APP/D3830/W/21/3266563

OUTLINE APPLICATION FOR SINGLE CHAPEL CREMATORIUM WITH A SINGLE ABATED CREMATOR AND NATURAL BURIAL SITE WITH ASSOCIATED ACCESS, CAR PARKING, LANDSCAPING AND DRAINAGE. ALL MATTERS RESERVED APART FROM ACCESS

AT

LAND NORTH OF TURNERS HILL ROAD, TURNERS HILL RH10 4PB

PROOF OF EVIDENCE OF MR JOHN DODSWORTH (NEED)

CD8.2

1 Qualifications and experience

1.1 My name is John Dodsworth. I gained a BA in Physics from the University of Oxford.

1.2 I have over forty years' experience in IT. After a spell with IBM (UK), I led a research group at the University of Leeds working on modelling 3D objects for design and manufacture. Co-founding Geomatrix in 1988, I designed and built one of the first GIS (Geographical Information Systems), Prospex, in the UK. In 1994, most of Geomatrix moved to York and founded Beacon Dodsworth Ltd (BD) of which I am Managing Director. We redeveloped Prospex and its supporting data to support our consultancy work.

1.3 My experience spans software development and consultancy in retail location, service distribution and transport studies. For example Transport Focus use Beacon Dodsworth's drive-time analysis in their surveys of road users. Our technology is also used for a travel expenses system in the NHS. The same analysis software was used in the Appeal APP/Z3825/A/14/2216102, West Grinstead (CD13.7).

1.4 I have no conflict of interest with any party involved.

2 Introduction, background and context

2.1 In this proof I will cover the qualitative need based on drive time analysis and crematorium capacity calculations. This will be by comparison of the Appellant's Crematorium Needs Assessment and my own analysis. I will also demonstrate how an alternative location could substantially satisfy a local qualitative and quantitative need. The impact of Covid-19 has not been considered.

Background

2.2 An application was made for the development of a new crematorium at Turners Hill in 2020 (DM/20/2877). The application was supported by a Crematorium Needs Assessment (CNA), by Peter Mitchell of Peter Mitchell Associates (PMA) (AD1.7).

2.3 An objection to the application and counter-statement dated 29/9/2020 was received by the Council from Clyde & Co acting on behalf of Dignity who operate two crematoria in the area (TP14.5a).

2.4 In September 2020 the Council asked Beacon Dodsworth to provide a critique of the CNA as experts in drive-time analysis, including previous experience of a crematorium planning application (APP/Z3825/A/14/2216102, West Grinstead, Horsham District Council, CD13.7).

2.5 In December 2020 the planning application was refused by Mid Sussex District Council.

2.6 Following the refusal of the development and subsequent appeal, I have prepared this proof of evidence to clarify and expand on the earlier critique.

2.7 In the preparation of this document I have reviewed

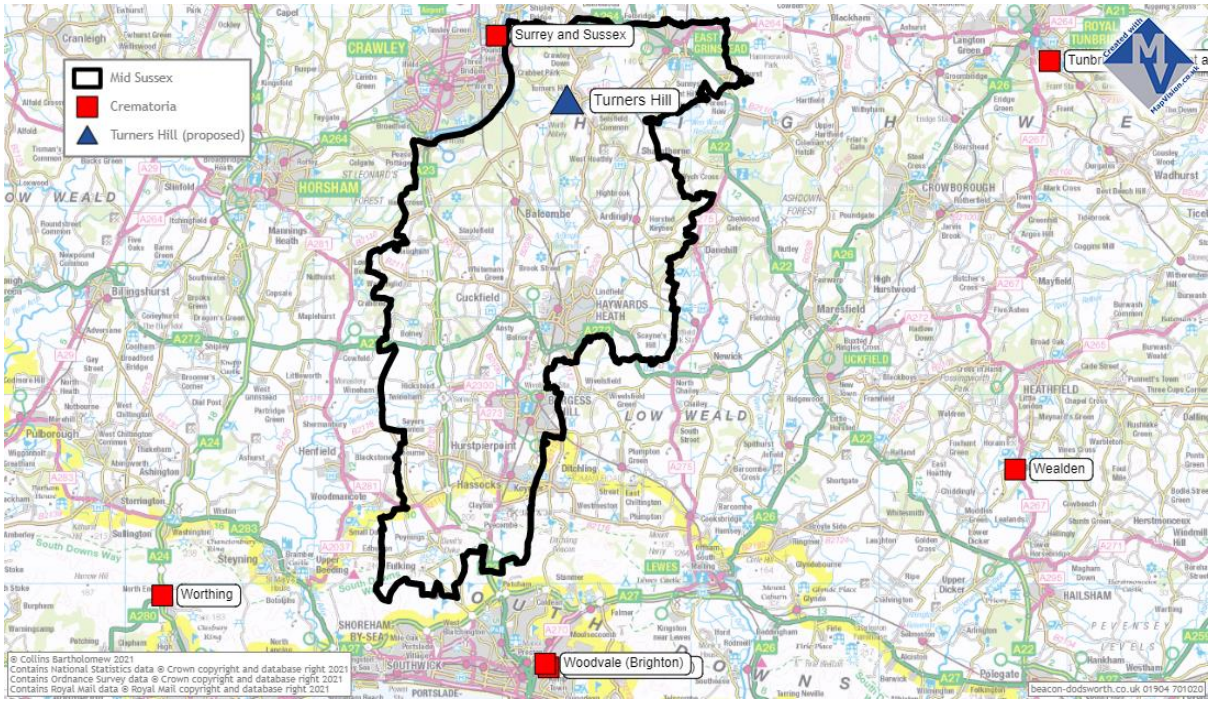
- the original CNA (AD1.7)
- various rebuttal comments and letters from the Appellant
- representations from Clyde&Co (29 September 2020, 7 October 2020, 15 March 2021)
- various referenced appeals referred to subsequently.

I have also revisited my analysis to provide more detailed tables and maps. I have also drawn on Competition and Markets Authority reports into the funeral market (the 2019 market study (CD11.21) and the 2020 market investigation (CD11.10 and CD11.10a). Finally, I have reviewed Cremation Society data on historical cremations (CD11.22).

Context

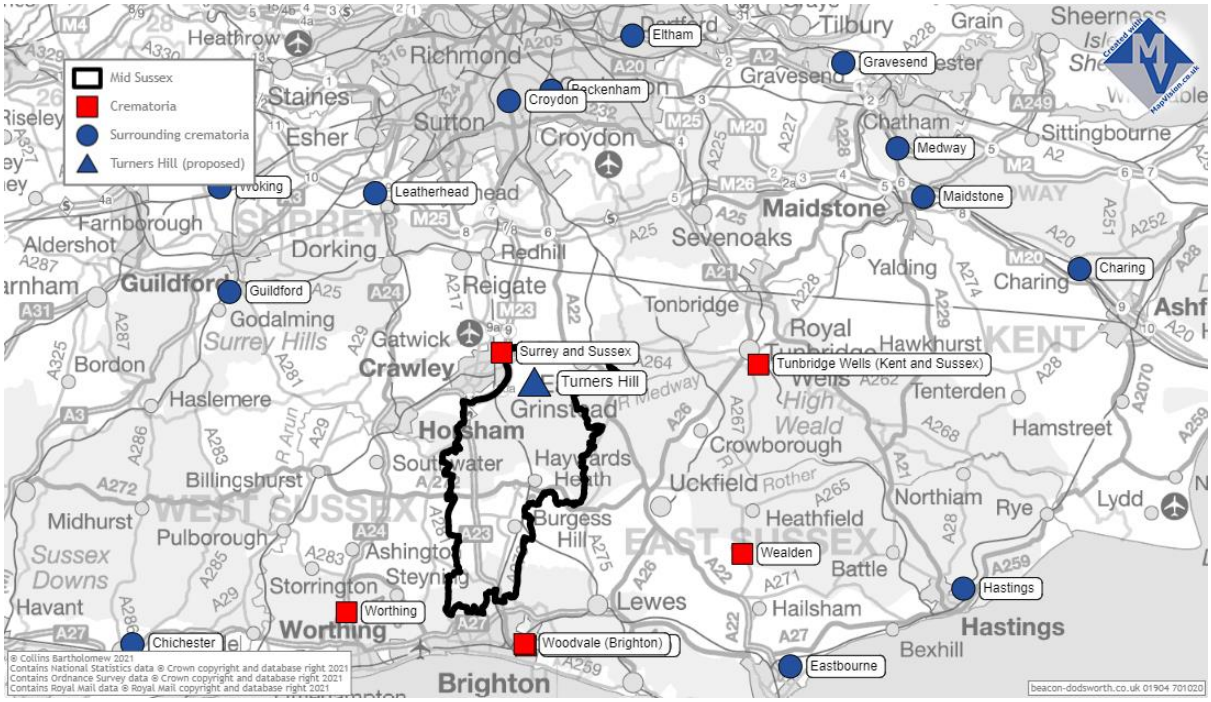
2.8 There are no crematoria in the Mid Sussex District. The District is, however, served by 6 surrounding crematoria, one of which (Surrey and Sussex Crematorium) is located just over 4 miles away from the appeal site.

The distribution of local crematoria is shown in Map 2.1.



Map 2.1: local crematoria

And in a wider context, the surrounding crematoria in Map 2.2.



Map 2.2: surrounding crematoria

3 Assessing need

3.1 The existence and extent of any need for a new crematorium can be assessed by using drive times from the local population, and by examining the capacity of local crematoria.

3.2 Drive times can be modelled to generate the likely populations to be served by existing and proposed crematoria and to demonstrate how far (or for how long) that population would have to travel to its nearest crematorium. Maps can aid understanding of the effects on the local population.

3.3 Using these population figures and drive times, we can make a judgment about how much of an improvement would be made if the proposed crematorium were built.

3.4 Whether local crematoria are convenient in terms of travel times or not, a need could also arise from capacity constraints on existing crematoria.

3.5 The argument for the need for the Turners Hill crematorium is found in the Crematorium Needs Assessment by Peter Mitchell (AD1.7).

3.6 The Appellant commissioned transport specialists to produce drive-time catchments to each of the nearest existing and proposed crematoria, based on a so-called 'industry standard' of 30 minutes drive time at 60% of normal traffic speeds. The CNA also examined existing capacity and assessed qualitative factors.

3.7 The CNA concluded that there is a compelling quantitative and qualitative need for the proposed crematorium (paragraphs 1.1, 1.9). The main points claimed are:

a) That drive-time analysis reveals that significant numbers of people live closer to the proposed crematorium than to any other crematorium and that significant numbers of people are brought within 30 minutes' drive time for the first time.

b) That neighbouring crematoria are over-trading (i.e. operating beyond "practical" capacity).

c) That population growth will increase the need for more capacity.

3.8 Supporting data

3.8.1 The analysis of need relies on information on population and geography.

Demographic information - Office for National Statistics (ONS)

3.8.2 The relevant demographic statistics used are the population and the number of deaths, both now and projected into the future. These are drawn from the Office for National Statistics datasets published annually, licensed under the Open Government Licence.

3.8.3 The ONS is the primary official source of demographic data for the UK. The ONS projected population data used by Peter Mitchell and me is the "principal projection".
The ONS also publishes other projections modelled on high or low life expectancy and high or low levels of immigration. The projections are based on historical data, usually the previous five years, and do not include legislative changes.

3.8.4 The variability of projected populations using different assumptions is demonstrated in this table, which shows how different assumptions about the level of migration affect projections of the likely population in 2043:

Area	Population			% change	
	2018	2043	2043 (low migration)	2018-2043 (principal)	2018-2043 (low migration)
Mid Sussex	149,716	167,212	161,123	11.7%	7.6%
Crawley	112,448	119,625	113,829	6.4%	1.2%
England	55,977,178	61,744,098	59,245,369	10.3%	5.8%

Table 3.1: Standard and low-migration projected population change to 2043

Given the slowing of net migration based on the latest ONS data, the principal projection is likely to be the highest reasonable estimate. The principal projection is what Peter Mitchell and I have used. However, the variability of projected deaths for the different migration scenarios is much lower (34% for low net immigration - 35% for high net immigration) because the larger proportion of deaths are of older people who are much less likely to be migrants.

Geographical information

3.8.5 The Ordnance Survey (OS) is the national mapping agency and publishes authoritative geographical data on postcode locations and digital road networks. The copyright on the data I used is “Crown copyright and database right 2020”.

4 Drive time analysis

Methodologies

4.1 Both Peter Mitchell and I used computer software to model drive-time catchments by simulating navigation round a digital road network to calculate the reachable area (isochrone), and hence the population in that area. An isochrone is a boundary polygon delimiting the

"reach" from a single location based on the road network's links and associated speeds. I will demonstrate that the different software, fed by different base data and parameters, generated different results, and explain why.

The use of 30 minutes drive time catchments

4.2 Both Peter Mitchell and I have focussed on 30 minute drive time catchments. There are many examples of 30 minutes drive time catchments being the industry standard. In the CNA (AD1.7, paragraph 8.5), Competition Appeal Tribunal Case No. 1044/2/1/04 is cited:

> *"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 Camborne Appeal Decision is also cited at paragraph 8.7:

> *"In previous crematorium cases an industry standard, or 'rule of thumb', has been applied at 30 minutes travel time for the funeral cortège. It has not been rigidly applied in all cases and in this area, with its dispersed, low density population, I consider it need not be definitive of the populations served by the facility. Nonetheless, it provides a starting point for the assessment of the quality of service provided to the bereaved."*

I also note the following from the decision on Land West of Haddington Lane (CD13.4) at paragraph 39:

> *"It is common ground that there is a quantitative need arising from the fact that Newark has no crematorium within a 30 minute cortege drive time (CDT). This measure, in a similar vein to the practical capacity test, is not set out in policy, but has been adopted at appeal as a reasonable means of assessing the area which a crematorium would likely serve. However, the evidence indicates that Newark is only marginally beyond the 30 min CDT to crematoria at Sherwood Forest and Grantham, and a planned crematorium at Cotgrave. Journeys from Newark to these crematoria may take between 30-45 minutes at cortege speed but, to my mind, this would not be excessive or a clear cause of distress for mourners, particularly given the rural nature of much of the wider area and distances between larger towns means local residents are likely to be used to longer journey times."*

A similar point was made in an appeal decision relating to Land at Garforth Golf Range (CD13.5) at paragraph 24:

"However, whilst the distribution of that catchment population includes urban areas, a significant extent of the area includes areas to the north east of Leeds which is characterised by freestanding small towns and villages located in a rural setting, where longer journeys to facilities may be more typical. Within that context, I am not persuaded that the 30-minute drivetime should be seen as a definitive limit as, due to the nature of this area, longer drivetimes may be more acceptable to residents."

4.3 I have used 30 minutes as a guide for the drive times although travelling further than 30 minutes introduces a gradual qualitative decline in service rather than suddenly creating need. Mid Sussex has a rural nature similar to the north east of Leeds and so drivetimes longer than 30 minutes may be acceptable. Figures for catchments beyond 30 minutes are presented later.

4.4 The same catchment analysis can be performed with and without the proposed crematorium to compare the two scenarios. The difference between the "before" and "after" will give a measure of improvement.

4.5 My analysis gave significantly different results from Peter Mitchell's analysis in some key measures. The differences and the most likely reasons for them are outlined below.

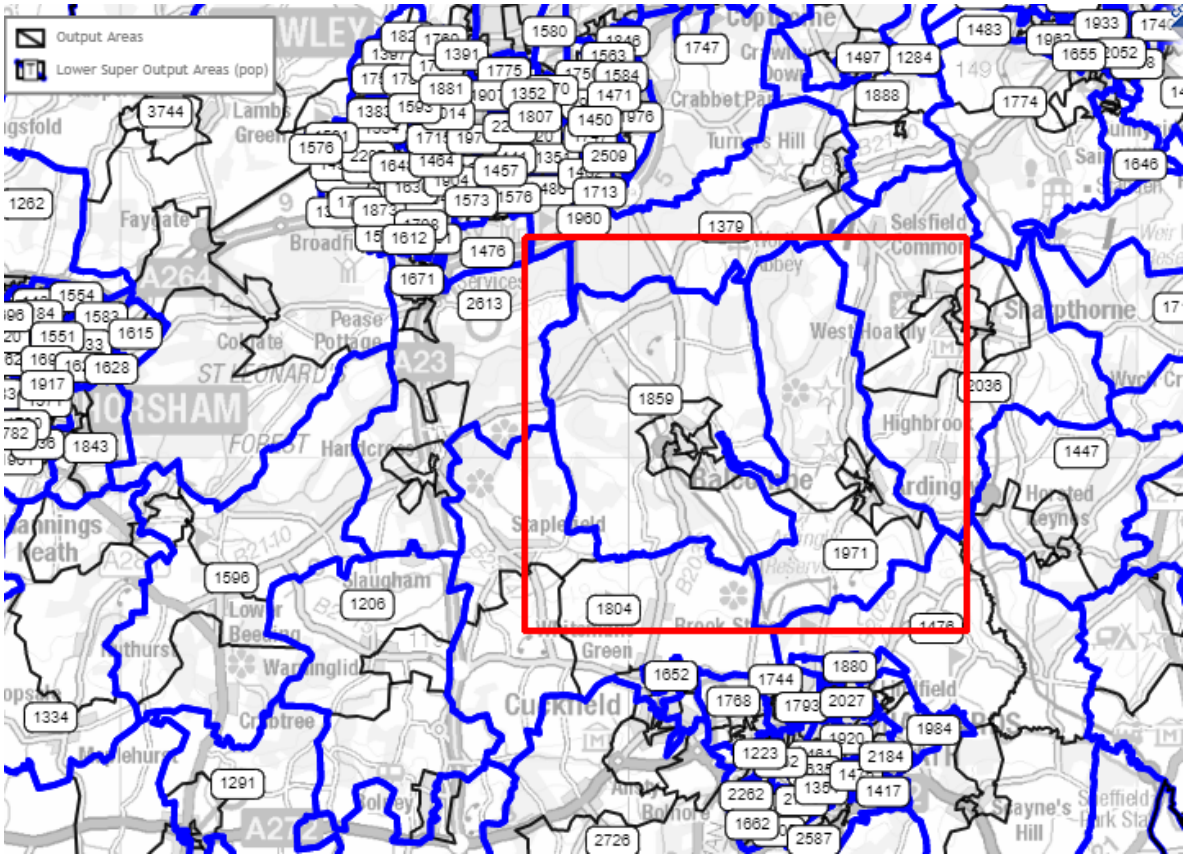
<u>The use of LSOAs instead of OAs</u>

4.6 The ONS publish population figures for small geographical areas used for administrative and planning purposes. The smallest area used is the Output Area (OA). Each OA has on average less than 150 households. ONS aggregate these OAs into Lower Super Output Areas (LSOAs) for some reporting purposes, particularly where sensitive data could identify individuals in an OA or the numbers are so small as to be not significant.

4.7 Peter Mitchell's analysis used LSOAs for the geographical unit and population statistics. My analysis used OAs.

4.8 In my view OAs are a much better unit for calculating catchment populations. LSOAs are five times larger than OAs, with an average population of more than 1,750. They are often an aggregation of rural and urban OAs. Some LSOAs are over 4 miles across and their inclusion or exclusion has a large effect on the catchment population. This increases the margin for error as to the 'true' population served.

4.9 Map 4.1 below shows the 2018 populations of LSOAs in an area between Crawley, Horsham and Haywards Heath. LSOA boundaries are in thick blue with the OA boundaries in black. The variation in area between LSOAs and OAs is large, as is the distribution of OAs within each LSOA. For example, in the centre of the image, around Balcombe and Ardingly are two LSOAs outlined in red. One has a population of 1,859, the other 1,971. Both are about 4 miles north to south. Both contain 4 or 5 small OAs plus 1 or 2 large OAs. The difference in granularity between LSOAs and OAs is clear.



Map 4.1: The relative sizes and populations of LSOAs and OAs

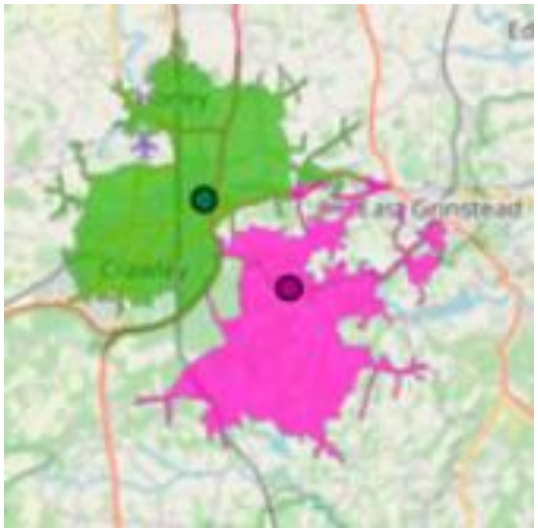
<u>Allocation of populations to drive time catchments</u>

4.10 Peter Mitchell and I both computed the drive time catchment areas using similar, but different, techniques.

4.11 Both analyses simulated driving from local and surrounding crematoria to generate "natural", catchment areas. These areas are non-overlapping, sometimes referred to as constrained, i.e. constrained by neighbouring crematoria. Each OA (or LSOA) within the drive time limit is allocated uniquely to its nearest crematorium (in drive-time terms) to form a mosaic This technique assumes that the whole population from an OA (or LSOA) will use their nearest

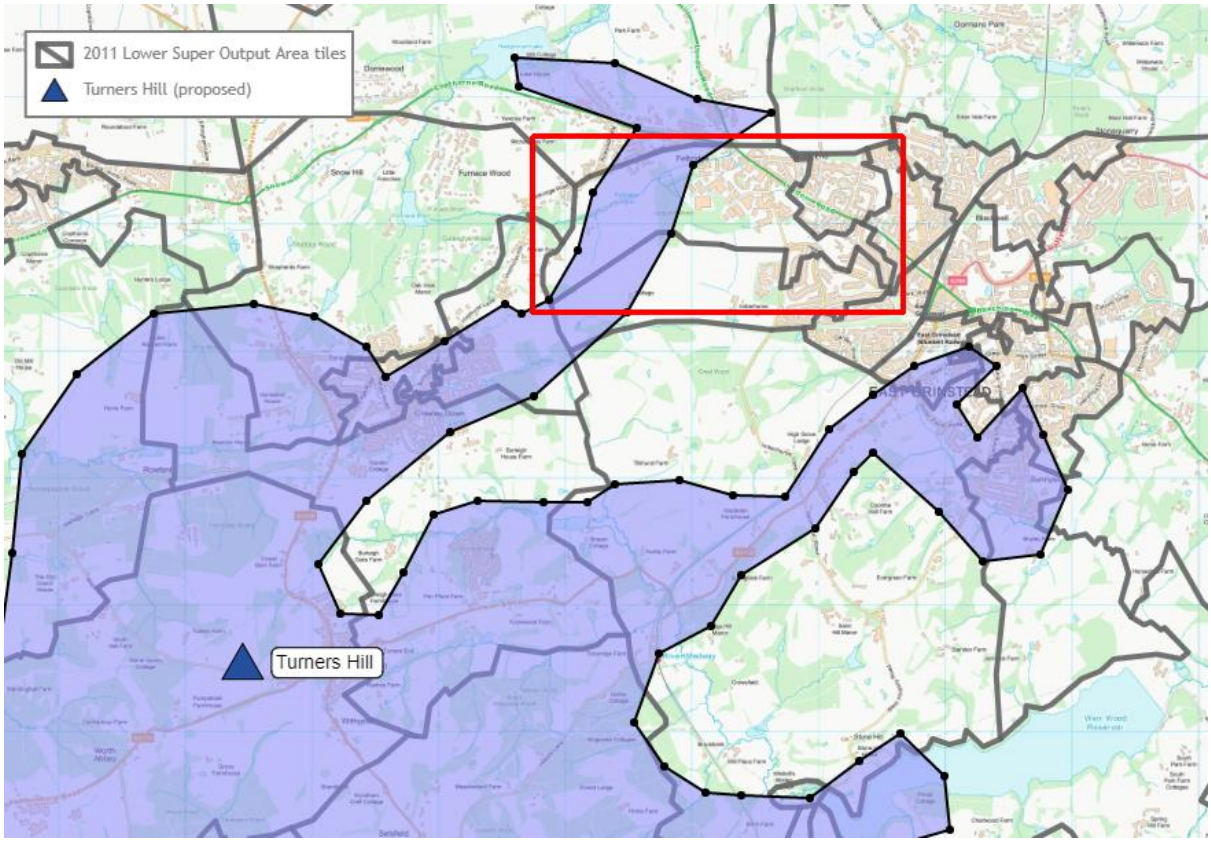
crematorium, ensuring that the population is only counted once. Although this is an obvious simplification, there is enough evidence that the majority do choose their nearest crematorium This reflects that, in the choice of crematorium, proximity is one of the highest factors (CD11.10, FMS, paragraph 5.25).

4.12 The software used by Peter Mitchell generates an isochrone polygon based on the road links traversed. This can be seen in Figure 17 of the CNA, partly reproduced in Map 4.2.

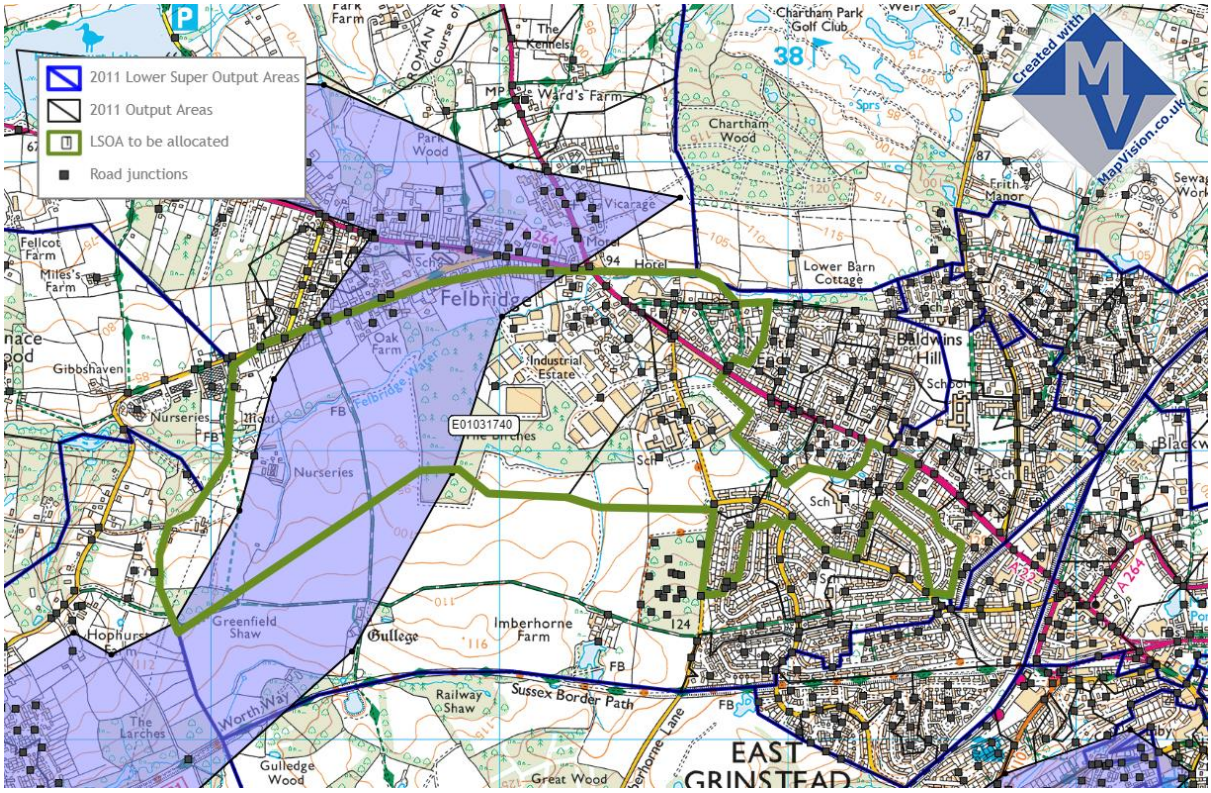


Map 4.2: CNA Fig. 17: 15 minute drive time catchment isochrones from Surrey and Sussex and Turners Hill crematoria

4.13 There is then a process of calculating which LSOAs are “captured” by the isochrone polygon, where the LSOA boundary and the drive-time boundary polygons overlap. If the isochrone fully contains a whole LSOA then it is included in the catchment. If the isochrone and an LSOA do not overlap at all, the LSOA is excluded from the catchment. Often there will be a partial overlap and a method must decide whether to include the LSOA or not. Maps 4.3a and 4.3b shows how this process might work.



Map 4.3a Overview of a catchment isochrone (blue) overlaid on LSOAs (grey).



Map 4.3b: Detail of Map 4.3a - the issue of allocating LSOAs to a catchment isochrone polygon

4.14 In Map 4.3b the LSOAs have a blue border and the isochrone polygon is filled with blue. It can be seen that even with a much-simplified polygon (intended to indicate very approximately part of the Turners Hill 15 minutes drive time), it is ambiguous which of the LSOAs (with blue borders) are reached by the isochrone polygon (filled in blue). For example, the LSOA with the thick green border partly intersects the blue polygon. A rule is required to decide whether to allocate this LSOA to the catchment. There are different possible rules that could be used in this allocation process.

4.15 According to a letter from Lisa Jackson to Andy Watt dated 19 November 2020 (LE14.6), the method of allocation of LSOAs to catchment isochrones in the CNA is as follows:

> *"For what it's worth, our modelling using Lower Super Output Areas eliminates any overlapping. This is achieved using centroid catchment; therefore, our analysis would probably be considered conservative in comparison to using an overlapping methodology using the Output Areas."*

4.16 Neither Peter Mitchell nor I have use "an overlapping methodology".

4.17 I take Lisa Jackson's explanation to mean that, if the centroid of an LSOA is inside the isochrone polygon, that LSOA's population will be included in the modelling. The centroid of an LSOA could mean either the geographical centre or a population-weighted centre, i.e. a point likely to be closer to where people live. It is unclear which definition of centroid is used in the CNA.

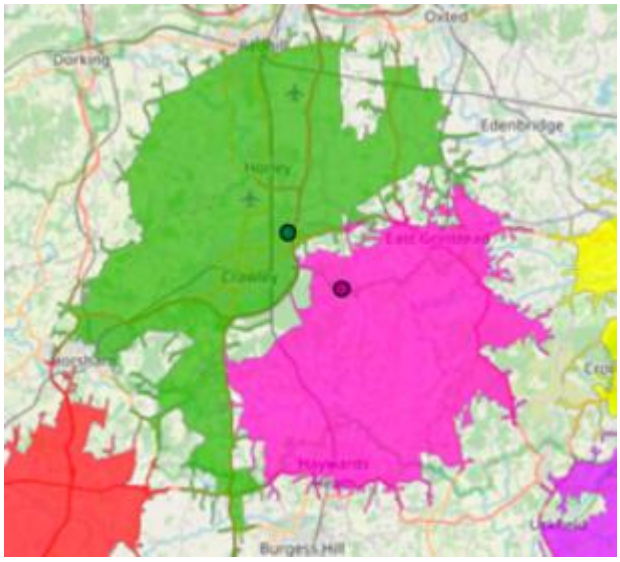
4.18 I do not know why the CNA analysis would be considered more conservative by using LSOAs. There would certainly be less confidence in the accuracy of the modelled population figures. It is my view that a centroid is as likely to be captured erroneously as not captured erroneously. Even a large overlap might "miss" the centroid of an LSOA or a small overlap might "hit" it. The centroid as "representative" of the whole LSOA does not take into account the size and shape of the LSOA. In Map 4.3b, the blue polygon intersects the green-bordered LSOA and narrowly misses the geographically-based centroid of the LSOA. There is a small margin between including the LSOA and excluding it. Including the LSOA would count all the population in the housing to the east of the LSOA within the isochrone.

4.19 Using the two large LSOAs around Balcombe and Ardingly (shown in Map 4.1) as an example, by including or excluding them from a drive-time catchment, the population total would be different by 3,830 (1,859 + 1,971). It is unclear where the isochrone polygon would have to lie either to include or exclude them.

4.20 The conclusion is that the CNA methodology is flawed in that it uses too coarse a unit of geography (and hence population count) and an allocation method that can give a large margin of error. Peter Mitchell's analysis used a technique for assigning LSOAs to a catchment area that makes it less accurate than my methodology.

4.21 My methodology uses Output Areas, which can be seen to model settlements much more closely. The catchment area is computed as those Output Areas where the average drive time to all the road junctions in the Output Area exceed the drive time threshold (e.g. 30 minutes). This best represents the fact that an Output Area has a finite extent. Small urban OAs will have tens or hundreds of junctions and larger rural ones will have up to one hundred.
In the example in Map 4.3, the LSOA in question is divided into 3 OAs. My methodology averages the drive time to each of the road junctions (shown as small grey squares) separately for each OA. This method averages out the discrepancy between the boundaries of the isochrone and the boundaries of the geographical units (LSOAs or OAs).

4.22 The difference in the two approaches is highlighted by part of Figure 18 of the CNA replicated as Map 4.4 below. My equivalent of this 30 minutes drive time is Map 4.7.



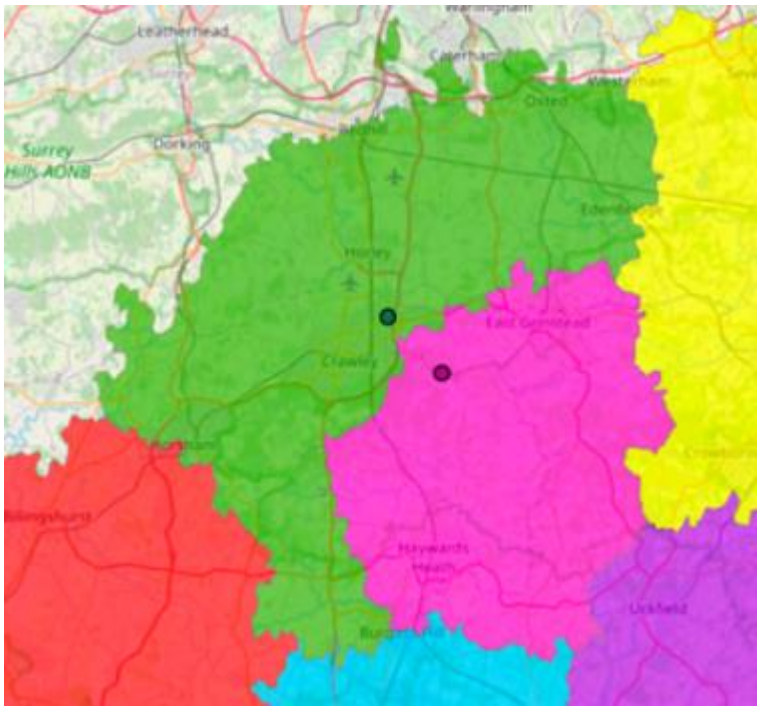
Map 4.4 – CNA Fig 18: 30 minute drive time catchment isochrones from Surrey and Sussex and Turners Hill crematoria

4.23 Map 4.4 shows the CNA 30 minutes' drive time catchment areas. There is a corridor, or gap, between the Turners Hill catchment and the Surrey and Sussex catchment. Figure 18 of

the CNA shows the catchment areas as the road links covered plus a core area rather than the LSOAs “visited”. We do not know where the “corridor” LSOAs have been allocated.

4.24 As stated above, for modelling purposes it is necessary to allocate the LSOAs (or better, the OAs) in the corridor to the nearest crematorium (by travel time).

4.25 The approach to mapping the 30 minute catchments shown in CNA Figure 18 (Map 4.4) is in contrast to CNA Figure 19 (Map 4.5), the constrained 45 minutes catchments, which appear to be LSOA based and leave no gaps. The LSOAs have now been allocated. We have no equivalent map to Figure 19 for 30 minutes drive-time from Peter Mitchell.



Map 4.5: CNA Fig 19: 45-minute drive-time catchments of existing crematoria, plus proposed Turners Hill Crematorium

Cortège and road speeds

4.26 Cortège speeds and travel patterns for funerals are not based on any measured data. A generally agreed formula is used that relies on the notion of “normal traffic speeds”. The figure of 60% of normal traffic speeds is well-established (e.g. CMA Funeral Market Study (CD11.21) paragraph 5.31 and footnotes 218, 319), but has no known source or evidence base.

4.27 There is no agreed definition of “normal traffic speeds”. The analysis that the CMA did uses an Ordnance Survey road network and speeds based on speed limits, but does not give figures (FMS footnote 229).

4.28 A cortège will behave differently from a normal private car user. The surrounding traffic behaves differently, often not overtaking. Cortège continuity is preserved. Acceleration and deceleration will be reduced, and some funeral directors avoid motorways.

4.29 Peter Mitchell’s analysis used either “Vectos” software (letter to Andy Watt from Jackson Planning dated Nov 19 (LE4.16)) or ArcGIS and HERE software (CNA, AD1.7, paragraph 8.25). I presume it used the HERE digital road network too. HERE (formerly NAVTEQ or Navigational Technologies) specialise in data and software for in-car navigation.

4.30 I used Beacon Dodsworth’s own software. Originally developed for the market analysis tool Prospex, the software has been continuously developed since the 1990s and now forms part of BD’s TimeTravel suite. BD used an Ordnance Survey digital road network.

4.31 It is unstated what road speeds were actually used in Peter Mitchell’s analysis. I developed a set of speeds as described in 4.33. Under “Speed of Funeral Traffic” in a letter from Jackson Planning to Andy Watt (LE4.16, November 19 2020), it is stated:

> *“The Vectos software used for the PMA report already reduces the travel speeds of some roads depending on the real-time information. Therefore, this eliminates the risk of limiting speeds by plotting via distance, this would produce an average fluctuation across all road types.”*

I am not clear what this means. “Real-time” information would vary across the day and across days whereas we are aiming for an average, normal behaviour. *“An average fluctuation across all road types”* requires explanation.

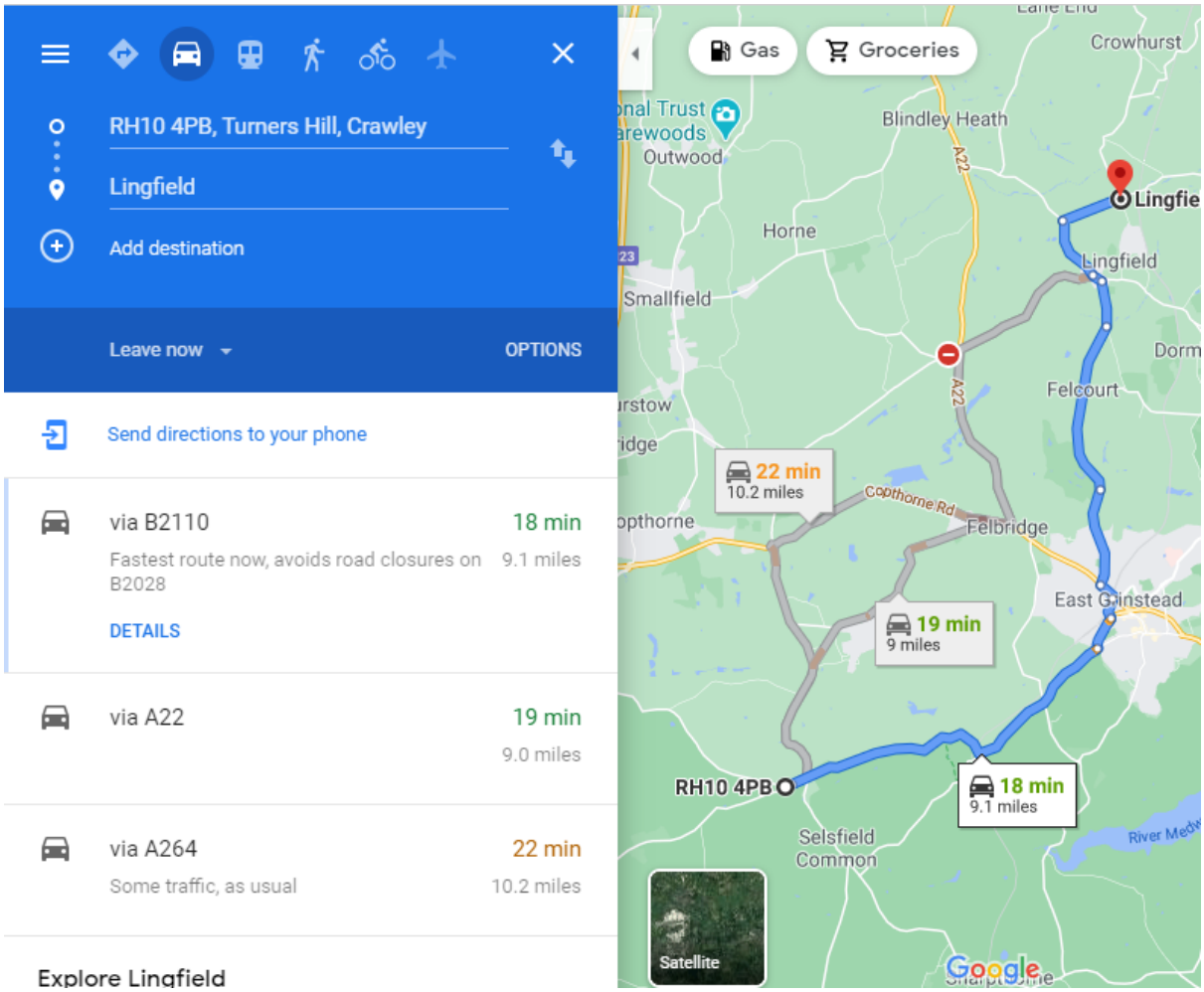
4.32 A good model of road speeds is important because if we increase/decrease the speeds in the speed model by just 5%, the area covered (and hence the population brought within catchment) will increase/decrease by approximately 10%. For example, the 30 min catchment area population of Surrey & Sussex Crematorium is stated to be 281,988 in the CNA. If we increased the speed from 20mph to 21mph (5%), and other road speeds accordingly, the population could increase to over 310,000.

4.33 To emulate the results in the CNA as closely as possible, I have used conservative speeds in my model: less than 20mph for minor roads and all urban roads. Using speeds less

than the stated 20mph reflects other factors in slowing vehicles down - junctions, roundabouts, signals and other traffic.

4.34 The M23 and major A roads provide major access up to the M25. It is unclear what the practical speeds are on larger roads where there is very little “impedance” or indeed whether these roads are used at all by funeral cortèges in favour of smaller roads. This adds further uncertainty to the absolute population figures.

4.35 To calibrate the speed model I have used an online route planner where an 18 minute journey would be equivalent to 30 minutes using the 60% formula. Sample checks using Google and RAC suggest that my model is “accurate” given the caveats about cortège behaviour. I have compared drive times for the same journey using Google and my model and found good agreement. An example using Google is given in Map 4.6. 40 sample points were within a few percent.

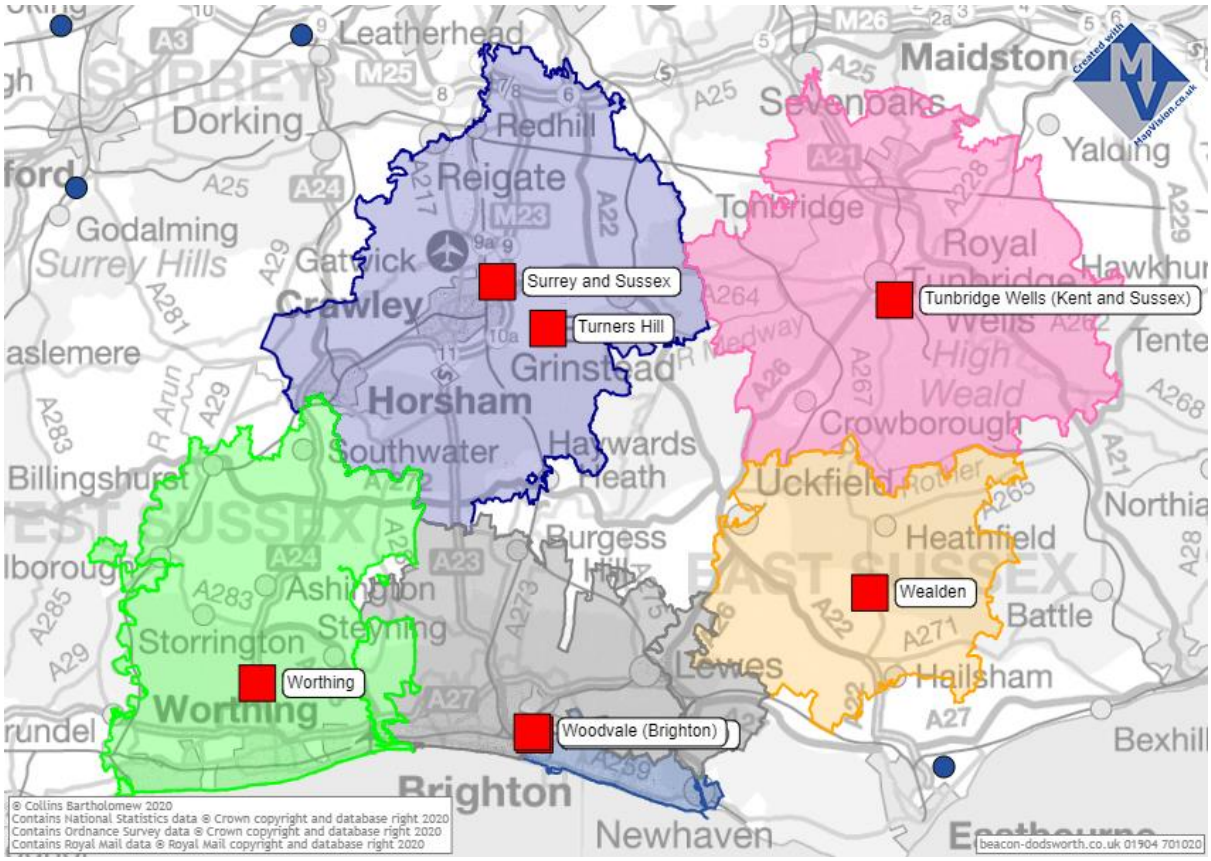


Map 4.6: Google’s route planner: Turners Hill to Lingfield where 18 minutes is equivalent to 30 minutes cortege speed

4.36 Map 4.6 shows a route travelling through East Grinstead. This highlights an issue in Figure 15 of the CNA (reproduced at Map 4.2 above), where the 15 minutes drive time catchment from Turners Hill modelled by Peter Mitchell excludes most of East Grinstead. This suggests that Peter Mitchell's modelling underestimates the population served by the catchments.

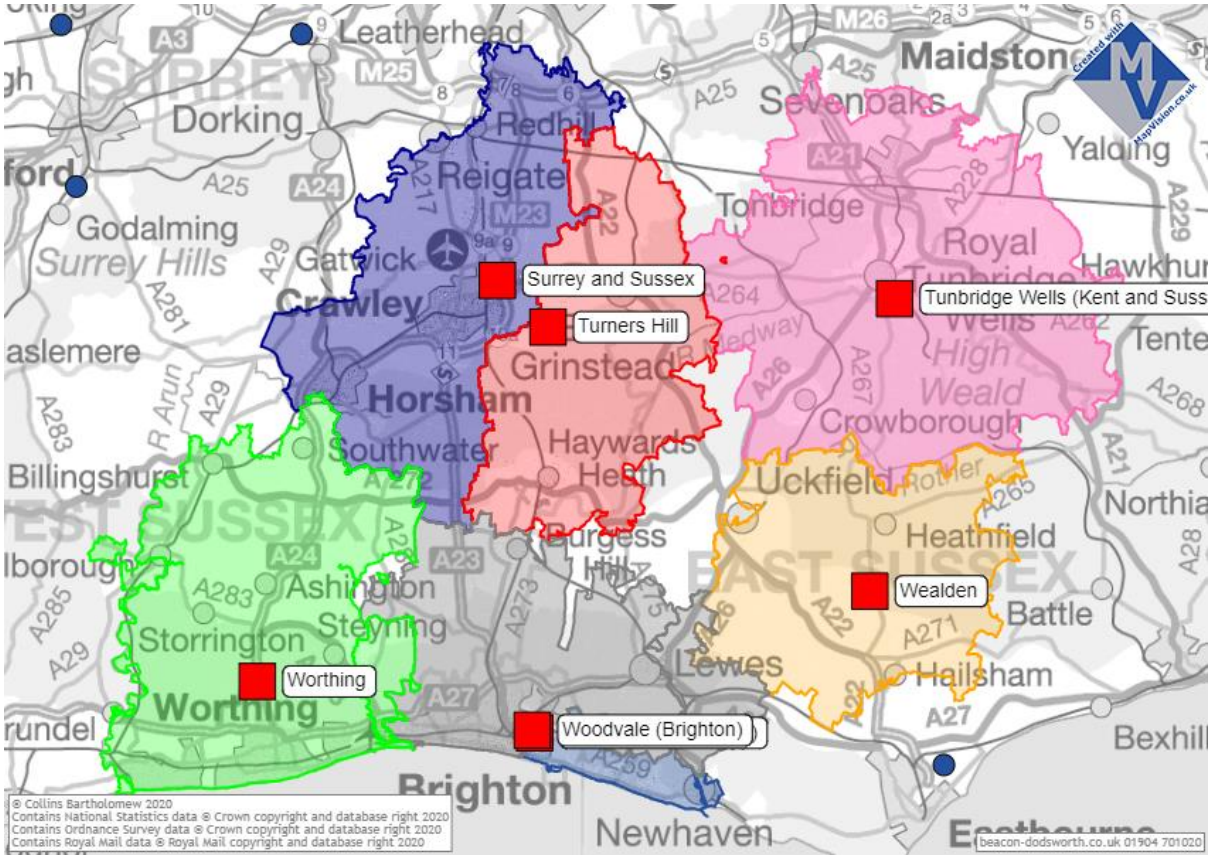
My analysis of 30 drive time catchments and populations

My analysis of the 30 minutes drive-time constrained catchment areas is shown in Map 4.7 (without Turners Hill crematorium) and Map 4.8 (with Turners Hill crematorium).



Map 4.7: Current catchment areas demonstrate a potentially underserved area

4.37 These are the non-overlapping 30 minutes catchment areas including Turners Hill. This map is the equivalent of Peter Mitchell's analysis in Map 4.4, (Figure 18 of the CNA).



Map 4.8: Current and proposed crematorium catchment areas

The following tables show the population reached for the two scenarios at 15, 30 and 45 minutes. These present equivalent data to that presented in Figures 20-22 of the CNA (AD1.7, page 34) but using my methodology.

Crematorium	Population			Deaths		
	15 Mins	**30 Mins**	45 Mins	15 Mins	30 Mins	45 Mins
Surrey and Sussex	158,609	**349,744**	401,860	1,191	2,907	3,424
The Downs	56,438	**95,730**	98,202	513	906	928
Tunbridge Wells	85,146	**204,927**	264,786	830	1,895	2,435
Wealden	30,637	**62,625**	75,281	391	739	877
Woodvale	218,364	**330,844**	347,572	1,541	2,699	2,808
Worthing	129,156	**282,765**	289,940	1,545	3,462	3,531
Total	678,350	**1,326,635**	1,477,641	6,011	12,608	14,001

Table 4.1: Population and deaths within drive-time catchments of existing crematoria

Crematorium	Population			Deaths		
	15 Mins	**30 Mins**	45 Mins	15 Mins	30 Mins	45 Mins
Surrey and Sussex	147,873	**273,824**	289,550	1,098	2,120	2,311
The Downs	56,438	**95,730**	98,202	513	906	928
Tunbridge Wells	85,146	**204,716**	262,046	830	1,893	2,401
Turners Hill	40,489	**114,978**	122,234	376	1,134	1,205
Wealden	30,637	**62,625**	73,975	391	739	862
Woodvale	218,364	**330,844**	341,694	1,541	2,699	2,763
Worthing	129,156	**282,765**	289,940	1,545	3,462	3,531
Total	708,103	**1,365,482**	1,477,641	6,295	12,954	14,001

Table 4.2: Population and deaths within drive-time catchments of proposed crematoria

Crematorium	Population			Deaths		
	15 Mins	**30 Mins**	45 Mins	15 Mins	30 Mins	45 Mins
Surrey and Sussex	-10,736	**-75,920**	-112,310	-92	-787	-1,113
The Downs	0	**0**	0	0	0	0
Tunbridge Wells	0	**-211**	-2,740	0	-1	-33
Turners Hill	40,489	**114,978**	**122,234**	376	1,134	1,205
Wealden	0	**0**	-1,306	0	0	-15

Woodvale	0	**0**	-5,878	0	0	-45
Worthing	0	**0**	0	0	0	0
Total	29,753	**38,847**	0	284	346	0

Table 4.3: Difference between populations and deaths in existing and proposed crematoria

4.38 The discrepancy between my results and Peter Mitchell's results is greatest at 15 minutes drive time. In my view this is mainly because of the use of LSOAs: Map 4.2 above suggests that the catchment population consists of about 7 or 8 rural (and therefore large in area) LSOAs while excluding almost 20 urban LSOAs. Although illustrative of the problem with the ArcGIS/LSOA methodology and parameters, I do not deal with this further. I have concentrated on 30 minutes drive times, as the industry standard referenced in several appeal decisions. However, it is worth noting that the whole of the Turners Hill 15 minutes drive time catchment is currently within 30 minutes of Surrey and Sussex crematorium so offering little local material benefit for that population.

4.39 Peter Mitchell's analysis indicates that 88,305 people live within 30 minutes' drive-time of Turners Hill. My analysis shows 114,978.

4.40 Peter Mitchell's analysis indicates that Surrey and Sussex will "lose" 44,773 people, i.e. this population would be closer to Turners Hill than Surrey and Sussex crematorium (and would therefore be more likely to use the proposed facility, based on the fact that proximity is the biggest factor in crematorium choice). My analysis in Table 4.3 shows that Surrey and Sussex would lose 75,920 people.

4.41 Peter Mitchell's analysis suggests that 43,532 people will be brought into a 30 minute drive time of any crematorium for the first time. According to my analysis this figure should be 38,847 (more than 10% fewer). 29,856 (77%) of this is contributed by the east and south of Haywards Heath.

From Table 4.3, 2/3 (75,920/114,978) of the proposed Turners Hill catchment area is currently within 30 minutes of Surrey and Sussex with 1/3 (38,847/114,978) brought within 30 minutes for the first time.

4.42 According to my analysis, with the proposed crematorium there would still be 112,159 people (Table 4.2) beyond 30 minutes' drive-time of any crematorium. Of these, 26,801 are in the area surrounded by the ring of existing and proposed crematoria between Haywards Heath and Uckfield (and hence in the Mid Sussex District area). This can be seen in Map 4.7.
From Table 4.1, there are currently 151,006 people not within a 30 minutes' drive-time of any crematorium.

4.43 Peter Mitchell's analysis indicates that 122,916 people live closer to Turners Hill than any other crematorium. Our analysis shows that the figure is 122,234. This is in good agreement. However, it is not relevant to the argument of need. Any facility sited close to another will draw almost half of the latter's catchment, all other factors being equal. The nearer it is, the less incremental travel time benefit the population enjoys.

4.44 The breakdown of drive time improvement is shown in the following table. The first column shows the number of minutes drive time improvement (rounded). The second and third columns show the population and cumulative % of that population for the whole of the Turners Hill (unconstrained) catchment, regardless of how far away. The fourth and fifth columns show the same, but only for the population currently beyond 30 minutes drive time, i.e. not counting those already served by neighbouring crematoria within 30 minutes.

Minutes improvement	Turners Hill (up to 45 mins)		Turners Hill (previously > 30 mins from any crematorium)	
	Population	Cum %	Population	Cum %
0	12,915	11%	1,234	3%
1	2,454	13%	1,295	5%
2	11,606	22%	3,333	13%
3	4,420	26%	0	13%
4	3,727	29%	240	13%
5	6,868	34%	3,379	21%
6	11,336	44%	2,887	27%
7	17,097	58%	7,606	43%
8	7,833	64%	4,523	53%
9	14,675	76%	3,386	60%

10	3,949	79%	1,658	64%
11	4,650	83%	2,576	70%
12	5,306	87%	4,247	79%
13	11,715	97%	9,457	99%
14	3,683	100%	282	100%
Total	**122,234**		**46,103**	

Table 4.4: Drive time improvement to population by minute

4.45 It can be seen that of the 122,234 people nearer to Turners Hill than any other crematorium, the largest improvement is 14 minutes. This is unsurprising since it is only 15 minutes drive time between Turners Hill and Surrey and Sussex crematoria.

For those in the Turners Hill 30 minutes catchment who are currently more than 30 minutes from any crematorium (46,103), two thirds would be nearer to a crematorium by 10 minutes or less.

The time improvement for the 122,234 breaks down as follows:

Minutes drive time now	Minutes drive time with proposed Turners Hill crematorium							
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
5-10		1,640						
10-15	1,731	3,987	3,378					
15-20	734	220	11,592	1,511				
20-25		1,635	14,291	4,080	10,102			
25-30			1,281	2,762	12,446	4,741		
30-35				**7,540**	**19,148**	**7,402**	2,673	
35-40					**1,317**	**2,399**	3,477	456
40-45						**1,041**	373	277

Table 4.5: Drive time improvement to population in 5 minute bands

The numbers in bold are those brought within 30 minutes drive time. The downward diagonal effect of the figures shows that there is only a small incremental improvement in drive time.

4.46 My analysis of the catchment drive times by Output Area (with and without Turners Hill) has shown that in the current situation, the maximum drive time is 41 minutes. This means that the longest drive time is 11 minutes above the "industry standard", in a largely rural area. The addition of a crematorium at Turners Hill would reduce this maximum driving time from 41 minutes to 37 minutes for the area.

Impact on neighbouring crematoria

4.47 There is so little effect in terms of drive-time catchments on the other neighbouring crematoria, it is worth analysing the impact only on the Surrey and Sussex crematorium. Using the 30 minutes constrained catchments, drawn from Table 4.3 and Figure 21 in the CNA we can compare my analysis (BD) with Peter Mitchell's analysis (PMA):

Population				Deaths			
Lost from Surrey and Sussex		Gained by Turners Hill		Lost from Surrey and Sussex		Gained by Turners Hill	
BD	PMA	BD	PMA	BD	PMA	BD	PMA
75,920	44,773	114,978	88,305	787	375	1134	807

Table 4.6: Losses and gains for Turners Hill and Surrey and Sussex crematoria

4.48 My analysis shows that Peter Mitchell has underestimated the loss (in deaths) from Surrey and Sussex crematorium by over 200% and the gain to Turners Hill crematorium by over 40%.

Conclusion on drive-time analysis

4.49 I conclude that, in all measures, the benefit to the local population has been exaggerated in Peter Mitchell's CNA; and that if need is defined simply by reference to those currently living beyond 30 minutes drive time of a crematorium, the Turners Hill crematorium will not alleviate that substantially. The journey time improvements are marginal for most of those brought within 30 minutes and less than 10 minutes for the majority. The proposal would still leave a substantial number of people beyond the 30 minutes benchmark.

In addition, the effect on Surrey and Sussex crematorium can be seen to be much greater than claimed in the CNA.

5 Capacity of neighbouring crematoria

5.1 The capacity of a crematorium is calculated from the number of slots available. 'technical' capacity is based on all slots, 'practical' capacity on what are known as "core slots". These are called 'peak' slots in the Funerals Market Investigation Report (CD11.10, paragraph 4.27 and footnote 463). Core slots are those that fall approximately between 10am and 4pm (CD11.10 2.9 (a)), depending on service length. The non-core slots at either end of the day are less popular. Exactly what constitutes a core slot is disputed.

It is a generally agreed rule of thumb that practical capacity should not exceed 80%. However, in paragraph 27 of the Haddington Lane decision (CD13.4) the Inspector noted:

> *"In a number of appeal decisions put before me it has been accepted that a crematorium operating at over 80% of practical capacity (PC) is likely to be under stress and lead to qualitative issues, identified by the appellant in the case of Lincoln as including delays in the bereaved securing a date for a cremation service, overcrowding at the crematorium and short services. However, this 80% measurement is not set down in policy, but acts more as a 'rule of thumb' which seeks to measure the typically busiest periods of the day for services. ... Given almost half of all service times are available at 80% of PC, I am not convinced that exceedances of this measurement automatically translate to qualitative issues, but whether they do must be considered on the specific evidence in each case."*

5.2 Using the estimated core slots and published cremation figures in Peter Mitchell's CNA, Surrey and Sussex crematorium is running at over 80% of core capacity. Figure 38 from the CNA (reduced) shows the capacity at Surrey and Sussex crematorium for the previous four years, and is reproduced below:

	2016	2017	2018	2019	Average
Cremations (minus direct cremations)	3,017	3,065	3,027	2,841	2,988
Total slots	5,040	5,040	5,040	5,040	5,040
Core slots	3,528	3,528	3,528	3,528	3,528
Core capacity	86%	87%	86%	81%	85%

Table 5.1: Core capacity for Surrey and Sussex crematorium 2016-2019

Peak capacity

5.3 Because deaths are not evenly distributed through the year, it is agreed that capacity should take this into account in order to accommodate the peak times (CNA, AD1.7 paragraph 9.49). The usual peak month is January, but in 2016 for example there was a spring peak. There is no mention of peak month capacity calculations in the Funeral Market Investigation, FMI (CD11.10, e.g. at paragraph 4.91 where capacity constraint is discussed). This suggests that either there is no consensus or standard, or that using an 80% core capacity threshold already accounts for peak periods.

In the CNA Peter Mitchell refers to the Inspector's report in the decision on Land off Broad Lane, Essington, South Staffordshire (CD13.6). There appear to have been other factors influencing the qualitative challenges there (e.g. parking, "conveyer-belt" experience), but it is clear that operating at a high average capacity contributes to a poor experience. In addition, Peter Mitchell has asserted that the 80% threshold applies in a peak month, not just to average practical capacity (e.g. in para 1.2, Appendix A, Jackson Planning to Andy Watt October 7 2020 (LE4.7).

5.4 How the capacity should be calculated to accommodate peak times is not agreed. Peter Mitchell calculates the peak-month capacity as the core capacity, multiplied by a scale factor. The scale factor in any one (calendar) year is calculated as the peak month deaths divided by the average monthly deaths (the "peak to average ratio").

Looking at monthly death figures for the area in 2019 (CNA Figure 34):

Local authority	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	Max	Max/ Avg
West Sussex	940	777	754	712	792	665	744	651	693	793	776	767	755	940	1.24
Adur	70	59	57	51	56	61	68	53	55	61	55	57	59	70	1.19
Arun	240	175	182	172	186	163	178	166	153	184	192	158	179	240	1.34
Chichester	161	116	97	112	134	108	107	107	119	148	127	136	123	161	1.31
Crawley	65	76	70	68	74	53	48	46	59	66	63	70	63	76	1.20

Horsham	136	123	111	97	116	99	113	88	102	127	95	104	109	136	1.24
Mid Sussex	148	112	120	117	115	93	108	93	99	116	125	113	113	148	1.31
Worthing	120	116	117	95	111	88	122	98	106	91	119	129	109	129	1.18

Table 5.2: Deaths per month for each local authority in West Sussex in 2019 with the ratio of maximum to average

It can be seen that there is a large variation in the peak to average ratio (1.18-1.34). The figure for England as a whole was 1.22 in 2019.

5.5 Even on this simple measure there is great volatility in the peak-to-average ratio across years and localities. Some years have exceptional peaks. In 2018, West Sussex had 1,194 deaths in January and an average of 769 giving a ratio of 1.55.

5.6 Using this measure, the CNA claims peak month core capacity measures as follows for Surrey and Sussex crematorium, expanding Table 5.1:

	2016	2017	2018	2019	Average
Cremations (minus direct cremations)	3,017	3,065	3,027	2,841	2,988
Total slots	5,040	5,040	5,040	5,040	5,040
Core slots	3,528	3,528	3,528	3,528	3,528
Core capacity	86%	87%	86%	81%	85%
Core capacity in peak month	**94%**	**118%**	**119%**	**101%**	**108%**

Table 5.3: Peak-month core capacity for Surrey and Sussex crematorium 2016-2019

5.7 It can be seen that in 2016 Surrey and Sussex was operating at 94% capacity by this measure and in 2018 it was operating at 119% capacity. 2018 was an exceptional year for excess winter deaths.

5.8 I will now consider why using the simple peak month alone to define capacity poses difficulties. The peak month is almost always in January. Many of the cremations held in January will be of people who died in December, and the delay in cremation may well be due to factors caused by the holiday season, e.g. waiting for reports, certificates, funeral director or gathering the family. There might be a delay in registering the death.

We can see that January's peak might be anomalous and caused in part because of the holiday season. Considering the delayed cremations from December would give a more realistic representation of the peak.

From Table 5.2, looking at the month previous to the largest month for deaths:

Local authority	Avg	Max	Prev month	Max/Avg	Peak 2 months/Avg
West Sussex	**755**	**940**	**767**	**1.24**	**1.13**
Adur	59	70	57	1.19	1.08
Arun	179	240	158	1.34	1.11
Chichester	123	161	136	1.31	1.21
Crawley	63	76	65	1.20	1.12
Horsham	109	136	104	1.24	1.10
Mid Sussex	113	148	113	1.31	1.15
Worthing	109	129	119	1.18	1.14

Table 5.4: Deaths per month for each local authority in West Sussex in 2019 with the ratio of maximum to average and peak two months to average ratio

5.9 Taking the two peak months together produces a range of ratios between 1.08 to 1.21, in most areas halving the peak to average ratio. This suggests that the normal seasonal peak of Dec/Jan should be taken together because of the variability of the January "spike" across districts and years. For West Sussex as a whole, that would be a factor of 1.13 applied to core capacity figures. Simply applying this factor to the core capacity figures in Table 5.3 reduces the average peak capacity to 96%.

5.10 However, rather than use a complex and volatile method of calculating peak capacity, it would be simpler to assume that the 80% threshold commonly applied to core capacity (and agreed) already allows for the peak to be accommodated. A 25% increase in cremations at

the peak time would bring capacity to 100%. In these circumstances it could be expected that non-core slots would be used. As we have seen, in England in 2019 the peak to average ratio was 1.22, i.e. a 22% increase in the peak month.

5.11 The time between death and cremation is likely to extend when approaching 100% peak-season core capacity because it will be more difficult to book the most convenient slot. However, the relationship between delay and capacity is not a simple one. Paragraph 5.66 of the Funerals market study (CD11.21) says the following on the delay between death and cremation:

> *"Finally, we have also considered whether the length of time that a family has to wait between death and cremation could be a factor on which crematoria compete. Data supplied to the CMA by two crematorium operators show a degree of variation in the average time between death and the cremation service across crematoria, with families at some crematoria having an average wait time of around 10 days, and others with a wait time of up to 24 days. We have considered whether longer wait times appear likely to be caused by limited capacity at crematoria, or in contrast are likely to be due to external factors outside the control of crematoria (eg waiting for a coroner's report, waiting for the correct paperwork to be completed by the funeral director, or families waiting for a time that they prefer/can be together). We did not find a clear relationship between capacity and wait times – there are crematoria with relatively low capacity utilisation that have short waiting times and crematoria with similar levels of capacity utilisation where the wait time is very long (five weeks). This suggests that the wait time may be the result of external factors outside the control of crematoria and, as such, is unlikely to be a meaningful measure of quality over which crematoria can compete."*

Even in the CNA (AD1.7) supporting data in paragraph 11.9 there is little correlation between the months of high average delay and the peak month for deaths, admittedly for a small sample.

Definition of core slots

5.12 The other main factor in capacity calculations is what constitutes a core slot. This is disputed between Peter Mitchell and Dignity.

5.13 Peter Mitchell has stated that each Surrey and Sussex chapel has 1,764 (7 slots x 252 days) core slots available per annum out of 2,520 (10 slots x 252 days) total slots (Figure 37, AD1.7). This gives a total of 3,528 core slots for the crematorium as a whole. However, in

paragraph 3.21 (a, c) and Appendix 2 of Clyde&Co 15 March 2021 on behalf of Dignity (TP14.5), the slot times are listed for the two chapels at Surrey and Sussex. Each uses 8 core ('Peak') slots, yielding 4,032 core slots per annum. If those figures are inserted into Table 5.1, the result is as follows:

	2016	2017	2018	2019	Average
Cremations (minus direct cremations)	3,017	3,065	3,027	2,841	2,988
Total slots	5,040	5,040	5,040	5,040	5,040
Core slots	4,032	4,032	4,032	4,032	4,032
Core capacity	75%	76%	75%	70%	74%

Table 5.5: Revised core capacity for Surrey and Sussex crematorium 2016-2019 assuming 8 core slots per chapel

5.14 In the FMI report (CD11.10, paragraph 4.91), published after the calculations above were first made, it is stated concerning capacity:

> *We consider, on a conservative basis, a crematorium using 75% of its booking slots to be capacity constrained. We recognise that a crematorium may have more than their 75% of their booking slots used but still be able to accommodate customers in peak hours if some customers are using reduced fee booking slots.*

In other words, the FMI report suggests that the benchmark should be 75% of 'theoretical' capacity, not 80% of 'core' capacity. This would mean for Surrey and Sussex crematorium that we would consider 75% of the 11 (attended) slots (8.25 on average) to define capacity as opposed to 80% of the 8 core slots (6.4 on average). Using this measure, Surrey and Sussex crematorium has been operating at 59%, well below the 75% value.

5.15 In 3.21 (b) of Clyde&Co, 15 March 2021 (TP14.5), it is stated that there are additional non-core slots (referred to as 'off-peak') but since direct and non-core slots are not used in the "practical" capacity calculations these do not materially change the figures.

However, in the Garforth Golf Range appeal decision (CD13.5), the inspector makes the point that direct cremations will influence a crematorium's capacity (paragraph 17):

> *"However, the Council has highlighted the increasing number of 'direct cremations' where a service may be held elsewhere rather than at the crematorium. Due to the nature of these cremations, there is more flexibility for them to take place outside of the core hours with a resultant increase in core capacity. Even allowing for the current limited number of direct cremations, the appellants' calculations do not allow for the*

effect that these may have on the number of cremations outside of core hours as well as on increased capacity for cremations where a service slot is required during core hours. In my view, this undermines the robustness of the appellants' evidence, both in relation to existing and future capacity."

The FMI (CD11.10, paragraph 2.27) also indicates that there is a growth in direct cremations and so the flexibility they offer will increase a crematorium's capacity.

Conclusions on capacity

5.16 It is clear that whether Surrey and Sussex crematorium is operating below or above the 80% threshold for core capacity depends on the definition of core slots. It is also clear that whether it is operating below or above the 100% threshold for peak-month core capacity depends on how the peak season is viewed. In my view, the crematorium is not currently over-trading.

The core capacity has an average of 74% using the 80% measure.

The practical capacity has an average of 59% using the FMI 75% measure.

It has accommodated the peak months in the past few years.

6 Future capacity and need

6.1 Whatever the crematorium capacity currently, an increasing population and number of deaths means that at some point existing crematoria will become capacity constrained. However, it is noted that the number of cremations carried out by the Sussex and Surrey crematorium has not changed significantly since 1980, according to figures from The Cremation Society (CD11.22). The national trend has been upwards since about 1995.

6.2 The CNA (paragraph 10.9) suggests that there will be an increase in deaths in the area between 2020 and 2043 of 25-30%. This represents about 0.5-1.0% per annum. The projected deaths for West Sussex are shown in Table 6.1.

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Deaths	9,456	9,533	9,642	9,691	9,793	9,905	10,026	10,158	10,298	10,448

% increase	0.0%	0.8%	2.0%	2.5%	3.6%	4.7%	6.0%	**7.4%**	**8.9%**	10.5%

Table 6.1: Projected deaths and annual % increase

Therefore, if we accept that Surrey and Sussex is currently operating at an average 74% core capacity (Table 5.5), it will be about six years (2027-2028) before the crematorium will reach its practical capacity of 80%.

6.3 However, if we accept that Surrey and Sussex is currently operating at an average 59% technical capacity, then it will be 2034 before the crematorium will reach its technical capacity of 75%, according to ONS figures (deaths in 2036 are projected to be 11,626).

Conclusion on future capacity

6.4 The method of calculating capacity varies between Peter Mitchell's analysis, many appeals, and the FMI report (CD11.10). It is clear that at some point in the future existing crematoria will be capacity-constrained. If projected deaths are accurate, the current proportion of deaths lead to cremations, and there is no significant change in funeral practice, it is expected that point will be between 2027 and 2034.

7 Location

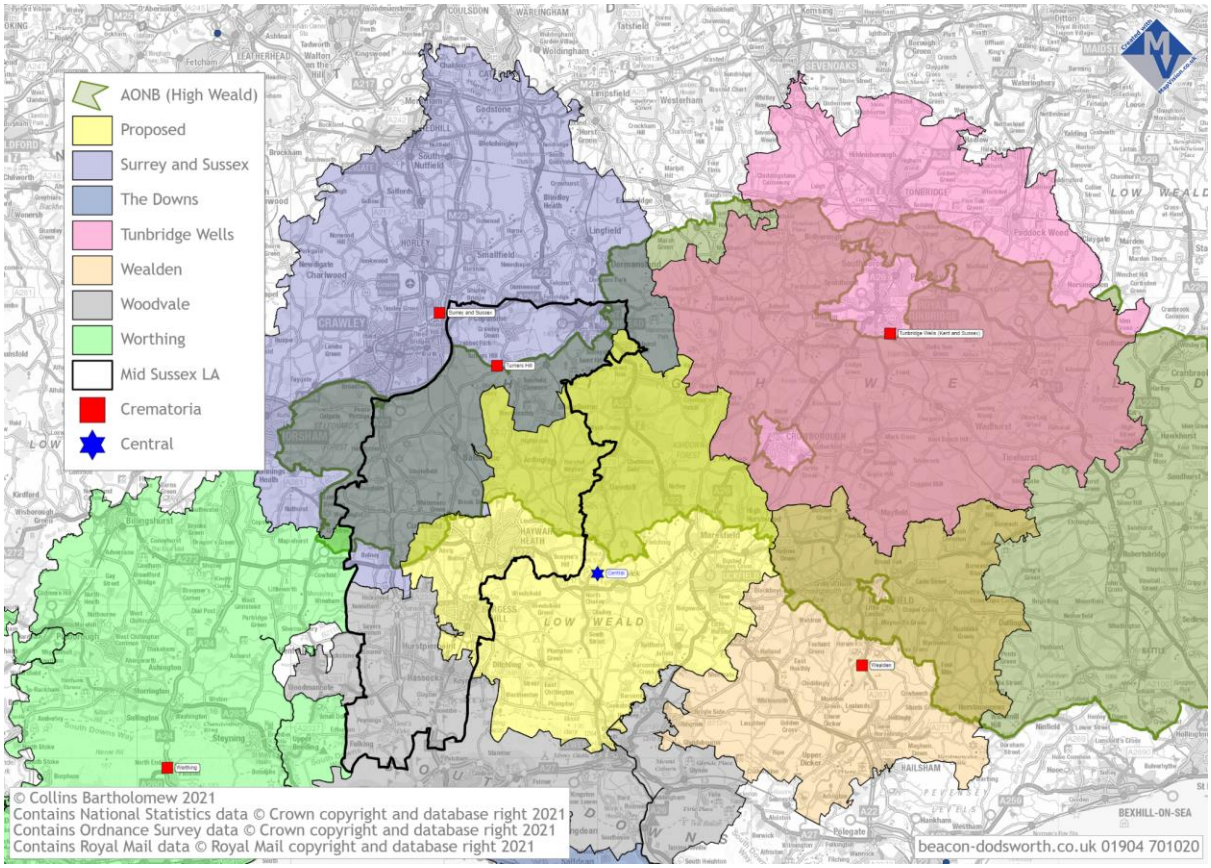
7.1 Paragraph 8.91 of CMA Funerals market study, 2019 (CD11.21) considers changes to the planning system:

> *"...changes could be recommended to the planning system to support greater competition and a better deal for consumers. For example, rather than rely on private companies to identify where new-build crematoria are needed and apply to the local authority for planning permission, local authorities (or private companies) could identify areas where a new crematorium would be appropriate and the local authority could issue a tender for the construction and operation of the crematorium for an agreed franchise period. Part of the tender would involve prospective operators setting out their planned pricing, and this would be taken into account in deciding the outcome of the tender"*

7.2 In this spirit, and whilst recognising that no such changes have been made or are proposed, I have selected another location and performed the same analysis as that for

Turners Hill. In modelling a (theoretical) alternative site near Newick (just outside the Mid Sussex area and outside of the High Weald AONB), it was found that the travel time threshold of 30 minutes could be met for the whole constrained catchment area. It is not suggested that it would be practical to site a crematorium there, but is provided to illustrate how sensitive the benefits are to the location. I have called this notional site “Central”.

Map 7.1 compares to Map 4.6 (current situation) and Map 4.7 (with Turners Hill). The High Weald AONB and the Mid Sussex District are overlaid.



Map 7.1: 30 minutes constrained drive time catchments include proposed crematorium “Central”

7.3 The following tables mirror the ones for Turners Hill (Tables 4.2 and 4.3 above). They show a scenario where a crematorium is built (“Central”) near Newick between Haywards Heath and Uckfield for comparison.

	Population	Deaths

Crematorium	15 Mins	**30 Mins**	45 Mins	15 Mins	30 Mins	45 Mins
Surrey and Sussex	158,609	**328,386**	344,589	1,191	2,661	2,858
The Downs	56,438	**95,730**	98,202	513	906	928
Tunbridge Wells	85,146	**204,448**	261,351	830	1,888	2,391
Central	*37,567*	***130,984***	*130,984*	*331*	*1,252*	*1,252*
Wealden	30,637	**50,703**	51,939	391	627	640
Woodvale	218,364	**299,267**	300,636	1,541	2,390	2,401
Worthing	129,156	**282,765**	289,940	1,545	3,462	3,531
Total	715,917	**1,392,283**	1,477,641	6,342	13,186	14,001

Table 7.1: Population and deaths within drive-time catchments of proposed crematoria

Crematorium	Population			Deaths		
	15 Mins	**30 Mins**	45 Mins	15 Mins	30 Mins	45 Mins
Surrey and Sussex	0	**-21,358**	-57,271	0	-246	-566
The Downs	0	**0**	0	0	0	0
Tunbridge Wells	0	**-479**	-3,435	0	-7	-44
Central	*37,567*	***130,984***	***130,984***	*331*	*1,252*	*1,252*
Wealden	0	**-11,922**	-23,342	0	-112	-237
Woodvale	0	**-31,577**	-46,936	0	-309	-407

Worthing	0	**0**	0	0	0	0
Total	37,567	**65,648**	0	331	578	0

Table 7.2: Difference between populations and deaths in existing and proposed crematoria

In this scenario, the notional “Central” crematorium

- has a larger catchment (130,984 rather than 114,978 for Turners Hill), all within 30 minutes.
- brings 65,648 people within 30 minutes for the first time (rather than 38,847 for Turners Hill).
- distributes the impact on surrounding crematoria.
- leaves fewer people outside 30 minutes drive time (85,358, all external to the ring of existing crematoria and outside Mid Sussex, rather than 112,159 for Turners Hill).
- is within viability guidelines of 120,000 population served, and annual cremations of 900-1,000.

7.4 In comparison with the time differences for Turners Hill in Table 4.4, the improvements for “Central” are substantial for the whole catchment population of 130,984:

Minutes improvement	Population	Cum %
0	2,448	2%
1	6,343	7%
2	6,154	11%
3	4,335	15%
4	6,575	20%
5	5,894	24%
6	6,976	30%
7	5,311	34%
8	4,471	37%
9	9,482	44%
10	3,906	47%

11	6,625	52%
12	6,098	57%
13	7,901	63%
14	2,995	65%
15	2,151	67%
16	6,141	72%
17	5,620	76%
18	6,138	81%
19	5,548	85%
20	4,995	89%
21	2,479	91%
22	1,920	92%
23	702	93%
24	2,066	94%
25	449	94%
27	473	95%
28	315	95%
29	495	95%
30	297	96%
31	357	96%
32	1,655	97%
33	1,168	98%
34	2,224	100%
35	277	100%
	130,984	

Table 7.3: Drive time improvement to population by minute for "Central"

7.5 Two thirds of the population would be brought up to 15 minutes nearer a crematorium, and one third between 15 and 35 minutes nearer. The summary differences compared to Table 4.5 are shown in Table 7.4.

Minutes drive time now	Minutes drive time with *notional* crematorium "Central"					
	0-5	5-10	10-15	15-20	20-25	25-30
15-20				2,433		
20-25			667	2,125	6,564	
25-30		872	852	14,298	32,836	4,689
30-35	**515**	**964**	**25,473**	**17,082**	**11,237**	**316**
35-40	**1,372**	**3,210**	**1,951**	**1,837**		
40-45		**1,691**				

Table 7.4: Drive time improvement to population in 5 minute bands for "Central"

Again, the figures in bold are those people brought within 30 minutes drive time for the first time.

7.6 It is clear that it is possible to make substantial improvements in travel times for the whole catchment area at a different location to that proposed in this case.

7.7 The FMS (CD11.10), paragraph 5.35 supports the link between location and existing provision.

> *"Furthermore, both economic incentives and planning restrictions may lead new crematoria to locate relatively far from existing crematoria (while remaining relatively close to demand). A new entrant, in order to ensure that it covers the high fixed costs of entry and operation, will have the incentive to avoid as much as possible any head-to-head competition with the existing crematoria. As such, it will prefer to locate its facilities far from existing crematoria to ensure it will have a large uncontested demand for its cremation services. As we explain in Appendix C, some evidence indicates that providers do not consider it viable in many cases to open too close to an existing crematorium, and the requirement to meet the planning process "qualitative" need test may reinforce the preference of new entrants to locate far from existing crematoria. "*

8 Summary and conclusion

8.1 It has been demonstrated that there is no immediate need for a crematorium sited at Turners Hill because the improvements to drive times are marginal and the nearest crematorium is not capacity-constrained.

8.2 The CNA analysis of drive time catchments is not sufficiently accurate or transparent to generate reliable figures.

8.3 My drive-time analysis shows that a new crematorium at Turners Hill would make a small improvement in journey times (5-14 minutes) for up to 80,000 people. Fewer than 39,000 would be brought within 30 minutes.

8.4 The local competing crematorium, Surrey and Sussex is operating currently within the acceptable threshold. A crematorium at Turners Hill would have little impact on other neighbouring crematoria.

8.5 It would provide some qualitative improvements.

- By offering more capacity, it would:
    - expand the choice available to the local population, particularly at peak times.
    - Possibly lead to shorter waiting times between the dates of death and cremation.
- Possibly offer an alternative experience.

8.6 Any quantitative need that can be demonstrated in the Mid Sussex area is not satisfied by a crematorium at Turners Hill.

8.7 It is possible to establish a future need to relieve capacity constraints on existing crematoria, but to achieve this effectively the location would be key. It would need to serve a large portion of the 151,000 people currently beyond 30 minutes' drive time of any crematorium, which Turners Hill does not.

8.8 Whilst it can be concluded that a new crematorium will provide a benefit to some Mid Sussex residents in terms of a reduced drive time to a crematorium, this benefit is not

considered to be a significant one, and some Mid Sussex residents would not benefit at all. This is due to the location of the proposed crematorium.

8.9 There is no evidence that existing crematoria are failing to meet current needs in terms of users' experience. The appellant's own Survey of Funeral Directors in the Appendix to the Crematorium Need Assessment received responses from 4 out of 20 questionnaires sent, with only 2 of these 4 (50%) disagreeing with the statement that 'There are enough crematoria in the area to meet current need'.

8.10 I therefore conclude that there is no clear need for this development.