OXFORDSHIRE LOCAL AGGREGATE ASSESSMENT 2021

November 2021

Prepared by Oxfordshire County Council
October 2021 (including information provided 2014 by LUC and Cuesta Consulting Limited)

Contents

1.Oxfordshire Summary of Key Data 2020

Summary – Oxfordshire County Council 2020									
Quarry Sales	**2020 Sales (Mt) & Trend**	**Average (10-yr) Sales & Trend**	**Average (3-yr) Sales & Trend**	**LAA 2021 Rate (Mt)[2]**	**Reserve (Mt)**	**Landbank (years)**	**Allocations (years)**	**Capacity (Mtpa)**	**Comments**
Soft Sand	⇩ .210	0.218	0.239	0.243	3.915	16.11	N/A	.365	LAA rate remains at 0.243mtpa Landbank above 10-year requirement
Sharp Sand & Gravel	⇩ .830	0.683	0.873	1.015	11.439	11.27	N/A	2.072	LAA rate remains at 1.015mtpa Landbank above 10-year requirement
Crushed Rock	⇧ 1.087	0.730	0.894	0.778	7.151	9.19	N/A	1.950	LAA rate remains at 0.778mtpa Landbank below 10-year requirement
Recycled / Secondary Aggregates	⇧ .438	N/A	N/A	0.926	n/a	N/A	N/A	0.824	Only 10 operators responded, so for this survey we used last 3 years sales for those we had details from previous data from. Gave a 58% operator detail

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 Comment

2020 saw the Global Pandemic due to Covid. This was a highly unusual year as the Country was in lockdown, with different industries opening at different times.

There has been a decrease in all Sand and Gravel sales in Oxfordshire, but a significant increase in Crushed Rock Sales.

There has been a further drop in Recycled and Secondary Aggregates, but this could be due to lockdown.

A permission at Shellingford was granted in 2020, which added additional reserves to soft sand and crushed rock reserves.

The LAA Rate of 1.015mt for sharp sand and gravel has 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 this reflects the level of future demand and the current sales figures.

The LAA rate for Soft Sand and Crushed Rock have been maintained within this LAA, though whilst soft sand sales fell this year and crushed rock was considerably higher than previous years, the full implications of Covid and the lockdown on the operation of sites, and the planned growth is as yet unknown.

Using the Crushed Rock LAA Rate, we are still below the required 10-year landbank for the third consecutive year. 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.

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 ninth LAA for Oxfordshire and includes the 2020 aggregate sales and reserves data for the County. The 10-year period covered by this LAA is 2011 up to 2020 and the three-year period is 2018 – 2020.

2.4 The primary aggregate figures within this LAA2021 are taken from the 2020 Aggregates Minerals (AM2021) undertaken by the County Council on behalf of South East England Aggregate Working Party.

Demand

Sand and Gravel

2.5 Sales of sharp sand and gravel decreased in 2020 to 0.830mt. They were still higher than pre 2018 sales but fell 16% compared to 2019 sales. However, there was an increase in the 10-year sales average (0.683mt). The 3-year sales average of sharp sand and gravel increased by 5% to 0.873mt and is higher than the 10-year average. Both are still below the LAA provision figure.

2.6 Having considered the sales trends, other relevant information contained within this report and in light of Covid, it is not considered necessary to change the LAA2021 provision figure for sharp sand and gravel and it will remain at 1.015mtpa.

2.7 Sales of soft sand in 2020 dropped to 0.210mt and were the lowest levels since 2014. The 10-year sales average increased 3% to 0.218mt, above the Core Strategy provision figure of 0.189mtpa, however it is below the LAA2019 figure of 0.243mtpa. The 3-year sales average dropped 5% on the previous year however it is still 8% higher than the 10-year average. However, it is now 1.7% lower than the LAA provision figure.

2.8 Having considered the sales trends, other relevant information contained within this report and in light of Covid, is not considered necessary to change the LAA2021 provision figure for sharp soft sand and it will remain at 0.243mtpa.

Crushed Rock

2.9 Sales of crushed rock increased 29% in 2020 to 1.087mt which in turn saw the 10-year sales average increase of 12.5% to 0.730mtpa. This is above the Core Strategy provision figure of 0.584mtpa, and below the LAA2019 provision rate of 0.778. The 3-year sales average rose by 9% to 0.893mt 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, and in light of Covid, is not considered necessary to change the LAA2021 provision figure for crushed rock and it will remain at 0.778mtpa.

Rail Depots

2.11 In 2020 sales from the Rail Depots dropped compared to 2018. This could be due to Covid and lockdown and will need to be reviewed in the 2021 LAA. 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 still twice that of 2007.

Recycled and Secondary Aggregates

2.12 Sales of recycled and secondary aggregates recorded in the survey were 0.286mt in 2020. Due to another poor response from operators, to try ensure a more accurate picture of the sales of secondary and recycled aggregates, an estimate has been made for those sites we had previous sales returns for, and information from planning applications has also been used. This gave a 56% rate for completion.

2.13 2020 therefore has recorded sales in Recycled and Secondary Aggregate of 0.439mt

2.14 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

2.15 At the end of 2020, Oxfordshire had 12 sand and gravel quarries within Oxfordshire, one 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.

2.16 Total permitted reserves of sharp sand and gravel in Oxfordshire at the end of 2020 were 11.439mt. Using the Core Strategy/LAA2020 provision figures of 1.015mpta, this gives a landbank of 11.27 years.

2.17 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.

2.18 Taking into account sales in 2014 – 2020 (total 5.382mt), and reserves that are expected to be worked during the plan period (11.250mt), the remaining requirement for the Plan period to 2031 is 1.63mt

Soft Sand

2.19 In Oxfordshire, at the end of 2020, there are eight active sites with planning permission for soft sand extraction. One planning application for 1.8mt at Shellingford was granted and there is another planning application outstanding at the end of 2020

2.20 Total permitted reserves for soft sand in Oxfordshire at the end of 2020 were 3.915mt. Using the latest LAA provision figures this gives a landbank of 16.11 years.

2.21 If we are to meet the Core Strategy Requirement of 3.402 million tonnes over the Plan period, there is no further requirement for soft sand over the Plan Period.

2.22 Also if we are 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.

2.23 Taking into account sales in 2014 – 2020 (total 1.657mt), and reserves that are expected to be worked during the plan period (2.61 mt), there is also no further requirement for soft sand over the Plan Period.

Crushed Rock

2.24 At the end of 2020, there are 14 sites with planning permission for crushed rock extraction. There are 11 active sites and 3 inactive sites. A planning permission was granted in 2020 for 1 million tonnes of crushed rock at Shellingford. There are also three planning applications for crushed rock outstanding at the end of 2020.

2.25 Total permitted reserves for Crushed Rock in Oxfordshire at the end of 2020 were 7.151mt. Using the latest LAA provision figures this gives a landbank of years 9.19, which is below the 10 years required by the NPPF.

2.26 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.

2.27 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 .778mpa through the LAA2019, giving a total requirement over the Plan period of 13.034 million tonnes.

2.28 Taking into account sales in 2014 – 2020 (total 6.238), and reserves that are expected to be worked over the plan period (5.091mt), the remaining requirement for the period to 2031 is 0.895mt.

2.29 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 – 1.638 million tonnes**
- **Soft Sand - 0 million tonnes**
- **Crushed rock - 0 million tonnes**

2.30 However only identifying sites to meet the Core Strategy requirement will not address us falling below our required 10-year landbank for Crushed Rock.

2.31 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.

2.32 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.

2.33 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.

2.34 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.

2.35 This LAA2020 shows that based on Local Aggregates Assessments we will need to meet the following requirements over the Plan Period

- **Sand and Gravel – 1.638million tonnes.**
- **Soft Sand - 0 million tonnes**
- **Crushed rock – 0.895 million tonnes**

Recycled and secondary material sites

2.36 At the end of 2020, Oxfordshire's capacity to produce recycled and secondary aggregate as recorded for the SEEAWP survey was approximately 0.824mt based on a 56% completion record. Permitted Capacity taken from planning decisions, application statements and previous survey findings at the end of 2020 was 1,484,199 million tonnes.

Rail Depots

2.37 Oxfordshire has four permitted rail depots, three of which are operational. The combined sales from the three railhead depots operational in 2020 represent 74% 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

2.38 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.

2.39 The most recent is the 2019 Aggregates Minerals Survey for England and Wales (AM2019) was undertaken by British Geological Survey (BGS) under a contract with the Ministry of Housing, Communities and Local Government (MHCLG). The AM2019 sets out aggregate movements at a sub-regional level. This was discussed within the LAA2020 but it highlighted that

Oxfordshire is a net exporter of all Land won Sand and Gravel and Crushed Rock.

Factors affecting supply and demand

2.40 2020 has seen a decrease in sales of all land won sand and gravel compared to 2019. However the demand for crushed rock increased.

2.41 2020 saw a global pandemic (Covid). This has had reported implications for the economic outlook, however, there is still uncertainty over other those implications, and this will need to be monitored in future LAAs.

2.42 There are major infrastructure projects as well as local housing and transport projects planned to take place during the Plan period. These projects are both within and outside of the County, and they could significantly affect demand for aggregate.

Executive Summary Conclusion

2.43 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.

2.44 To ensure that supply continues to meet demand the LAA2019 Provision levels will continue for the LAA 2021 as follows:

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

2.45 Using these LAA provision levels and the Oxfordshire reserves at the end of 2020, the Landbank can be calculated as:

- Sand and Gravel – 11.27 years
- Soft Sand – 16.11years
- Crushed Rock – 9.91 years

2.46 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. There would be no further need to identify any further Soft Sand and Crushed Rock

- **Sand and Gravel- 1.638 million tonnes**.

2.47 However to meet our Local Aggregate Assessment requirements, we will need to be able to meet the following mineral requirements over the Plan Period.

- **Sand and Gravel – 1.638million tonnes.**
- **Soft Sand - 0 million tonnes**
- **Crushed rock – 0.895 million tonnes**

3. Demand

Land Won Aggregate

Sharp Sand and Gravel Past Sales

3.1 Sales of sharp sand and gravel from quarries in Oxfordshire for the period 2011 – 2020 are shown in Table 3.1. These figures are taken from two sources: The annual Aggregates Minerals Survey for England and Wales undertaken by Oxfordshire County Council on behalf of SEEAWP and the historic four/five yearly British Geological Survey (BGS) under a contract with the Ministry of Housing, Communities and Local Government (MHCLG

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10 year average	Last 3 year average
0.489	0.559	0.401	0.639	0.768	0.651	0.703	0.796	0.994	**0.830**	**0.683**	**0.873**

Table 3.1: Sales of Sharp Sand and Gravel 2011 – 2020 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys)

3.2 Sales of sharp sand and gravel decreased in 2020, though they are still the second highest sales since 2007.

3.3 Sales between 2011 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 the quarry closure is likely to have affected the total sales in 2013.

3.4 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.

3.5 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.

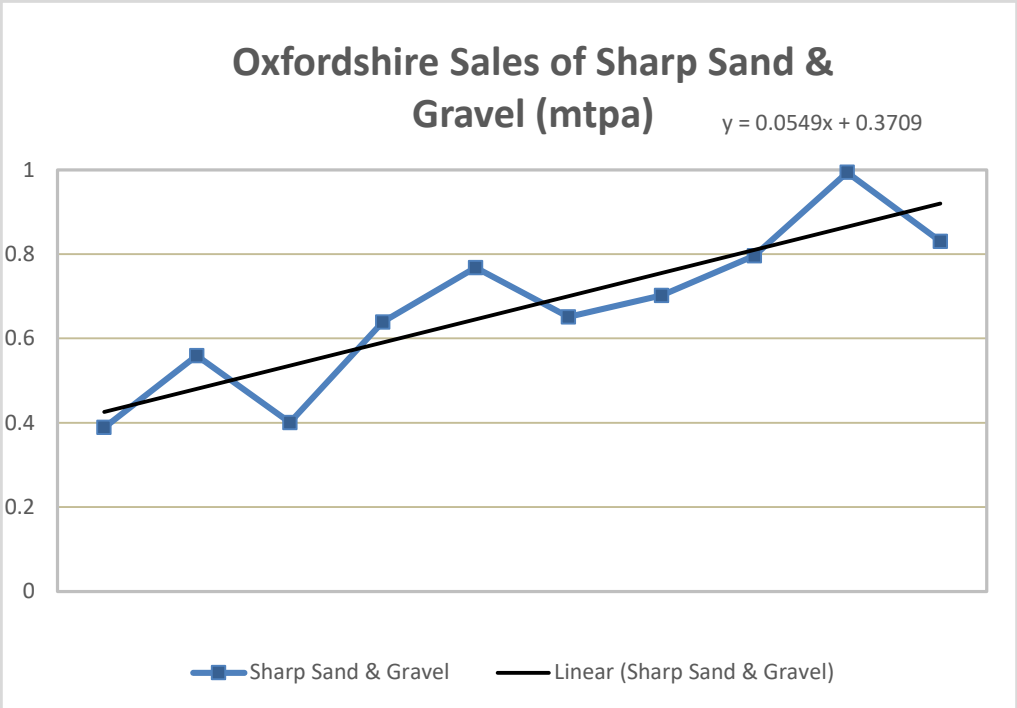
3.6 However, since 2016 there has been a steady increase in sharp sand and gravel sales. 2020 are still higher than pre 2018 sales but fell 16% compared to 2019 sales.

3.7 This decrease, but still relatively high figure, could be expected with the residential and commercial growth taking place within Oxfordshire and with Covid having the Country in lockdown for considerable periods of the year. A number of sites were also coming to the end of their reserve, whilst New Barn Farm commenced operations.

3.8 Based on linear trend analysis shown in Figure 3.1, the average rate of increase over the period 2011 to 2020 in Oxfordshire was 0.0549mtpa, giving a total increase of 0.549mtpa over the 10-year period with 3 intervals of decline. The periods of decline are discussed in 3.3-3.7.

3.9 There has been an 8.5% increase in the 10-year baseline period and a 5% increase in the 3-year baseline period[1]. The 3-year sales average of sharp sand and gravel is 41% higher than the 10-year average.

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



[1] Oxfordshire County Council LAA2020

Soft Sand Past Sales

3.10 Sales of soft sand from quarries in Oxfordshire 2011–2020 are shown in Table 3.2. These figures are taken from the 2020 Aggregates Minerals Survey undertaken by the County Council on behalf of the SEEAWP and the BGS Survey.

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10 year average	3 year average
0.201	0.155	0.165	0.230	0.233	0.227	0.251	0.252	0.254	**0.210**	**0.218**	**0.239**

Table 3.2: Sales of Soft Sand 2011 – 2020 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys)

3.11 The sales for 2020 dropped significantly and were the lowest levels since 2013.

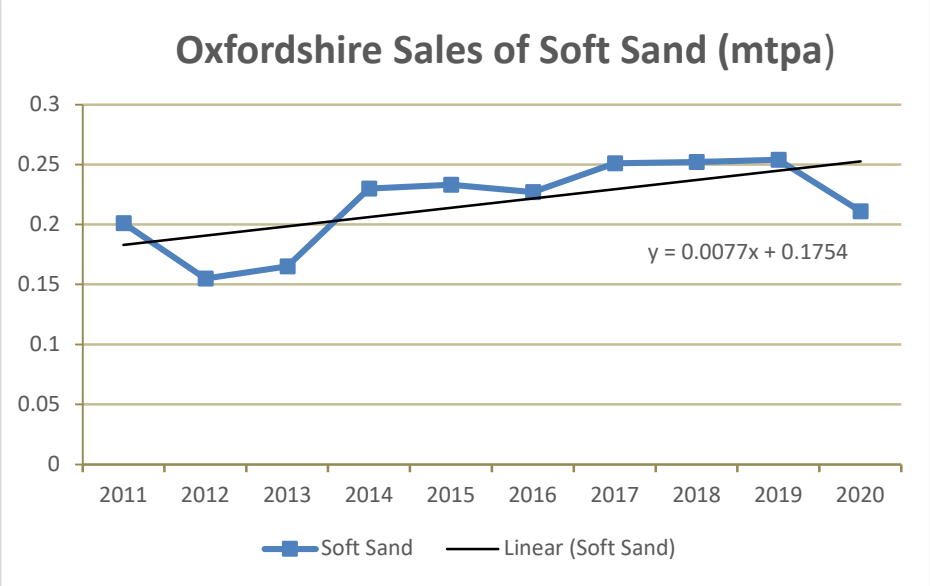
3.12 Planning permission for Shellingford was not issued until the end of 2020. This would have had an impact on sales within the County.

3.13 Up until this year, 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 2011 to 2020 reveals an average rate of increase of 0.0077mtpa for Oxfordshire, representing a total of 0.077mt (with five periods of decline) over the baseline period.

3.14 The Sales still saw a 3% increase in the 10-year baseline period, though the 3-year period dropped by 5%. However, the 3-year average is still 8% higher than the 10-year baseline period[2].

Figure 3.2 Linear trend analysis – Soft sand sales

[2] Appendix 1



Crushed Rock Past Sales

3.15 Sales of crushed rock from quarries in Oxfordshire for the period 2011– 2020 are shown in Table 3.3. These figures are taken from the Aggregates Monitoring Survey by SEEAWP and the BGS.

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10 year average	3 year average
0.322	0.242	0.502	1.061	0.914	0.715	0.867	0.751	0.843	**1.087**	**0.730**	**0.893**

Table 3.3: Sales of Sharp Crushed Rock – 2020 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys)

3.16 The sales for 2020 increased significantly and were the highest levels since 2003.

3.17 Historic records show that 2014 LAA 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.

3.18 However, in the last year there has been a 29% increase in crushed rock sales. The only information we have received from Operators is that construction activity generally is very high within Oxfordshire and also within areas surrounding the County with particular focus on all the growth centres for both residential and commercial developments.

3.19 On top of this, we have been informed that there has been the significant demand for aggregate from the second Phase of East -West Rail (not

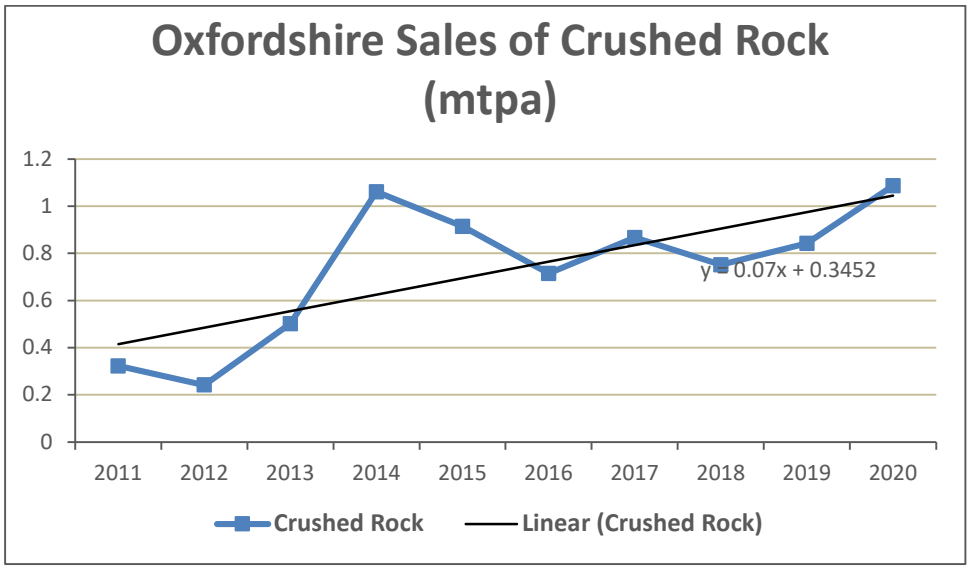
Crossrail). Whilst there has been some impact from HS2, operators are aware that the main impact of HS2 has not yet been fully felt on the industry".

3.20 Since 2014, crushed rock sales have been consistently higher that those at the start of the 10-year baseline period. In 2019 there was an 12.5% increase on the previous 10-year baseline period (Appendix 1).

3.21 The three-year average rose with a 9% increase on the previous 3-year period.

3.22 Linear trend analysis of crushed rock sales (Figure 3.3) over the period 2011 to 2020 reveals an average rate of increase of 0.07mtpa for Oxfordshire. The resulting overall increase over that period is 0.700mt (4 periods of decline).

Figure 3.3 Linear trend analysis – Crushed rock sales



Secondary and Recycled Aggregate

3.23 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.

3.24 Past aggregates monitoring surveys, for example, have not produced a full response from secondary and recycled aggregates site operators.

3.25 2020, like 2019 had a very poor response with only 38% of operators returning their figures for recycled and secondary aggregate facilities. This poor response could be due to Covid. These had a sales figure of 0.286mt for 2020.

3.26 To try and ensure a more accurate picture of the sales of secondary and recycled aggregates, it was decided to estimate those sites we had previous sales returns for and use information from planning applications. This gave a 56% rate for completion.

3.27 2020 therefore has recorded sales in Recycled and Secondary Aggregate, of 0.439mt

3.28 It is likely that the 2020 sales figures are significantly less than the total actual production. The surveys in the years 2013 and 2015 to 2017, particularly 2016, had better response rates.

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10 year average	3 year average
0.236	0.466	0.422	0.271	0.453	0.534	0.417	0.406	0.372	**0.439**	**0.402**	**0.406**

Table 3.4: Sales of Secondary and Recycled Aggregate 2011- (Sources: SEEAWP Aggregates Monitoring Surveys)

3.29 In a 2018 MPA[3] 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.

3.30 If we were to apply this to Oxfordshire to all sand and gravel and crushed rock sales in 2020, this would give a recycled and secondary figure of 0.653 million tonnes, which is considerably higher than our survey returns.

Imports of Secondary Aggregates

3.31 No known secondary aggregates are currently transported into Oxfordshire. This is largely due to the costs of transporting the material, and because the exemptions from the aggregates levy, that gave secondary aggregates a cost advantage over primary aggregates were withdrawn in April 2014.

3.32 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.

[3] Construction and Markets – South East MPA: Mineral Products Association - November 2018

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

3.33 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 transhipment of rail ballast has been intermittent in the past.

3.34 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 were available.

3.35 The rail depot figures for 2020 and previous years were confidential because they were derived from returns for only two companies. The figures for 2020 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 distorted the true picture for rail transportation. 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).

3.36 Although the raw data is confidential, in 2020 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 2020 as proportions of the sales figure for 2007.

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1.0	1.1	0.7	0.9	1.2	1.0	1.0	2.4	2.2	2.4	2.5	2.5	No return	2

Table 3.5: Pattern of sales from Oxfordshire rail depots 2007-2020 (Source: Oxfordshire County Council Aggregates Monitoring Survey)

3.37 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.

However, this dropped to around 2 times in 2020. This could be due to Covid and lockdown and will need to be reviewed in the 2021 LAA

3.38 The combined sales from the three railhead depots that were operational in 2020 represented 74% 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

3.39 In 2019 the BGS survey undertook the Aggregates Survey and their findings set out imports and exports of minerals between Mineral Planning Authorities which are explored in detail in Chapter 6. This sets out how much mineral Oxfordshire imports and how much we export.

3.40 The final report also sets out how much Oxfordshire 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.

3.41 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**

Table 3.5: Mineral consumed within Oxfordshire, 2009, 2014 and 2020 (BGS Surveys)

3.42 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.

3.43 For crushed rock, Oxfordshire consumed 0.617mt in 2019. This is a decrease of 58.5% from 2014, and a decrease on 1.3% on 2009.

3.44 It should be noted that for some minerals within the survey 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.

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 or not 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 year.

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 4.1[4] 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 period 2010 to 2020 has been 0.6% a year. Hwowver if you don't include the covid year the average growth rate was 1.8% a year

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1.7%	1.3%	1.4%	2.2%	2.9%	2.4%	1.7%	1.7%	1.3%	1.4%	**-9.9%**

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

4.5 The growth forecasts are set out in Table 4.2 from the Office of Budget. These have altered significantly from 2018's due to the impact of Covid in 2020/21[5]. The figures for 2022, 2023 are higher because of an assumed bounce back afterwards.

[4] Gross Domestic Product: Year on Year growth: CVM SA % - Office for National Statistics (ons.gov.uk)
[5] 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%**

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%[6]. These are average of a range of independent predictions.

4.7 In 2017 the MPA published[7] 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.

[6] https://www.gov.uk/government/statistics/forecasts-for-the-uk-economy-august-2021

[7] 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 as they have been considered within the Housing chapter later in this LAA. Housing figures have been included here solely for completeness. Oxfordshire's Local Industrial Strategy[8] 2020 highlights that the Infrastructure projects within Oxfordshire that are critical to the Investment Plan total £1,117.5million. The OXIS[9] 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 Deal[10] : 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 Oxford[11,] Bicester and Oxford[12].
- 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 – HIF1 & HIF2

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.

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[8] The Oxfordshire Investment Plan - August 2020.pdf (oxfordshirelep.com)
[9] Infrastructure Strategy (OxIS) | OxLEP (oxfordshirelep.com)
[10] https://www.gov.uk/government/publications/oxfordshire-housing-deal
[11] A global hot spot for enterprise and innovation in science, high technology and the application of knowledge - http://www.sciencevale.com/
[12] 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 clear indications that planned infrastructure and major development both within the and outside 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 OXIS[13] (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 Statistics[14].(ONS) There has been a steady population increase between 2011 and 2020. Unlike aggregate sales there was not a dip in population at the start of the baseline period, at least not at a county level,or 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 10-year period to 2020 there was an overall growth in the population of Oxfordshire of 42,089 people (+6.4%) (an average of 0.8% per year)

[13] Infrastructure Strategy (OxIS) | OxLEP (oxfordshirelep.com)
[14] www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/

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 (2011-2020) the average housing completion rate in Oxfordshire was 3320 homes per year[15], higher than the previous LAA2019 baseline (2010/11- 2019) figure of 2,943 homes per year.

4.26 However, if we took the last 3 years average (2018-2020), the housing completion rate in Oxfordshire is 5018 homes per year, which is an increase on the LAA 2019 3-year average (4,676 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

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

[15] Oxfordshire County Council.

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 continue to be explored in future LAA's.

5. LAA 2021 Provision Levels

Sharp Sand and Gravel

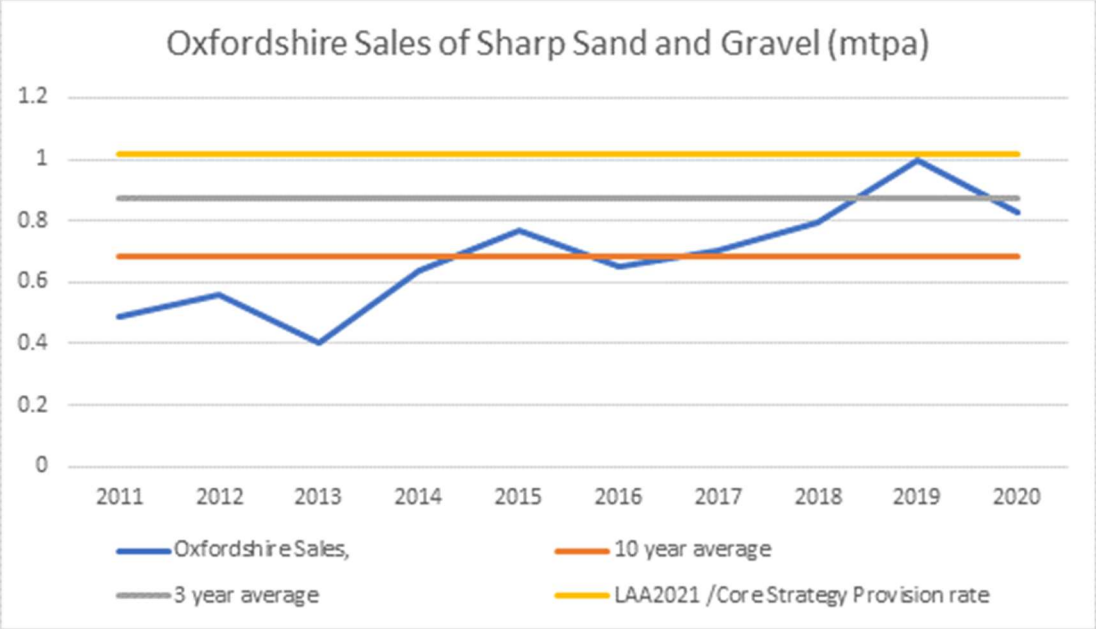
4.31 For sharp sand and gravel, there was a decrease increase in sales compared with 2019 to 0.830mt. The 3-year sales average decreased by 5% compared to the previous 3-year sales average over the baseline period, however there was a increase in the 10-year sales average. The 3-year sales average is still higher than the 10-year average. These are both below the LAA provision rate of 1.015mtpa

4.32 Considering available evidence in terms of economy, population, infrastructure and housing projections indicates that demand is likely to increase again following recovery from the Covid pandemic.

4.33 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 will continue to apply in the LAA 2021.

4.34 Figure 4.1 Actual sharp sand and gravel sales compared with the average sales (mtpa) and the LAA 2021 provision level.

Figure 4.1 Comparison of actual sharp sand and gravel sales compared with the average sales and the LAA 2020 and Core Strategy Provision levels (mtpa).



Soft Sand

4.35 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.

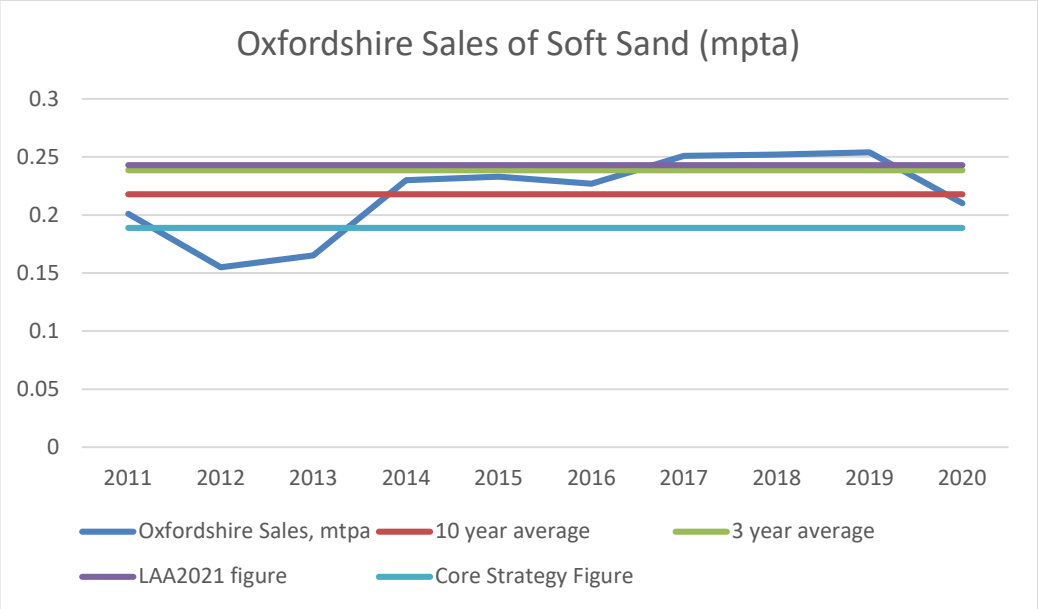
4.36 Since 2014, up until 2020, sales of soft sand have continued to rise above the Core Strategy and LAA 2014 provision figures. In 2018 there had been 5 years (2014 – 2018) of sales of soft sand consistently at levels significantly above pre-2014 sales levels and above the LAA figure. This 5-year period 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.

4.37 Sales in 2020 dropped from 0.254mt in 2019 to 0.210mt in 2020. The 3-year sales average was 5% lower than the previous 3-year sales average over the baseline period, though there was a 3% increase in the 10-year sales average. The 3-year sales average is 8% higher than the 10-year sales average. However, it is now 1.7% lower than the LAA provision figure.

4.38 Available evidence, in terms of economy, population, infrastructure and housing projections, indicates that demand is likely to increase again following recovery from the Covid pandemic.

4.39 Taking into account sales and consumption alongside this evidence, at this time there is no justification for a change in the LAA provision level figure from the current level of 0.243mtpa. This will 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

4.40 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 86% 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 sufficient for it to be considered an increased level of demand for crushed rock that is likely to continue for the foreseeable future, see Figure 4.3. Therefore, it was appropriate to increase the LAA provision level figure for crushed rock to the 2016-2019 3-year sales average of 0.778mtpa.

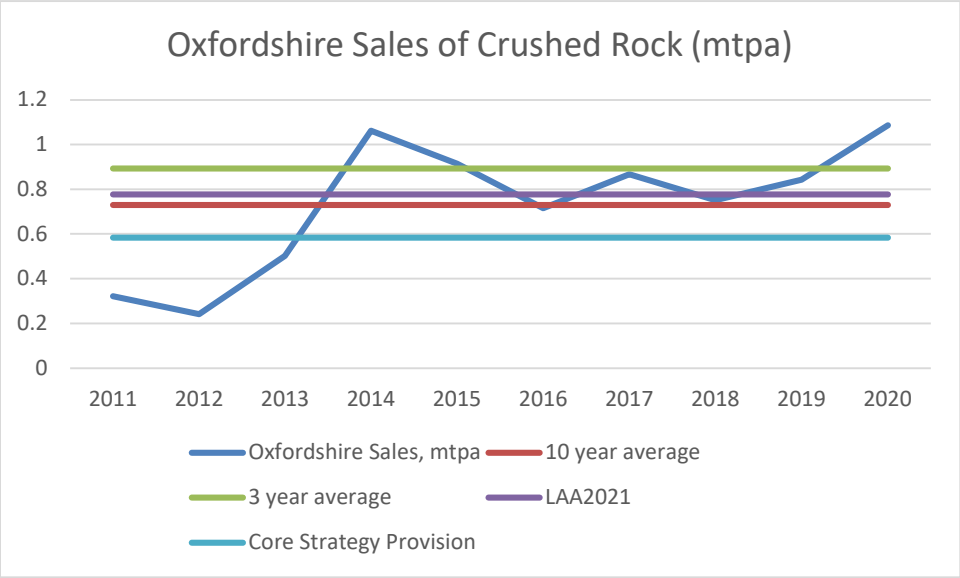
4.41 Sales in 2020 saw a 29% increase on 2019 sales as the upward trend in sales continued. The 3-year sales average was 9% higher the previous 3-year sales average over the baseline period and there was a 12.5% increase in the 10-year sales average. The 3-year sales average is now higher than the LAA 2019 provision rate.

4.42 Available evidence, in terms of economy, population, infrastructure and housing projections, indicates that demand is likely to continue. However, this significant increase in one year's sales requires monitoring to see if it continues as a trend or is an isolated occurrence.

4.43 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 willcontinue to apply in the LAA 2021.

Figure 4.3 Comparison of actual crushed rock sales compared with the average sales and the LAA 2021 and Core Strategy Provision levels (mtpa).



4.44 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.

4.45 In the case of recycled and secondary aggregates, the appropriate figure to maintain in the LAA2021 is the provision rate set in the Oxfordshire Minerals & Waste Local Plan: Part 1 – Core Strategy (2017) policy M3. This is 0.926mtpa.

4.46 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. The reduced sales in 2020 could be as a result of Covid and will be monitored in future.

4.47 Due confidentiality we are unable to provide a LAA 2020 provision figure at this
stage.

Conclusion for LAA 2021 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**

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 taken from the 58 % of operators included within the survey produce was approximately 0.824mt tonnes per annum.

6.4 This is an increase from 2019, however this includes estimates using 3 year sales and planning application details for a number of sites due to another poor response from operators (38%).

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 estimated[16] capacity for the production of recycled and secondary aggregates at each site in 2020, sub-divided between operational and non-operational sites.

6.7 Of a total capacity of approximately 1.484mtpa: 1.459mtpa is at operational facilities and 0.026mtpa is currently non-operational. Of the operational capacity, that which is at sites with planning permission to the end of the plan period (2031) or beyond is .901mtpa, whereas the capacity of sites with permissions that expire before the end of 2031 is 0.558mtpa.

6.8 In addition, at the end of 2020 there were four applications outstanding for an additional 0.168mtpa of recycled and secondary aggregate.

[16] 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 Cemex Batching 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
Wroxton	Peter Bennie Ltd	2042	10000
Ewelme No. 2	Grundon Waste Management	2032	12000
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)	**901,199**

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 2020 (tpa)	1,484,199

Table 6.1 Recycled and Secondary Aggregates Permissions at end of 2020

Imports and Exports

6.9 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.

6.10 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. This survey is known as AM2019.

6.11 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 and Minerals Planning Authority level. These are set out in detail in Appendix 2.

6.12 The most recent AM2019 stated 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.

6.13 Oxfordshire however, has increased in Land won Sand and Gravel sales by 44% since 2014, though sales in crushed rock have decreased by 20%.

6.14 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.

6.15 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

6.16 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. This does not include that mineral that was unallocated or went elsewhere. They are also set out in Appendix 2.

Table 6.2 Sales of primary aggregates and principal 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%[17]		404	48%	
Elsewhere	43	3%		178	21%	
Unallocated	64	5%				
	1248	100%	20%	843	100%	42%

6.17 The AM2019 also sets out Oxfordshire's imports in 2019. A summary of the import findings is shown in Table 6.3. The table also shows as a percentage, of the South East total, Oxfordshire's imports.

(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[18]
South East Total	2268(6%)	1962(0.3%)	3950(3%)	58084 (0.6%)	9754(5%)

Table 6.3 Imports of primary aggregates and its relationship with the South East Imports Total

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

Sharp Sand and Gravel

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

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

Exports

6.21 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.

[17] 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%

[18] This should be 492 as 136 add 356 is not 491

6.22 Oxfordshire consumed 62% of the sand and gravel produced in the County. Exports make up approximately 38%[19] 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. There is the potential for some of this to have been used in Oxfordshire.

6.23 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 Wights imports from Oxfordshire made up between 10 and 20% of their own total sand and gravel consumption.

Imports

6.24 Whilst we exported 476,000 tonnes of Land won Sand and Gravel, Oxfordshire imported 128,000 tonnes, up slightly from 117,000 tonnes in 2014. This was mainly from Cambridgeshire, Lincolnshire, Staffordshire and Wiltshire as Oxfordshire imported between 1% and 10% of the total consumed from each of these Authorities.

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

Crushed Rock

Exports

6.26 Appendix 2 shows that Oxfordshire changed from a net importer of crushed rock in 2014 to a net exporter. Oxfordshire exported 0.582mt of its total 0.843mt of crushed rock in 2019, compared with importing 0.356mt from outside the County. This is a change from 2014 where OCC was a net importer. 0.440mtwas imported, compared 0. 347mt exported.

6.27 Table 6.3 shows that exports make up approximately 69% of Oxfordshire's total sales. The majority of exports were to destinations within the South East (48%) whilst 21% went elsewhere.

6.28 As set out in Appendix 2 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 of crushed rock from Oxfordshire made up between 1 and 20% of their own total Crushed Rock consumption.

6.29 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.

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

6.30 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 2020, there are 11 sites with planning permission for sharp sand and gravel extraction, 8 of which are active. 2 are inactive, 1 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. There are also 3 planning applications for sharp sand and gravel outstanding at the end of 2020.

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.
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. Application MW.0104/20 outstanding.

Quarry Site	Operator	Current Status at December 2019
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	Active: Permitted for 2.500,000tonnes in November 2018. Extraction commenced in 2020

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 2020 were 11.439mt, as shown in Table 7.2 below. This is taken from the AM2020 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.

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)
11.439mt

Soft Sand

7.4 In Oxfordshire, at the end of 2020 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. There is also 1 planning application for soft sand outstanding at the end of 2020.

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.
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 granted at end of 2019 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. Application outstanding
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 2020 were 3.915mt, as shown in Table 7.4 below. This is taken from AM2020 survey, calculated using annual operator returns. Planning permission was granted for 1.8mt at Shellingford. 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. With the permission at Shellingford, the reserves are now spread

across a number of operators rather than one main one. Current production capacity is 0.365mtpa.

Soft Sand Permitted Reserves at 31/12/20(million tonnes)
3.915 mt

Table 7.4: Soft Sand Permitted Reserves at 31/12/20)million tonnes)[20]

Crushed Rock

7.7 In Oxfordshire at the end of 2020, there are 14 sites with planning permission for crushed rock extraction. There are 11 active sites and 2 inactive. The operator and current status of each site is provided in Table 5.5. There are also three applications for crushed rock outstanding at the end of 2020.

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 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

[20] SEEAWP Aggregates Monitoring Survey 2021

Quarry Site	Operator	Current Status at December 2019
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 granted in 2020 (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	Active; 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 2020 were 7.151mt, as shown in Table 7.6 below. This is taken from the AM2020 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 Permitted reserves of crushed rock in Oxfordshire, as reported in the SEEAWP Aggregates Monitoring Survey 2020, are shown in Table 7.6 below.

Crushed Rock Permitted Reserves at 31/12/20 (million tonnes)
7.151mt

Table 7.6: Crushed Rock Permitted Reserves at 31/12/19(million tonnes)[21]

Rail Depots

7.11 The combined sales from the three railhead depots that were operational in 2020 represent 74% 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

7.12 Based on the provision levels that have been determined for this LAA 2021 and the permitted reserves at 31 December 2020 as set out above, the landbanks at the end of 2020 can be seen below in Table 7.7.

Permitted Reserves at 31.12.2020 by mineral type	Landbank (LAA 2019 provision figures)
Soft Sand 3.915 m. tonnes	16.11 years at 0.243mtpa
Sharp Sand & Gravel 11.439 m. tonnes	11.27 years at 1.015mtpa
Crushed Rock 7.151 m. tonnes	9.19years at 0.778 mtpa

Table 5.7 Oxfordshire Landbank at 31/12/2019

7.13 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 third consecutive year and this means that we need to identify new sites to bring forward more crushed rock to meet the required need.

[21] AM2019 Survey

8.Demand and Supply Options Balance

8.1 In concluding Oxfordshire's LAA 2021, due to the indications of continued growth and predicted future growth in economic and construction activity, LAA2020 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 LAA2021 provision figures with the permitted reserves as of 31 December 2020[22] 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 9.19 years, slightly 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 accordance with the NPPF.

8.8 As shortfalls have been identified for the third consecutive year for Crushed Rock, Oxfordshire County Council are therefore undertaking a Core Strategy Review, and it is intended that this will 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.

[22] Appendix 2

8.9 Therefore, for clarity, this LAA sets out both the Core Strategy requirement and the LAA requirements to maintain a steady and adequate supply of minerals.

Sand and Gravel

Sand and Gravel Core Strategy/LAA 2021 Requirements

8.10 The Core Strategy/LAA2021 provision level figure of 1.015mtpa multiplied by 18 years, gives a total provision requirement of 18.27 million tonnes for the period 2014 to 2031.

8.11 Taking into account sales in 2014 – 20 (total 5.382million tonnes), and reserves that are expected to be worked during the plan period (11.250million tonnes), the remaining requirement for the period to 2031 is 1.638 million tonnes.

Soft Sand

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

Soft Sand Core Strategy Requirements

8.13 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.

8.14 Taking into account sales in 2014 – 2020 (total 1.657 million tonnes), and reserves that are expected to be worked during the plan period (3.915million tonnes), there are no more requirements for additional soft sand over the Plan Period.

Soft Sand LAA2021 requirements

8.15 However if we apply the LAA2014-2018 rate to 2018 (5 years) and the updated provision figures from the LAA2019 rate for the rest of the Plan period (13 years) this gives a total provision requirement of 4.104 million tonnes for the period 2014 to 2031

8.16 Taking into account sales in 2014 – 2020 (total 1.657million tonnes), and reserves that are expected to be worked during the plan period (2.915million tonnes), there is no requirement for any additional soft sand over the remaining Plan Period.

Crushed Rock

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

Crushed Rock Core Strategy Requirements

8.18 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.

8.19 Taking into account sales in 2014 – 2020 (total 6.238 million tonnes), and reserves that are expected to be worked during the plan period (5.901million tonnes), there are no more requirements for additional crushed rock over the Plan Period.

Crushed Rock LAA2021 requirements

8.20 However, if we apply the LAA 2014-2018 rate to 2018 (5 years) and the updated provision figures from the LAA2019 rate (0.788mtpa) for the rest of the Plan period (13 years) this gives a total provision requirement of 13.034million tonnes for the period 2014 to 2031

8.21 Taking into account sales in 2014 – 2020(total 6.238million tonnes), and reserves that are expected to be worked during the plan period (6.041million tonnes), there is a requirement for an additional 0.895mt tonnes of Crushed rock over the remaining Plan Period.

Conclusion

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

- **Sand and Gravel – 1.638 million tonnes**
- **Soft Sand - 0 million tonnes**
- **Crushed rock - 0 million tonnes**

8.23 However, to maintain our landbank requirements based on our most recent Local Aggregates Assessment 2019, we intend to address this issue through our Core Strategy review and undertake a Partial Review to include Policy M2.

8.24 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.

8.25 This LAA2021 shows that based on Local Aggregates Assessments we will need to identify sites to meet the following need:

- **Sand and Gravel – 1.638million tonnes.**
- **Soft Sand - 0 million tonnes**
- **Crushed rock – 0.895 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 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 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 seperate 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)[23]	**Oxfordshire Soft Sand Sales (million tonnes)**[24]	**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** [25]
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

[23] Source: SEEAWP Aggregates Monitoring Surveys
[24] SEEAWP Aggregates Monitoring Surveys
[25] 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)[23]	Oxfordshire Soft Sand Sales (million tonnes)[24]	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 [25]
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%
2020	0.830	0.210	1.040	2020 figures not available	
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

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)[23]	Oxfordshire Soft Sand Sales (million tonnes)[24]	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 [25]
Rolling 10 year annual average, 2008 – 2017*	0.576	0.202	0.822	n/a	n/a
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
Rolling 10 year average 2011 – 2020	0.683	0.218	0.901	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
Average of last 3	0.873	.239	1.112	n/a	n/a

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)[23]	Oxfordshire Soft Sand Sales (million tonnes)[24]	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 [25]
years 2018- 2020					

Oxfordshire's Historical Mineral Sales

Sharp Sand and Gravel 2003-2020 (million tonnes)

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

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)[26]	England Sharp Sand & Gravel Sales (million tonnes)[27]	Oxfordshire's sales as a percentage of England's sales [28]
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%

[26] Source: SEEAWP Aggregates Monitoring Surveys
[27] Source: Mineral Extraction in Great Britain survey, Table 2 "Sand and Gravel for Construction". Please note that 2014 is the most recent published report.
[28] 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)[26]	England Sharp Sand & Gravel Sales (million tonnes)[27]	Oxfordshire's sales as a percentage of England's sales [28]
2012	0.559	28.702	1.95%
2013	0.401	30.634	1.31%
2014	0.639	33.831	1.89%
2015	0.768	*2015 figures not available*	n/a
2016	0.651	*2016 figures not available*	n/a
2017	0.703	*2017 figures not available*	n/a
2018	0.796	*2018 figures not available*	n/a
2019	0.994	2019 figures not available	n/a
2020	0.83	2020 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

	Oxfordshire Sharp Sand & Gravel Sales (million tonnes)[26]	England Sharp Sand & Gravel Sales (million tonnes)[27]	Oxfordshire's sales as a percentage of England's sales [28]
Rolling 10 year average 2009 – 2018	0.592	n/a	n/a
Rolling 10 year average 2010 – 2019	0.569	n/a	n/a
Rolling 10 year average 2011– 2020	0.612	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 2016 - 2019	0.813	n/a	n/a
Average of last 3 years 2017 - 2020	0.873	n/a	n/a

Sales of Soft Sand 2003–2020 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys, and AMRI Surveys)

	Oxfordshire Soft Sand Sales (million tonnes)[29]	**England Soft Sand Sales (million tonnes)[30]**	**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	*2015 figures not available*	n/a
2016	0.227	*2016 figures not available*	n/a
2017	0.251	*2017 figures not available*	n/a
2018	0.252	*2018 figures not available*	n/a
2019	0.254	2019 figure not available	n/a

[29] SEEAWP Aggregates Monitoring Surveys
[30] 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)[29]	England Soft Sand Sales (million tonnes)[30]	Oxfordshire's sales as a percentage of England's sales.
2020	0.21	2020 figure not available	n/a
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
Rolling 10 year annual average (2011– 2020)	0.218	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
Average of last 3 years 2017 - 2020	.239	n/a	n/a

Sales of Crushed Rock 2003 – 2020 (million tonnes) (Sources: SEEAWP Aggregates Monitoring Surveys, and AMRI Surveys)

	Oxfordshire Crushed Rock Sales (million tonnes)[31]	England Crushed Rock Sales (million tonnes)[32]	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	*2015 figures not available*	n/a
2016	0.715	*2016 figures not available*	n/a
2017	0.867	*2017 figures not available*	n/a

[31] SEEAWP Aggregates Monitoring Surveys
[32] Source: BGS 2014 and 2019 survey

	Oxfordshire Crushed Rock Sales (million tonnes)[31]	England Crushed Rock Sales (million tonnes)[32]	Oxfordshire's sales as a percentage of England's sales.
2018	0.751	*2018 figures not available*	n/a
2019	**0.843**	**83.015**	**1.02%**
2020	**1.087**	*2020 figures not available*	**n/A**
Rolling 10 year annual average 2003 - 2012	0.470	71.253	0.66%
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
Rolling 10 year annual average 2011 – 2020	0.730	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

	Oxfordshire Crushed Rock Sales (million tonnes)[31]	England Crushed Rock Sales (million tonnes)[32]	Oxfordshire's sales as a percentage of England's sales.
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
Average of last 3 years 2018 – 2020	0.894	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[33]
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

[33] 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.

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/MHCLG AM2019 Survey)

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)

Destination	Proportion	Range* of tonnages produced in Oxfordshire (millions of tonnes)
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

Destination	Proportion	Range* of tonnages produced in Oxfordshire (millions of tonnes)
Berkshire	Between 1% and 10% of total sand and gravel consumed in Berkshire	Between 0.007mt and 0.074mt came from Oxfordshire
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/MHCLG AM2019 Survey)

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 Oxfordsshire	0.261mt*
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.

This data comparison is not currently available for AM2019.

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 LAA2021.

Sand and Gravel Provision required over plan period 2014 – 2031

(As at Dec 2020)

	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 – 2020(Oxfordshire)	5.382
D. Remaining requirement (B – C)	12.888
E. Permitted Reserves at end 2020	11.439
F. Estimated permitted reserves available to be worked during remainder of plan period (from beginning 2021 to end 2031)	11.250
G. Remaining requirement to be provided for in Plan (D – F)	**1.638**

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 site at Stonehenge Farm has not extracted any sand and gravel during 2020. 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.

Soft Sand provision required over the Plan period 2014-2031

(As at Dec 2020)

	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 – 2020	1.657	1.657
D. Remaining requirement (B – C)	1.745	2.557
E. Permitted Reserves at end 2020	3.915	3.915
F. Estimated permitted reserves available to be worked during remainder of plan period (from beginning 2021 to end 2031)	2.61	2.61
G. Remaining requirement to be provided for in Plan (D – F)	**0**	**0**

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).
3. The planning application at Shellingford for 1.8mt of soft sand was permitted at the end of 2020 and has an extraction rate of 100,000tpa, therefore only 1.1mt will be extracted over the Plan period.
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 3.914million tonnes (row G) to an estimated 2.61million tonnes (row H)

Crushed Rock provision required over the Plan period 2014-2031

(As at December 2020)

	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 – 2020	6.238	6.238
D. Remaining requirement (B – C)	4.274	6.796
E. Permitted Reserves at end 2020	7.151	7.151

F. Estimated permitted reserves available to be worked during remainder of plan period (from beginning 2020 to end 2031)	5.901	5.901
G. Remaining requirement to be provided for in Plan (D-F))	**0**	**0.895**

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 (2011 to 2020) [34]

Year	Population
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
2020	696,880

Population forecasts for Oxfordshire up to 2028

Year	Population Forecast[35]	Population Forecast [36]
2021	699,594	708,105
2022	703,002	721,423
2023	706,188	731,090
2024	709,180	742,638
2025	712023	755,803

[34] www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/
[35] www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections
[36] insight.oxfordshire.gov.uk/cms/future-population

Year	Population Forecast[35]	Population Forecast [36]
2026	714,785	769,797
2027	717,536	784,018
2028	720,204	799,634

Housing Completion Figures

Housing completions by year in Oxfordshire[37]

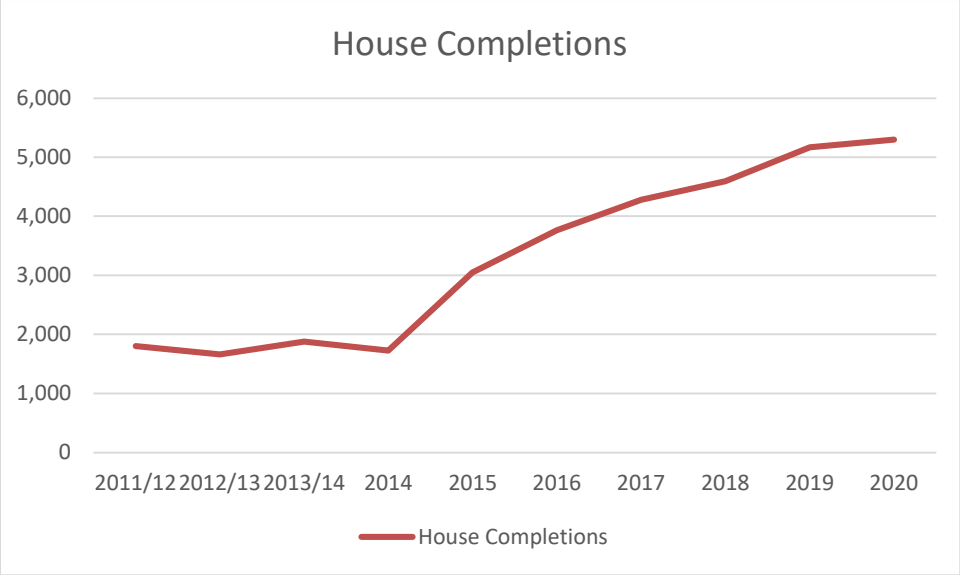
Year	Housing Completions
2011/12	1,799
2012/13	1,661
2013/14	1,873
2014	1726
2015	3044
2016	3761
2017	4277
2018	4589
2019	5164
2020	5301

Notes

(a) completions figures in 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.

[37] Oxfordshire County Council and District Monitoring Reports



Projected housebuilding[38]

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

[38] District local plans, District Planning Officers, Oxfordshire County Council Data Team