

OXFORDSHIRE LOCAL AGGREGATE ASSESSMENT 2020

October 2021

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Limited)

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1.Oxfordshire Summary of Key Data 2019

Summary – Oxfordshire County Council 2019									
Quarry Sales	2019 Sales (Mt) & Trend	Average (10-yr) Sales & Trend	Average (3-yr) Sales & Trend	LAA 2020 Rate (Mt) ²	Reserve (Mt)	Landbank (years)	Allocations (years)	Capacity (Mtpa)	Comments
Soft Sand	↑ .254	0.211	0.252	0.243	3.047	12.5	N/A	0.375	Capacity not provided in MHCLG survey. For 2019 previous survey responses and planning decisions were used.
Sharp Sand & Gravel	↑ .994	0.646	0.831	1.015	12.075	11.9	N/A	1.900	Capacity not provided in MHCLG survey. For 2019 previous survey responses and planning decisions were used.
Crushed Rock	↑ .843	0.649	0.820	0.778	6.741	5.96	N/A	1.645	Capacity not provided in MHCLG survey. For 2019 previous survey responses and planning decisions were used.
Recycled / Secondary Aggregates	↓ .372	N/A	N/A	0.926	N/A	N/A	N/A	0.562	31% response rate from operators. So, the sales and capacity figure are very low. It is believed to actually be higher. See Supply Chapter

Rail Depot Sales (Sand & Gravel)	c	c	c	c	c	c	c	C	Due to confidentiality due to two operators of the four sites, we are unable to share these figures
Rail Depot Sales (Crushed Rock)	c	c	c	c	c	c	c	C	Due to confidentiality, we are unable to share these figures

General Comments

MHCLG and the BGS undertook the 2019 survey, published in 2021. Aggregate sales are taken from this survey's findings. Recycled and Secondary Aggregate and Rail Depot findings were the responsibility of Oxfordshire County Council for 2019.

There has been an increase in all aggregate demand in Oxfordshire given the increase in planned future infrastructure delivery. There has been a slight drop in Recycled and Secondary Aggregates, but the response rate for this part of the Survey was 31% therefore it is expected to be higher

The LAA Rate of 1.015mt for sharp sand and gravel as set in the LAA2014 and each subsequent LAA, and also contained within the Oxfordshire Minerals and Waste Local Plan Part 1: Core Strategy, has been maintained as it is felt this reflects the level of future demand and the current sales figures.

The LAA rate for Soft Sand and Crushed Rock was increased in the LAA2019. This has been maintained within this LAA as demand has continued to rise.

Using the Crushed Rock LAA Rate, we have fallen below the required 10-year landbank. This issue will be considered within the Core Strategy Review and the work on the Minerals and Waste Local Plan Part 2: Site Allocations Plan. There were also two planning applications outstanding at the end of 2019, which would increase the landbank if permitted.

2.Executive Summary

- 2.1 The National Planning Policy Framework, July 2021 (NPPF) states that mineral planning authorities should prepare an annual Local Aggregate Assessment (LAA)
- 2.2 The LAA is required to:
- Forecast the demand for aggregates based on average 10 years' sales data and other relevant local information;
 - analyse all aggregate supply options; and
 - assess the balance between demand and supply.
- 2.3 This is the eighth LAA for Oxfordshire and includes the 2019 aggregate sales and reserves data for the County. The 10-year period covered by this LAA is 2010 up to 2019 and the three-year period is 2017 – 2019.
- 2.4 The primary aggregate figures within this LAA2020 are taken from the 2019 Aggregates Minerals Survey for England and Wales (AM2019). This survey was undertaken by British Geological Survey (BGS) under a contract with the Ministry of Housing, Communities and Local Government (MHCLG). The Recycled and Secondary Aggregate figures and Rail Depots are taken from the County Council Annual Monitoring Survey, carried out on behalf of SEEAWP as this was not covered by the BGS Survey.

Demand

Sand and Gravel

- 2.5 Sales of sharp sand and gravel increased considerably in 2019 to 0.994mt. They were the highest sales since 2006. There was an increase in the 10-year sales average of 0.646mt. The 3-year sales average of sharp sand and gravel increased by 16% to 0.831mt and is higher than the 10-year average. Both are still below the LAA provision figure.
- 2.6 Having considered the sales trends and other relevant information contained within this report, the LAA2020 provision figure for sharp sand and gravel will remain at 1.015mtpa to accurately reflect the current situation and to ensure soft sand provision for the future.
- 2.7 Sales of soft sand in 2019 were 0.254mt, virtually the same as in 2018, though again they are at the highest level since 2004. The 10-year sales average increased by 4.5% to 0.211mt, above the Core Strategy provision figure of 0.189mtpa, however it is slightly below the LAA2019 figure of 0.243mtpa. The 3-year sales average also increased by 4.5% and is 19.5% higher than the 10-year average and higher than the LAA2019 requirement.
- 2.8 Having considered the sales trends and other relevant information contained within this report, there is not sufficient evidence at this time that would require us to change the LAA figure as set in the LAA2019. The LAA2020 provision figure will therefore remain as at 0.243mtpa to accurately reflect the current situation and to ensure soft sand provision for the future.

Crushed Rock

- 2.9 Sales of crushed rock increased 12% in 2019 to 0.843mt which in turn saw the 10-year sales average increase 8% to 0.601mtpa. This is above the Core Strategy provision figure of 0.584mtpa, yet below the LAA2019 provision rate of 0.778. The 3-year sales average rose by 5.5% (0.820mt) on the previous 3-year period and is now higher than the LAA2019 provision rate.
- 2.10 Having considered the sales trends and other relevant information contained within this report, there is not sufficient evidence at this time that would require us to change the LAA figure as set in the LAA2019.
- 2.11 The LAA2020 provision figure for crushed rock will therefore remain at 0.778mtpa to accurately reflect the current situation and to ensure provision for the future.

Rail Depots

- 2.12 Oxfordshire County Council were responsible for undertaking the survey of the rail depots, as this was not covered by the BGS survey. We had no response to our request. We believe that this poor response is due to the AM survey having been split between the BGS and Oxfordshire County Council. This would have resulted in more administration from the operators, and would have required more forms to be completed by operators. This request for information also came at a time of reduced access to offices and records due to Covid. So, it has been decided to continue using the 2018 figures until the 2020 figures can be obtained.
- 2.13 In 2018 the sales of crushed rock imported to Oxfordshire through rail depots were almost the same in 2018 as in 2017 and were consistent with levels over the previous 3 years. Due to confidentiality, we are unable to publish the yearly figures though we can say that they have been at a significantly higher rate than 2014 and that they are two and half times that of 2007.

Recycled and Secondary Aggregates

- 2.14 Sales of recycled and secondary aggregates recorded in the survey were 372,000 tonnes in 2019. This year, whilst the Primary Aggregate information was collated by the BGS, the survey of Recycled and Secondary Aggregate was undertaken by Oxfordshire County Council. 2019 had a very poor response to the survey with only 31% of operators returning their figures for recycled and secondary aggregate facilities.
- 2.15 As with Rail Depots, it is believed that this poor response is due to the AM survey having been split between the BGS and Oxfordshire County Council, requiring more forms and administration to be completed by operators. Along with the reduced access to offices and records due to Covid.
- 2.16 Having considered the sales trends and other relevant information contained within this report, the LAA 2020 figure for recycled and secondary aggregate should be the provision figure set in the Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy 2017, Policy M3 which is 0.926mtpa.

Supply

Sand and gravel

- 2.17 At the end of 2019, Oxfordshire had 11 sand and gravel quarries within Oxfordshire, two not yet commenced and two currently inactive. No planning permissions were granted in 2019 and there was one sharp sand and gravel planning application outstanding.
- 2.18 Total permitted reserves of sharp sand and gravel in Oxfordshire at the end of 2019 were 12.075mt. Using the Core Strategy/LAA2020 provision figures of 1.015mtpa, this gives a landbank of 11.9 years.
- 2.19 In terms of the plan period, the provision figure for sharp sand and gravel of 1.015mtpa multiplied by the plan period of 18 years, gives a total provision requirement of 18.27mt for the period 2014 to 2031.
- 2.20 Taking into account sales in 2014 – 2019 (total 4.522mt), and reserves that are expected to be worked until after the plan period (10.988mt), the remaining requirement for the period to 2031 is 2.73 mt.

Soft Sand

- 2.21 In Oxfordshire, at the end of 2019, there are eight active sites with planning permission for soft sand extraction. No planning permissions were granted in 2019 and there were two planning applications outstanding at the end of 2019.
- 2.22 Total permitted reserves for soft sand in Oxfordshire at the end of 2019 were 3.047mt. Using the latest LAA provision figures this gives a landbank of 12.5 years.
- 2.23 If we are to meet the Core Strategy Requirement of 3.402 million tonnes over the Plan period, then there is no further requirement for soft sand over the Plan Period.
- 2.24 However to meet the LAA2020 requirements and maintain a steady and adequate supply of mineral over the Plan period, we have used the LAA 2014-2018 figure of 0.189mtpa, up until it was increased to 0.243mpa through the LAA2019, giving a total requirement over the Plan period of 4.104 million tonnes.
- 2.25 Taking into account sales in 2014 – 2019 (total 1.447), and reserves that are expected to be worked until after the plan period (2.58 mt), the remaining requirement for the period to 2031 is 0.077 mt.

Crushed Rock

- 2.26 At the end of 2019, there are 14 sites with planning permission for crushed rock extraction. There are 11 active sites and 3 inactive sites. No planning permissions were granted in 2019 and there were two planning applications outstanding at the end of 2019

- 2.27 Total permitted reserves for Crushed Rock in Oxfordshire at the end of 2019 were 6.741mt. Using the latest LAA provision figures this gives a landbank of years 5.96, which is below the 10 years required by the NPPF.
- 2.28 If we are to meet the Core Strategy Requirement of 10.512million tonnes over the Plan period, then there is no further requirement for Crushed Rock over the Plan Period.
- 2.29 However to meet the LAA requirements and maintain a steady and adequate supply of mineral over the Plan period, we have used the LAA 2014-2018 figure of 0.584mtpa, up until it was increased to 0.778mpa through the LAA2019, giving a total requirement over the Plan period of 13.034 million tonnes.
- 2.30 Taking into account sales in 2014 – 2019 (total 5.151), and reserves that are expected to be worked until after the plan period (6.041mt), the remaining requirement for the period to 2031 is 1.842 mt.
- 2.31 To meet the Core Strategy Requirements, we will need to identify sites within the Site Allocations Plan to meet the following need:
- **Sand and Gravel – 2.73 million tonnes**
 - **Soft Sand - 0 million tonnes**
 - **Crushed rock - 0 million tonnes**
- 2.32 However only identifying sites to meet the Core Strategy requirement will not address our falling below our required 10-year landbank for Crushed Rock nor will it meet the requirements of the NPPF.
- 2.33 Our intention had been to address this landbank issue and identify sites through our Site Allocations Document based on the latest Local Aggregate Assessment requirements.
- 2.34 However, following a review of the evidence for the Core Strategy and the Inspector's Reports and advice from our "critical friend" North Northamptonshire Council, it has been determined that the Site Allocations Document is required to identify only the sites needed to meet the requirement as set out for the Core Strategy above; not the requirements of the latest Local Aggregates Assessment (LAA). Consequently, the landbank for Crushed Rock issue will not be able to be addressed through the Site Allocations Document at this current stage.
- 2.35 We are therefore intending to carry out a consultation on a Core Strategy Review, which at this stage has identified the need for a Partial Update of the Core Strategy in relation to Policy M2.
- 2.36 Based on this Review and Partial Update, we will then be able to identify additional future sites for sharp sand and gravel, soft sand and crushed rock to meet the LAA identified mineral requirements over the Plan Period.
- 2.37 This LAA2020 shows that based on Local Aggregates Assessments we will need to identify sites to meet the following need:

- **Sand and Gravel – 2.73million tonnes.**
- **Soft Sand - 0.077 million tonnes**
- **Crushed rock - 1.842 million tonnes**

Recycled and secondary material sites

- 2.38 At the end of 2019, Oxfordshire's capacity to produce recycled and secondary aggregate in 2019, as recorded for the SEEAWP survey was approximately 562,000tonnes. It is noted that only around 31% of operators completed the survey and so the actual capacity is likely to be higher. Permitted Capacity taken from planning decisions, application statements and previous survey findings at the end of 2019 was 1,474,199 million tonnes.

Rail Depots

- 2.39 Oxfordshire has four permitted rail depots, three of which are operational. The combined sales from the three railhead depots operational in 2018 represent 88% of the total throughput capacity of these three depots. If the permitted railhead depot at Shipton on Cherwell is developed, the capacity will be increased.

Relationships with other MPA's

- 2.40 Every county in the UK has to import aggregates because none possess the geology necessary to produce all the types of aggregate required. All sales which reflect supply and demand are tracked in the four (six) yearly national aggregate surveys.
- 2.41 The most recent is the 2019 Aggregates Minerals Survey for England and Wales (AM2019) was undertaken by British Geological Survey (BGS).The AM2019 sets out aggregate movements at a sub-regional and Mineral Planning Authority level.
- 2.42 Total primary aggregate sales within Oxfordshire have increased by 8% since 2014, however the South East as a whole has seen an overall decrease of 7% in total primary aggregate sales.
- 2.43 Oxfordshire have increased in Land Won Sand and Gravel sales by 44% since 2014, though sales in Crushed Rock sales have decreased by 20% since 2014
- 2.44 Comparison of the AM2009, AM2014 and AM2019 results show that Oxfordshire is a net exporter of sand and gravel since 2014. From 140,000 in 2009, doubling to 221,000 tonnes in 2014, and in 2019 doubling again to 476,000 tonnes. Exports make up approximately 38% of Oxfordshire's total sales. The majority of exports were to within the South East (30%) whilst 3% went elsewhere and 5% was unallocated on the Survey returns.
- 2.45 Oxfordshire imported 128,000 of Land won Sand and Gravel, up slightly from 117,000 tonnes in 2014, and 7000 tonnes of Marine Sand and Gravel.

- 2.46. Oxfordshire changed from a net importer of Crushed Rock in 2014 to a net exporter. Oxfordshire exported 582,000 tonnes of crushed rock in 2019 compared with importing 356,000 tonnes from outside the County. This is a change from 2014 where we were a net importer
- 2.47 Exports of Crushed Rock make up approximately 69% of Oxfordshires total sales. The majority of exports were within the South East (48%) whilst 21% went elsewhere.

Factors affecting supply and demand

- 2.48 2019 has seen an increase in sales of all primary aggregate compared to 2018. This is as a result of the majority of sites reporting an increase in sales for this year. In addition, in relation to particular sites, the sand and gravel at Cassington contained within the remaining plant site area, was being actively extracted during 2019, having been dormant previously. However, the permitted reserve at Stonehenge Farm, Stanton Harcourt still remains to be worked. New Barn Farm, Cholsey was permitted towards the end of 2018, and this is expected to commence in 2020, thereby enabling a further potential increase in overall sharp sand and gravel sales. There are two outstanding applications for Hatford and Shellingford quarry, which if granted would provide additional mineral reserves for sharp sand and gravel, soft sand and crushed rock between them.
- 2.49 There are also a number of major infrastructure projects as well as local housing and transport projects planned for over the Plan period, that could affect demand for aggregate. These include economic growth; population growth and house construction; major infrastructure projects and key developments.
- 2.50 2020 had a global pandemic (Covid) and this has had implications for the economic outlook, however this will be explored in greater detail in future LAA's not the LAA2020 for the year 2019.

Executive Summary Conclusion

- 2.51 The purpose of an annual Local Aggregates Assessment is to review the latest information available in order to forecast future demand as well as analysing all aggregate supply options and assessing the balance between supply and demand. The LAA sets the level of provision to be made for future supply of sand and gravel and crushed rock from quarries and the NPPF states the LAA should 'forecast future demand, based on a rolling average of 10 years' sales data and other relevant information, and an assessment of all supply options.'
- 2.52 Having reviewed the 2019 figures based on the 10-year sales average data, we also reviewed the 3-years sales average and assessed the implications of the continued growth that is planned across Oxfordshire. To ensure that

supply continues to meet demand the LAA Provision levels will continue for the LAA 2020 as follows:

- Sand and Gravel – 1.015mtpa
- Soft Sand – 0.243mtpa
- Crushed rock – 0.778mtpa
- Recycled and Secondary Aggregates- 0.926mtpa

2.53 Using these LAA provision levels and the Oxfordshire reserves at the end of 2019, the Landbank can be calculated as:

- Sand and Gravel – 11.9 years
- Soft Sand – 12.5 years
- Crushed Rock – 5.96 years

2.54 To meet the Core Strategy requirements, we will need to identify sharp sand and gravel sites to meet the following mineral requirements over the Plan Period.

- **Sand and Gravel -2.73 million tonnes.**

2.55 However to meet our Local Aggregate Assessment requirements, we will need to identify sites to meet the following mineral requirements over the Plan Period.

- **Sand and Gravel – 2.73million tonnes.**
- **Soft Sand - 0.077 million tonnes**
- **Crushed rock - 1.842 million tonnes**

3. Demand

Land Won Aggregate

3.1 These figures within this section are taken from two sources: the 2019 Aggregates Minerals Survey for England and Wales undertaken by British Geological Survey (BGS) under a contract with the Ministry of Housing, Communities and Local Government (MHCLG); and the historic aggregates monitoring surveys undertaken annually by the County Council on behalf of the SEEAWP.

Sharp Sand and Gravel Past Sales

3.2 Sales of sharp sand and gravel from quarries in Oxfordshire for the period 2010 – 2019 are shown in Table 3.1.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year average	Last 3 year average
0.455	0.489	0.559	0.401	0.639	0.768	0.651	0.703	0.796	0.994	0.646	0.831

Table 3.1: Sales of Sharp Sand and Gravel 2010 – 2019 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys)

3.3 Sales of sharp sand and gravel significantly increase in 2019, with almost 200,000 additional tonnes sold compared to 2018. These are the highest sales¹ since 2006.

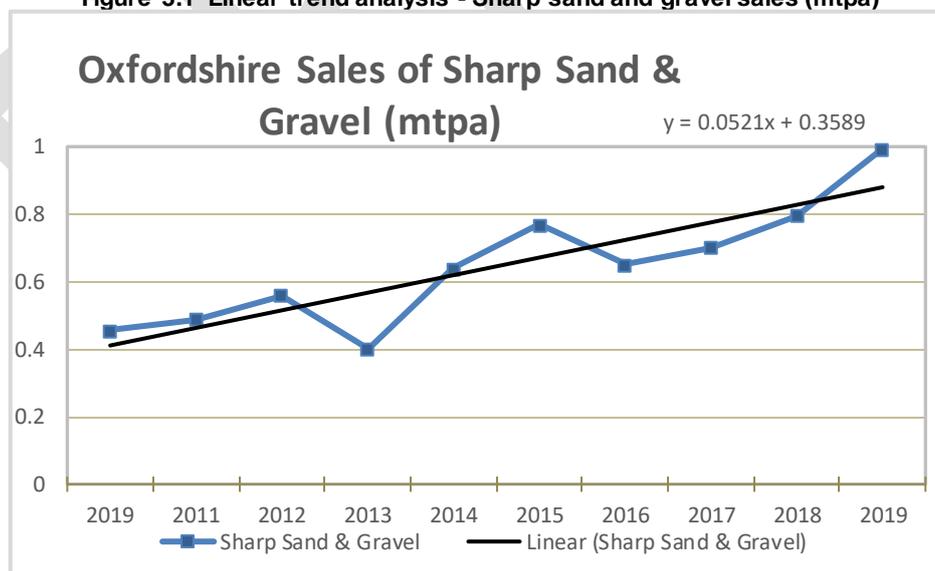
3.4 Sales between 2010 and 2013 show the effects of the economic recession and the closure of Caversham Quarry during 2013. This closure was due to exhaustion of reserves in 2012, pending grant of permission for an extension which was approved in August 2014 but not commenced until 2017. The recession and quarry closure are likely to have affected the total sales in 2013.

3.5 There was also a 15% fall in sales of sharp sand and gravel from quarries in Oxfordshire from 2015 to 2016. Most of this decrease was accounted for by sales at one quarry - Bridge Farm, Sutton Courtenay. The fall in sales at this quarry in 2016 was caused primarily by a break in production whilst the determination and issue of the planning permission to work the full depth of gravel in Phase 4b at Bridge Farm was awaited; the permission was issued on 17 May 2016.

¹ Appendix 1 – Historic Sales

- 3.6 The shortfall in supply from Bridge Farm during this time was made up by imports of marine dredged material, delivered by rail from East London into Appleford Sidings, Sutton Courtenay Depot. Crushed rock (limestone) was also imported by rail into this depot, from Somerset, and used to substitute sand and gravel. In 2017 sales of sand and gravel extracted from Bridge Farm, Sutton Courtenay Quarry returned to the 2015 level; and overall sales of sharp sand and gravel in Oxfordshire increased again. All these factors have had implications for the 10-year average.
- 3.7 However, since 2016 there has been a steady increase in sharp sand and gravel sales. 2019 has seen a 25% increase in sales of sharp sand and gravel compared to 2018.
- 3.8 This is as a result of the majority of sites reporting an increase in sales for this year. In addition, the sand and gravel at Cassington contained within the remaining plant site area, was being actively extracted during 2019, having been dormant previously. This rise is to be expected with the residential and commercial growth taking place within Oxfordshire
- 3.9 Based on linear trend analysis shown in Figure 3.1, the average rate of increase over the period 2010 to 2019 in Oxfordshire was 0.0521mtpa, giving a total increase of 0.521mtpa over the 10-year period with 2 intervals of decline. The periods of decline are discussed in 3.3-3.4.
- 3.10 There has been a 16% increase in the 3-year baseline period². The 3-year sales average of sharp sand and gravel is higher than the 10-year average.

Figure 3.1 Linear trend analysis - Sharp sand and gravel sales (mtpa)



Soft Sand Past Sales

² Oxfordshire County Council LAA2019

3.11 Sales of soft sand from quarries in Oxfordshire 2010–2019 are shown in Table 3.2.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year average	3 year average
0.142	0.201	0.155	0.165	0.230	0.233	0.227	0.251	0.252	0.254	0.211	0.252

Table 3.2: Sales of Sharp Sand and Gravel 2010 – 2019 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys)

3.12 The sales for 2019 have not significantly changed since 2018 with only a 0.85% increase, though 2019 still has the highest level of soft sand sales since 2004.

3.13 Over the last 10 years, there has been an overall steady increase in the sales of soft sand in Oxfordshire. Linear trend analysis (Figure 3.2) over the period 2010 to 2019 reveals an average rate of increase of 0.0123mtpa for Oxfordshire, representing a total of 0.123mt (with four periods of decline) over the baseline period.

3.14 This is a 4.5% increase on both the previous 3-year baseline period and the 10-year baseline period, and again, is the highest level since 2004³. The 3-year sales average of soft sand has increased again to 0.252mtpa and is 19.5% higher than the 10-year average.

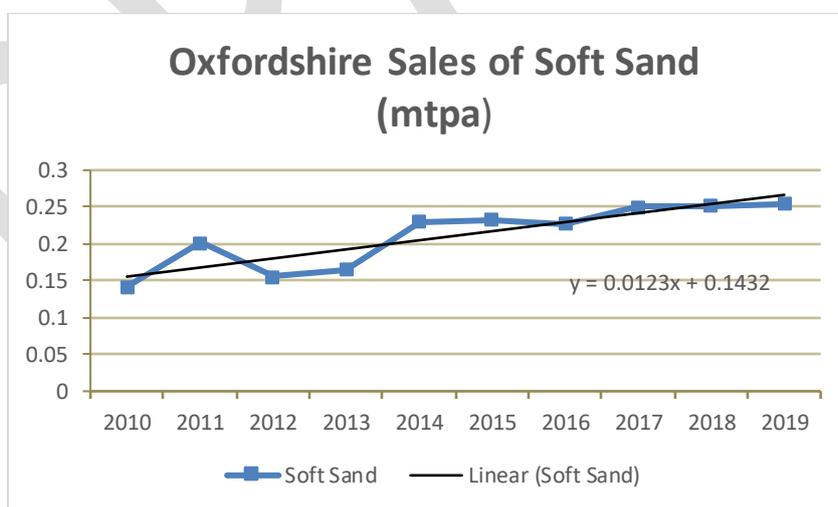


Figure 3.2 Linear trend analysis – Soft sand sales

Crushed Rock Past Sales

³ Appendix 1

3.15 Sales of crushed rock from quarries in Oxfordshire for the period 2010– 2019 are shown in Table 3.3.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year average	3 year average
0.272	0.322	0.242	0.502	1.061	0.914	0.715	0.867	0.751	0.843	0.649	0.820

3.16 Historic records show that LAA2014 identified that the impact of the prolonged recession on crushed rock sales was more pronounced in Oxfordshire between 2010 and 2013. This was attributed to the fact that Oxfordshire’s crushed rock is generally suitable only for relatively low specification works and might therefore have been less resilient to the economic downturn than the higher specification rock types found in other parts of the country.

3.17 However, in the last year there has been a 12% increase in crushed rock sales, similar to those in 2017. This rise is to be expected with the residential and commercial growth taking place within Oxfordshire. Since 2014, crushed rock sales have been consistently higher than those at the start of the 10-year baseline period. In 2019 there was an 8% increase on the previous 10 year baseline period (Appendix 1).

3.18 The three-year average rose with a 5.5% increase on the previous 3-year period.

3.19 Linear trend analysis of crushed rock sales (Figure 3.3) over the period 2010 to 2019 reveals an average rate of increase of 0.0713mtpa for Oxfordshire. The resulting overall increase over that period is 0.713mt (4 periods of decline).

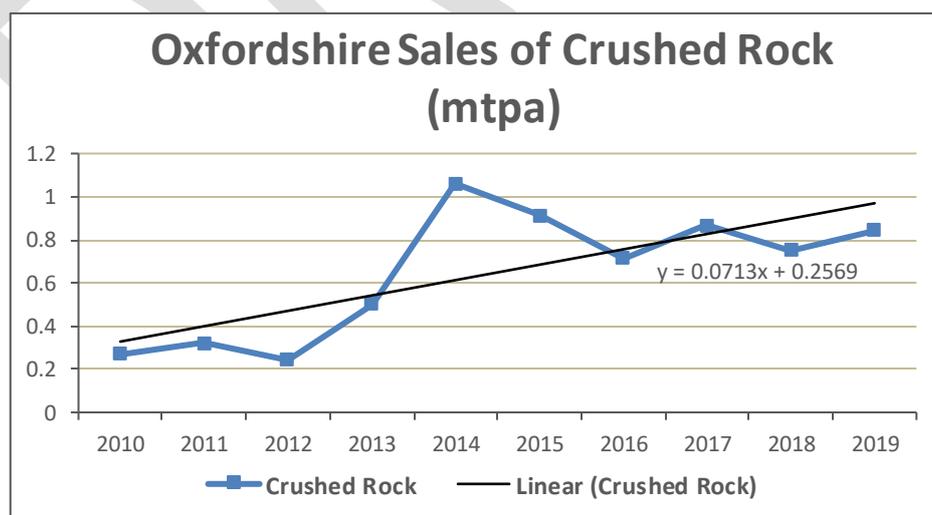


Figure 3.3 Linear trend analysis – Crushed rock sales

Secondary and Recycled Aggregate

- 3.20 Although reasonable data on recycling capacity is available for Oxfordshire, and whilst that may be indicative of increasing production and sophistication, there is only partial information on the actual levels of production and use of these materials.
- 3.21 Past aggregates monitoring surveys, for example, have not produced a full response from secondary and recycled aggregates site operators.
- 3.22 This year, whilst the Primary Aggregate information was collated by the BGS, the survey of Recycled and Secondary Aggregate was undertaken by Oxfordshire County Council. The 2019 survey had a very poor response with only 31% of operators returning their figures for recycled and secondary aggregate facilities.
- 3.23 As a result, 2019 has recorded one of the lowest sales records in Recycled and Secondary Aggregate; only 2014, 2011 and 2010 had been lower.
- 3.24 This poor response is likely due to: the AM survey having been split between the BGS and Oxfordshire County Council, requiring more forms and administration to be completed by operators; and the reduced access to offices and records due to Covid.
- 3.25 It is likely that the reported 2019 sales figures are significantly less than the total actual production.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year average	3 year average
0.152	0.236	0.466	0.422	0.271	0.453	0.534	0.417	0.406	0.372	0.373	0.398

- 3.26 In a 2018 MPA⁴ Report, it was suggested that an alternative approach for considering secondary and recycled aggregate demand would be to assume 30% of all aggregates sales originate from recycled and secondary aggregate sites. This proportion has been assumed by industry for some years at the GB level. However, it is acknowledged there is lots of variation that depends on type of construction activity occurring and amount of hard demolition waste available.
- 3.27 If we were to apply this to Oxfordshire to all sand and gravel and crushed rock sales in 2019, this would give a recycled and secondary figure of 0.627million tonnes, which is considerably higher than our survey returns.

Imports of Secondary Aggregates

- 3.28 No known secondary aggregates are currently transported into Oxfordshire. This is largely due to the costs of transporting the material, and because the

⁴ Construction and Markets – South East MPA: Mineral Products Association - November 2018

exemptions from the aggregates levy, that gave secondary aggregates a cost advantage over primary aggregates were withdrawn in April 2014.

- 3.29 One potential exception to this is China Clay sand, produced as a by-product of China Clay (Kaolin) extraction in Cornwall and Devon. This commands prices high enough to justify the cost of long-distance sea or rail transport. These conditions do not, however, currently apply in Oxfordshire. There is no opportunity to transport by sea. Import by rail would be difficult both because of the need to double handle the material and because there is a current shortage of network capacity.

Rail Depots

- 3.30 There are three railhead depots in Oxfordshire used for importing aggregates, namely at Banbury, Kidlington and Sutton Courtenay, and these are safeguarded in the Oxfordshire Minerals and Waste Local Plan: Part 1 Core Strategy. These depots import crushed rock aggregates from the South West (Somerset) and the East Midlands (Leicestershire). There is planning permission for a further railhead aggregate depot at Shipton on Cherwell, but this has not yet been developed. There is also a depot at Hinksey Sidings, Oxford but this is used solely by the rail industry to bring in rail ballast for internal use on the rail network; it is currently operational but its use for the transshipment of rail ballast has been intermittent in the past.
- 3.31 Figures for imports of crushed rock by rail collected by Oxfordshire County Council are only available from 2007 onwards. Prior to that year only the regional totals are available.
- 3.32 Oxfordshire County Council were responsible for undertaking the survey of the rail depots, as this was not covered by the BGS survey. We had no response to our request. It is believed that this poor response is due to: the AM survey having been split between the BGS and Oxfordshire County Council, requiring more forms and administration to be completed by operators; and the reduced access to offices and records due to Covid
- 3.33 Therefore, the LAA2020, figures remain as at 2018. It is anticipated that the 2020 survey for LAA2021 will be more successful.
- 3.34 The rail depot figures for 2018 and previous years were confidential because they were derived from returns for only two companies. The figures for 2018 incorporate imports by rail from Somerset, Leicestershire and elsewhere, but also include significant quantities (from South Wales, South Gloucestershire and Kent) that were delivered to the rail depots by road. This distorts the true picture for rail transportation, but it at least provides quantification of those road imports. The figures do not include imports of crushed rock to Hinksey Sidings, Oxford, which were brought in by rail and despatched by rail for use as rail ballast on the rail network over a wider area than just Oxfordshire.

3.35 Although the raw data is confidential, in 2018 it was possible to report the variations over time (from 2007 onwards) in overall sales from the rail depots from the two reporting companies. Table 3.8 below, expresses the annual sales from rail depots for 2007 to 2018 as proportions of the sales figure for 2007.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Proportion of 2007 sales of subsequent year sales	1.0	1.1	0.7	0.9	1.2	1.0	1.0	2.4	2.2	2.4	2.5	2.5

Table 3.5: Pattern of sales from Oxfordshire rail depots 2007-2018 (Source: Oxfordshire County Council Aggregates Monitoring Survey)

3.36 Table 3.5 shows that the figures vary from one year to another but that up to 2013 the fluctuation was less marked than those for sales of sand & gravel. Since 2013, the situation has changed, with annual rail imports for 2014 to 2018 being consistently around two and a half times that imported in 2007.

3.37 The combined sales from the three railhead depots that were operational in 2018 represented 88% of the total throughput capacity of these three depots, indicating that there is currently little headroom for further increase in imports of crushed rock by rail. If the permitted railhead depot at Shipton on Cherwell is developed, the capacity will be increased.

Consumption

3.38 The BGS AM2019 surveyed operators on their imports and exports of minerals between Mineral Planning Authorities, which is explored in greater detail in Chapter 6 and Appendix 2. This sets out how much minerals Oxfordshire imports and how much we export.

3.39 The final report also sets out how much Land won Aggregate Oxfordshire consumed in 2019, which is an indicator of the quantity of each mineral type Oxfordshire requires. Sharp Sand and Gravel and Soft Sand are combined within the BGS Survey.

3.40 The full summary is shown in Appendix 2. The consumption figures have been summarised in Table 3.5. This also includes the information for the comparative years of 2009 and 2014.

	Sand and Gravel 2009	Crushed Rock 2009	All Oxfordshire Aggregate 2009	Sand and Gravel 2014	Crushed Rock 2009	All Oxfordshire Aggregate 2014	Sand and Gravel 2019	Crushed Rock 2019	All Oxfordshire Aggregate 2019

Total Consumed within Oxfordshire (Mt)	0.757	0.625	1.383	0.765	1.501	2.266	0.900	0.617	1.517
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Table 3.5: Mineral consumed within Oxfordshire, 2009, 2014 and 2020 (BGS Surveys)

- 3.41 The table shows that in 2019, Oxfordshire consumed 0.900mt of sand and gravel, an increase of 17.5% from 2014, and an increase of 18.9% on 2009.
- 3.42 For crushed rock, Oxfordshire consumed 0.617mt in 2019. This is a decrease of 58.5% from 2014, and a decrease of 1.3% on 2009.
- 3.43 It should be noted that there are some minerals within the survey that it is not clear where they were consumed. These minerals are identified as sold within the South East or Unallocated. The consumption rates within Oxfordshire do not include any of the quantities from these two categories.

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4. Factors affecting demand

- 4.1 Although the NPPF requires that the level of future provision within the LAA should be based, in part, on the rolling average of 10 years' sales figures. it also requires "other relevant local information" to be taken into account.
- 4.2 We need to consider whether the historical 10-year average for land-won primary aggregate production can be relied upon as a guide to future levels of provision, or whether this needs to be changed in order to reflect other factors which may influence either the supply (availability) and/or the demand for aggregates produced within Oxfordshire, in future years.

Economic Forecasts

- 4.3 In considering Economic growth on the supply and demand of aggregates, several national forecasts have been considered. To consider economic forecasts this section considers Gross Domestic Product (GDP) and construction rates.
- 4.4 The Gross Domestic Product (GDP) is only available at UK level, but it does provide a background indicator as to the relative changes in economic activity likely to be experienced in Oxfordshire over time. Table 4.1⁵ below shows the annual GDP year on year growth for the UK as a whole for the 10-year baseline period. These a prolonged period of fluctuating but generally limited economic growth thereafter. The average rate of growth in the UK over the baseline 10-year period was 1.4%.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year average
UK	2.1%	1.3%	1.4%	2.2%	2.9%	2.4%	1.7%	1.7%	1.3%	1.4%	1.8%

Table 4.1: Changes in UK Real GDP over the baseline period (ONS)

- 4.5 Due to the delayed publication of this LAA2020 whilst waiting for the 2019 Aggregates Survey, it has meant that the growth forecasts as set out in Table 4.2 by the Office of Budget Responsibility have altered significantly from 2018's due to the impact of Covid in 2020/21⁶. The figures for 2022, 2023 are higher because of an assumed bounce back afterwards.

⁵ [Gross Domestic Product: Year on Year growth: CVM SA % - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/gross-domestic-product/year-on-year-growth/cvm-sa-%)

⁶ obr.uk/efo/economic-and-fiscal-outlook-march-2021/

	2019	2020	2021	2022	2023	2024	2025	2026 - 2029	2019-2025 average
UK GDP	1.4%	-9.9%	4%	7.3%	1.7%	1.6%	1.7	Not yet forecast	1.1%

Table 4.2: Changes in UK Growth Forecasts (Office of Budget Responsibility)

- 4.6 However, there are more recent assumptions for GDP Growth from August 2021 which assumes that 2021 will have growth rate of 6.9% and 2022 will have a growth rate of 5.6%⁷. These are average of a range of independent predictions.
- 4.7 In 2017 the MPA published⁸ regional profiles with the intention of keeping them regularly updated. Within this report the regional construction outlook for the South East indicated an annual growth rate of 1.1% for the five years 2018-2022. This was equivalent to 5.5% and 11.45% growth over five and ten years respectively.
- 4.8 However, since this report was published, the global Covid pandemic has occurred and its impact on future projections for construction will need to be kept under review and explored in future LAAs. The impact from Brexit will also need to be considered in future reviews.
- 4.9 It would be beneficial if consideration could be given to any indicators of more local economic growth. Unfortunately, no quantitative information is available on this, though, it can be said that Oxfordshire clearly has a very positive growth agenda, as set out in the current Oxfordshire Strategic Economic Plan and in the Oxfordshire Growth Board's Oxfordshire Infrastructure Strategy (OXIS).

Economic Forecast Conclusion

- 4.10 At this stage, following the Covid pandemic and Brexit, it seems sensible to assume that growth will be at least in line with the indications given by National GDP projections. Therefore, it would be prudent to assume that other than in 2020, future levels of economic growth activity and thus demand for construction aggregate, are likely to be higher in the future than has historically been the case.
- 4.11 Unfortunately, no evidence is available to quantify the level of increase likely to be experienced, but it seems reasonable to assume that at least a modest level.

⁷ <https://www.gov.uk/government/statistics/forecasts-for-the-uk-economy-august-2021>

⁸ Construction & Markets – South East (MPA)

Major Infrastructure Projects/Key Development

- 4.12 Major infrastructure projects, including those at the national scale, and key developments throughout Oxfordshire should be considered alongside housing and associated infrastructure development in terms of their likely influence on the future demand for construction aggregates. In assessing the overall impact of major infrastructure projects/key development and the justification for departure from the historical sales average, the number of new homes to be developed in Oxfordshire, as outlined below, has not been considered here. Housing figures have been included here solely for completeness. Oxfordshire's Local Industrial Strategy⁹ 2020 highlights that the Infrastructure projects within Oxfordshire that are critical to the Investment Plan total £1,117.5million. The OXIS¹⁰ identifies a range of infrastructure development required to support population and housing growth.
- 4.13 Across Oxfordshire these include
- West Oxfordshire A40 strategies
 - The National Infrastructure Delivery Plan – For Oxfordshire projects such as HS2 and National Satellite Test Facility at Harwell
 - Oxfordshire Housing and Growth Deal¹¹: Provides £60m for affordable housing and £150m for infrastructure improvements, including road and rail. Supports the ambition of building 100,000 new homes across Oxfordshire between 2011 and 2031 to address the county's severe housing shortage and expected economic growth.
 - The Oxford-Cambridge Arc.
 - The National Infrastructure Commission – East West Rail Project (though most of the work is outside the County)
 - Oxfordshire Knowledge Spine, which includes Science Vale Oxford¹², Bicester and Oxford¹³.
 - Science Vale Oxford. It is the largest concentration of research and development in Europe: 20,000 new jobs and around 20,000 new homes.
 - Growth in Bicester.
 - Highway schemes
- 4.14 It is difficult to assess the overall impact of those infrastructure and major development proposals, in terms of their demand for construction aggregates, without being able to compare this information with equivalent data for the baseline period (2010 - 2019). At the very least, however, there appears to be no evidence to suggest that this element of demand is likely to reduce and, if anything, it seems likely that there will be increased activity.

⁹ [The Oxfordshire Investment Plan - August 2020.pdf \(oxfordshirelep.com\)](#)

¹⁰ [Infrastructure Strategy \(OXIS\) | OxLEP \(oxfordshirelep.com\)](#)

¹¹ <https://www.gov.uk/government/publications/oxfordshire-housing-deal>

¹² A global hot spot for enterprise and innovation in science, high technology and the application of knowledge - <http://www.sciencevale.com/>

¹³ Oxfordshire LEP (2014) Strategic Economic Plan: Driving Economic Growth Through Innovation.

Major Infrastructure Projects/Key Development Conclusion

4.15 Whilst it is difficult to quantify, there are indications that planned infrastructure and major development within the County may be greater during the Plan Period than was the case during the baseline period, and it would therefore be prudent to anticipate at least a modest increase in demand for construction aggregates from this sector.

Population and Housing Growth

4.16 In considering the future projections we also need to consider population growth and local authority housing forecasts.

4.17 OXIS¹⁴ (2017) forecasts that in the period 2016-2040, 123,500 additional homes will be built in Oxfordshire, the equivalent of 5,100 homes being built per year; and that population will increase by 39% from 688,000 to approximately 956,000.

4.18 Adopted Local Plans in the Oxfordshire indicate the major sites for new homes

- Cherwell – concentrated around Bicester, Banbury and the former RAF site at Upper Heyford, plus growth around Begbroke, Kidlington and Yarnton to meet Oxford's unmet need.
- Oxford City – concentrated at Barton Park, Northern Gateway and Oxpens.
- South Oxfordshire – concentrated around Chalgrove Airfield and the Didcot Garden Town in conjunction with Vale of White Horse, with further strategic land at the edge of Oxford
- Vale of White Horse – concentrated around the Didcot Garden Town, Wantage and Abingdon (the Science Vale)
- West Oxfordshire - Concentrated at Cotswold Garden Village Eynsham, North Witney and Chipping Norton.

4.19 Population figures are published by the Office of National Statistics¹⁵.(ONS) There has been a steady population increase between 2010 and 2019. Unlike aggregate sales there was no dip in population at the start of the baseline period, at least at a county level and on the scale associated with year-on-year variations. It is hard to draw a correlation between population figures and aggregate demand.

4.20 A more useful measure, however, may be the average rate of population growth over a period. Over the ten-year period to 2019 there was an overall growth in the population of Oxfordshire of 42,979 people (+7%) (an average of

¹⁴ [Infrastructure Strategy \(OxIS\) | OxLEP \(oxfordshirelep.com\)](#)

¹⁵ www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/

0.7% per year, similar to the increase across England¹⁶ (+7%), slightly lower than the baseline period to 2018 (+7.2%).

- 4.21 Oxfordshire County Council population forecasts (2020) predict a total population in Oxfordshire of 799,634 by 2028, a growth of 150,946 (23%). Whereas the ONS have population forecast of 720,204 by 2028, a growth of 71,516 (11%). (Appendix 4).
- 4.22 Whilst there is no statistical justification for assuming that rates of population growth will correlate with changes in demand for aggregates, they do at least provide a mechanism for looking further ahead than the current economic forecasts. They suggest that there will be continued pressure for new housing and associated infrastructure development which is likely to be reflected in an increase in the demand for construction aggregates.
- 4.23 This is echoed in the Oxfordshire Strategic Economic Plan which states that “Our vision is Oxfordshire as a vibrant, sustainable, inclusive, world leading economy, driven by innovation, enterprise and research excellence”; and also that “Both activity and employment rates are higher than the regional average – and substantially higher than the national average”.
- 4.24 This can be examined further by considering data on rates of house construction (Appendix 4).
- 4.25 For the 10-year baseline period (2010-2019) the average housing completion rate in Oxfordshire was 2,943 homes per year¹⁷, higher than the previous LAA2019 baseline (2003 – 2014) figure of 2,334.3 homes per year.
- 4.26 However, if we took the last 3 years average (2017-2019), the housing completion rate in Oxfordshire is 4,676 homes per year, which is an increase on the LAA 2018 3-year average (4,312 homes per year).
- 4.27 Looking forward, the projections for housing growth can be seen in Appendix 4. The average over the 10-year period equates to around 6,212 homes per annum. Whilst there is considerable uncertainty in Oxfordshire about the deliverability of these figures, taken at face value and the last 3 years housing completion rates, suggest a markedly upward trend in the associated demand for construction aggregates.
- 4.28 In March 2018, the six Oxfordshire authorities signed the Oxfordshire Housing and Growth Deal. It committed the authorities to collectively delivering 100,000 homes and infrastructure across the county between 2011 and 2031.

Population and Housing Growth Conclusion

¹⁶ Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/timeseries/enpop/pop>

¹⁷ Oxfordshire County Council.

- 4.29 It is clear that we need to consider the implications of population and housing growth on the minerals provision over the plan period. The indications are that demand could be significantly higher during the Plan period than previously.

Conclusion

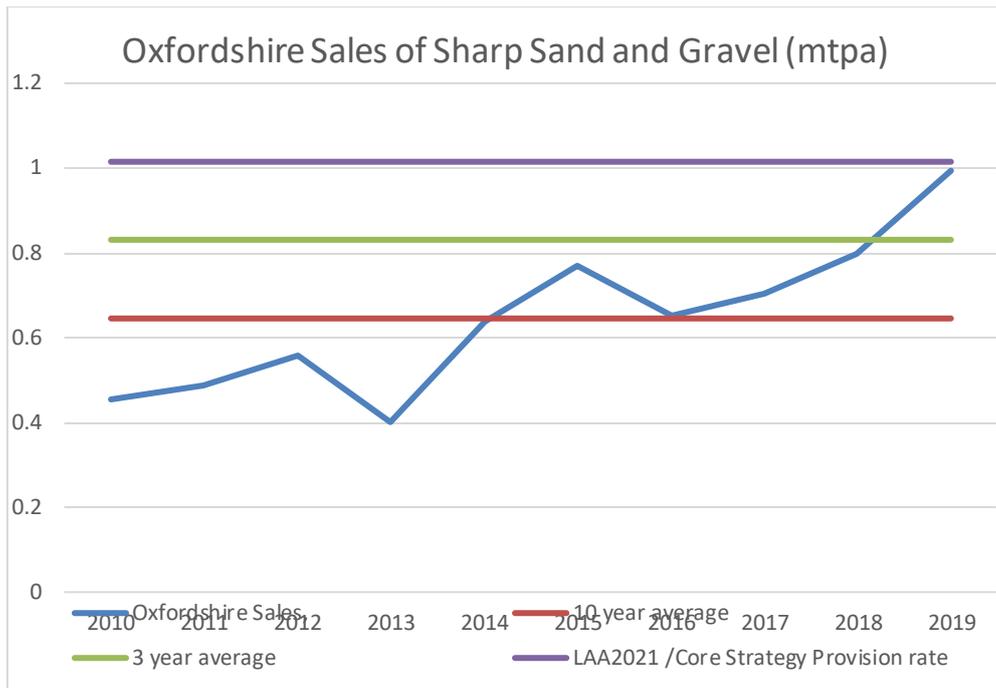
- 4.30 The evidence available suggests that Economic Forecasts, Major Infrastructure Projects/Key Development and Population Growth and Housing are all expecting some form of growth over the plan period and that recent demand would continue for the foreseeable future. The impact of Covid and Brexit will be explored in future LAAs.

5.LAA 2020 Provision Levels

Sharp Sand and Gravel

- 5.1 For sharp sand and gravel, there was a considerable increase in sales in 2019 towards the LAA level of 0.189mtpa. The generally upward trend in sales continued. The 3-year sales average was 16% higher than the previous 3 year sales average over the baseline period however there was a 3.9% decrease in the 10-year sales average. The 3-year sales average increased and is 46% higher than the 10-year average. This is consistent with the expectation of increasing demand and consequent sales when the LAA 2014 provision level figure was set at 1.015 mtpa, which has been continued in subsequent LAAs. This comparison can be seen in Figure 4.1.
- 5.2 Available evidence indicates that supply is likely to increase further in response to rising demand.
- 5.3 Taking into account sales and consumption alongside this evidence, in conclusion, at this time there is no justification for a change in the LAA provision level figure from the current level of 1.015mtpa and this should continue to apply in the LAA 2020.

Figure 4.1 Actual sharp sand and gravel sales compared with the average sales(mtpa) and the LAA 2020 provision level.

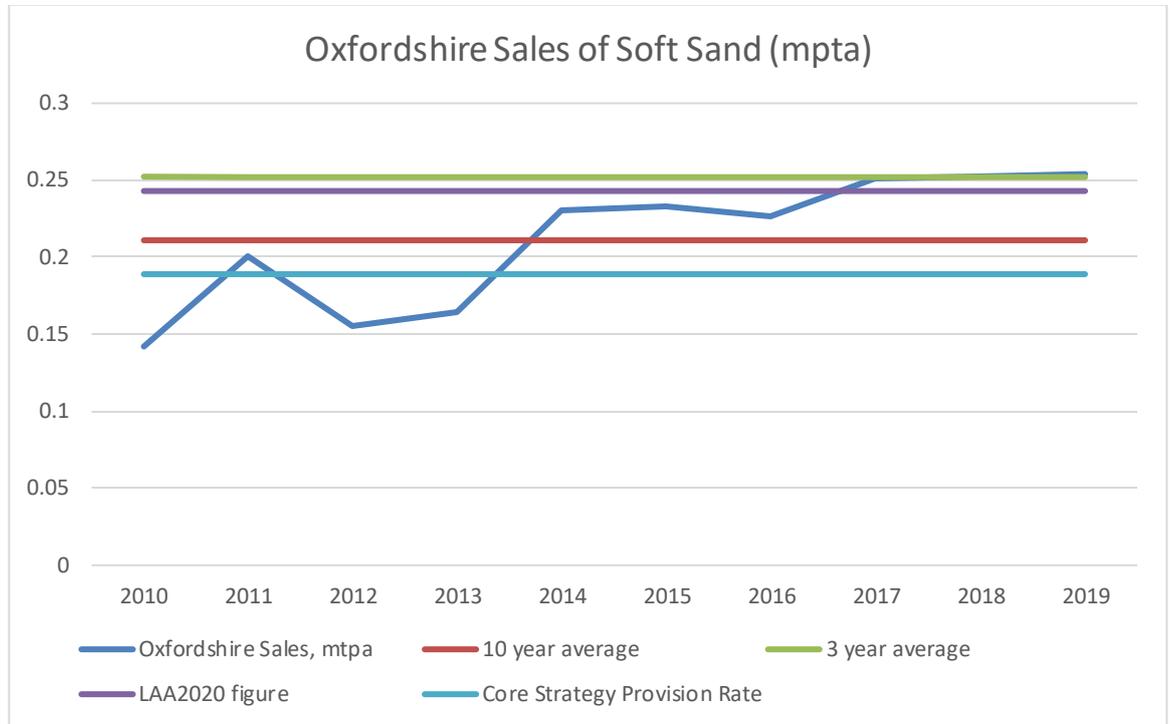


Soft Sand

- 5.4 For soft sand, the Core Strategy includes a provision figure of 0.189mtpa, which was set in the LAA 2014 on the basis of the 10-year sales average at that time.
- 5.5 Since 2014, sales of soft sand have continued to rise above the Core Strategy and LAA 2014 provision figures. In 2018 there had been 5 years (2014 – 2018) of sales of soft sand consistently at levels significantly above pre-2014 sales levels and above the LAA figure. This 5-year period of sales at a consistently higher level was considered sufficient for it to be concluded that this reflected an increased level of demand for soft sand that is likely to continue for the foreseeable future. It was therefore considered appropriate to increase the LAA provision for soft sand to the 2016-2019 3-year sales average of 0.243mtpa within the LAA2019.
- 5.6 Sales in 2019 saw a 0.85% increase on 2018 sales as the generally upward trend in sales continued. The 3-year sales average was 4% higher the previous 3-year sales average over the baseline period and there was a 4% increase in the 10-year sales average. The 3-year sales average is 19% higher than the 10-year sales average.
- 5.7 Considering from sales and consumption, Available evidence, in terms of economy, population, infrastructure and housing projections, indicates that demand is likely to continue.
- 5.8 Taking into account sales and consumption alongside this evidence, in conclusion, at this time there is no justification for a change in the LAA

provision level figure from the current level of 0.243mtpa. This should continue to apply in the LAA 2020.

Figure 4.2 Comparison of actual soft sand sales compared with the average sales and the LAA 2020 and Core Strategy Provision levels (mtpa).



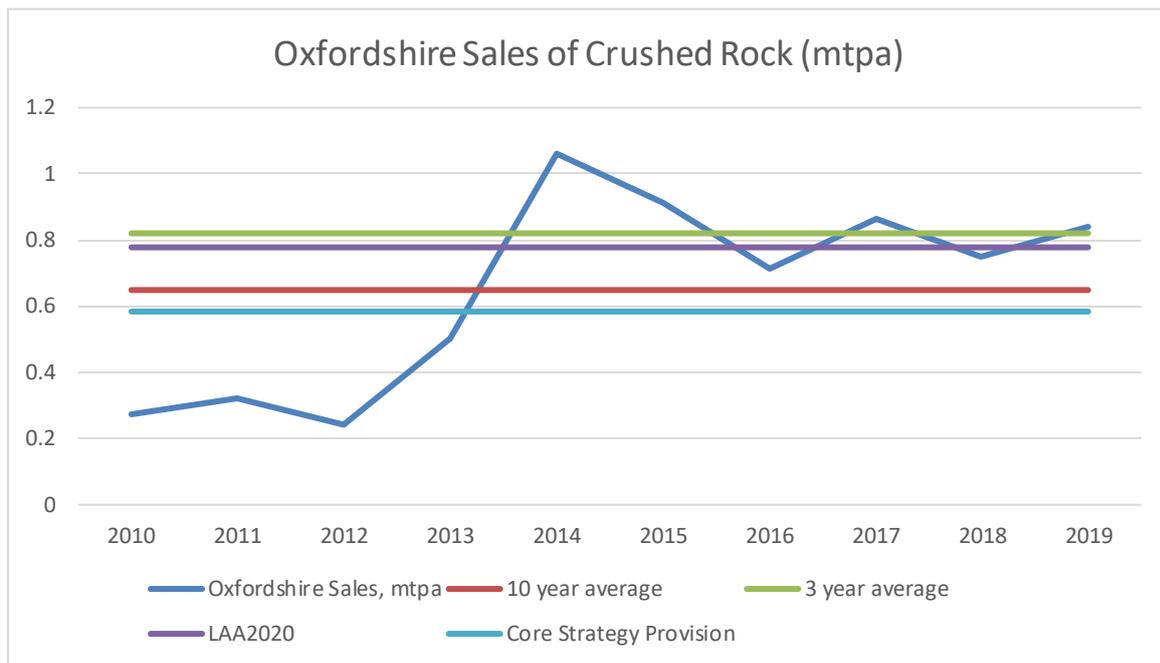
Crushed Rock

5.9 In the case of crushed rock, the Core Strategy provision level figure of 0.584mtpa was set in the LAA 2014 on the basis of an upward adjustment of the 10-year sales average at that time; and this has been continued in subsequent LAAs. Since 2014, sales of crushed rock have been at levels between 22% and 82% higher than the current Core Strategy figure. In 2018, there had been 5 years (2014 – 2018) of sales of crushed rock consistently at levels significantly above pre-2014 sales levels and above the LAA2014 figure. This 5-year period of sales at a consistently higher level was considered sufficient for it to be concluded that this reflected an increased level of demand for crushed rock that is likely to continue for the foreseeable future. See Figure 4.3. Therefore, it was considered appropriate to increase the LAA provision level figure for crushed rock to the 2016-2019 3-year sales average of 0.778 mtpa.

5.10 Sales in 2019 saw a 12% increase on 2018 sales as the upward trend in sales continued. The 3-year sales average was 5.5% higher the previous 3-year sales average over the baseline period and there was an 8% increase in the 10-year sales average. The 3-year sales average is 26% higher than the 10-year sales average.

- 5.11 Available evidence, in terms of economy, population, infrastructure and housing projections, indicates that demand is likely to continue.
- 5.12 Taking into account sales and consumption alongside this evidence, in conclusion, at this time, there is no justification for a change in the LAA provision level figure from the current level of 0.778mtpa. This should continue to apply in the LAA 2020.

Figure 4.3 Comparison of actual crushed rock sales compared with the average sales and the LAA 2020 and Core Strategy Provision levels (mtpa).



- 5.13 In addition to setting provision level figures for local land-won aggregates, the LAA should also include provision levels for other relevant sources of aggregates supply to ensure that future demands are met. In the case of Oxfordshire these are recycled and secondary aggregates and aggregate rail depots.
- 5.14 In the case of recycled and secondary aggregates, it is considered that the appropriate figure to maintain in the LAA2020 is the provision rate set in the Oxfordshire Minerals & Waste Local Plan: Part 1 – Core Strategy (2017) policy M3. This is 0.926mtpa.
- 5.15 In the case of aggregate rail depots, sales of crushed rock from Oxfordshire rail depots have been at a significantly higher level since 2014. The 5-year period of increased sales to 2018 is considered sufficiently long for it to be concluded that it reflects an increased level of demand that is likely to continue. We will aim to review the aggregate rail depots in 2020 once we have figures from operators. Due confidentiality we are unable to provide a LAA 2020 provision figure at this stage.

Conclusion for LAA 2020 provision figures

Sharp Sand and Gravel	1.015mtpa	Unchanged from 2019
Soft Sand	0.243mtpa	Unchanged from 2019
Crushed Rock	0.778mtpa	Unchanged from 2019
Recycles and Secondary Aggregate	0.926mtpa	No previous figure

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6. Supply

Oxfordshire Supply

- 6.1 Oxfordshire is rich in mineral resources. Those which are used for primary aggregate production comprise extensive alluvial sand and gravel resources along the River Thames and its tributaries, smaller deposits of glacio-fluvial sand and gravels in the north east of the county, deposits of soft sand mainly in the south west, and extensive areas of limestone in the north west and of ironstone in the north.
- 6.2 Oxfordshire also produces some secondary aggregates and a wide range of recycled aggregate materials. Further detailed information of the geological resources of Oxfordshire can be found in the LAA2014 (LUC and Cuesta Consulting Limited).

Recycled and Secondary Aggregate

- 6.3 As recorded by the SEEAWP Aggregates Monitoring Survey, Oxfordshire's produced recycled and secondary aggregate from the 31 % of respondents in 2019 was approximately 562,000 tonnes per annum.
- 6.4 This is a dramatic decrease from 2018 (861,000tpa). However, the 2020 SEEAWP survey for 2019 capacity had a very poor response from operators with a response rate of 31%, historically one of our lowest.
- 6.5 Therefore, the actual capacity figures are likely to be significantly higher than the recorded figures.
- 6.6 Table 6.1 below presents a fuller picture, showing the estimated¹⁸ capacity for the production of recycled and secondary aggregates at each site in 2019, sub-divided between operational and non-operational sites.
- 6.7 Of a total capacity of approximately 1,484,199 tpa: 1,448,699 tpa is at operational facilities and 25,500tpa is currently non-operational. Of the operational capacity, the capacity of sites with planning permission to the end of the plan period (2031) or beyond is 901,199 tpa, whereas the capacity of sites with permissions that expire before the end of 2031 is 557, 500tpa.

¹⁸ Taken from Survey responses, Planning Decisions and Planning Application Statements.

Facility Name	Operator	Planning Life	Production Capacity (tpa)
Operational Recycled Aggregate Production Facilities with Permanent consent or Time Limited Consent to end of Plan Period (2031)			
Drayton	Oxfordshire Highways	Permanent	75000
Ferris Hill Farm	Banbury Plant and Skip Hire (incorporating NL Matthews)	Permanent	24999
Grove Industrial Park	Aasvogel	Permanent	40000
Hundridge Farm	G.D. Parker Instant Skip Hire	Permanent	5000
Lakeside Industrial Park	Micks Skips and Recycling Ltd.	Permanent	2000
New Wintles Farm	O Malley Haulage	Permanent	170000
Newlands Farm	Smiths of Bloxham	Permanent	32000
Playhatch Quarry	Grabloader Ltd.	Permanent	75000
Rear of CemexBatching Plant (Hardwick)	Fergal Contracting	Permanent	20000
Rumbolds Pit	Richard Hazel (Hazel & Jefferies)	Permanent	20000
Sandfields Farm	K J Millard Ltd.	Permanent	9600
Shipton Hill	Hickman Bros	Permanent	12600
Stonepitt Barn	S.Belcher	Permanent	75000
Worton Farm (Cresswell Field)	M&M Skip Hire	Permanent	48000
Swannybrook	NAP Grabhire	Permanent	5000
Gill Mill	Smith and Sons (Bletchington) Ltd.	2040	175000
Ewelme No. 2	Grundon Waste Management	2032	12000
Wroxton	Peter Bennie Ltd	2042	10000
Total Operational Production Capacity at Recycled Aggregate Production Facilities available through the Plan Period.			811,199

Operational Recycled Aggregate Facilities with Time-Limited Consent ending before end of Plan Period (2031)			
Chilton Waste Transfer Site/Prospect Farm	Raymond Brown Minerals and Recycling Ltd.	2022	75000
Dix Pit Complex	Sheehan's	2028	175000
Enstone Shooting Range	Markham Farms	2021	20000
Shellingford Quarry	Earthline Ltd.	2019	100000
Shipton Quarry	Earthline Ltd.	2025	75000
Total Operation Production Capacity at Recycled Aggregate Facilities with Time limited consent ending before end of Plan Period (2031)			445,000

Facility Name	Operator	Planning Life	Production Capacity (tpa)
Operational Secondary Aggregate Facilities with Permanent or Time-Limited Consent to end of Plan Period (2031)			
Ardley ERF (IBAA) Facility	Raymond Brown Minerals and Recycling	2049	90000
Operational Secondary Aggregate Facilities with Time Limited Consent ending before end of Plan Period (2031)			
Sutton Courtenay Block Recycling	Hanson (reject building blocks & Concrete used in block making)	2030	62500
Sutton Courtenay Asphalt Recycling Plant	Hanson	2030	50000
Total Operational Secondary Aggregate Capacity			202500

Overall Total Operational Capacity at 'Permanent' Facilities (facilities available throughout the Plan Period)	901199
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Overall Total Operational Capacity at Time Limited Facilities (facilities with consent ending before end of 2031)	557500
Overall Total Operational Capacity	1,458,699

Non Operational Facilities

Facility Name	Operator	Planning Life	Production Capacity (tpa)
Burford Quarry	Pavestone UK	2024	500
Upwood Quarry	Hills Quarry Products Ltd.	2029	15000
Wroxton Fields Quarry	Earthline Ltd	2042	10000
Total Non Operational Capacity			25500

Operational and Non-Operational Facilities

Total Operational and Non-Operational Capacity 2019 (tpa)	1,484,199
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Table 6.1 Recycled and Secondary Aggregates Permissions at end of 2019

Imports and Exports

- 6.8 Every county in the UK has to import aggregates from elsewhere because the geology means that no single county area produces exactly the profile of different types of aggregate in the exact amounts or proportions consumed therein. As part of the Local Aggregate Assessment we should consider demand and supply factors from other MPAs.
- 6.9 All sales of aggregate are the result of commercial decisions by both buyers and sellers and the resulting movements reflect the relative locations of supply and demand. Where these movements cross a county boundary, they are tracked in the four (or five) yearly national aggregates monitoring surveys (AM Survey), these have been 2005, 2009, 2014 and most recently 2019. Known generally as AM2019.
- 6.10 The 2019 Aggregates Minerals Survey for England and Wales was published in August 2021. The figures within this Imports and Exports section of the LAA

2020 were taken from the AM2019 which shows movement of minerals at a sub-regional level and a Minerals Planning Authority level. These are set out in Appendix 2.

- 6.11 The most recent AM survey 2019 states that overall Sand and Gravel sales in England have decreased by 4% between 2014 and 2019, whilst crushed rock sales increased 18% between 2014 and 2019.
- 6.12 Oxfordshire however has increased in Land won Sand and Gravel sales by 44% since 2014, though sales in crushed rock have decreased by 20%.
- 6.13 Total primary aggregate sales within Oxfordshire have increased by 8% since 2014, however the South East as a whole has seen an overall decrease of 7% in total primary aggregate sales.
- 6.14 Some neighbouring MPAs have limited resources of their own. These authorities therefore rely on Oxfordshire to supply some of their needs. Other MPAs have traditionally supplied aggregates into Oxfordshire. Somerset, South Gloucestershire and Leicestershire have previously provided crushed rock to supplement the County's own production and to cater for higher specification requirements from harder rock resources.
- 6.15 The AM2019 sets out the sales of primary aggregates by MPA and principal destination sub region in 2019. These findings are shown in Table 6.2. As the table shows Oxfordshire were responsible for 20% of the South East Regions Land Won Sand and Gravel Sales and 42% of the Crushed Rock sales in 2019.

Table 6.2 Sales of primary aggregates and principle sub regions 2019 (Exports)
(thousand tonnes)

Destination	Land won sand and gravel	MPA%	AWP%	Crushed Rock	MPA	AWP%
Oxfordshire	772	62%		260	31%	
South East	369	30% ¹⁹		404	48%	
Elsewhere	43	3%		178	21%	
Unallocated	64	5%				
	1248	100%	20%	843	100%	42%

- 6.16 The AM2019 also sets out Oxfordshire's imports in 2019. However, it does not show from where the imports came from. The import findings are shown in Table 6.3. The table also shows as a percentage of the South East total imports Oxfordshire's imports.

¹⁹ There appears to be a print error in the AM2019 survey as has this figure as 60% but doesn't reflect 369,000 tonnes as a total 1,248,000 tonnes. Recalculated for this LAA as 30%

Table 6.3 Imports of primary aggregates and its relationship with the South East Import Total
(thousand tonnes)

Total Imports	Land won Sand and Gravel	Marine Sand and Gravel	Total Sand and Gravel	Crushed Rock	Total Primary Aggregate
Oxfordshire	128	7	136	356	491 ²⁰
South East Total	2268(6%)	1962(0.3%)	3950(3%)	58084 (0.6%)	9754(5%)

6.17 The AM survey 2019 (Tables 6.2, 6.3 and Appendix 2) shows that Oxfordshire is now a net exporter of Land won Sand and Gravel and Crushed Rock.

Sharp Sand and Gravel

6.18 The AM2019 does not differentiate between Soft Sand and Sharp Sand and Gravel. They are combined into Land won Sand and Gravel.

6.19 Comparison of the AM2009, AM2014 and AM2019 results show that Oxfordshire continues to be a net exporter of sand and gravel since 2014.

6.20 Exports have significantly increased since 2009. From 140,000 in 2009, doubling to 221,000 tonnes in 2014, and in 2019 doubling again to 476,000 tonnes.

6.21 Oxfordshire consumed 62% of the sand and gravel produced in the County. Exports make up approximately 38%²¹ of Oxfordshire's total sand and gravel sales. The majority of exports were within the South East (30%) whilst 3% went elsewhere and 5% was unallocated on the Survey returns.

6.22 As set out in Appendix 2, the figures from the AM2019 show that Hampshire and the Isle of Wight were one of the main Authorities that Oxfordshire exported sand and gravel to, along with, Buckinghamshire & Milton Keynes. Hampshire and Isle of Wight's imports from Oxfordshire made up between 10 and 20% of their own total sand and gravel consumption.

6.23 Oxfordshire imported 128,000 tonnes of Land won Sand and Gravel, up slightly from 117,000 tonnes in 2014. This was mainly from Cambridgeshire, Lincolnshire, Staffordshire and Wiltshire as Oxfordshire imported between 1 % and 10% from each of these Authorities.

6.24 In total Oxfordshire made up 6.3% of the Sand and Gravel imports into the South East Region.

²⁰ This should be 492 as 136 add 356 is not 491

²¹ The figures include the 5% that was unallocated and some of these sales may have stayed within Oxfordshire.

Crushed Rock

- 6.25 Appendix 2 shows that Oxfordshire changed from a net importer of crushed rock in 2014 to a net exporter. Oxfordshire exported 582,000 tonnes of crushed rock in 2019 compared with importing 356,000 tonnes from outside the County. This is a change from 2014 where we were a net importer of 440,000 tonnes, compared to exporting 347, 000 tonnes.
- 6.26 Table 6.3 shows that exports make up approximately 69% of Oxfordshire's total sales. The majority of exports were within the South East (48%) whilst 21% went elsewhere.
- 6.27 As set out in Appendix2, the figures from the AM2019 show that Northamptonshire was one of the main Authorities that Oxfordshire exported Crushed Rock to, along with, Buckinghamshire & Milton Keynes. Warwickshire and Berkshire. Imports from Oxfordshire made up between 1 and 20% of their own total Crushed Rock consumption.
- 6.28 Imports and in particular exports, in light of the quantity of minerals exported in 2019 will therefore need to be given great consideration in planning for future provision.
- 6.29 These shall be monitored under Duty to Cooperate and, if necessary, Statements of Common Ground between Authorities will be entered into .

7.Quarries

Sharp sand and gravel

- 7.1 On Oxfordshire, at the end of 2019, there are 11 sites with planning permission for sharp sand and gravel extraction, 7 of which are active. 2 are inactive, 2 not yet commenced. Information on these sites is summarised in Table 7.1, including the operator and a summary of the current status of each site.

Quarry Site	Operator	Current Status at December 2019
Cassington	Hanson Aggregates	Active. Plant being removed ready for final extraction in 2019
Caversham	Lafarge Tarmac	Active: extension of 1.86 million tonnes permitted August 2014; commenced August 2017.
Finmere	AT Contracting	Intermittent small scale past working; reserve remaining.
Gill Mill, Ducklington	Smiths Bletchington	Active: biggest quarry in county; extension of 5.0 million tonnes permitted June 2015; large reserve remaining.

Quarry Site	Operator	Current Status at December 2019
Moorend Fam, Thame	David Einig Contracting	Inactive: very small site. Site currently closed as operator ceased trading.
Stanton Harcourt (Stonehenge Farm)	Hanson Aggregates	Inactive: original quarry worked out; extension of 1.55 million tonnes permitted on appeal October 2010; permission commenced but reserve remains.
Sutton Courtenay (Bridge Farm)	Hanson Aggregates	Active: fully operational after periods of mothballing and spasmodic working but production has fluctuated for operational reasons; extension of 0.5 million tonnes permitted June 2018.
Sutton Wick	H Tuckwell & Sons	Active: small output site; small reserve remaining beneath the plant site; extension of 0.35 million tonnes permitted March 2016.
Thrupp Lane, Radley	H Tuckwell & Sons	Inactive: Estimated 0.925 million tonnes confirmed as a permitted reserve but under ROMP procedure has gone into suspension and cannot be worked until new conditions have been approved; therefore not currently included as part of permitted reserve or landbank. It was determined that mineral working has permanently ceased, and so the County Council is now under a duty to serve a prohibition notice on this site.
Faringdon Quarry	Grundon Sand & Gravel	Active: new quarry permitted June 2013 (formerly regarded as extension to Wicklesham Quarry).
New Barn Farm, Cholsey	Grundon	NYC: Permitted for 2, 500,000tonnes in November 2018. Extraction did not commence in 2019

Table 7.1 Active and Permitted Sharp Sand and Gravel Extraction Sites in Oxfordshire, including Operators and Current Status (Source: OCC)

- 7.2 Total permitted reserves of sharp sand and gravel in Oxfordshire at the end of 2019 were 12.075mt, as shown in Table 7.2 below. This is taken from the AM2019 survey calculated using annual operator returns. The actual operator returns for individual quarries cannot be presented due to confidentiality.
- 7.3 Production capacity is also relevant, as a large amount of reserve in a quarry with only a low production rate will make a smaller contribution to annual supply than equivalent reserves in a high producing quarry. It should be noted that 32% of the sharp sand and gravel reserves are held in Stanton Harcourt and New Barn Farm that had not yet commenced New Barn Farm commenced in 2020. This reduces the quantity of available reserves that contribute to Oxfordshire's supply, thereby reducing sales from the County due to commercial decisions by operators.

Table 5.3: Sharp Sand and Gravel Permitted Reserves at 31/12/18 (million tonnes)

Sharp Sand and Gravel Permitted Reserves at 31/12/19 (million tonnes)
12.075mt

Soft Sand

7.4 In Oxfordshire, at the end of 2019, there are eight sites with planning permission for soft sand extraction. Information on these sites is summarised in Table 7.3, including the operator and a summary of the current status of each site.

Quarry Site	Operator	Current Status at December 2019
Bowling Green / Chinham Farm	Hills Quarry Products	Active: sand & limestone; extension of 1.6 million tonnes sand permitted June 2017; large remaining reserve (approximately 50% of total permitted reserve).
Duns Tew	Smiths Bletchington	Active: extension of 0.415 million tonnes permitted June 2017 and this is anticipated to commence operation in 2019.
Hatford	Hatford Quarry Ltd (Earthline)	Active: sand & limestone. Application outstanding at end of 2019 for extension (MW.0066/19) Limestone 0.520mt, Sharp Sand 0.225mt tonnes, Soft Sand 0.130mt
Shellingford	Multi-Agg Ltd (Earthline)	Active: sand & limestone; permissions granted April 2011 for deepening and eastern extension, total 1.05 million tonnes sand, requires extraction to end by 31.12.20 in eastern extension and 31.12.28 in existing quarry. Application outstanding at end of 2019 (MW.0104/18) for 1.8mt of soft sand and 1mt of crushed rock.
Upwood	Hills Quarry Products	Active: sand & limestone; large remaining reserve.
Faringdon	Grundon Sand & Gravel	Active: sharp sand & gravel and soft sand; new quarry permitted June 2013 (replaced Wicklesham Quarry).
Finmere	AT Contracting	Intermittent small scale past working; reserve remaining.
Sutton Courtenay (Bridge Farm)	Hanson Aggregates	Active: fully operational after periods of mothballing and spasmodic working but production has fluctuated for operational reasons; extension of 0.5 million tonnes permitted June 2018.

Table 7.3 Active and Permitted Soft Sand Extraction Sites in Oxfordshire, including Operators and Current Status

- 7.5 Total permitted reserves of soft sand in Oxfordshire at the end of 2019 were 3.047mt, as shown in Table 7.4 below. This is taken from AM2019 survey, calculated using annual operator returns. It is believed a number of sites reviewed their mineral sites during 2019 and a number of sites submitted higher reserves than expected to the MHCLG survey. The actual operator returns for individual quarries cannot be presented due to confidentiality.
- 7.6 However, total production capacity is also relevant, as a large amount of reserve in a quarry with only a low production rate will make smaller contribution to annual supply than equivalent reserves in a high producing quarry.

Soft Sand Permitted Reserves at 31/12/19 (million tonnes)
3.047 mt

Table 7.4: Soft Sand Permitted Reserves at 31/12/19 (million tonnes)²²

Crushed Rock

- 7.7 In Oxfordshire at the end of 2019, there are 14 sites with planning permission for crushed rock extraction. There are 11 active sites and 3 inactive. The operator and current status of each site is provided in Table 5.5.

Quarry Site	Operator	Current Status at December 2019
Dewars Farm	Smiths Bletchington	Active; limestone
Burford	Smiths Bletchington	Active; limestone
Castle Barn (Sarsden Quarry)	Great Tew Partnership	Inactive in 2019; small site
Chinham Farm (Bowling Green)	Hills Quarry Products	Active; sand and limestone
Duns Tew	Smiths Bletchington	Active; sand with small amounts of limestone
Faringdon Quarry	Grundon Sand and Gravel	Active; sand & gravel with small amounts of limestone
Hatford	Hatford Quarry Ltd (Earthline)	Active; sand and limestone. Application

²² SEEA WP Aggregates Monitoring Survey 2018

Quarry Site	Operator	Current Status at December 2019
		outstanding at end of 2019 for extension (MW.0066/19) Limestone 0.520mt, Sharp Sand 0.225mt tonnes, Soft Sand 0.130mt
Rollright Quarry Phase 1	Hanson Aggregates	Inactive; limestone. Due to commence 2020
Rollright Quarry Phase 2	Smiths Bletchington	Active; limestone
Shellingford	Multi-Agg Ltd (Earthline)	Active; sand and limestone; permissions granted April 2011 for deepening and eastern extension, total 1.05 million tonnes sand & 1.225 million tonnes limestone, requires extraction to end by 31.12.20 in eastern extension area and 31.12.28 in existing quarry area. Application outstanding at end of 2019 (MW.0104/18) for 1.8mt of soft sand and 1mt of crushed rock.
Shipton on Cherwell	Earthline	Planning permission expired 30th September 2019. Appeal outstanding for extension to site MW.0046/18
Upwood	Hills Quarry Products	Active; sand and limestone
Whitehill	Smiths Bletchington	Inactive; limestone
Wroxton	Peter Bennie	Active; ironstone

Table 7.5 Active and Permitted Crushed Rock Extraction Sites in Oxfordshire, including Operators and Current Status

- 7.8 Total permitted reserves of Crushed Rock in Oxfordshire at the end of 2019 were 6.741mt, as shown in Table 7.6 below. This is taken from the AM2019 Survey, calculated using annual operator returns. The actual operator returns for individual quarries cannot be presented due to confidentiality.

- 7.9 However, total production capacity is also relevant, as a large amount of reserve in a quarry with only a low production rate will make smaller contribution to annual supply than equivalent reserves in a high producing quarry.
- 7.10 Nearly 75% of Oxfordshire’s crushed rock reserves are controlled by one operator, which could limit overall output from the County.
- 7.11 Permitted reserves of crushed rock in Oxfordshire, as reported in the SEEAWP Aggregates Monitoring Survey 2019, are shown in Table 7.6 below.

Crushed Rock Permitted Reserves at 31/12/19 (million tonnes)
6.741mt

Table 7.6: Crushed Rock Permitted Reserves at 31/12/19(million tonnes)²³

Rail Depots

- 7.12 The combined sales from the three railhead depots that were operational in 2018 represent 88% of the total throughput capacity of these three depots. Due to a lack of returns and confidentiality, we are unable to provide any further details on Rail Depots in this LAA 2020.

Landbanks

- 7.13 Based on the provision levels that have been determined for this LAA 2020 and the permitted reserves at 31 December 2019 as set out above, the landbanks at the end of 2019 can be seen below in Table 7.7.

Permitted Reserves at 31.12.2019 by mineral type	Landbank (LAA 2019 provision figures)
Soft Sand 2.644 m. tonnes	10.9 years at 0.243mtpa
Sharp Sand & Gravel 12.075 m. tonnes	11.9 years at 1.015mtpa
Crushed Rock 6.741 m. tonnes	5.96 years at 0.778 mtpa

Table 5.7 Oxfordshire Landbank at 31/12/2019

²³ AM2019 Survey

- 7.14 As can be seen the Landbanks for Sharp Sand and Gravel and Soft Sand have the 7 years required however the Crushed Rock landbank falls below the 10-year requirement for the second consecutive year and this means that we need to identify new sites to bring forward more crushed rock to meet the required need.
- 7.15 This is being addressed through the Core Strategy Review and Part 2: Site Allocations Plan.

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8. Demand and Supply Options Balance

- 8.1 In concluding Oxfordshire's LAA 2020, due to clear indications of continued growth and predicted future growth in economic and construction activity, the LAA2019 level provision figures will be maintained. These are:
- **Sand and Gravel – 1.015mtpa**
 - **Soft Sand – 0.243mtpa**
 - **Crushed rock – 0.778mtpa**
 - **Recycled and Secondary Aggregates- 0.926mtpa**
- 8.2 To ensure we maintain a steady and adequate supply over the Plan Period, we need to consider these LAA2020 provision figures with the permitted reserves as of 31 December 2019²⁴ and the implications for the Authorities landbank
- 8.3 Our landbank for Soft sand and Sharp Sand and Gravel are both above the 7-year requirement. However, for Crushed Rock the landbank is at 5.96 years, below the NPPFs 10-year requirement.
- 8.4 Our intention had been to address this landbank issue through identifying sites through our Site Allocations Document based on the latest Local Aggregate Assessment requirements.
- 8.5 However, following a review of the evidence for the Core Strategy and the Inspector's Reports and advice from our "critical friend" North Northamptonshire Council, we concluded that the Site Allocations Document is required to identify only the sites needed to meet the requirement as set out in the Core Strategy; not the requirements of the latest Local Aggregates Assessment (LAA).
- 8.6 Therefore, the shortfall in crushed rock will not be able to be addressed through the Site Allocations Document at this current stage.
- 8.7 If we are unable to use the LAA and identify sufficient sites, we will not be in accordance with the NPPF.
- 8.8 As shortfalls have been identified for the second consecutive year for Crushed Rock, Oxfordshire County Council are undertaking a Core Strategy Review, and it is intended that this will be used to assist in the identification and allocation of sites in the Minerals and Waste Site Allocations Plan; and that new permissions will be needed.
- 8.9 This LAA sets out both the Core Strategy requirement and the LAA requirements to maintain a steady and adequate supply of minerals.

²⁴ Appendix 2

Sand and Gravel

Sand and Gravel Core Strategy/LAA 2020 Requirements²⁵

8.10 In terms of the plan period, the LAA provision figure and Core Strategy figure for Sharp Sand and Gravel of 1.015mtpa multiplied by the plan period of 18 years, gives a total provision requirement of 18.27mt for the period 2014 to 2031.

27. The permitted reserves of sharp sand & gravel at 31 December 2019 amounted to 12.075mt (11.9 year landbank). Taking into account previous sales and reserves that are not expected to be worked until after the plan period, the requirement for the period to 2031 as at the end of 2019 was **2.73 mt**.

Soft Sand²⁶

8.11 The LAA figure for soft sand changed in the LAA2019 and therefore there two scenarios to set out.

Soft Sand Core Strategy Requirements

8.12 The Core Strategy provision level figure is 0.189mtpa multiplied by 18 years, gives a total provision requirement of 3.402 million tonnes for the period 2014 to 2031.

8.13 Taking into account sales in 2014 – 2019 (total 1.447 million tonnes), and reserves that are expected to be worked during the plan period (2.58million tonnes), there are no more requirements for additional soft sand over the Plan Period.

Soft Sand LAA2020 requirements

8.14 However, to meet the LAA requirements and maintain a steady and adequate supply of mineral over the Plan period, we have used the LAA 2014-2018 figure of 0.189mtpa, up until it was increased to .243mpa through the LAA2019, giving a total requirement over the Plan period of 4.104 million tonnes.

8.15 Taking the total need of 4.104mt, and subtracting the sales from 2014 – 2019 (1.447mt) gives the remaining requirement of 2.657mt. If we then take off the permitted reserves that are expected to be worked within the plan period 2.58mt, the remaining requirement for Soft Sand for the plan period up to 2031 is **0.077mt**.

Crushed Rock²⁷

²⁵ Appendix 3 for full calculations

²⁶ Appendix 3 for full calculations

²⁷ Appendix 3 for full calculations

8.16 The LAA figure for Crushed Rock changed in the LAA2019 and therefore there two scenarios to set out.

Crushed Rock Core Strategy Requirements

8.17 The Core Strategy provision level figure is 0.584mtpa multiplied by 18 years, gives a total provision requirement of 10.512 million tonnes for the period 2014 to 2031.

8.18 Taking into account sales in 2014 – 2019 (total 5.141 million tonnes), and reserves that are expected to be worked during the plan period (6.041million tonnes), there are no more requirements for additional crushed rock over the Plan Period.

Crushed Rock LAA2020 requirements

8.19 However, to meet the LAA requirements and maintain a steady and adequate supply of mineral over the Plan period, we have used the LAA 2014-2018 figure of 0.584mtpa, up until it was increased to 0.778mpa through the LAA2019, giving a total requirement over the Plan period of 13.034mt.

8.20 In 2019, taking the total need of 13.034mt, and subtracting the sales from 2014 – 2019 (5.151mt) gives the remaining requirement of 7.883mt. If we then take off the permitted reserves that are expected to be worked within the plan period 6.041mt, there is remaining requirement for Crushed Rock of **1.842mt** for the plan period up to 2031.

Conclusion

8.21 To meet the Core Strategy Requirements, we will need to identify sites to meet the following need:

- **Sand and Gravel – 2.73 million tonnes**
- **Soft Sand - 0 million tonnes**
- **Crushed rock - 0 million tonnes**

8.22 However, to maintain our landbank requirements based on our most recent Local Aggregates Assessment 2020, we intend to address this issue through our Core Strategy review and undertake a Partial Review of Policy M2.

8.23 Based on this review and Partial Update, we will then be able to identify additional future sites for sharp sand and gravel, soft sand and crushed rock to meet the LAA identified mineral requirements over the Plan Period.

8.24 This LAA2020 shows that based on Local Aggregates Assessments we will need to identify sites to meet the following need:

- **Sand and Gravel – 2.73million tonnes.**
- **Soft Sand - 0.077 million tonnes**
- **Crushed rock - 1.842 million tonnes**

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9. List of Definitions and Acronyms

The Local Aggregate Assessment uses the following terminology throughout this report:

- **Alternative aggregates** - A general term which can be used to refer to anything other than primary, land-won aggregates. It can include secondary, recycled and sometimes marine aggregates.
- **Apportionment** - the quantity of aggregate for which provision needs to be made in plans within each Mineral Planning Authority in order both to satisfy local needs and to contribute fairly towards National (and former Regional) expectations of future demand.
- **Landbank** - Landbank is a measure of the stock of permitted reserves expressed in terms of the number of years that these would allow production for at a given average rate of extraction. It is a theoretical measure of the life of the reserves if these were to be worked at a consistent annual rate.
- **Land-won aggregates** - Primary aggregates extracted from land.
- **Marine aggregates** - Primary aggregates dredged from the sea, almost exclusively sand and gravel.
- **Primary aggregates** - These are aggregates produced from naturally occurring mineral deposits, extracted specifically for use as aggregate and used for the first time. They are produced either from rock formations that are crushed to produce 'crushed rock' aggregates, from naturally occurring sand and gravel deposits, or solid formations to produce soft sand.
- **Provision rate** - the quantity of aggregate for which provision needs to be made in plans within each Mineral Planning Authority in order both to satisfy local needs and to contribute fairly towards National expectations of future demand
- **Recycled aggregates** - Aggregate materials recovered from construction and demolition processes and from excavation waste on construction sites.
- **Secondary aggregates** - Aggregates derived as a by-product of other quarrying and mining operations or industrial processes, including colliery spoil, china clay waste, slate waste; power station ashes, incinerator bottom ashes and similar products.
- **Sharp sand and gravel** - Sharp sand tends to be relatively coarse and the component grains are more angular than soft sand (see below). Such sands are typically deposited within river channels, rather than in oceans, and are generally found, as part of a sequence of mixed sand & gravel, within river floodplains, river terraces, and (in areas which have been glaciated) within other types of deposit. As the name implies they have a sharper texture than soft sands and, although they can be used as building sand, they are generally not preferred for that purpose because they produce less 'workable' mortars, unless special additives are

included in the mix, adding to the cost. They are better suited to use within concrete products, not least because they usually occur in conjunction with gravels which provide the coarse aggregate component of the concrete mix.

- **Soft Sand** - Soft sand is generally fine-grained sand in which the individual grains are well-rounded, imparting a relatively soft texture and free-flowing nature to the sand. Such sands are commonly deposited in marine environments, where constant movement by the sea results in the rounding, polishing and sorting of the grains. The characteristics of such sands lend themselves especially to products which are required to 'flow' or be easily 'workable' by hand when they are being used - particularly mortars, but also plaster, in the case of very fine grained sand. These are collectively known as 'building sand'. Soft sand may also be used in asphalt products where it is used to stiffen the bitumen binder, and in concrete products - although sharp sand is more commonly used for that purpose.

The Local Aggregates Assessment uses the following acronyms throughout this report:

- **AMRI** – Annual Minerals Raised Inquiry Surveys
- **AWP** – Aggregate Working Party
- **BGS** – British Geological Survey
- **CLG** – Communities and Local Government
- **GDP** – Gross Domestic Product
- **LAA** – Local Aggregates Assessment
- **MASS** – Managed Aggregates Supply System
- **MPAs** – Mineral Planning Authorities
- **Mt** – Million tonnes
- **mtpa** – Million tonnes per annum
- **MWLP** – Minerals and Waste Local Plan
- **NPPF** – National Planning Policy Framework
- **OCC** – Oxfordshire County Council
- **PPG** – Planning Practice Guidance
- **RAWP** – Regional Aggregate Working Parties
- **ROMP** – Review of Old Mineral Permissions
- **SEEAWP** – South East of England Aggregate Working Party

SHMA – Strategic Housing Market Assessment

Appendix 1

Total Oxfordshire Sand and Gravel Sales (including Soft Sand)

(Source: AM Surveys and SEEAWP Surveys)

The AM2019 did not include a separate England total for Soft Sand for 2019, therefore for comparative purposes we have combined the historical records for Sharp Sand and Gravel and Soft Sand to be able to compare the 2019 figure with previous years.

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes) ²⁸	Oxfordshire Soft Sand Sales (million tonnes) ²⁹	Total Oxfordshire Land won Sand and Gravel (million tonnes)	England Total Land Won Sand and Gravel (million tonnes)	Oxfordshire's sales as a percentage of England's sales ³⁰
2003	1.372	0.234	1.479	59.974	2.47%
2004	1.184	0.295	1.289	62.735	2.05%
2005	1.090	0.199	1.166	58.926	1.98%
2006	0.983	0.183	1.059	56.148	1.89%
2007	0.893	0.166	0.78	54.512	1.43%
2008	0.629	0.151	0.627	50.134	1.25%
2009	0.462	0.165	0.597	37.81	1.58%
2010	0.455	0.142	0.69	36.723	1.88%
2011	0.489	0.201	0.714	36.589	1.95%
2012	0.559	0.155	0.566	33.229	1.79%
2013	0.401	0.165	0.869	35.855	2.42%
2014	0.639	0.230	1.001	38.785	2.58%
2015	0.768	0.233	0.878	2015 figures not available	n/a
2016	0.651	0.227	0.954	2016 figures not available	n/a

²⁸ Source: SEEAWP Aggregates Monitoring Surveys

²⁹ SEEAWP Aggregates Monitoring Surveys

³⁰ Figures include data for marine dredged material. This data is allocated to the county in which the port of landing is situated.

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)²⁸	Oxfordshire Soft Sand Sales (million tonnes)²⁹	Total Oxfordshire Land won Sand and Gravel (million tonnes)	England Total Land Won Sand and Gravel (million tonnes)	Oxfordshire's sales as a percentage of England's sales³⁰
2017	0.703	0.251	1.048	2017 figures not available	n/a
2018	0.796	0.252	1.133	2018 figures not available	n/a
2019	0.994	0.254	1.248	39.708	3.14%
Rolling 10 year annual average, 2003 - 2012	0.812	0.182	0.891	40.433	2.01%
Rolling 10 year annual average, 2004 - 2013	0.715	0.176	0.839	38.629	1.85%
Rolling 10 year annual average, 2005 - 2014	0.660	0.179	0.812	36.853	1.79%
Rolling 10 year annual average, 2006 - 2015	0.628	0.184	0.787	n/a	n/a
Rolling 10 year annual average, 2007 - 2016	0.595	0.192	0.778	n/a	n/a
Rolling 10 year annual average,	0.576	0.202	0.822	n/a	n/a

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)²⁸	Oxfordshire Soft Sand Sales (million tonnes)²⁹	Total Oxfordshire Land won Sand and Gravel (million tonnes)	England Total Land Won Sand and Gravel (million tonnes)	Oxfordshire's sales as a percentage of England's sales³⁰
2008 – 2017*					
Rolling 10 year average 2009 – 2018	0.592	0.230	0.923	n/a	n/a
Rolling 10 year average 2010 – 2019	0.646	0.211	0.857	n/a	n/a
Average of last 3 years 2014 – 2016	0.686	0.230	0.95	n/a	n/a
Average of last 3 years 2015 – 2017	0.707	0.237	0.717	n/a	n/a
Average of last 3 years 2016 - 2018	0.717	.243	0.96	n/a	n/a
Average of last 3 years 2017- 2019	0.831	.252	1.083	n/a	n/a

Oxfordshire's Historical Mineral Sales
 Sharp Sand and Gravel 2003-2019 (million tonnes)

(Sources: SEEAWP Aggregates Monitoring Surveys, and AMRI Surveys)

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)³¹	England Sharp Sand & Gravel Sales (million tonnes)³²	Oxfordshire's sales as a percentage of England's sales ³³
2003	1.372	48.674	2.82%
2004	1.184	51.591	2.29%
2005	1.090	48.109	2.27%
2006	0.983	46.316	2.12%
2007	0.893	44.52	2.01%
2008	0.629	41.527	1.51%
2009	0.462	31.705	1.46%
2010	0.455	31.794	1.43%
2011	0.489	31.392	1.56%
2012	0.559	28.702	1.95%
2013	0.401	30.634	1.31%
2014	0.639	33.831	1.89%
2015	0.768	<i>2015 figures not available</i>	n/a
2016	0.651	<i>2016 figures not available</i>	n/a
2017	0.703	<i>2017 figures not available</i>	n/a
2018	0.796	<i>2018 figures not available</i>	n/a

³¹ Source: SEEAWP Aggregates Monitoring Surveys

³² Source: Mineral Extraction in Great Britain survey, Table 2 "Sand and Gravel for Construction". Please note that 2014 is the most recent published report.

³³ Figures include data for marine dredged material. This data is allocated to the county in which the port of landing is situation.

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)³¹	England Sharp Sand & Gravel Sales (million tonnes)³²	Oxfordshire's sales as a percentage of England's sales ³³
2019	0.994	2019 figures not available	n/a
Rolling 10 year annual average, 2003 - 2012	0.812	40.433	2.01%
Rolling 10 year annual average, 2004 - 2013	0.715	38.629	1.85%
Rolling 10 year annual average, 2005 - 2014	0.660	36.853	1.79%
Rolling 10 year annual average, 2006 – 2015	0.628	n/a	n/a
Rolling 10 year annual average, 2007 – 2016	0.595	n/a	n/a
Rolling 10 year annual average, 2008 – 2017*	0.576	n/a	n/a
Rolling 10 year average 2009 – 2018	0.592	n/a	n/a
Rolling 10 year average 2010 – 2019	0.569	n/a	n/a
Average of last 3 years 2014 – 2016	0.686	n/a	n/a
Average of last 3 years 2015 – 2017	0.707	n/a	n/a
Average of last 3 years 2016 - 2018	0.717	n/a	n/a
Average of last 3 years 2017 - 2019	0.813	n/a	n/a

Sales of Soft Sand 2003–2017 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys, and AMRI Surveys)

	Oxfordshire Soft Sand Sales (million tonnes)³⁴	England Soft Sand Sales (million tonnes)³⁵	Oxfordshire's sales as a percentage of England's sales.
2003	0.234	11.300	2.07%
2004	0.295	11.144	2.65%
2005	0.199	10.817	1.84%
2006	0.183	9.832	1.86%
2007	0.166	9.992	1.66%
2008	0.151	8.607	1.75%
2009	0.165	6.105	2.70%
2010	0.142	4.929	2.88%
2011	0.201	5.197	3.87%
2012	0.155	4.527	3.42%
2013	0.165	5.221	3.16%
2014	0.230	4.954	4.64%
2015	0.233	<i>2015 figures not available</i>	n/a
2016	0.227	<i>2016 figures not available</i>	n/a
2017	0.251	<i>2017 figures not available</i>	n/a
2018	0.252	<i>2018 figures not available</i>	n/a
2019	0.254	<i>2019 figure not available</i>	n/a

³⁴ SEEAWP Aggregates Monitoring Surveys

³⁵ Source: Mineral Extraction in Great Britain survey, Table 2 "Sand and Gravel for Construction". Please note that 2014 is the most recent published report.

	Oxfordshire Soft Sand Sales (million tonnes)³⁴	England Soft Sand Sales (million tonnes)³⁵	Oxfordshire's sales as a percentage of England's sales.
Rolling 10 year annual average (2003 – 2012)	0.189	8.246	2.34%
Rolling 10 year annual average (2004 – 2013)	0.182	7.637	2.38%
Rolling 10 year annual average (2005 – 2014)	0.176	7.018	2.51%
Rolling 10 year annual average (2006 - 2015)	0.179	n/a	n/a
Rolling 10 year annual average (2007 - 2016)	0.184	n/a	n/a
Rolling 10 year annual average (2008 – 2017) *	0.192	n/a	n/a
Rolling 10 year annual average (2009 – 2018)	0.202	n/a	n/a
Rolling 10 year annual average (2010– 2019)	0.211	n/a	n/a
Average of last 3 years 2014 – 2016	0.230	n/a	n/a
Average of last 3 years 2015 – 2017	0.237	n/a	n/a
Average of last 3 years 2015 – 2018	.243	n/a	n/a
Average of last 3 years 2016 - 2019	.252	n/a	n/a

Sales of Crushed Rock 2003 – 2019 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys, and AMRI Surveys)

	Oxfordshire Crushed Rock Sales (million tonnes)³⁶	England Crushed Rock Sales (million tonnes)³⁷	Oxfordshire's sales as a percentage of England's sales.
2003	0.629	83.957	0.75%
2004	0.557	85.653	0.65%
2005	0.564	80.593	0.70%
2006	0.495	83.722	0.59%
2007	0.717	82.922	0.86%
2008	0.543	75.179	0.72%
2009	0.363	59.666	0.61%
2010	0.272	50.115	0.54%
2011	0.322	57.744	0.56%
2012	0.242	52.980	0.46%
2013	0.502	53.417	0.94%
2014	1.061	63.835	1.66%
2015	0.914	<i>2015 figures not available</i>	n/a
2016	0.715	<i>2016 figures not available</i>	n/a
2017	0.867	<i>2017 figures not available</i>	n/a
2018	0.751	<i>2018 figures not available</i>	n/a
2019	0.843	83.015	1.02%
Rolling 10 year annual average 2003 - 2012	0.470	71.253	0.66%

³⁶ SEEAWP Aggregates Monitoring Surveys

³⁷ Source: BGS 2014 and 2019 survey

	Oxfordshire Crushed Rock Sales (million tonnes)³⁶	England Crushed Rock Sales (million tonnes)³⁷	Oxfordshire's sales as a percentage of England's sales.
Rolling 10 year annual average 2004 - 2013	0.458	68.199	0.67%
Rolling 10 year annual average 2005 - 2014	0.508	66.017	0.77%
Rolling 10 year annual average 2006 - 2015	0.543	n/a	n/a
Rolling 10 year annual average 2007 - 2016	0.565	n/a	n/a
Rolling 10 year annual average 2008 – 2017	0.580	n/a	n/a
Rolling 10 year annual average 2009 – 2018	0.601	n/a	n/a
Rolling 10 year annual average 2010 – 2019	0.649	n/a	n/a
Average of last 3 years 2014 – 2016	0.897	n/a	n/a
Average of last 3 years 2015 – 2017	0.832	n/a	n/a
Average of last 3 years 2016 – 2018	0.778	n/a	n/a
Average of last 3 years 2017 – 2019	0.820	n/a	n/a

Appendix 2

Imports and Exports

Imports, Exports and Consumption of Primary Aggregates in Oxfordshire

2009, 2014, 2020 (millions of tonnes) (Source: Collation of the Results of the 2019 Aggregates Minerals Survey for England and Wales, MHCLG, August 2021 and Collation of the Results of the 2014 Aggregates Minerals Survey for England and Wales, DCLG, October 2016, Collation of the Results of the 2019 Aggregates Minerals Survey for England and Wales, DCLG, October 2011)

	Sand and Gravel 2009	Crushed Rock 2009	All Primary Aggregates 2009	Sand and Gravel 2014	Crushed Rock 2014	All Primary Aggregates 2014	Sand and Gravel 2019	Crushed Rock 2019	All Primary Aggregates 2019
A. Production / Sales in Oxfordshire	0.628	0.363	0.991	0.869	1.061	1.93	1.248	.843	2.091
B. Exported out of Oxfordshire	0.140	0.179	0.319	0.221	0.347	0.568	0.476	.582	1.058 ³⁸
C. Produced and consumed in Oxfordshire (A – B)	0.487	0.184	0.672	0.648	0.714	1.362	0.772	0.261	1.033
D. Imported into Oxfordshire	0.270	0.441	0.711	0.117	0.787	0.904	.128	.356	0.484

³⁸ This included the unallocated. It should be noted that some of this may have been consumed in Oxfordshire.

	Sand and Gravel 2009	Crushed Rock 2009	All Primary Aggregates 2009	Sand and Gravel 2014	Crushed Rock 2014	All Primary Aggregates 2014	Sand and Gravel 2019	Crushed Rock 2019	All Primary Aggregates 2019
E. Total Consumption in Oxfordshire (C+D)	0.757	0.625	1.383	0.765	1.501	2.266	0.900	0.617	1.517

The equivalent figures for 2005 are not available because Oxfordshire was grouped with Buckinghamshire and Berkshire in the AM2005 Report.

No equivalent information can be derived from the earlier AM2001 Survey report, because all results are presented on a regional basis and there are no local figures.

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Destinations

Destinations of Sand & Gravel Produced in Oxfordshire 2009 and 2014

(Source: Oxfordshire County Council Aggregates Monitoring Survey 2009 and 2014)

Destination	2009 Sand and Gravel (including soft sand) Tonnes	2009 Sand and Gravel (including soft sand) %	2014 Sand and Gravel (including soft sand) Tonnes	2014 Sand and Gravel (including soft sand) %
Oxfordshire	487,260	77.6	648,282	74.60
Berkshire	20,785	3.3	99,259	11.42
Buckinghamshire & Milton Keynes	13,663	2.2	9,712	1.11
Rest of South East & London	15,565	2.5	4,642	0.81
Wiltshire, Swindon & Gloucestershire	68,203	10.9	95,089	10.94
Northamptonshire & Warwickshire	4,993	0.8	9,674	1.11
TOTAL	627,783	100	866,658	100

Destinations of Crushed Rock Produced in Oxfordshire 2009 and 2014

(Source: Oxfordshire County Council Aggregates Monitoring Survey 2009 and 2014)

Destination	2009 Crushed Rock Tonnes	2009 Crushed Rock %	2014 Crushed Rock Tonnes	2014 Crushed Rock %
Oxfordshire	180,867	49.8	663,463	62.56
Berkshire & Buckinghamshire & Milton Keynes	23,081	6.4	254,223	23.97
Rest of South East & London	0	0	5,755	0.55

Destination	2009 Crushed Rock Tonnes	2009 Crushed Rock %	2014 Crushed Rock Tonnes	2014 Crushed Rock %
Wiltshire, Swindon & Gloucestershire	29,694	8.2	14,308	1.35
Northamptonshire & Warwickshire	118,788	32.7	121,258	11.43
TOTAL	362,839	100	1,060,573	99.86

The AM2005 survey report combined figures for the destinations of aggregates sold in Oxfordshire with the destinations of sales in Berkshire and Buckinghamshire. It is therefore not possible to derive equivalent figures for 2005.

Destinations of Sand & Gravel Produced in Oxfordshire 2019

(Source: BGS)

For 2019, we do not currently have the exact amounts of mineral produced in Oxfordshire that were consumed by other areas.

The AM2019 set out the % of the amount of sand and gravel consumed in each destination that was produced from Oxfordshire in relation to the Authorities own total demand of sand and gravel. The table then indicates the lowest and maximum amount of sand and gravel produced from Oxfordshire based on these percentages.

Destination of Oxfordshire's produced Land won Sand and Gravel (Including soft sand) in 2019 (1.248mt)

Oxfordshire	62% of total sand and gravel consumed in Oxfordshire	0.772mt**
Hampshire and Isle of Wight	Between 10% and 20% of total sand and gravel consumed in Hampshire and Isle of Wight	Between 0.095mt and 0.189mt came from Oxfordshire
Buckinghamshire and Milton Keynes	Between 1% and 10% of total sand and gravel consumed in Berkshire	Between 0.014mt and 0.138mt came from Oxfordshire
Berkshire	Between 1% and 10% of total sand and gravel consumed in Berkshire	Between 0.007mt and 0.074mt came from Oxfordshire

Oxfordshire	62% of total sand and gravel consumed in Oxfordshire	0.772mt**
Wiltshire and Swindon	Between 1% and 10% of total sand and gravel consumed in Wiltshire and Swindon	Between 0.005mt and 0.052mt came from Oxfordshire
West of England (Avon)	Between 10% and 20% of total sand and gravel consumed in West of England	Between 0.002mt and 0.006mt came from Oxfordshire
Surrey, Dorset, Gloucestershire, Northamptonshire, Somerset and Exmoor National Park, Warwickshire, Worcestershire, Scotland and West London	Less than 1% of each MPAs total sand and gravel was sourced from Oxfordshire	Max .043mt came from Oxfordshire
Unknown in the South East	Between 40 and 50% sand and gravel consumed in the South East	Between 0.172mt and 0.216mt came from Oxfordshire
Unknown Destination	Between 1%-10% of the total sand and gravel consumed that went to unknown destinations.	Between 0.014mt and 0.142mt came from Oxfordshire

*This is the highest and lowest percentage of sand and gravel from Oxfordshire taken from the importing Authorities total Sand and Gravel consumed. (Other than Oxfordshire)

** Known figure from AM2019

Destinations of Crushed Produced in Oxfordshire 2019

(Source: BGS))

The AM2019 set out the % of the amount of crushed rock consumed in each destination that was produced from Oxfordshire, in relation to the Authorities own total demand of sand and gravel. The table then indicates the lowest and maximum amount of sand and gravel produced from Oxfordshire based on these percentages.

Total Crushed Rock exported destinations in 2019 (0.582mt)

Source	Proportion	Range* (millions of tonnes)
Oxfordshire	31% of total Consumed Crushed rock in Oxfordshire	0.261mt*

Source	Proportion	Range* (millions of tonnes)
Northamptonshire	Between 1% and 10% of total Crushed Rock consumed in Northamptonshire	Between 0.017mt and 0.165mt came from Oxfordshire
Buckinghamshire and Milton Keynes	Between 10% and 20% of total Crushed Rock consumed in Buckinghamshire and Milton Keynes	Between 0.070 and 0.141mt came from Oxfordshire
Warwickshire	Between 1% and 10% of total Crushed Rock consumed in Warwickshire	Between 0.011mt and 0.107mt came from Oxfordshire
Berkshire	Between 1% and 10% of total Crushed Rock consumed in Berkshire	Between 0.009mt and 0.089mt came from Oxfordshire
Unknown somewhere in the South East	Between 50% and 60% of total Crushed Rock destination in the South East unknown	0.256mt and 0.307mt came from Oxfordshire
Bedfordshire, Gloucestershire, Hampshire and Isle of Wight, Hertfordshire, Surrey	Less than 1% of each MPAs total Crushed Rock was sourced from Oxfordshire	Max 0.043mt came from Oxfordshire

*This is the highest and lowest percentage of sand and gravel from Oxfordshire taken from the importing Authorities total Crushed rock consumed. (Other than Oxfordshire)

** Known figure from AM2019

Destinations of Sand and Gravel Produced in Oxfordshire 2005, 2009 and 2014
(Source: AM2005, and AM2009, 2014)

Destination (Source MPA – Oxfordshire)	Sand and gravel (millions of tonnes) 2005	Sand and gravel (millions of tonnes) 2009	Sand and gravel (millions of tonnes) 2014
Berkshire, Oxfordshire and Buckinghamshire	0.304	0.520 of which 0.487 in Oxfordshire	0.757 of which 0.648 in Oxfordshire
Elsewhere in South East	0.418	0.015	0.012
Elsewhere	0.550	0.090	0.100
Unallocated	0.017	0	0
Total	1.289*	0.627*	0.869*

*Totals may not match sub totals due to varying categories

Destinations of Crushed Rock Produced in Oxfordshire 2005 and 2009

Destination (Source MPA – Oxfordshire)	Crushed rock (millions of tonnes) 2005	Crushed rock (millions of tonnes) 2009	Crushed rock (millions of tonnes) 2014
Berkshire, Oxfordshire and Buckinghamshire	0.277	0.184 all in Oxfordshire	0.919
Elsewhere in South East	0.134	0.025 incl. Berkshire & Buckinghamshire	0.010
Elsewhere	0.152	0.154	0.130
Total	0.564*	0.363	1.061

*May not match sub totals due to varying categories.

Sources

Sources of sand and gravel consumed in Oxfordshire 2009

(Source: BGS)

Source	Proportion	Tonnage where known (millions of tonnes)
Oxfordshire	64%	0.474
Gloucestershire	25%-20%	0.145- 0.185
Warwickshire, Bristol (marine), Hampshire, Berkshire and Leicestershire (in descending order)	Between 5% and 1% from each area	n/a
Milton Keynes, Central Bedfordshire (includes Bedford Borough), Kent, Cambridgeshire, Staffordshire, Buckinghamshire, Dorset, Wiltshire, Solihull (includes Walsall) and Hertfordshire (in descending order)	Less than 1% from each area	n/a

Sources of crushed rock consumed in Oxfordshire 2009

(Source: BGS)

Source	Proportion	Tonnage where known (millions of tonnes)
Oxfordshire	29%	0.181
South Gloucestershire	30%-25%	0.187- 0.156
Somerset	25% - 20%	0.156- 0.125
Leicestershire	15%-10%	0.093- 0.063
Rhondda, Cynon, Taf (Taff), Gloucestershire and Powys (in descending order)	Between 5% and 1% from each area	n/a
Shropshire, North Somerset and Caerphilly/Merthyr Tydfil (merged for confidentiality) and Derbyshire (in descending order)	Less than 1% from each area	n/a

Sources of sand and gravel consumed in Oxfordshire 2014

(Source: BGS)

Source	Proportion	Tonnage where known (millions of tonnes)
Oxfordshire	80-90%	0.612 - 0.6885
Wiltshire, Windsor & Maidenhead, Cambridgeshire, Leicestershire	1-10%	0.00765 – 0.0765
Devon, Gloucestershire, Hampshire, West Berkshire, Central Bedfordshire, Essex, Hertfordshire, Northamptonshire, Staffordshire, Worcestershire.	<1%	<0.00765

Sources of crushed rock consumed in Oxfordshire 2014

(Source: BGS)

Source	Proportion	Tonnage where known (millions of tonnes)
Oxfordshire	40-50%	0.6 – 0.75
Somerset	30-40%	0.45 – 0.6
Leicestershire	10-20%	0.15 – 0.3
Gloucestershire	1-10%	0.015 – 0.15
North Somerset, South Gloucestershire, Cambridgeshire, Shropshire, Powys	<1%	<0.015

Sources of sand and gravel consumed in Oxfordshire 2019

(Source: BGS)

Total Land won Sand and Gravel (Including soft sand) consumed in Oxfordshire in 2019 (0.900mt)

Source	Proportion	Tonnage where known (millions of tonnes)
Oxfordshire	80-90%	0.772mt*
Cambridgeshire, Lincolnshire, Staffordshire and Wiltshire	Between 1% and 10% from each area	Between 0.036mt and 0.363mt**

Source	Proportion	Tonnage where known (millions of tonnes)
	of total consumed within Oxfordshire	
Leicestershire, Buckinghamshire Bristol City, Central Bedfordshire, Gloucestershire, Hampshire, Hertfordshire and Portsmouth	Less than 1% from each area	Max .081mt***

* Exact figure taken from AM Survey 2019

** The lower number represents 1% of total consumed and the higher represents 10% of total consumed.

*** A maximum of 1% was taken for each Authority that exported Minerals to Oxfordshire

Sources of Crushed Rock Gravel consumed in Oxfordshire 2019

(Source: BGS)

Total Crushed Rock consumed in Oxfordshire in 2019 (0.617mt)

Source	Proportion	Tonnage Estimates (millions of tonnes)
Oxfordshire	40-50%	0.261mt*
Gloucestershire, Leicestershire, Somerset	10-20%	Between 0.185 and 0.370**
North Somerset, Powys, Rhondda Cynon Taf (Taff), Shropshire, South Gloucestershire	Between 1% and 10% from each area of total consumed within Oxfordshire	Between 0.031mt and 0.308mt***
Cambridgeshire, Derbyshire, Warwickshire	Less than 1% from each area	Max .024mt****

* Exact figure taken from AM Survey 2019

** The lower number represents 10% of total consumed and the higher represents 20% of total consumed.

*** The lower number represents 10% of total consumed and the higher represents 20% of total consumed.

**** A maximum of 1% was taken for each Authority that exported Minerals to Oxfordshire

Appendix 3

Mineral provision requirements over the Plan period.

This section sets out the requirements to meet the Core Strategy Provision and also the requirements to meet the LAA2020.

Sand and Gravel Provision required over plan period 2014 – 2031

(As at Dec 2019)

	Sharp Sand & Gravel (million tonnes)
A. Annual Provision (from policy M2 / LAA)	1.015
B. Requirement 2014 – 2031 (policy M2) (A x 18 years)	18.270
C. Sales in 2014 – 2019(Oxfordshire)	4.552
D. Remaining requirement (B – C)	13.718
E. Permitted Reserves at end 2019	12.075
F. Estimated permitted reserves available to be worked during remainder of plan period (from beginning 2020 to end 2031)	10.988
G. Remaining requirement to be provided for in Plan (D – F)	2.73

Notes:

1. Permitted Reserves at end 2019 (Row E) do not include approximately 1.0 million tonnes of sharp sand and gravel at Thrupp Farm Quarry, Radley (South), which were previously included. Under 'ROMP' procedure the planning permission for this site has gone into suspension, and is currently dormant, and the site cannot be worked

until there has been a review of the planning conditions attached to the planning permission. Consequently, in accordance with national Planning Practice Guidance, the 'reserves' at this site should not currently be included as permitted reserves and they do not form part of the landbank.

2. The planning application for a new quarry at New Barn Farm, Cholsey (South) submitted in 2016 and permitted in 2018 is for the working of a total of 2.5 million tonnes of sharp sand and gravel. Information in the application indicates this will be worked over 18 years from 2020, at an average rate of working of approximately 0.14 million tonnes per annum. Mineral extraction at New Barn Farm is therefore expected to extend beyond the end of the plan period (2031); of the total of 2.5 million tonnes, it is estimated approximately 1.68 million tonnes will be worked within the plan period and approximately 0.82 million tonnes will remain to be worked after 2031.
3. The site at Stonehenge Farm has not extracted any sand and gravel during 2019. This site has an end date of 2024 and the Planning Statement states that extraction would be at a rate of 300000tpa, whilst the Inspectors report gave 200,000tpa. If an extraction rate of 300,000tpa is taken, then there is only 1.2million to be extracted over the Plan period before the permission expires.
4. The permitted reserves of sharp sand and gravel available to be worked during the plan period have therefore been reduced by 1.87 million tonnes, from 12.075 million tonnes (row E) to an estimated 10.988 million tonnes (row F).

Soft Sand provision required over the Plan period 2014-2031

(As at Dec 2019)

	Soft Sand Core Strategy Requirement (Million Tonnes)	Soft Sand Core Strategy 2014- 2018/ LAA 2019 onwards Provision Rate (Million Tonnes)
A Annual Provision	0.189 (Policy M2)	5years x 0.189 13years x 0.243
B. Requirement 2014 – 2031	3.402	4.104 (0.945+3.159)
C. Sales in 2014 – 2019	1.447	1.447
D. Remaining requirement (B – C)	1.955	2.657
E. Permitted Reserves at end 2019	3.047	3.047
F. Estimated permitted reserves available to be worked during remainder of plan period (from beginning 2019 to end 2031)	2.58	2.58
G. Remaining requirement to be provided for in Plan (D – F)	0	0.077

Notes:

1. The planning application for an extension to Bowling Green Farm Quarry submitted in 2016 and permitted in June 2017 is for the working of a total of 1.6 million tonnes of soft sand. Information in the application indicates this will be worked over 19 years

from 2018 to 2036 at an average rate of working of approximately 0.08 million tonnes per annum. Mineral working at Bowling Green Farm Quarry is therefore expected to extend beyond the end of the plan period (2031); of the total of 1.6 million tonnes, it is estimated approximately 1.1 million tonnes will be worked within the plan period and approximately 0.5 million tonnes will remain to be worked after 2031.

2. The planning application for an extension to Duns Tew Quarry submitted in 2014 and permitted in May 2017 is for the working of a total of 0.415 million tonnes of soft sand. Information in the application indicates this will be worked over 16/17 years from 2017 to 2033/34 at an average rate of working of approximately 0.025 million tonnes per annum. Mineral working at Duns Tew Quarry is therefore expected to extend beyond the end of the plan period (2031); of the total of 0.415 million tonnes, it is estimated approximately 0.365 million tonnes will be worked within the plan period and approximately 0.05 million tonnes will remain to be worked after 2031.
3. The permitted reserves of soft sand available to be worked during the plan period have therefore been reduced by 0.47 million tonnes, from 3.047million tonnes (row G) to an estimated 2.58 million tonnes (row H).

Crushed Rock provision required over the Plan period 2014-2031

(As at December 2019)

	Core Strategy Requirement	Core Strategy 2014- 2018/ LAA 2019 onwards Provision Rate (Million Tonnes)
A. Annual Provision (from policy M2 / LAA)	0.584	5 x 0.584 13 x 0.778
B. Requirement 2014 – 2031 (policy M2) (A x 18 years)	10.512	13.034 (2.92 + 10.114)
C. Sales in 2014 – 2019	5.151	5.151
D. Remaining requirement (B – C)	5.361	7.883
E. Permitted Reserves at end 2019	6.741	6.741
F. Estimated permitted reserves available to be worked during remainder of	6.041	6.041

plan period (from beginning 2019 to end 2031)		
G. Remaining requirement to be provided for in Plan (D-F)	0	1.842

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Appendix 4

Population

The table below presents the population figures for Oxfordshire for the 10 year baseline period (2010 to 2019).

Table 1: Oxfordshire population figures for the 10 year baseline period (2010 to 2019) ³⁹

Year	Population
2010	648,688
2011	654,791
2012	660,009
2013	663,998
2014	669,377
2015	673,590
2016	678,484
2017	682,444
2018	687,524
2019	691,667

Population forecasts for Oxfordshire up to 2028

Year	Population Forecast ⁴⁰	Population Forecast ⁴¹
2020	695,890	695,595
2021	699,594	708,105
2022	703,002	721,423

³⁹ www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/

⁴⁰ www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections

⁴¹ insight.oxfordshire.gov.uk/cms/future-population

Year	Population Forecast ⁴⁰	Population Forecast ⁴¹
2023	706,188	731,090
2024	709,180	742,638
2025	712,023	755,803
2026	714,785	769,797
2027	717,536	784,018
2028	720,204	799,634

Housing Completion Figures

Housing completions by year in Oxfordshire⁴²

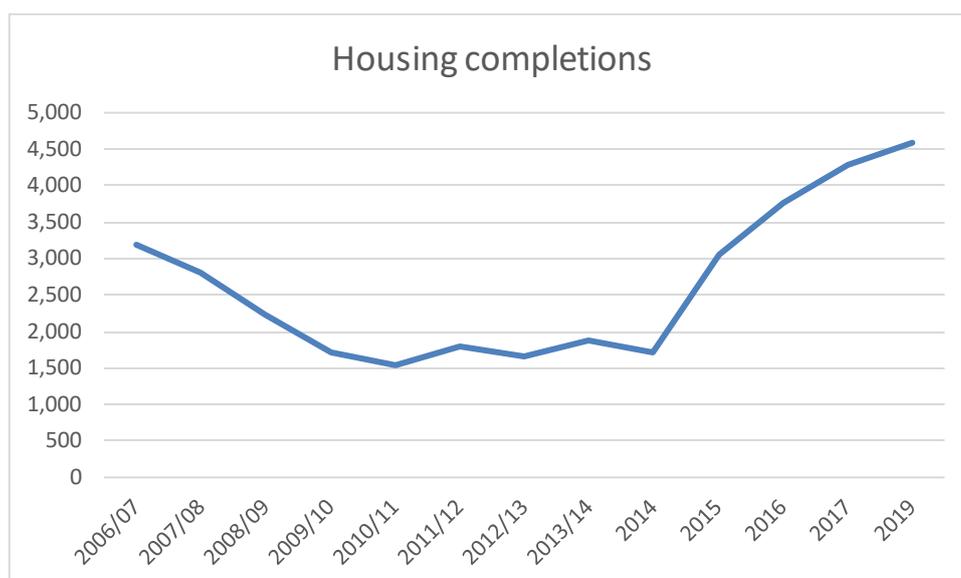
Year	Housing Completions
2010/11	1,539
2011/12	1,799
2012/13	1,661
2013/14	1,873
2014	1726
2015	3044
2016	3761
2017	4277
2018	4589
2019	5164

Notes:

a) completions figures above differ slightly from those in the OGNA, due to differences in when a house is deemed 'completed'.

(b) note that ONS data is by calendar year, whereas district data is by financial year. Since 2014 we have now used District Data.

⁴² Oxfordshire County Council and District Monitoring Reports



Projected housebuilding⁴³

Year	Planned housebuilding
2021/22	5347
2022/23	6010
2023/24	6288
2024/25	6183
2025/26	6710
2026/27	7011
2027/28	6893
2028/29	6616
2029/30	5723
2030/31	5337

⁴³ District local plans, District Planning Officers, Oxfordshire County Council Data Team

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