium, Funeral Director and Officiant are all available.

Service interval time

In recent years, crematorium service times have in many cases been extended from 30 to 45 minutes. This enables better flow of mourners and vehicles and eases the impression that a busy crematorium is like a 'conveyor belt' of funerals.

Quality of service offered in terms of provision of music and facilities

Many crematoria now offer a range of options for music, audio-visual presentations and other means of personalizing funerals.

Standards of maintenance of buildings and grounds

Grounds and building maintenance standards are important in creating a positive image of the crematorium to mourners and visitors.

This report does not include a comparative assessment of these qualitative factors at local crematoria.

Population

The two charts below illustrate ONS population projections for North Hertfordshire District. They were published on 21st March 2012 and are based on the indicative 2010 mid-year population estimates published on 17th November 2011.

It is important to note that ONS subnational population projections use past trends to project forward the population to give an indication of the future population for 25 years from the base year.

'Children' are defined as people 0 and 15 years of age

'Working age' is defined as people aged between 16 years and state pensionable age

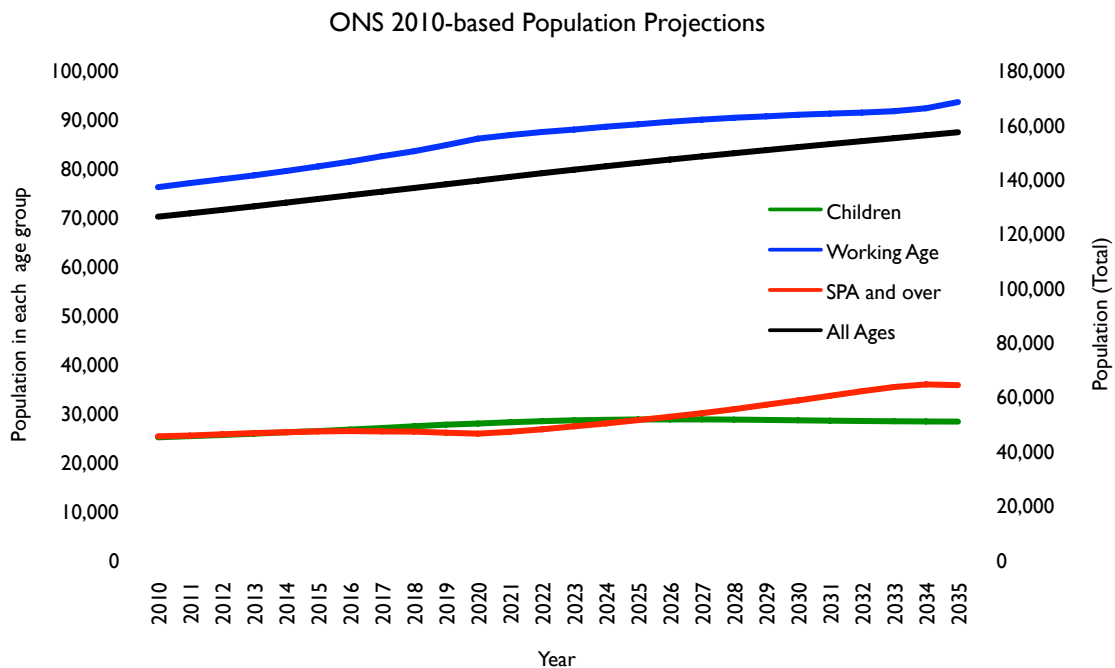


Figure 7: Population projections for NHDC - Numbers

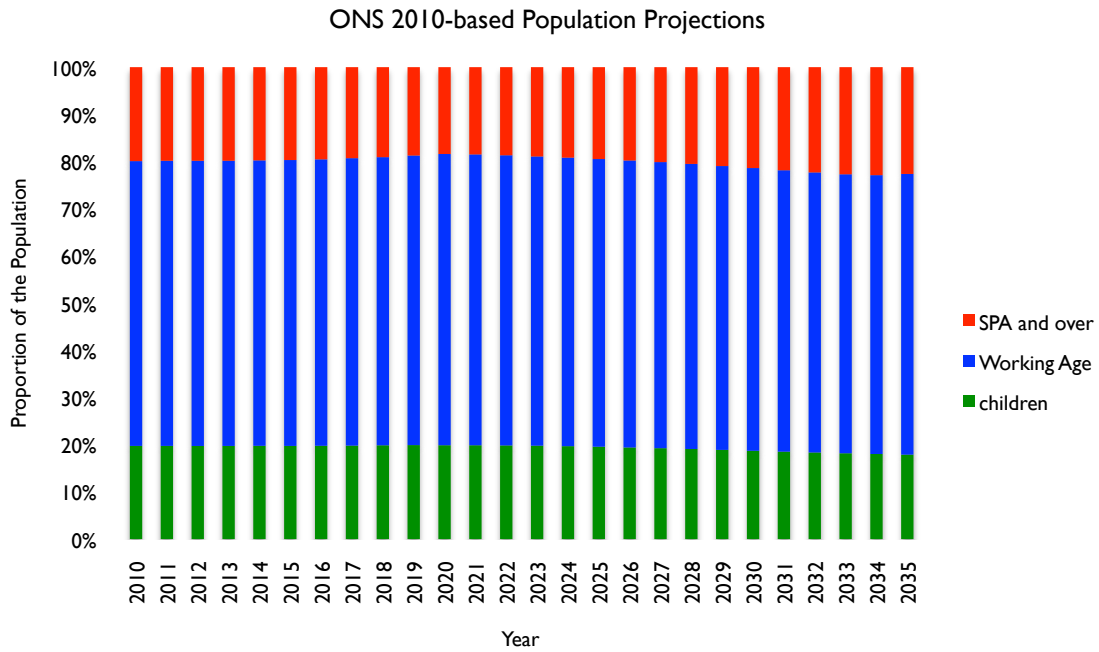


Figure 8: Population projections for NHDC - Proportions

The statistics indicate that between 2010 and 2035:

- the overall population of North Hertfordshire is projected to rise by 31,000 (25%)
- the number of people of State Pension Age and over is projected to increase by 42%

Age structure

The charts below use the ONS 2010-based population projections to compare the age structure of North Hertfordshire with that of the whole of England for 2012 and 2035:

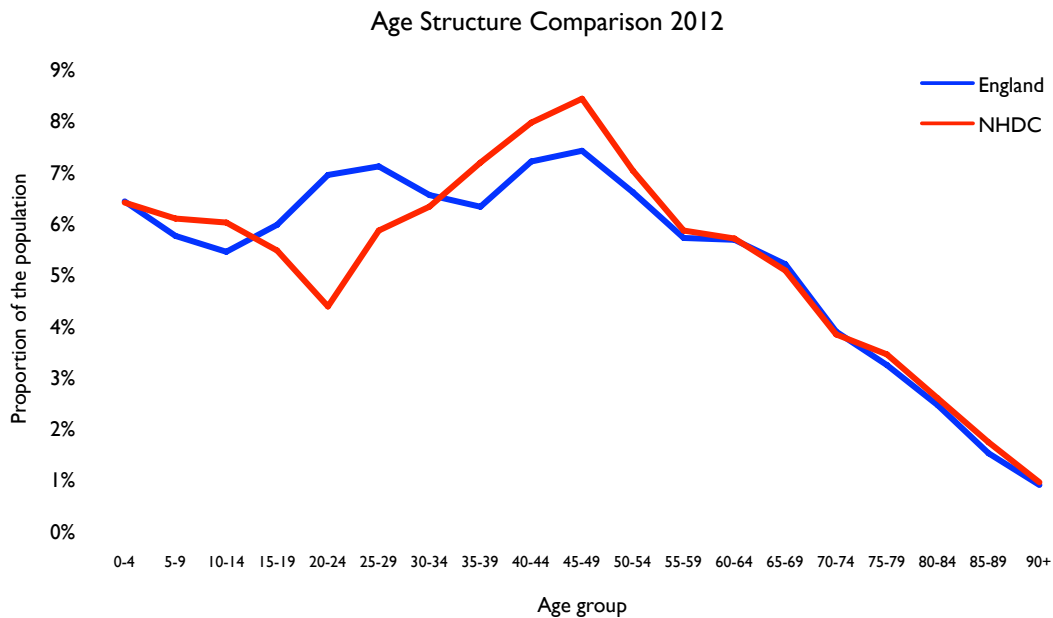


Figure 9: Age structure comparison 2012

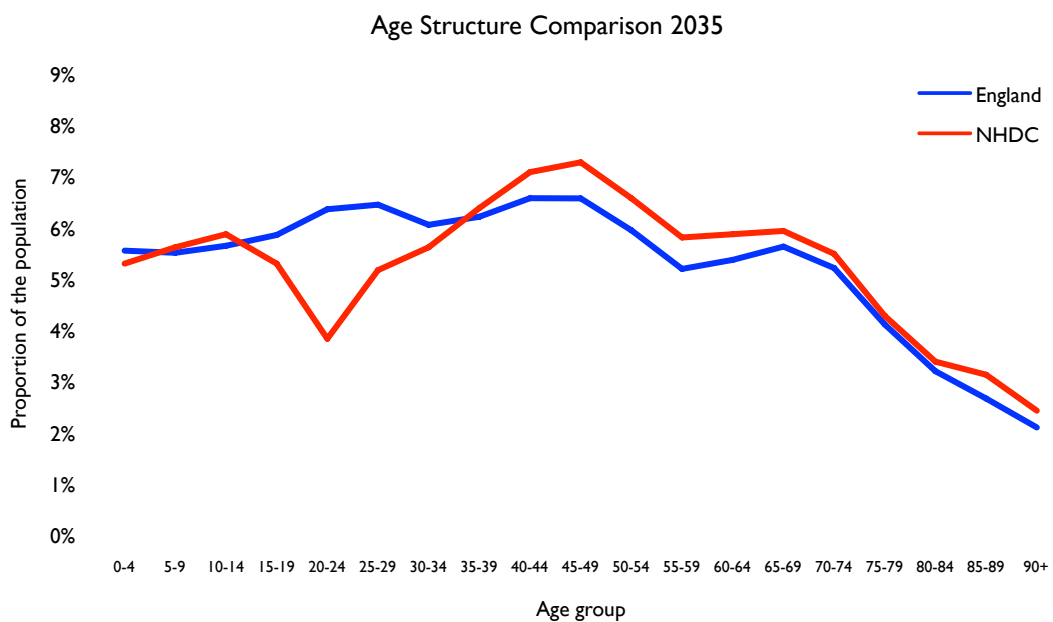


Figure 10: Age structure comparison 2035

These charts illustrate:

- in 2012, the proportion of the population aged 60 years and above in North Hertfordshire is similar to that of England as a whole
- in 2035, North Hertfordshire is projected to have a higher proportion of older people than England as a whole

The chart below illustrates and compares the projected percentage variation in the population of quinary age groups in England as a whole and North Hertfordshire:

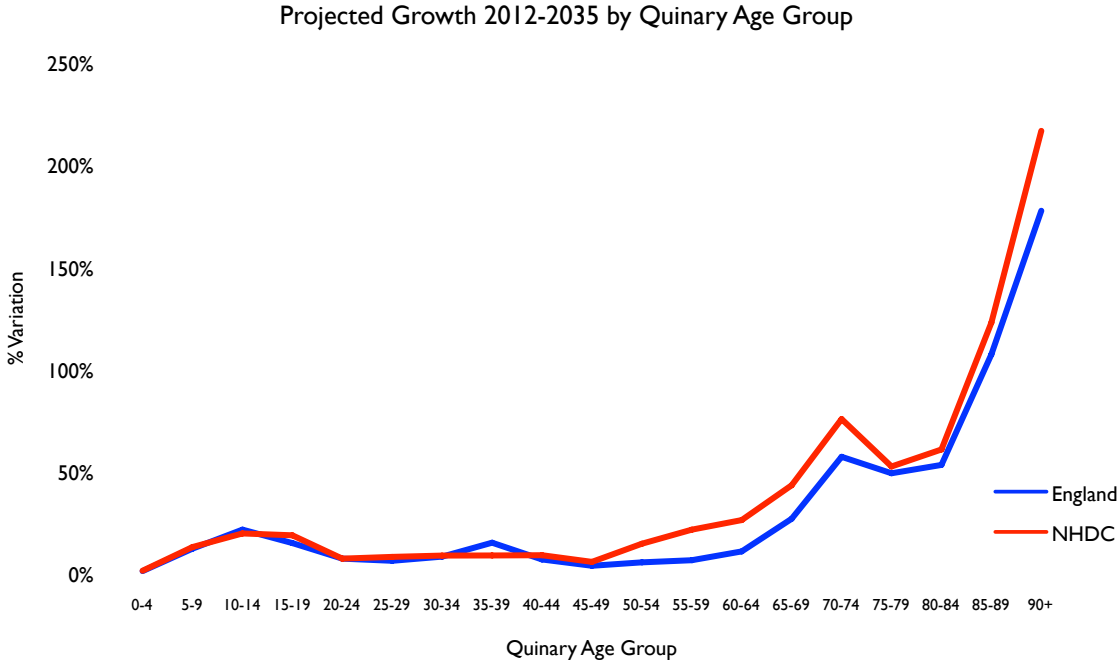


Figure 1 I: Comparison of projected growth by quinary age group between 2012 and 2035

This chart further illustrates that in North Hertfordshire there is expected to be a greater increase in the proportion of the elderly population by 2035 than in England as a whole.

Age structure is important due to its link with mortality rates and numbers of deaths.

Mortality rates

The charts below illustrate the link between age and death rates:

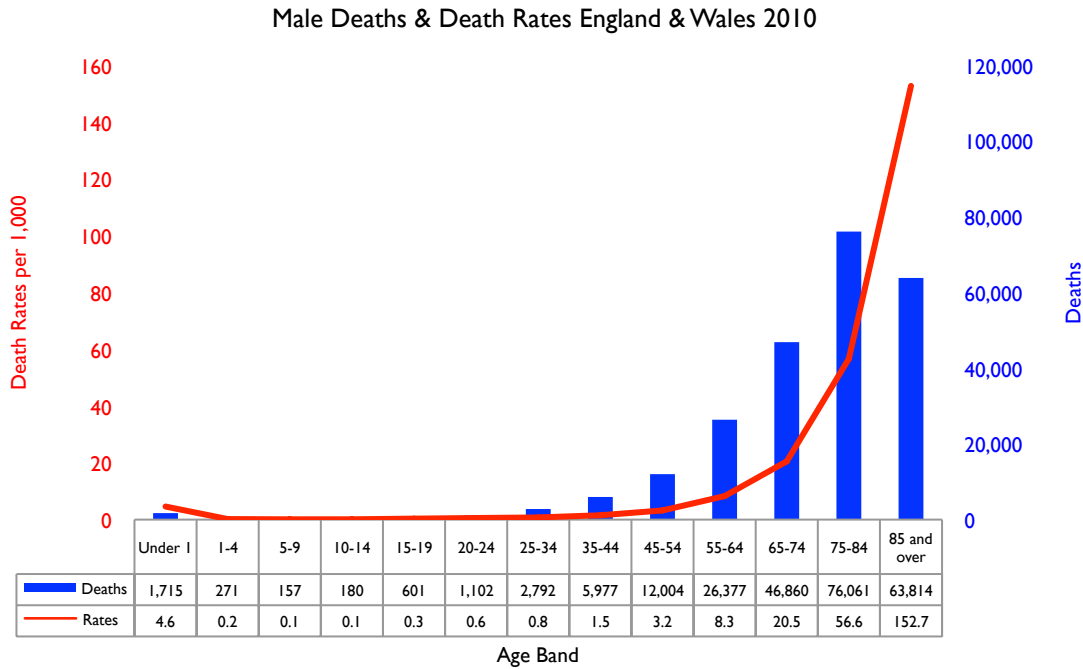


Figure 12: Male deaths and death rates in 2010 by age band

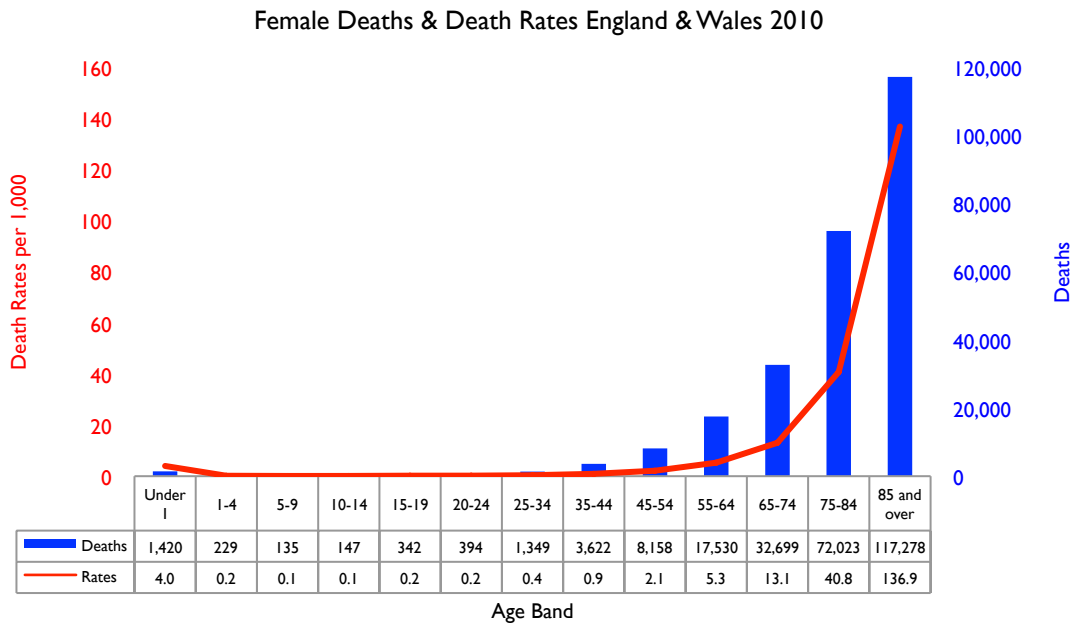


Figure 13: Female deaths and death rates in 2010 by age band

These graphs illustrate the clear link between age and mortality rate, i.e. the older one gets the more likely one is to die.

The chart below illustrates ONS 2010-based projections for numbers of deaths from 2012 to 2035.

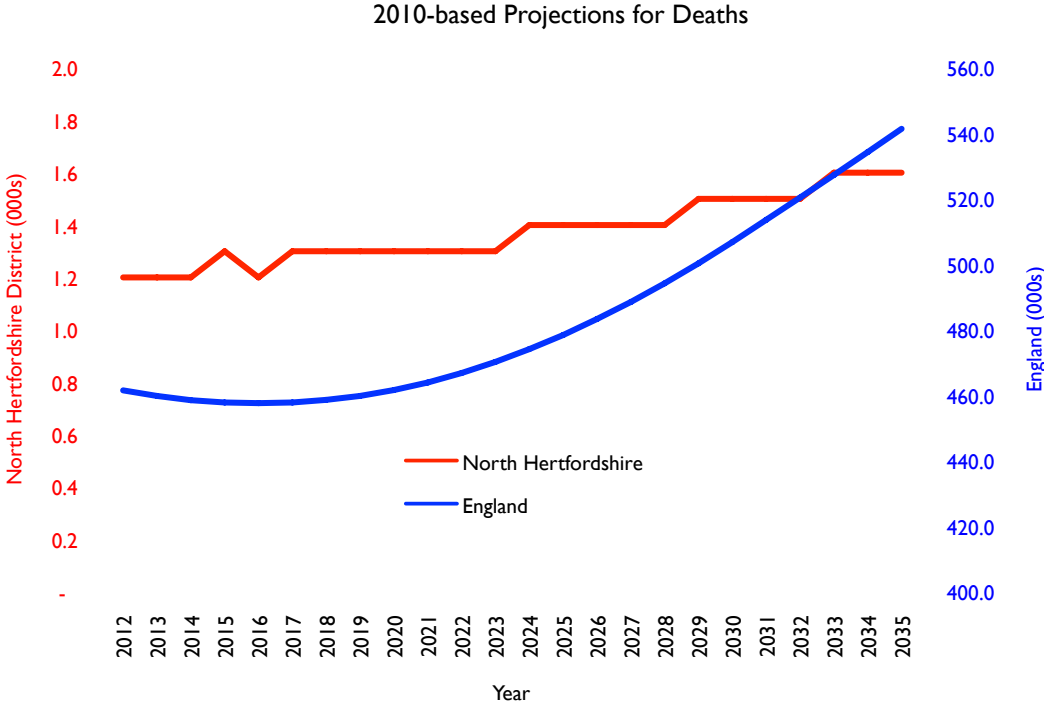


Figure 14: (2010-based ONS) Projected Annual Deaths 2012 – 2035

There is expected to be an increase of approximately 400 deaths per year within North Hertfordshire by 2035, representing a significant 33% increase on current levels. If realized, this increase will significantly increase demand for both burial and cremation facilities locally.

Across the UK as a whole, deaths are generally declining and predicted to continue to do so until about 2021.

However, looking further forward they are predicted to increase significantly, as illustrated in the ONS chart below.

Figure 3.2
Actual and projected births and deaths, 1951–2083
United Kingdom

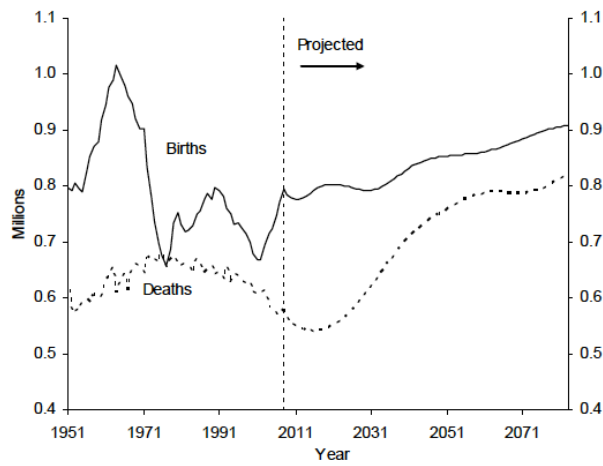


Figure 15: Actual and Projected Birth and Deaths in UK (1951-2081)

It can be seen that the number of deaths nationally is expected to rise quite dramatically from about 2016.

Religion

Religious belief can play a significant role in people's choice between burial and cremation. Demand for burial and cremation facilities may thus be influenced by the religious beliefs of the residents of a particular area.

Forbid Cremation	Permit Cremation
Muslims	Hindus
Jews – Orthodox	Buddhists
Greek Orthodox	Sikhs
Russian Orthodox	Roman Catholic
Zoroastrians	Jews – Liberal
Parsees	Church of Scotland
	Church of England
	Church in Wales
	Church of Ireland
	Presbyterians
	Methodists

Figure 16: Religious Attitudes towards Cremation (Source: Cremation Society of Great Britain)

The vast majority of Hindus, Buddhists and Sikhs all choose cremation in preference to burial. In contrast, Muslims and Orthodox Jews choose burial. An area with a high proportion of Muslims is thus going to have lower demand for a crematorium than one with a high proportion of Hindus, Buddhists and Sikhs.

The majority of Roman Catholics still seem to prefer burial, in spite of a Papal edict in July 1963 that stated that they are permitted to choose cremation.

The most recent data on religious belief is contained in the Census 2011.

The charts below illustrate the Census 2011 data and compare the religious beliefs of the population of North Hertfordshire with England as a whole.

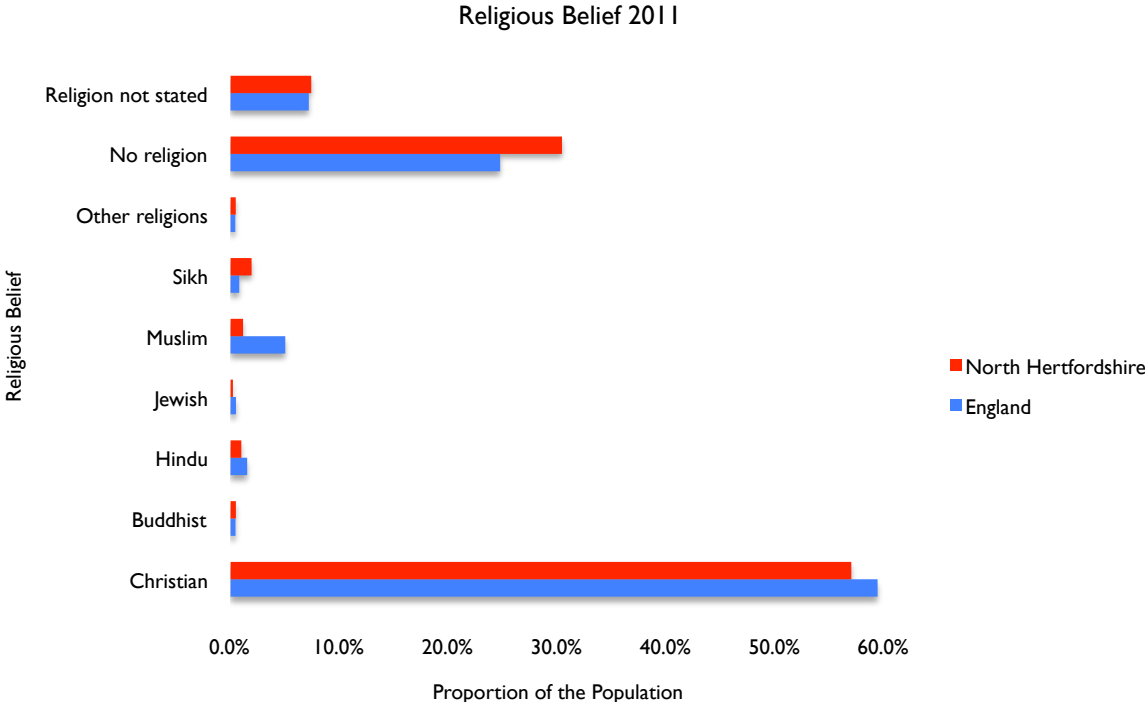


Figure 17: Religious belief comparison 2011

North Hertfordshire has a similar high proportion of people describing themselves as Christian compared to the whole of England, but more indicating no religious belief.

The chart below excludes Christian.

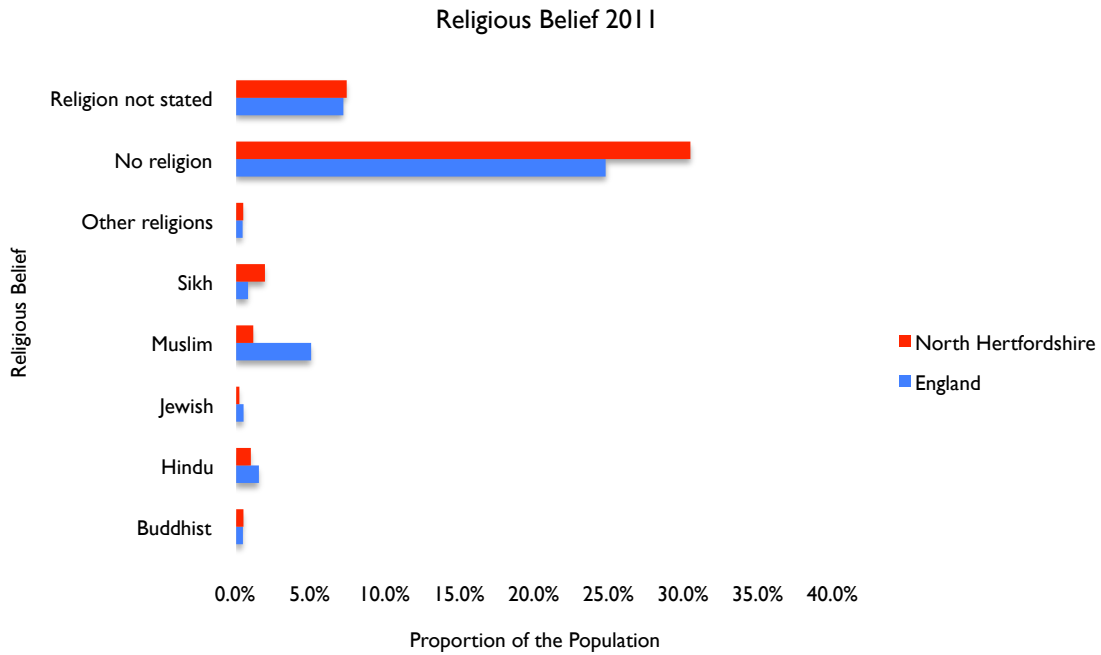


Figure 18: Religious belief comparison 2011 – excluding Christianity

The chart below includes only the minority religious beliefs.

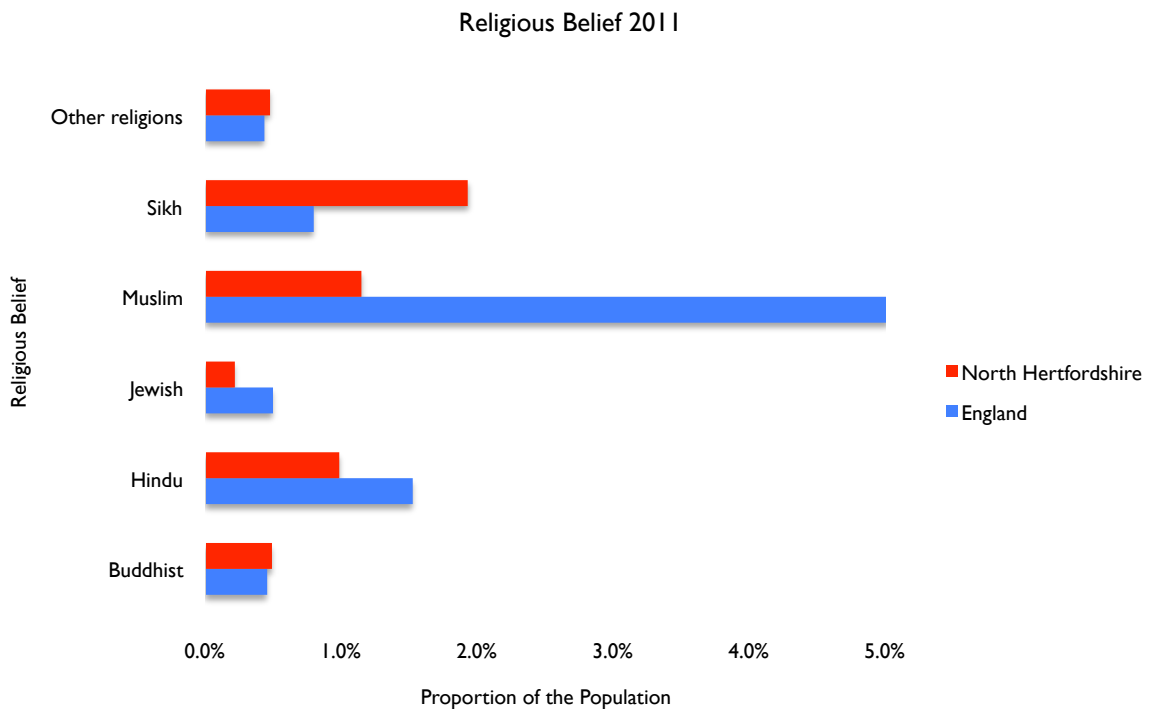


Figure 19: Religious belief comparison 2011 – minority faiths

North Hertfordshire has a higher proportion of Sikhs, a lower proportion of Hindus and Jews and a significantly lower proportion of Muslims than the whole of England.

The chart below uses the data relating to minority religious beliefs to indicate their likely impact upon people's choice of burial or cremation.

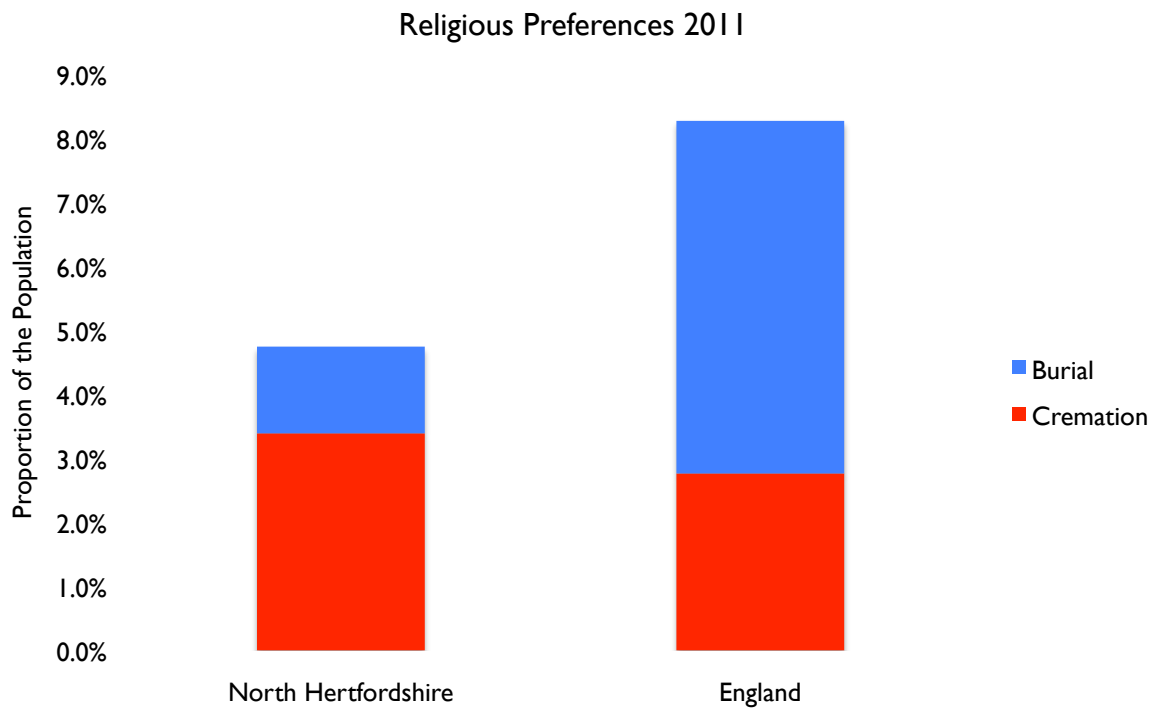


Figure 20: Religious preferences for burial and cremation comparison 2011 – minority faiths

Compared with England as a whole (2.8%), the proportions of minority religious beliefs preferring cremation are higher in North Hertfordshire (3.4%).

Ethnicity

Ethnic origin, like religious belief, can influence people's choice of burial or cremation, for example Black Caribbean people tend to prefer burial through their generally Christian background; Bangladeshi people prefer burial, as they are generally Muslim.

The full analysis of data from the Census 2011 is not yet available, however Census 2001 results for England and Wales illustrate the link between ethnicity and religion.

The table below shows the proportions of Muslims, who prefer burial, by ethnic group with the majority being Pakistani:

White British	Other White	Mixed	Indian	Pakistani	Bangladeshi	Other Asian	Black African
4.1%	7.5%	4.2%	8.5%	42.5%	16.8%	5.8%	6.2%

Figure 21: Muslims by Ethnic Group (Census 2001)

The table below shows the religious beliefs of people in the Indian ethnic group, with the largest proportions being Hindus and Sikhs, who prefer cremation:

Christian	Buddhist	Hindu	Muslim	Sikh	Jewish	Other
4.9%	0.2%	45.0%	12.7%	29.1%	0.1%	1.7%

Figure 22: Indians by Religion (Census 2001)

The table below shows the religious beliefs of people in the Black African ethnic group, with the largest proportion being Christian:

Christian	Buddhist	Hindu	Muslim	Sikh	Jewish	Other
68.9%	0.1%	0.2%	20.0%	0.1%	0.0%	.2%

Figure 23: Black Africans by Religion (Census 2001)

The most recent data on ethnicity is contained in the Census 2011.

The charts below illustrate the Census 2011 data and compare the ethnicity of the population of North Hertfordshire with England as a whole.

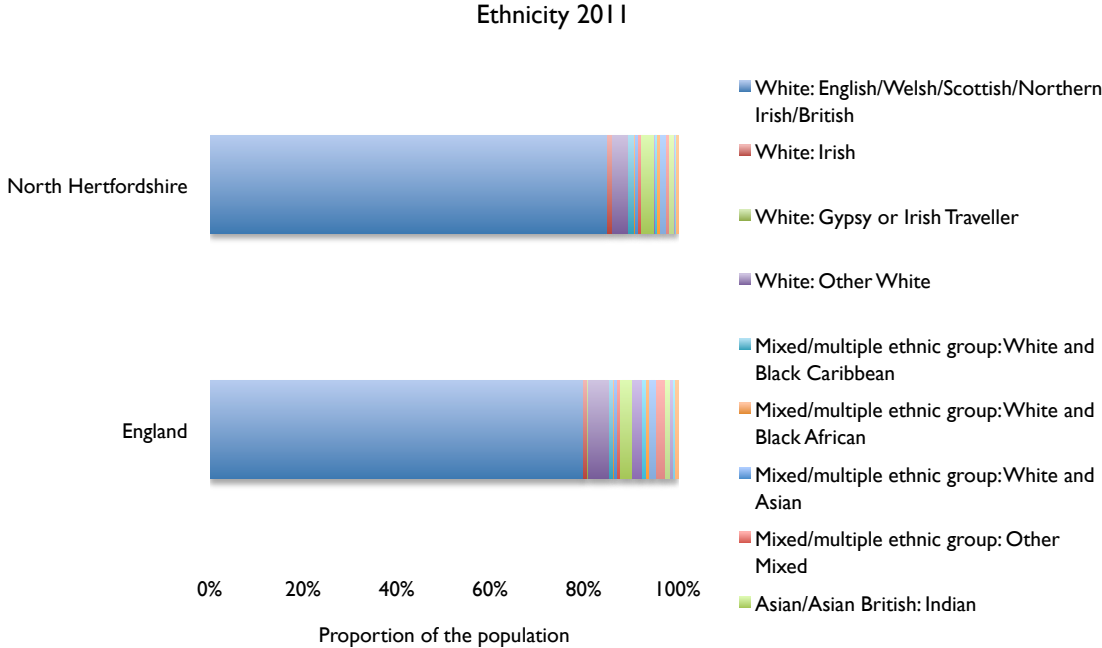


Figure 24: Ethnicity comparison 2011

North Hertfordshire has a slightly higher proportion of people of the White English/Welsh/Scottish/Northern Irish/British ethnic group than the rest of England.

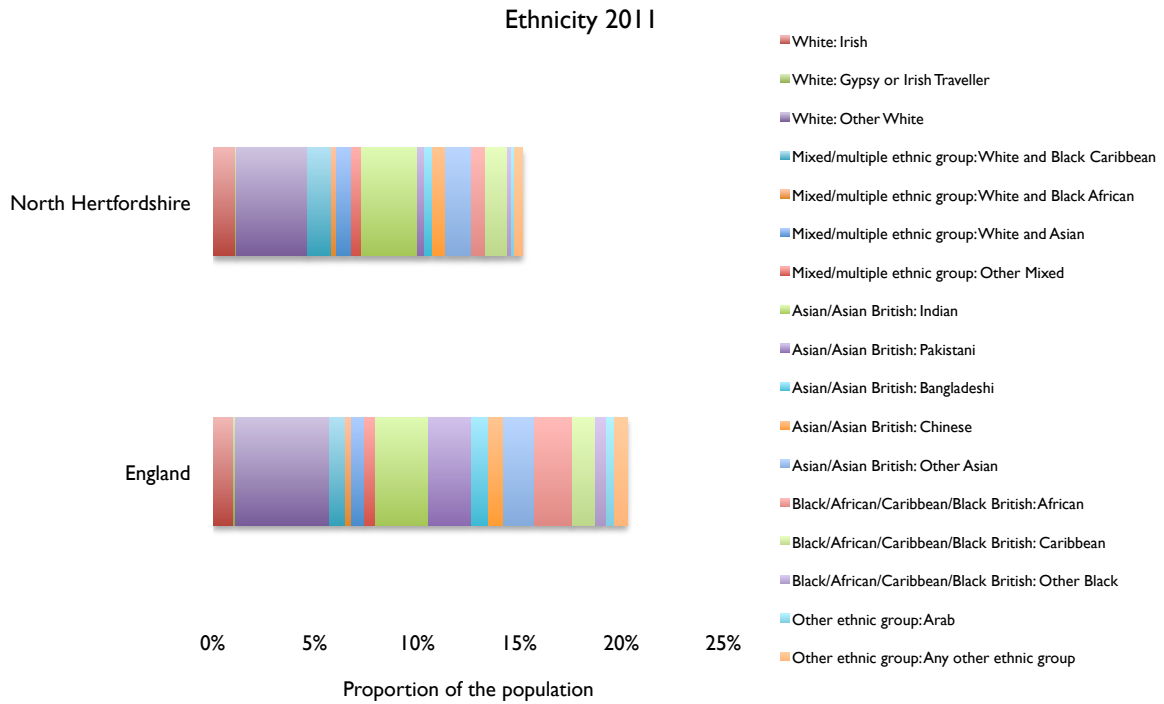


Figure 25: Ethnicity comparison 2011 – excluding White British

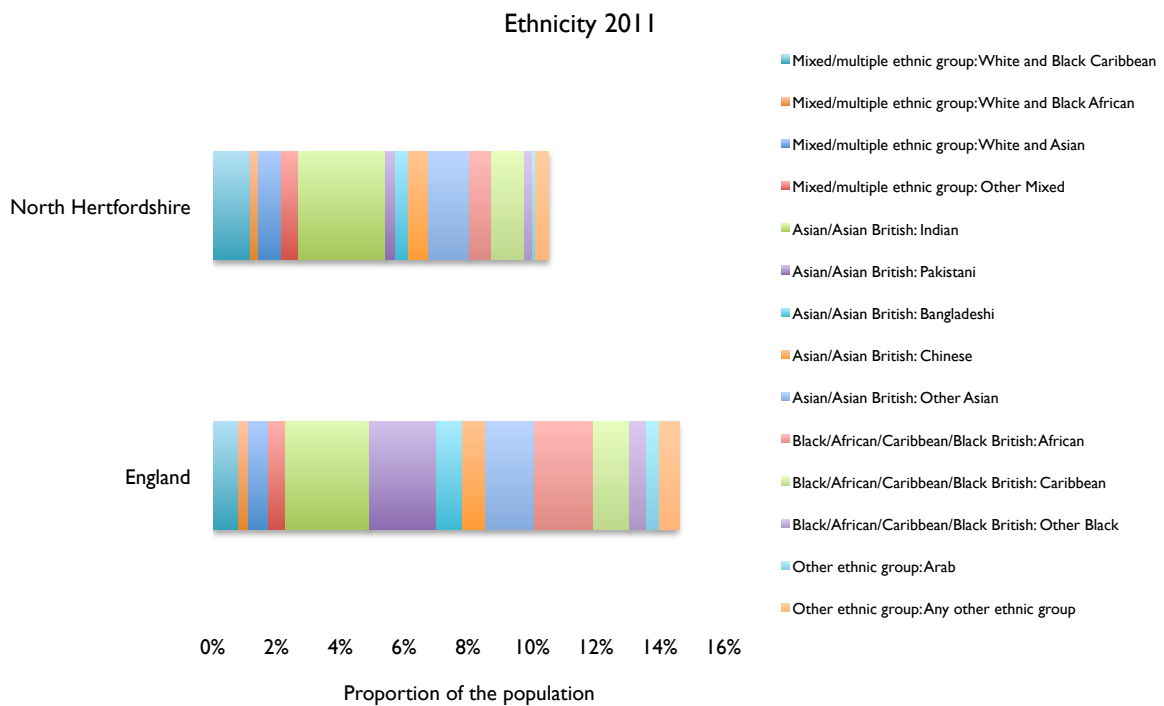


Figure 26: Ethnicity comparison 2009 – Black, Asian & Minority Ethnic (BAME) Groups

The most significant differences between North Hertfordshire and England as a whole are lower proportions of Asian or Asian British Pakistanis, Asian or Asian British Bangladeshis, who due to the culture and religious beliefs are much more likely to prefer burial to cremation.

This is likely to slightly increase the proportion of the population of North Hertfordshire who, based upon ethnic group, would prefer cremation.

Impact of a new Wilbury Hills Crematorium upon existing crematoria

The charts below illustrate the impact upon cremations at existing crematoria in different localities following the opening of one or more new crematoria.

They show cremation numbers at a number of crematoria before and after the opening of new ones. All the charts include a line representing the total combined cremations at all crematoria featured. In some of the charts the total combined cremations decline over the periods shown. This should be seen within the context of the current period of falling UK deaths rates and numbers.

The significant effects of the opening of new crematoria are:

- Some existing crematoria lose significant numbers of cremations.
- Some existing crematoria suffer little impact upon their business.
- In some cases, new crematoria have actually increased the total combined cremations in an area.

Where crematoria lose significant numbers of cremations, there is clearly a negative impact upon their income. However, there are two potential benefits:

Where a busy crematorium suffers a loss in cremation numbers, it can be an opportunity to increase the quality of service offered. This can most readily be achieved by increasing the service interval time, which gives each of the funerals that it retains more time and space so appreciated by mourners.

The need for existing crematoria to comply with legislation requiring the installation of flue gas treatment plant requires significant capital investment. It usually coincides with the need to replace existing cremators that are approaching the end of their serviceable lives. Reduced cremation numbers means that less cremators are required and changes in operational practices can lead to significant savings in energy usage and emissions of CO².

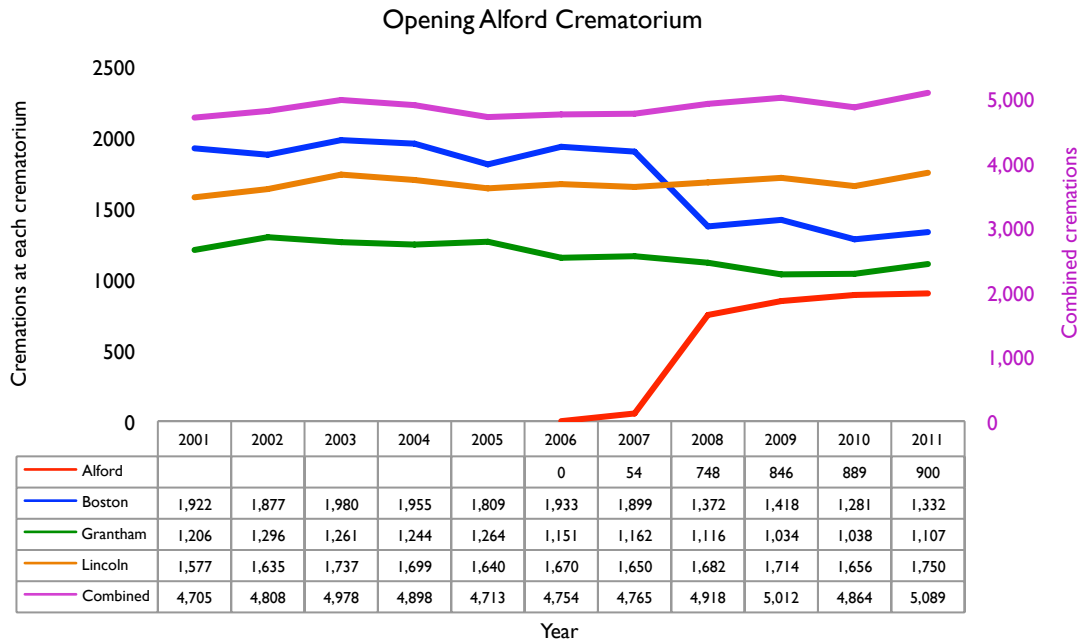


Figure 27: Opening Alford Crematorium

Boston Crematorium lost 30% of its cremations to the new Alford Crematorium.

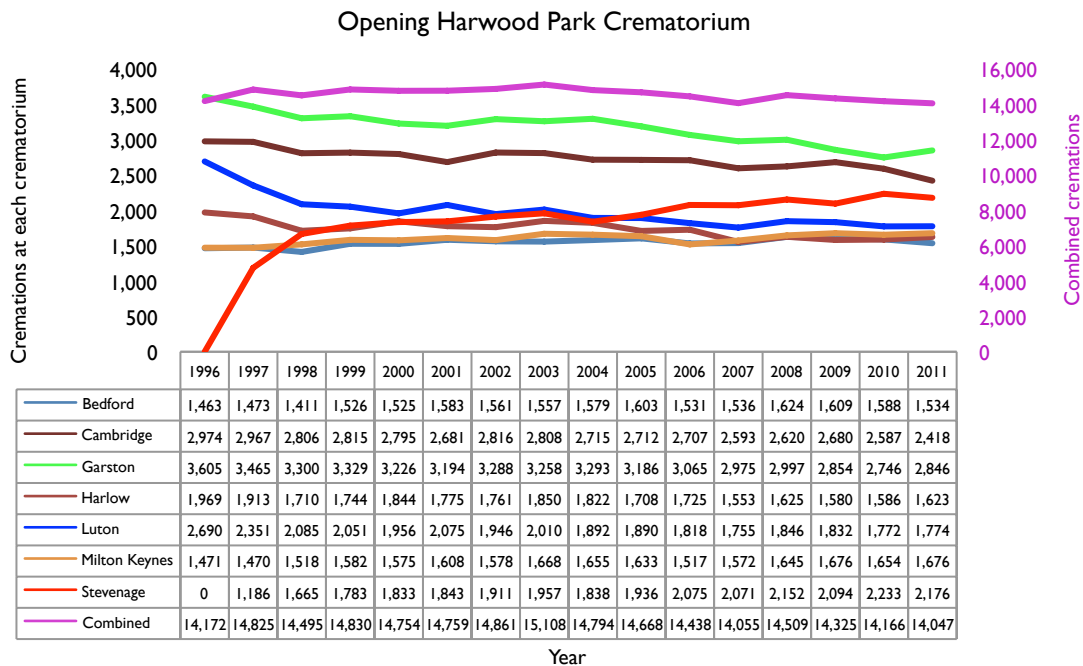


Figure 28: Opening Harwood Park Crematorium

Luton lost 23% of its cremations between 1996 and 2001 due to Harwood Park Crematorium, whilst Cambridge, Garston (Watford) and Harlow all lost 10%.

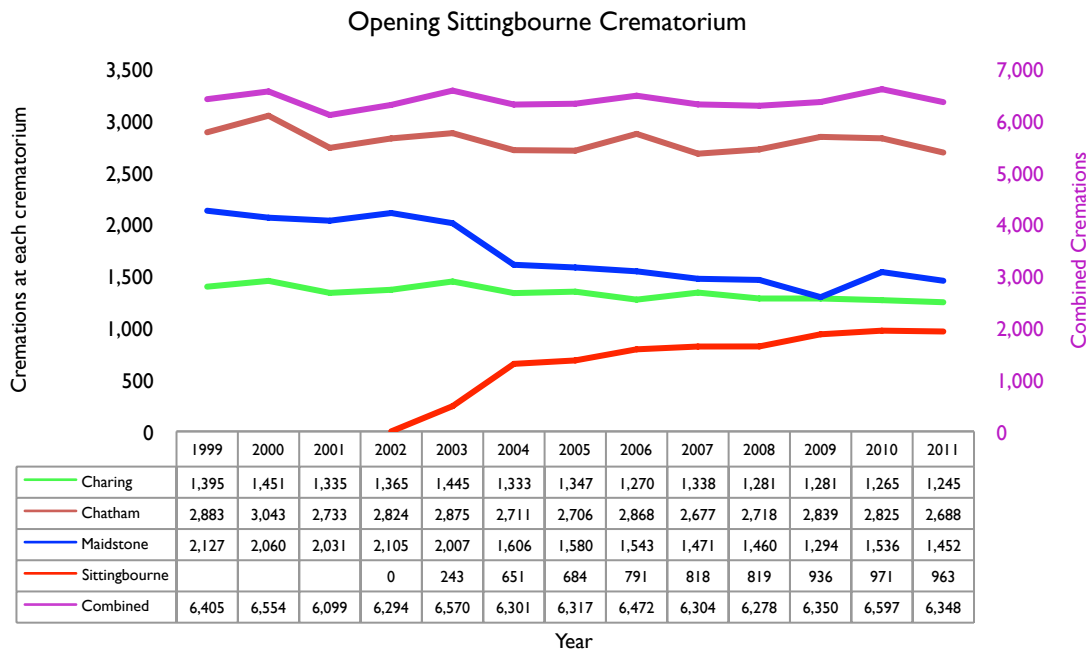


Figure 29: Opening Sittingbourne Crematorium

Maidstone lost 30% of its business between 2002 and 2007 due to the new crematorium.

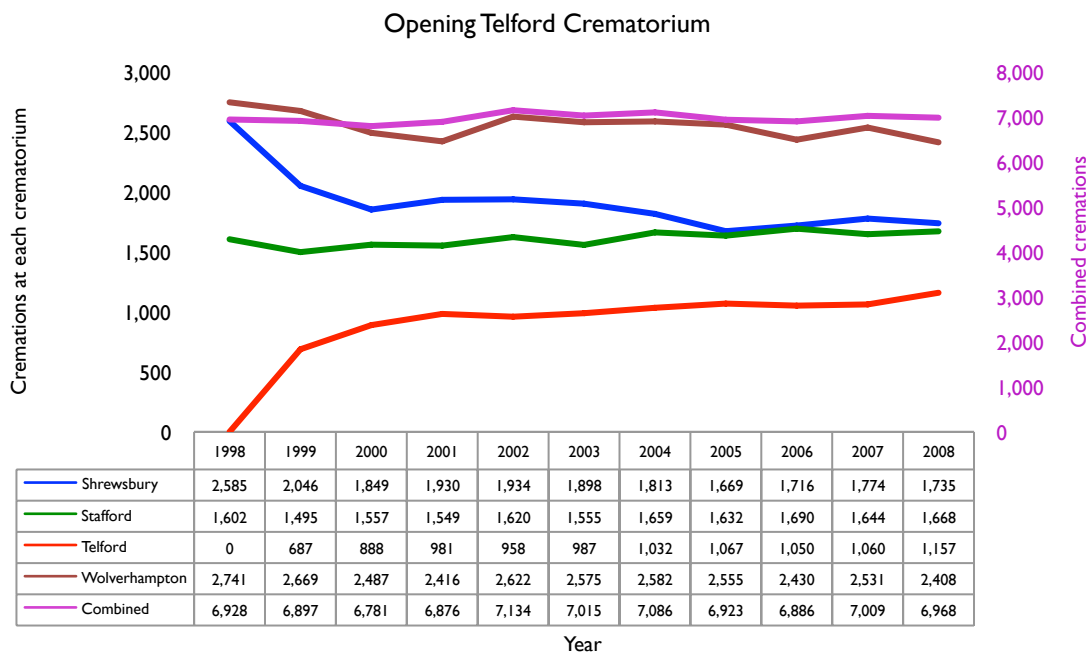


Figure 30: Opening Telford Crematorium

Shrewsbury lost 36% of its business between 1999 and 2004 due to the new crematorium.

There is no doubt that a new crematorium at Wilbury Hills would affect business at existing crematoria at Luton and Stevenage through its use by residents of Hitchin, Letchworth and Baldock. It would also affect Cambridge Crematorium if used by residents of Royston.

The Competition Appeal Tribunal Case No. 1044/2/1/04 Judgment of 6th July 2005 provides useful information about the catchment areas of crematoria and is particularly useful in that it concerns Harwood Park Crematorium at Stevenage. It states:

195 However, it appears to be common ground that, as with funeral directing services, consumers have a strong preference to use local crematoria services, on grounds of convenience. Paragraph 41 of the Decision accepts that "most cremations take place at the nearest crematorium to the deceased". That is fully supported by Annex 2(A) to the Decision, which shows for 2002 details of the cremations carried out by the respective branches of Austins, Burgess and the Co-op in Stevenage/Knebworth situated between 3 and 5 kilometres from Harwood Park. On the assumption that those three branches handled virtually all the cremations arising from deaths in the Stevenage/Knebworth area in 2002, it appears that about 95 per cent of cremations arising in that area were carried out at Harwood Park.

196. The same pattern appears as regards funeral directors in other areas. Thus, according to figures in Annex 2A of the Decision – based, sufficiently in our view, on a survey of local funeral directors representing 75 per cent of funerals carried out at Harwood Park – in 2002 the proportion of cremations carried out at the nearest crematorium by funeral directors operating in the following towns were as follows:

Town	Nearest Crematorium	Proportion of cremations at nearest crematorium
Ware	Harwood Park	66
Welwyn Garden City	Harwood Park	73
Letchworth	Harwood Park	74
Buntingford	Harwood Park	75
Hatfield	West Herts	78
Hertford	Harwood Park	82

221. ...Harwood Park increased its prices by 55% between 1998 and 2003, as compared with price increases of 32% by the other crematoria. Over the same period Harwood Park increased its number of cremations by 17.5%, as compared with -15% to +8% for the other crematoria.

221. While we accept that such figures need to be interpreted with caution, they do tend to show that Harwood Park does indeed have market power, in that it has apparently been able to increase its prices faster than other crematoria without losing cremations, and in fact increasing the number of cremations carried out.

225. In the present context the above evidence in our view strongly supports the conclusion that Harwood Park is shielded from competition to a material extent and operates in an identifiably separate geographic market.

246. Within the Stevenage/Knebworth area Harwood Park carries out over 90 per cent of the cremations arising in that area. A market share of that order is, in itself, indicative of dominance. As we have already found, there is little realistic choice of alternative crematoria for persons resident in that area.

247. In addition: (i) Austins has accepted that Harwood Park is to all intents and purposes exclusive in its catchment area; (ii) there are insurmountable barriers to entry, since there is no realistic prospect of another crematorium being opened within the catchment area of Harwood Park, let alone in Stevenage/Knebworth; and (iii) Harwood Park has been able to increase its prices further than its competitors, while continuing to increase the number of cremations.

The Funeral Director is in a position to provide advice to his clients and thus exert some limited influence upon their choice of crematorium. There may also be cultural factors affecting choice. For example, residents of Royston might prefer to continue to use the crematorium at Cambridge rather than a new one in Wilbury Hills.

The charges made by the crematorium can also be relevant. As the Competition Tribunal found, Harwood Park dominates within its catchment area. This is also supported by the fact that the cremation fee charged by Harwood Park in 2012, £730, is the third highest in the whole of the UK.

The table below lists the existing crematoria listed in the earlier tables concerning travel distances, with their prices and price ranking in the UK, according to the Cremation Society of Great Britain,

Crematorium	Cremation fee	Price ranking in the UK
Harwood Park	£730.00	3 rd
Milton Keynes	£672.00	29 th
Luton	£640.00	56 th
Cambridge	£597.50	94 th
Harlow	£575.00	134 th
Bedford	£567.00	149 th
Garston	£500.00	231 st

Figure 3 I: Cremation fees and ranking by price

It is therefore likely that, whilst a new Wilbury Hills Crematorium would attract funerals primarily on the basis of its proximity to some areas of the population, it would not be difficult to charge a fee that is much more attractive to customers than that charged by Harwood Park and yet still provide enough income to make the project financially viable.

Estimating Demand at Wilbury Hills Crematorium

So far this report has given an indication that a new crematorium located at Wilbury Hills would fit in with historic and current trends of attracting funerals through its location convenient to people living in North Hertfordshire. This population is projected to rise with a consequent rise in the number of deaths.

In 2011, the ONS record that there were a total of 1,203 registered in North Hertfordshire.

This figure does not necessarily mean that 1,203 residents of North Hertfordshire died in 2011 as:

- some deaths registered within North Hertfordshire may have been those of non-residents who died within the District
- some residents of North Hertfordshire may have died, and their deaths registered, outside of the District

However, in the absence of detailed research and analysis, this is a reasonable figure to form the basis of estimates of cremations.

The average cremation rate for England in 2011 was approximately 78% of deaths. Applying this average rate to 1,203 deaths indicates that there were approximately 938 cremations originating in North Hertfordshire.

A new crematorium within North Hertfordshire is unlikely to attract 100% of the cremations in the District due to the various factors already discussed that influence people's choice of crematorium.

However, the location at Wilbury Hills is within a shorter travel time from many populated areas within the District than existing crematoria outside of the District.

Detailed isochrones would indicate with some accuracy the areas of the District lying within say, 20 minutes travel time. These could then be used to predict with reasonable accuracy

the population that would find it more convenient to travel to Wilbury Hills Crematorium than any other.

However, the new crematorium would attract most cremations from the urban areas within the immediate vicinity, i.e. Hitchin, Baldock and Letchworth. The detailed data from the Census 2011 is not yet available, but the Census 2001 gives the population of the wards associated with these towns as follows:

Ward	Population 2001
Baldock East	2,436
Baldock Town	7,431
Hitchin Bearton	7,000
Hitchin Highbury	6,950
Hitchin Oughton	4,953
Hitchin Priory	4,774
Hitchin Walsworth	7,175
Letchworth East	6,910
Letchworth Grange	6,472
Letchworth South East	6,752
Letchworth South West	7,363
Letchworth Wilbury	5,433
Total population	73,649

Figure 32: Population of urban areas neighbouring Wilbury Hills

The total population of North Hertfordshire in the Census 2001 was 116,908. These urban wards close to Wilbury Hills thus represented approximately 63% of the population of NHDC.

Based upon the proximity of this population, it is reasonable to suggest that, as a minimum, 60% of the cremations originating in North Hertfordshire would use the new Wilbury Hills Crematorium.

Applying this 60% figure to the 938 cremations, derived from applying the England average cremation rate to the numbers of deaths, gives approximately 560 cremations per year at the new Wilbury Hills Crematorium. This would equate to an average of just over 2 funerals per day Monday to Friday.

In my view, this is a very conservative estimate of the likely cremation numbers at the new crematorium.

A figure of 75% of the cremations originating within North Hertfordshire would in my view be more reasonable to expect to use a crematorium at Wilbury Hills. This gives a potential of approximately 700 cremations per year at the new crematorium. This would equate to an average of nearly 3 funerals per day Monday to Friday.

These estimates are based upon current levels of population and deaths, which this report has shown are projected to increase significantly in future years.

Either scenario would enable the new crematorium to provide a high quality service to mourners through having a 60-minute service interval. This service interval is provided by the Sittingbourne Crematorium, which undertook 963 cremations in 2011, an average of nearly 4 per day Monday to Friday.

This service interval time would give mourners a sense of space and privacy. Combined with location, quality of service and competitive pricing this feature would encourage people to use the new crematorium in preference to other existing ones.

Capital investment required

The typical costs of building a new crematorium are as follows:

Year built	Location	Private or Local Authority (L.A.)	Approximate Cost	Notes
2012	Bentley, Brentwood	Private	£4,000,000	
2011	Wyre Forest	Private	£4,300,000	
2011	Borders, Melrose	Private	£2,600,000	
2011	Barry	Private	£3,200,000	
2011	East Devon	Private	£4,000,000	
2011	Mendip	Private	£2,000,000	
2010	Camborne	Private	£2,500,000	
2010	Nacton	Private	£1,700,000	
2010	Fenland	Private	£2,000,000	
2010	West Lothian	Private	£2,750,000	
2009	Wessex Vale	Private	£3,450,000	
2009	Three Counties	Private	£3,000,000	
2009	Hereford	L.A.	£3,000,000	Replacement build
2009	Wear Valley	Private	£3,500,000	
2007	Chorley	Private	£2,000,000	
2007	Bury	Private	£3,000,000	
2006	Blantyre	L.A.	£4,000,000	
2006	Thatcham	Private	£1,200,000	
2005	Ollerton	Private	£2,000,000	
2005	Dumfries	Private	£1,250,000	
2005	Redbridge	Private	£2,000,000	Includes cemetery
2004	Holytown	Private	£2,700,000	
2003	Sittingbourne	Private	£2,000,000	
2002	Llanelli	Private	£1,500,000	
2000	Coleshill	L.A.	£565,000	
2000	Telford	Private	£2,400,000	
1999	Moray	Private	£400,000	
1999	Howe Bridge	Private	£1,000,000	
1999	Banbury	Private	£800,000	
1998	Grenoside	Private	£2,750,000	
1998	Haltemprice	Private	£800,000	Chapel conversion
1998	Basingstoke	Private	£2,000,000	
1998	Basildon	Private	£2,000,000	
1997	East Riding	Private	£1,000,000	Excluding land
1997	Harwood Park	Private	£1,700,000	Excluding land
1996	West Wiltshire	Private	£1,250,000	
1995	Inverness	L.A.	£1,300,000	
1995	Nuneaton	Private	£1,400,000	
1994	Aberystwyth	Private	£700,000	
1993	Friockheim	Private	£580,000	
1992	Westerleigh	Private	£1,350,000	
1989	Bury St Edmunds	Private	£1,000,000	
1989	Bodmin	Private	£500,000	Excluding land

Figure 33: Typical costs of building a crematorium (Cremation Society of Great Britain)

These figures relate to the costs of building a new crematorium and in most cases include the costs of acquiring the land.

The table below illustrates a breakdown of the approximate costs of the elements involved in such a project:

Item	Approximate cost
Legal, architect & consultants	100,000
Planning fees	2,000
Site surveys & groundworks	75,000
Mains utilities	150,000
Drives & car parks	150,000
Building	1,700,000
Furniture, fixtures & fittings	75,000
Cremation equipment	475,000
Memoria garden	75,000
Total approximate cost	2,802,000

Figure 34: Approximate costs of building a new crematorium

This table excludes VAT and, most importantly, the cost of land.

The specific characteristics of each site and design will impact upon these cost estimates. For example, the location may mean that it is not feasible to connect to mains gas supplies and gas storage facilities will be required. Electrical and water supplies and sewerage disposal arrangements will also be site specific and impact upon costs.

The advantage of the Wilbury Hills site is that the land, access roads and building are already extant and the costs of developing a crematorium here are therefore significantly less than if it were simply an agricultural field.

Conversion of the existing chapel.

Advantages

1. Suitability of the building

The building is of contemporary design, is in a good state of repair and has an immediately adjacent space for an extension to house the cremation equipment.

I attach a drawing illustrating how a new cremator with flue gas treatment plant and associated equipment could be fitted into the identified space.

2. Lower cost to convert the existing building than to build a new crematorium.

The relatively small extension to the building would require expenditure on design, planning and construction and would need to blend in with existing style and materials of the existing building. However, such costs must logically be significantly less than a complete new-build and I estimate as follows:

Item	Estimate
Legal, architect & consultants' fees	25,000
Planning fees	300
Site surveys and groundworks	15,000
Mains gas & electricity	150,000
Drives & car parking	30,000
Building	100,000
Furniture, fixtures and fittings	
Cremation equipment	475,000
Memorial garden	75,000
Total approximate cost	870,300

Figure 35: Approximate estimated costs of converting Wilbury Hills Chapel to create a crematorium

This table excludes VAT.

Disadvantages

I. Proximity to houses

The building lies within 200 yards of residential properties. The Cremation Act 1902 section 5 states:

No crematorium shall be constructed nearer to any dwelling-house than two hundred yards, except with the consent, in writing, of the owner, lessee, and occupier of such house, nor within fifty yards of any public highway, nor in the consecrated part of the burial ground of any burial authority.

In my opinion, it is extremely unlikely that the residents of the affected houses would give their consent to the development. Applications to build crematoria normally generate very negative reactions from the public and the individual property owners within the 200 yard limit would face huge pressure to refuse consent from opponents of the scheme.

2. Size

The existing building has a smaller chapel than one would expect to find at a modern crematorium. It currently has the capacity to seat approximately 50 people.

The 'Recommendations on the Establishment of Crematoria' published and routinely update by the Federation of Burial and Cremation Authorities (FBCA) states:

It is estimated that no more than thirty mourners will attend in 50% of cremation services, and only on exceptional occasions does the number exceed eighty. It seems, therefore, that seating accommodation should be provided for some 80-100 people. A chapel of this size will accommodate the majority of services without destroying that intimate atmosphere so desirable with a smaller congregation.

The average seating capacity at UK crematoria is 100.

It is reasonable to expect a new crematorium building to extend to 450m². I estimate that the existing Wilbury Hills Chapel building plus a crematory extension would extend to a

maximum of only 300m². This would therefore suggest that the final extended building would be a maximum of only 65% the size of a new build crematorium.

3. Adaptability

The building was not designed to be a crematorium. The creation of a new extension large enough to accommodate cremation equipment is feasible, but there is insufficient space to incorporate a committal room. This is standard at crematoria and provides a valuable sound barrier between the chapel and the crematory. The cremation equipment itself generates noise during operation and the process of charging a coffin and the need to use steel rakes to rake out the cremated remains generates short-lived but significant noise that would readily transmit to the chapel.

The best means to minimize the environmental impact of cremation is to cremate coffins consecutively and minimize the number of occasions when the cremator is started from cold. The storage of coffins after the day of the cremation service facilitates such operation. However, the existing chapel building has insufficient space to create a coffin storage area.

4. Parking

There are currently 18 marked car parking spaces set at the sides of the roadway. Whilst it would be possible for additional cars to park on the roadways, vehicle numbers attending a typical cremation could lead to congestion, which would also impact upon cemetery

The FBCA recommends:

An adequate car park is essential, and should be placed as near to the chapel as possible but having regard to the necessity to avoid disturbance by noise. The size can be estimated by equating it to approximately two thirds of the total seating capacity of the chapel.

It would therefore be desirable to have at least 60 designated car parking spaces at Wilbury Hills.

Conversion versus new build

I have provided estimated costs for both converting the existing building and for building a new crematorium on the site.

As stated earlier in this report, in my view a crematorium located at Wilbury Hills would attract a minimum of 700 funerals per year. A competitive cremation fee of £650 would bring in annual income of £455,000, with additional income generated from memorial sales. Subject to the costs of capital funding, this level of income is likely to make the project financially viable.

I estimate the costs of converting the existing building to be approximately £870,300, and the cost of building an entirely new crematorium within the cemetery to be approximately £2,802,000.

Whilst there are advantages in converting the existing building, in my view the additional advantages of a completely new purpose-built crematorium are much greater. A crematorium development is a long-term project. A cemetery chapel conversion will always be a compromise solution compared to a specifically designed new crematorium building.

It is likely that the site for a new crematorium building at Wilbury Hills might lie within consecrated ground. Subject to the agreement of the Church of England, this could be deconsecrated to enable compliance with the Cremation Act 1902 s.5 prohibition.

Development options

Subject to raising appropriate capital funding, North Hertfordshire District Council could either convert the existing chapel or build a new crematorium and operate it directly. The Council's finance officers should be consulted regarding the viability of this option, which offers to provide significant long-term income from cremation and memorial fees to the Council.

There are a number of alternative potential options involving the private sector, which could be explored through soft marketing.

In my view, the option that provides the best option for the Council would be to facilitate the development and operation of a new crematorium on the site by the specialist private sector.

The Council would lease approximately 5 acres of the Wilbury Hills Cemetery on a long-term lease, e.g. 75 years.

The private sector would design and build the new crematorium, including new car parking and a memorial garden.

The private sector would own and operate the crematorium on a commercial basis without any Council control or interference.

The Council would benefit from this arrangement by not only having a crematorium built at no public expense, but also through income from the company. Typically the company would pay the Council:

£20,000 per year lease on the land for the duration of the lease – linked to the Retail Price Index

5% of income from all cremations at the crematorium, or limited to cremations over and above a set threshold, e.g. 5% of income received from all cremations after the first 500 per year.

The table below shows an example of the income to the Council that could be expected.

Item	Value
Annual total cremations	700
Annual cremation threshold	500
Cremations subject to 5% payment	200
Cremation fee per cremation	£650
Cremation income payable to Council	£6,500
Annual Lease	£20,000
Total annual payment to Council	£26,500

Figure 36: Example of income to the Council from a private crematorium operator

The income received would increase in line with R.P.I., cremation numbers and cremation fee. The details of such an agreement would obviously be subject to negotiations with potential private sector crematorium operators.