

# West Berkshire Minerals and Waste Plan

## Local Aggregates Assessment 2021

### West Berkshire Local Plan



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West Berkshire District Council Local Aggregate Assessment 2022 DASHBOARD									
	Sales (t) & Change from Previous Year	Average 10 year Sales (t) 2012-2021 & Trend	Average 3 year Sales (t) 2012-2021 & Trend	Annual Provision Rate (t) (Proposed)	Reserves (t)	Landbank (years)	Allocations (years)	Capacity (t)	Comments
Sharp Sand and Gravel	37,700 ↓	97,931 ↓	45,943 ↓	189,233	2,520,000	13.3	N/A	20,000*	Sales at historically low levels over the past few years, related to the decline in operational sites. Reserves level around 2.5 million tonnes. <b>2018 APR recommended to remain in place.</b>
Soft Sand	0 ↔	16,369 ↓	5,510 ↓	43,730	0	0.0	N/A	0	WB's remaining soft sand site worked out in 2019. No permitted reserves although an allocation is emerging in the MWLP. <b>2018 APR recommended to remain in place.</b>
All Sand and Gravel	37,700 ↓	114,300 ↓	51,453 ↓	232,964	2,520,000	10.8	N/A	20,000*	Average level of sales continues to decline. Sales at very low levels. No remaining soft sand reserves. Reserves level around 2.5 million tonnes. <b>2018 APR recommended to remain in place.</b>
Crushed Rock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No hard rock producing sites in West Berkshire.
Recycled Aggregates	362,279 ↑	319,101 ↑	320,273 ↑	320,273 (3 yr average)	N/A	N/A	N/A	511,250	Site with significant capacity changed use in 2020, although capacity still above sales. <b>APR based on previous 3 years' sales average.</b> No supply issues identified.
Secondary Aggregates	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No notable secondary aggregate sources in West Berkshire.
Marine Sand and Gravel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No wharf sites so zero landings in West Berkshire (some marine aggregates imported by rail).
Rock Imports by Sea	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No wharf sites so zero landings in West Berkshire.
Rail Depot Sales (Sand and Gravel)	86,117 (based on 3yr average) ↓	85,361 ↓	86,117 ↓	86,117	N/A	N/A	N/A	1,171,000	Sales data based on 3 year average to ensure confidentiality. Rail imported sand predominantly of marine origin. <b>APR based on previous 3 years' sales average.</b> N.B. No return for 2021 so 2020 sales figure used (and likely to be an underestimate due to covid effect).
Rail Depot Sales (Crushed Rock)	975,803 ↑	732,849 ↑	904,071 ↑	904,071	N/A	N/A	N/A		2021 sales are the highest recorded and both the 10 year and 3 year average sales increased again. <b>APR based on previous 3 years' sales average.</b> N.B. 2021 sales data for one site based on 2020 sales due to lack of return (and likely to be an underestimate due to covid effect).
General Comments	2021 saw a further decline in sales of land-won construction aggregates in West Berkshire, due to declines in reserves at operational sites. Only one site was operational in 2021. Sales of recycled aggregates increased again in 2021 following a decline in 2020 (presumed due to covid). A significant recycled aggregate site changed use in 2020 resulting in a decrease in available capacity. However, capacity is still above sales and no supply issues have been identified. Landbanks indicate a pressing need for soft sand which is being addressed through the new Minerals and Waste Local Plan. Although the landbank suggests healthy reserves of sharp sand and gravel, the majority of this is bound up in a single site that has yet to commence production, and hence limiting available production capacity. Aggregate was imported to the railheads at Theale, where three are currently operational (with four depot 'sites'). Some uncertainty over actual sales levels from railheads due to insufficient data. Approximately 15% headroom capacity at rail depot sites, however this is likely to be an underestimate due to a lack of returns from operators. *Sand and gravel capacity figures are based on theoretical outputs as limited by the amount of remaining permitted reserve.								

## 1.0 Executive Summary

### 1.1 Background

- 1.1.1 The National Planning Policy Framework (NPPF) places a requirement on mineral planning authorities to prepare an annual Local Aggregates Assessment (LAA). This LAA has been produced in line with the approach set out in paragraph 213 of the NPPF and the National Planning Policy Guidance (NPPG)<sup>1</sup>. Consideration has also been given to the Planning Officers Society / Mineral Products Association (POS/MPA) guidance on the production of LAAs (as updated May 2017)<sup>2</sup>, and South East Aggregates Working Party (SEEAWP) Supplementary Guidance on Local Aggregates Assessments<sup>3</sup>.
- 1.1.2 This LAA covers the calendar year to the end of 2021. The LAA considers the demand and supply issues around the four main sources of construction aggregates that are sold in West Berkshire: land won sand and gravel from quarry sites, recycled aggregates (primarily produced at waste sites), and hard rock and marine sand and gravel that is imported to rail head sites.

### 1.2 Aggregates in West Berkshire

- 1.2.1 West Berkshire's main construction aggregate is sharp sand and gravel, suitable for most types of concreting purposes, and therefore an important material for the construction industry. There are also deposits of soft sand (building sand), suitable for use in making mortars and plasters.
- 1.2.2 Recycled aggregates created from the treatment of construction and demolition wastes are also produced in West Berkshire. In 2021, there were a number of permitted construction and demolition waste recycling facilities in operation, all of which operated under permanent permissions. There are no notable sources of secondary aggregates in the district.
- 1.2.3 The geological composition in West Berkshire means that there are no sources of crushed rock in the authority area, and therefore the district needs to import supplies of this aggregate. This is done through the main aggregate railheads at Theale, where three railheads are currently operational (one depot is utilised by two operators, resulting in four depot 'sites'). Small volumes of marine dredged sand and gravel are also known to be imported into West Berkshire through the district's rail depots. It should be noted that these rail depots are an important sub-regional supply hub as aggregates delivered to these depots are utilised beyond West Berkshire.

### 1.3 Land Won Sand and Gravel

- 1.3.1 Sales of land won aggregates from West Berkshire quarries have been declining over the past decade, and this is reflected in the 10 year sales average which has been declining in turn. In 2021 it was 97,931 tonnes for sharp sand and gravel and 16,369 tonnes for soft sand (114,300 tonnes for combined sand and gravel); these are the lowest levels seen in the district since Local Aggregates Assessments began in 2013.

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<sup>1</sup> Department for Levelling Up, Housing and Communities (DLUHC), 2014. *Guidance: Minerals* [online]. Available at: <https://www.gov.uk/guidance/minerals> (Accessed 7th September 2022).

<sup>2</sup> Planning Officers Society and Mineral Products Association, (2017). *Practice Guidance on the Production and Use of Local Aggregates Assessments* [online]. Available at: <https://www.planningofficers.org.uk/uploads/news/GuidanceTheProductionAndUseOfLocalAggregateAssessments.pdf> (Accessed 7th September 2022).

<sup>3</sup> South East England Aggregates Working Party (SEEAWP), 2019. *Local Aggregates Assessments: Supplementary Guidance* [online]. Available at: <http://documents.hants.gov.uk/see-awp/SEEAWP-SuppLAAGuidance-July2019.pdf> (Accessed 7th September 2022).

- 1.3.2 The factors influencing supply for land won sand and gravel were: Sites in West Berkshire producing construction aggregates; levels of reserves; and, current operational capacity. From this, it was shown that despite a relatively large reserve base, operational production capacity is limited to a single active site in West Berkshire, and is constraining indigenous supply in the district. Environmental constraints are also relevant, as much of the northern area of West Berkshire, where the main deposits of soft sand have historically been worked, lies within the North Wessex Downs Area of Outstanding Natural Beauty (AONB).
- 1.3.3 Relevant local information was also considered as to whether it might be appropriate to deviate from the past 10 year sales average in planning for the supply of land won construction aggregates in West Berkshire. Growth factors considered were: population change, economic/national construction/national aggregates forecasts, infrastructure projects and local industry. Constraints considered were: environmental constraints and decline in operational aggregate sites and reserves in West Berkshire. Alternative aggregate supplies were also considered. It has been determined that future demand for aggregates is likely to be incremental in nature, and therefore adequately captured in a rolling 10 year sales average. In addition, environmental constraints and alternative aggregate supplies were not considered to be significant enough to require a revision of the 10 year sales average.
- 1.3.4 However, the decline in land-won aggregate producing sites and reserves in West Berkshire is considered to have suppressed sales in relation to demand in recent years as consumption has been shown to be increasing. Therefore, consistent with the 2019 and 2020 LAAs, it is considered that relying on the past 10 year sales average may not be sufficient to plan for a steady and adequate supply of sand and gravel in West Berkshire. Due to this, it is recommended that the 2018 Annual Provision Rate (APR) should remain in place (189,233 tpa for sharp sand and gravel and 43,730 tpa for soft sand) as was recommended in the 2019 and 2020 LAAs. This situation will need to be monitored in future to determine whether these rates remain appropriate, particularly as inactive sites and sites allocated in the MWLP come on-stream, and levels of sales increase again.
- 1.3.5 In assessing the balance between supply and demand, separate sharp sand and gravel and soft sand landbanks were calculated, which show that the sharp sand and gravel landbank in West Berkshire is 13.3 years, and the soft sand landbank is 0 years (due to reserves being exhausted in 2019). The total landbank for sand and gravel was 10.8 years, which is above the required 7 year minimum. The MWLP has allocated one site for the production of soft sand, and therefore it is anticipated that once the site is operational, the landbank for soft sand will again increase.

## **1.4 Recycled and Secondary Aggregates**

- 1.4.1 Levels of recycled aggregate sales are shown to have been generally increasing over the past decade, and in 2021 were estimated at 362,279 tonnes; estimates of consumption have been more variable. Supply options considered included sources of construction and demolition waste and production capacity at recycled aggregate facilities. It is understood that construction and demolition waste has historically been imported for treatment in West Berkshire, indicating that supply of raw materials to produce recycled aggregate has not historically been an issue. It is considered that the most appropriate way to meet increasing demand, and encourage the supply of recycled aggregates, is to ensure adequate provision is made to meet recent levels of sales (3 year average). This equates to a level of need for capacity to recycle 320,273 tonnes of aggregates per annum. This is recommended as the APR for recycled aggregates. The current operational capacity to produce recycled aggregates in West Berkshire is 511,250 tonnes per annum. This indicates that there are no capacity issues which would hinder being able to meet current demand.

- 1.4.2 Recently, substandard blocks from Forterra Thermalite were used in the manufacture of concrete blocks, which is regarded as secondary aggregate, although actual sales are confidential.

## **1.5 Rail Imported Crushed Rock and Marine Aggregates**

- 1.5.1 West Berkshire does not produce any crushed rock indigenously, nor are there any marine landing sites. As such, these aggregates are imported to the rail depots at Theale. Sales of both crushed rock and marine aggregates have generally been increasing over the past decade. The 10 year sales average for crushed rock is 732,849 tonnes, and the 3 year average is 904,071 tonnes. The APR is recommended as the 3 year average sales of 904,071 tpa. The 10 year sales average for marine sand and gravel is 85,361 tonnes, and the 3 year average is 86,117 tonnes. The APR is recommended as the 3 year average sales of 86,117 tpa.
- 1.5.2 Crushed rock is mainly imported from Somerset, and no supply issues have been identified with this arrangement. Marine aggregates are mainly imported from landings at London Wharves, and although no supply issues have been identified, the continued safeguarding of London wharves and infrastructure will be necessary to ensure the security of this supply. In terms of capacity at West Berkshire's rail depots, estimated capacity (1,171,000 tonnes per annum) is above the combined APRs for rail imported crushed rock and marine sand and gravel (990,188 tonnes). When also considered against levels of sales in 2021 (1,061,920 tonnes of crushed rock and marine sand and gravel), the depots appear to be operating below capacity. It will be essential to safeguard this infrastructure in future to ensure current levels of sales are able to be maintained in order to satisfy demand.
- 1.5.3 It is understood that Network Rail intend to develop an additional aggregate siding at Theale, which would act to increase capacity for importation of crushed rock, marine, and other aggregates.



## 2.0 Introduction

2.1 The purpose of a Local Aggregates Assessment (LAA) is to assess the demand for, and supply options of construction aggregates in a Mineral Planning Authority area to ensure that an appropriate provision of these minerals can be maintained, as required in paragraph 213 of the National Planning Policy Framework (NPPF):

*'Minerals planning authorities should plan for a steady and adequate supply of aggregates by:*

*(a) preparing an annual Local Aggregate Assessment, either individually or jointly, to forecast future demand, based on a rolling average of 10 years' sales data and other relevant local information, and an assessment of all supply options...'*

2.2 Local Aggregate Assessments have been produced by West Berkshire District Council since 2013. This LAA covers data from the calendar year 2021 and the assessment provided in this report follows the approach set out in paragraph 213 of the NPPF and the accompanying Planning Practice Guidance (NPPG)<sup>4</sup>. Consideration has also been given to the POS/MPA LAA Guidance document<sup>5</sup> and the SEEAWP Supplementary Guidance on Local Aggregates Assessments<sup>6</sup>.

2.3 The data used in the preparation of this report predominantly comes from the annual monitoring of aggregate sales in West Berkshire for the South East Aggregates Aggregate Working Party (SEEAWP). These surveys collect annual sales data from active mineral extraction sites, minerals wharves, minerals rail depots and recycled aggregate processing sites. Additional data used, where relevant, includes the following sources:

- The Annual Minerals Raised Inquiry Survey (where available), previously undertaken by the Ministry of Housing, Communities and Local Government (MHCLG), which sets out sales of each type of mineral in Great Britain;
- The 4-yearly Aggregate Minerals Surveys on the sales, movement, consumption and permitted reserves of aggregate minerals undertaken by the British Geological Survey (BGS) on behalf of the government (where available);
- Annual Monitoring Reports and LAAs prepared by other Mineral Planning Authorities; and
- Data and information on mineral resources held by the British Geological Survey (BGS) and the Crown Estate.

2.4 This LAA provides an assessment of the current state of supply and demand of aggregate minerals in West Berkshire, comprising land-won sand and gravel and soft sand, recycled aggregates, and rail-imported marine sand and gravel and crushed rock. The LAA will continue to be updated annually and used to monitor the emerging Minerals and Waste Local Plan (MWLP) covering the period to 2037, as well as being a means of calculating the landbank. The landbank is taken as a material consideration in the assessment of planning applications during the plan period, as well as being an indicator in the review process, as to whether the adopted Plan, or individual parts of the Plan need to be updated<sup>7</sup>.

<sup>4</sup> Department for Levelling Up, Housing and Communities (DLUHC), 2014. *Guidance: Minerals* [online]. Available at: <https://www.gov.uk/guidance/minerals> (Accessed 7th September 2022).

<sup>5</sup> Planning Officers Society and Mineral Products Association, (2017). *Practice Guidance on the Production and Use of Local Aggregates Assessments* [online]. Available at: <https://www.planningofficers.org.uk/uploads/news/GuidanceTheProductionAndUseOfLocalAggregateAssessments.pdf> (Accessed 7th September 2022).

<sup>6</sup> South East England Aggregates Working Party (SEEAWP), 2019. *Local Aggregates Assessments: Supplementary Guidance* [online]. Available at: <http://documents.hants.gov.uk/see-awp/SEEAWP-SuppLAAGuidance-July2019.pdf> (Accessed 7th September 2022).

<sup>7</sup> Reviews at least every five years are a legal requirement for all local plans (Regulation 10A of the Town and Country Planning (Local Planning) (England) Regulations 2012).



## 3.0 Land Won Sand and Gravel

### 3.1 Geology and Landscape in West Berkshire

- 3.1.1 The bedrock geology of West Berkshire is characterised by four main geological formations: Bagshot Beds, Lambeth Group (formerly Reading Beds), London Clay and Chalk.
- 3.1.2 The superficial geology of West Berkshire includes deposits of sand and gravel comprising:
- Plateau Gravel
  - Valley Gravel
- 3.1.3 The geology in West Berkshire produces the following type of construction aggregates:
- Sharp Sand and Gravel (suitable for most types of concreting purposes)
  - Soft Sand (also called 'building sand'; it is suitable for mortars and plasters)
- 3.1.4 Geologically speaking, sharp sand and gravel is a very recent deposit. It is predominantly found along the Kennet River valley, and also in river terrace deposits, which are the remnants of raised floodplains. Soft sand is much older, and in West Berkshire it principally occurs in the Reading Formation, a bedrock deposit outcropping in the higher ground above the Kennet Valley. The Formation is predominantly clay bearing, but also contains sand beds.
- 3.1.5 Much of the northern area of West Berkshire, where the main deposits of soft sand have historically been worked, lies within the North Wessex Downs Area of Outstanding Natural Beauty (AONB).
- 3.1.6 Information on the general extent of the deposits of sand and gravel, chalk and clay in West Berkshire is shown in the simplified geological map in Figure 3.1, which also shows the locations of quarries, recycled aggregate sites and aggregate rail depots.

### 3.2 Demand Indicators

#### *Production/Sales from West Berkshire Quarries*

- 3.2.1 When determining the rate at which demand is to be satisfied by a steady and adequate supply of aggregates, the NPPF (para 213) requires this to be based on an assessment of the previous 10 years rolling sales average and other relevant local information. Planning guidance also suggests that the 3 year average is considered to identify whether it might be appropriate to increase supply (PPG Minerals Paragraph: 064 Reference ID: 27-064-20140306).
- 3.2.2 The past 10 years' sales of sharp sand and gravel and soft sand from West Berkshire sites are shown in Table 3.1 and represented in Figure 3.2, and the 10 year and 3 year sales averages are shown in Table 3.2.
- 3.2.3 Separate sharp sand and gravel and soft sand sales have been published since 2016. Sales figures were previously combined due to commercial confidentiality, and sales figures prior to 2016 are still combined to protect the confidentiality of past operators.

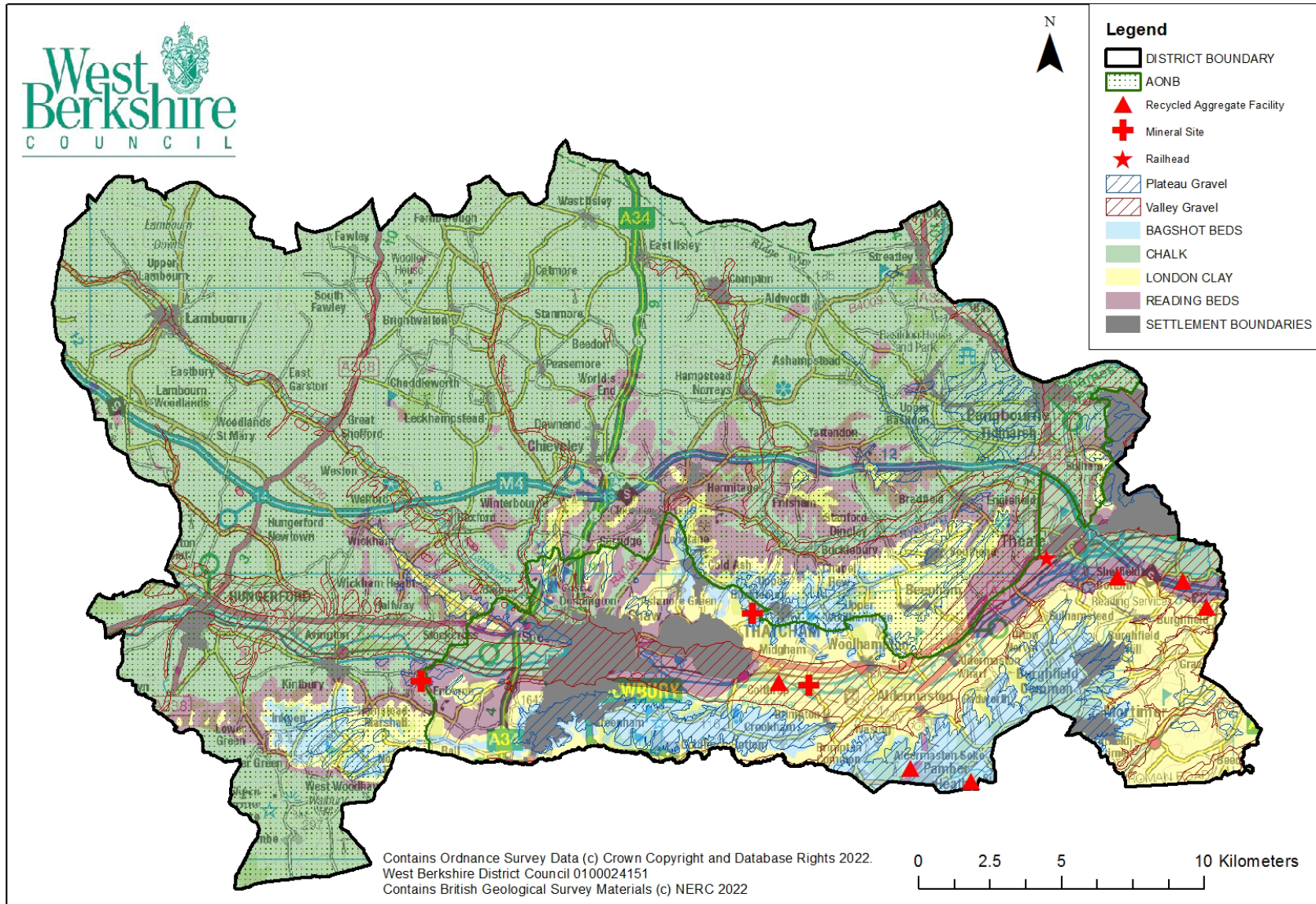


Figure 3.1 - Geology Resources and Mineral Infrastructure in West Berkshire

Table 3.1 - Past 10 Year Construction Aggregate Outputs in West Berkshire

Year	Sharp Sand and Gravel	Soft Sand	Total
2012	Confidential	Confidential	233,684
2013	Confidential	Confidential	191,765
2014	Confidential	Confidential	159,831
2015	Confidential	Confidential	154,185
2016	104,990	7,223	112,213
2017	79,939	2,054	81,993
2018	33,177	21,792	54,969
2019	42,883	16,530	59,413
2020	57,245	0	57,245
2021	37,700	0	37,700

Source: West Berkshire District Council Aggregates Monitoring Surveys 2012 - 2021.

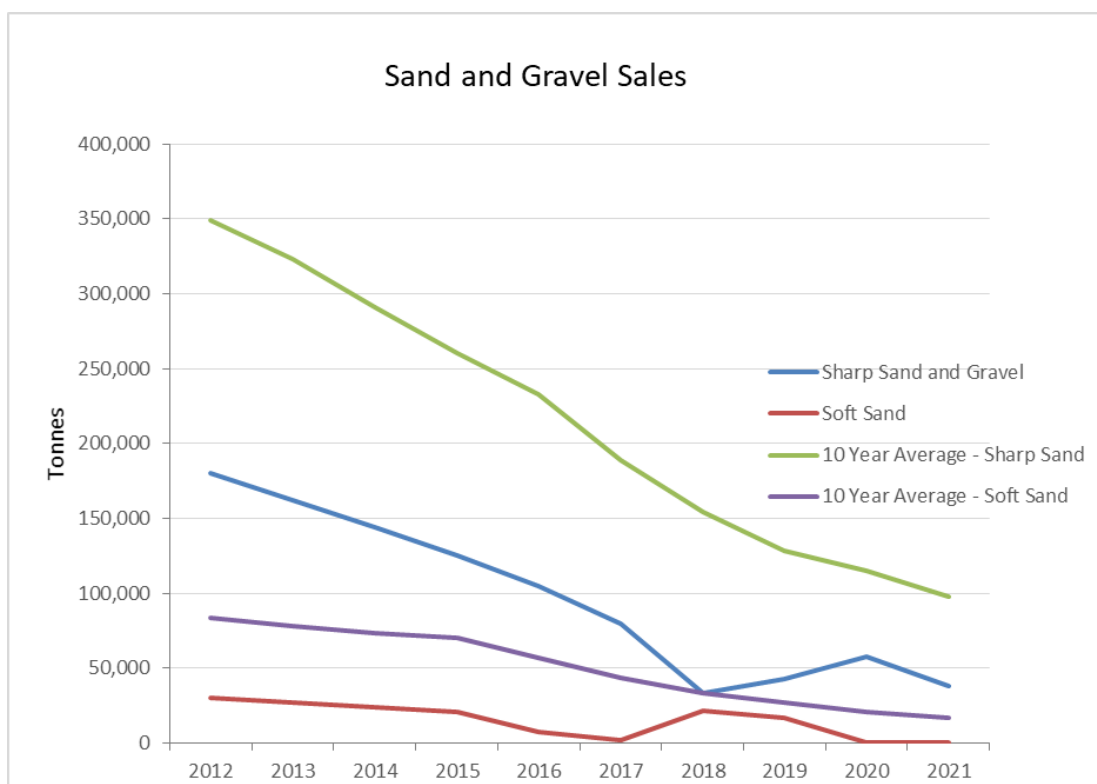


Figure 3.2 - Past 10 Year Construction Aggregate Outputs in West Berkshire (N.B. Sales prior to 2016 based on linear trend data as actual data is confidential).

Source: West Berkshire District Council Aggregates Monitoring Surveys 2012 - 2021.

3.2.4 Figure 3.2 illustrates that sales of sand and gravel at West Berkshire quarries have largely steadily declined in West Berkshire over the past 10 years. Sales of soft sand increased slightly in 2018 due to an extension area commencing production, although all permitted reserves for soft sand were worked out in 2019. Sales of sharp sand and gravel increased slightly in 2020. Only one quarry was in production during 2019/2020, so the increase is attributable to an increase in sales at this location and is possibly just due to year on year variation. The 10 year averages for soft sand and sharp sand have also declined steadily. The decline in sales of both soft sand and sharp sand and gravel are due to the closure of extraction sites and depletion of reserves in the remaining operational sites in the district combined with no new substantive applications.

3.2.5 The past 10 year and 3 year average of sales for soft sand, sharp sand and gravel and total sand and gravel are shown in Table 3.2.

Table 3.2 – 10 and 3 Year Averages for Land Won Sharp Sand and Gravel and Soft Sand

	10 Year Sales Average	3 Year Sales Average
<b>Sharp Sand and Gravel</b>	97,931	45,943
<b>Soft Sand</b>	16,369	5,510
<b>Combined</b>	114,300	51,543

3.2.6 The pattern of primary aggregate output decline in West Berkshire over the past 10 years was at contrast with the general increase seen across the South East, until 2019 whereupon sales of sand and gravel in the South East have also declined (Figure 3.3).

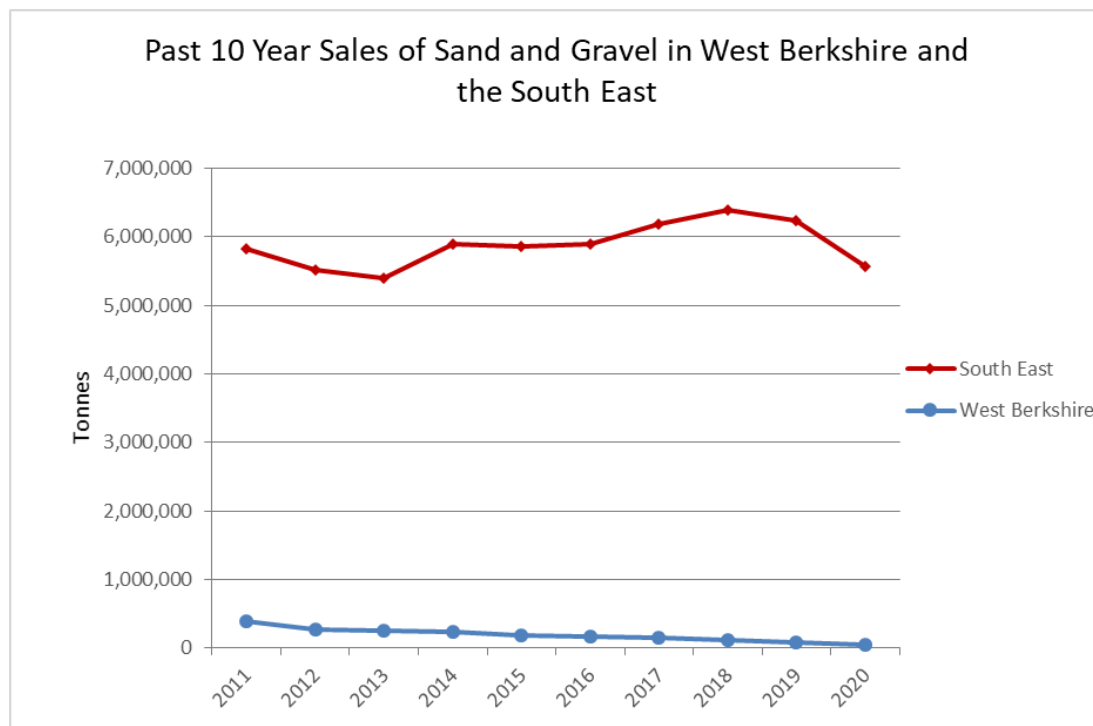


Figure 3.3 - South East England Sales of Sand and Gravel. Source: South East England Annual Monitoring Reports <https://www.hants.gov.uk/landplanningandenvironment/seeawp/seeawpdocuments>.

*Imports/Exports*

3.2.7 There are cross boundary movements of construction aggregates which are dictated by market demands, ensuring that the types of aggregates available to the local construction industry are in line with the types of aggregates that it needs, at the time it is needed, and in the quantity required. In general, the NPPF expects that each Mineral Planning Authority should seek to meet its needs for land won aggregates from indigenous sources where possible (para 210 (b)). MPAs also need to take account of demands from other areas where mineral might not be present and in doing so plan to provide for mineral provision within their authority area which allows for relevant amounts of mineral to move across boundary areas to meet specific market demands. As mineral movements occur irrespective of Mineral Planning Authority boundaries, this is generally taken into account in the 10 year sales average.

3.2.8 Imports and exports reflect part of the demand situation for construction aggregates within an MPA area. This is because imports reflect demand within the area that has not been met indigenously, and exports reflect demand for aggregates in another area that have not been supplied from within that area. Together, sales, imports and exports generate the total consumption within an MPA area (primary sales + imports – exports = total consumption).



3.2.9 Import/export and consumption data is only available approximately every 4 years when data is published as part of the Aggregate Minerals (AM) survey undertaken by the British Geological Survey (BGS) on behalf of the government, the most recent being in 2019 (AM2019). The data from these surveys is generally only reported at the Berkshire-wide level and sand and gravel data is also combined rather than having separate figures for sharp sand and gravel and soft sand.

3.2.10 The summary of import/export and consumption data for Berkshire in 2014 & 2019 is shown in Table 3.3. This table shows that sales of sand and gravel nearly halved from 2014 to 2019. Export figures also decreased significantly, and imports increased. Overall consumption also increased, and this was made up from imports, but also more indigenous consumption (i.e. less mineral was being exported). Consequently, from 2014 to 2019, Berkshire went from being a net exporter of sand and gravel (sales above consumption), to being a net importer (sales below consumption).

Table 3.3 – Sand and Gravel Import/Export (all sources) and Consumption Data for Berkshire 2014 & 2019

	Sales	Imports	Exports	Consumption
<b>2014</b>	1,051,000	505,000	803,000	753,000
<b>2019</b>	587,000	608,000	242,000	953,000

Source: AM Surveys 2014 & 2019<sup>8</sup>

3.2.11 The origin of sand and gravel consumed (all sources) in Berkshire in 2019 is shown in Table 3.4. Clearly, a high proportion of sand and gravel consumed came from Berkshire itself (West Berkshire and Windsor and Maidenhead) and neighbouring or nearby authorities.

Table 3.4 - Origin of Sand and Gravel (all sources) Consumed in Berkshire 2019

Source MPA	Percentage	Tonnes
<b>Indigenous</b>		
<b>Berkshire</b>		
West Berkshire	1-10%	9,530 – 95,300
Windsor and Maidenhead	20-30%	190,600 – 285,900
<b>Imports</b>		
<b>South East</b>		
Hampshire	10-20%	95,300 – 190,600
Greater London – Barking & Dagenham	10-20%	95,300 – 190,600
Buckinghamshire	10-20%	95,300 – 190,600
Oxfordshire	1-10%	9,530 – 95,300
Medway	1-10%	9,530 – 95,300
Kent	<1%	<9,530
South Downs National Park,	<1%	<9,530
Portsmouth	<1%	<9,530
Southampton	<1%	<9,530
<b>Elsewhere</b>		
Wiltshire	1-10%	9,530 – 95,300
Gloucestershire	1-10%	9,530 – 95,300

<sup>8</sup> Ministry of Housing, Communities and Local Government, (2021). *Aggregate Minerals Survey for England and Wales 2019* [online]. Available at: <https://www.gov.uk/government/publications/aggregate-minerals-survey-for-england-and-wales-2019> (Accessed 8<sup>th</sup> September 2022).

Ministry of Housing, Communities and Local Government, (2016). *Aggregate Minerals Survey for England and Wales 2014* [online]. Available at: <https://www.gov.uk/government/publications/aggregate-minerals-survey-for-england-and-wales-2014> (Accessed 8<sup>th</sup> September 2022).

Hertfordshire	1-10%	9,530 – 95,300
Cambridgeshire	<1%	<9,530
Devon	<1%	<9,530
Central Bedfordshire	<1%	<9,530
Essex	<1%	<9,530
Bristol	<1%	<9,530
Nottinghamshire	<1%	<9,530
Worcestershire	<1%	<9,530
<b>Total Indigenous Consumption</b>		<b>345,000</b>
<b>Total Imports</b>		<b>608,000</b>
<b>Total Consumption</b>		<b>953,000</b>

Source: AM 2019 Source of Primary Aggregates by Sub-region – Percentage Categories (2021), BGS.

3.2.12 Table 3.4 shows that 345,000 tonnes (36%) of sand and gravel consumed in Berkshire in 2019 originated from Berkshire Authorities, and 608,000 tonnes (64%) was imported. The main sources of sand and gravel from outside the district in 2019 were Hampshire, Buckinghamshire and London – although London origin is likely to be marine sand and gravel.

3.2.13 The destination of exports of sand and gravel from West Berkshire in 2019 was solely to Berkshire, (9,530 – 95,300 tonnes). Due to reporting methods in the AM Survey, it is not possible to tell whether West Berkshire exported any sand and gravel in 2019. This is because the reporting for destinations unit is for 'Berkshire' and therefore, any sales within West Berkshire would still be recorded as to Berkshire.

#### *Consumption*

3.2.14 Consumption figures for primary aggregates, including land won sand and gravel can only be obtained approximately every four years when import/export data is published as part of the Aggregate Minerals (AM) survey undertaken by the British Geological Survey (BGS) on behalf of the government. The most recently undertaken survey was in 2019 (AM2019). Additionally, as previously mentioned, this data is not available at the West Berkshire level as the main reporting unit is for the former county of Berkshire.

3.2.15 The most recently available survey findings indicate that consumption of sand and gravel has increased on a Berkshire-wide level from 2014 to 2019 (from 753,000 tonnes to 953,000 tonnes). Although these figures are only accurate at a Berkshire-wide level it is likely that West Berkshire has generally followed this trend. It is therefore possible to estimate consumption of sand and gravel within West Berkshire based on its proportion of the Berkshire-wide population in 2014 (17.7%) and 2019 (17.2%). This equates to 133,281 tonnes of land-won sand and gravel consumed within West Berkshire in 2014, and 163,916 tonnes consumed in 2019 (Table 3.5).

Table 3.5 - Estimates of Sand and Gravel Consumption in West Berkshire 2014 and 2019.

<b>Sand and Gravel Consumption</b>	<b>2014</b>	<b>2019</b>
Berkshire – AM Survey Total	753,000	953,000
West Berkshire – Proportion of Berkshire Estimate (based on AM survey)	133,281	163,916

Sources: AM2014 & AM2019, ONS.

3.2.16 A further method of estimating consumption can be used that takes the proportion of sand and gravel consumed per head of population in England, and applies this to West Berkshire. This has been calculated for 2020 (the most recent year for which data is available) and is shown in Table 3.6 below. This shows that the estimated level of sand and gravel consumption in West Berkshire in 2020 was 123,602 tonnes. This is likely to be



a low estimate, as it is known that sales of sand and gravel in 2020 were depressed due to the Covid-19 pandemic.

Table 3.6 - Estimate of Sand and Gravel Consumption in West Berkshire in 2020

Sand and Gravel Sales in Great Britain	50,725,000 <sup>9</sup>
Great Britain Population	65,185,724 <sup>10</sup>
Sand and Gravel Consumption per head in England (tonnes)	0.78
West Berkshire Population	158,465
Estimated Sand and Gravel Consumption in West Berkshire	123,602

### 3.3 Supply Options

#### Sites

- 3.3.1 Most of the primary construction aggregates won from sites within West Berkshire are processed by the operator, either on-site or at a central processing facility nearby, and sold directly for use in the construction industry.
- 3.3.2 Over the past two decades, West Berkshire has seen a decline in the number of sites producing land won primary aggregates alongside the decline in sales. This is also reflected in a Berkshire-wide drop in the number of active sand and gravel sites over the same period. In 2001, there were 13 quarries in operation in West Berkshire producing primary aggregates and in 2021 this had dropped to just one active<sup>11</sup> site.
- 3.3.3 Table 3.7 provides details of the operational sites in West Berkshire, and also 'inactive' sites (sites with permission for mineral extraction, but where they either have not yet commenced, or reserves remain but were not worked in 2021). Operational sites are also shown on Figure 3.1.

Table 3.7 - Active and Inactive Sand and Gravel Sites in West Berkshire (2021)

Site Name	Site Operator	Type of Aggregate	Site Notes	Comments
<b>Active</b>				
Harts Hill	Grundon	Hoggin – lower quality sand and gravel used as fill and generally sold as dug.	Materials are transported for processing at Colthrop.	Small operation. Several applications to extend the period of working have been approved, most recently in 2022. Current end date is Feb 2023. Reserves of 20,000 tonnes remaining (planning application 22/01348/MINMAJ).
<b>Inactive</b>				
Kennetholme	Grundon	Sharp Sand & Gravel		Inactive and mostly restored. Small amount of reserve remaining under siltponds (20,000 tonnes), to be extracted by July 2023.

<sup>9</sup> British Geological Survey (BGS), 2021. *UK Minerals Yearbook 2021 Edition* [online]. Available at: [file:///I:/Development%20&%20Planning/Development%20Control/Minerals%20and%20Waste/Evidence%20Base%20\(in%20Landscape\)/Minerals/LAA/2022/UKMY2021.pdf](file:///I:/Development%20&%20Planning/Development%20Control/Minerals%20and%20Waste/Evidence%20Base%20(in%20Landscape)/Minerals/LAA/2022/UKMY2021.pdf) (Accessed 8th September 2022).

<sup>10</sup> ONS, 2021. *Estimates of the Population for the UK, England and Wales, Scotland and Northern Ireland* [online]. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> (Accessed 8th September 2022).

<sup>11</sup> Active site is defined in this LAA as a site with planning permission for construction aggregate extraction where minerals have been worked during the year being reported upon.

Moores Farm	Caversham Project Management Ltd.	Sharp Sand gravel	-	Active inert waste recycling facility, however inactive in terms of mineral extraction. Small remaining reserve of approximately 10,000-15,000 tonnes required to be extracted by 31 <sup>st</sup> December 2023. No limit on production.
Craven Keep	Earthline	Sharp Sand & Gravel	-	Inactive, small remaining reserve of 55,000 tonnes, with two years remaining for extraction before 2042.
Lower Farm, Wasing	Lafarge Tarmac & Marley	Sharp Sand & Gravel	-	Extraction of 2.4 mt of sharp sand and gravel at a rate of 200,000 tpa. The planning permission has been implemented but extraction has yet to commence.

Source: West Berkshire District Council - Planning application information and Aggregates Monitoring Surveys.

**Reserves**

3.3.4 Figure 3.4 shows that reserves declined markedly from 2001, to an all-time low in 2012. However, the granting of planning permission for the extraction of 2.4 million tonnes (mt) of sharp sand and gravel from Lower Farm at Wasing in 2013 has dramatically increased the amount of available reserves in West Berkshire (although this permission has been implemented, extraction has yet to commence on this site).

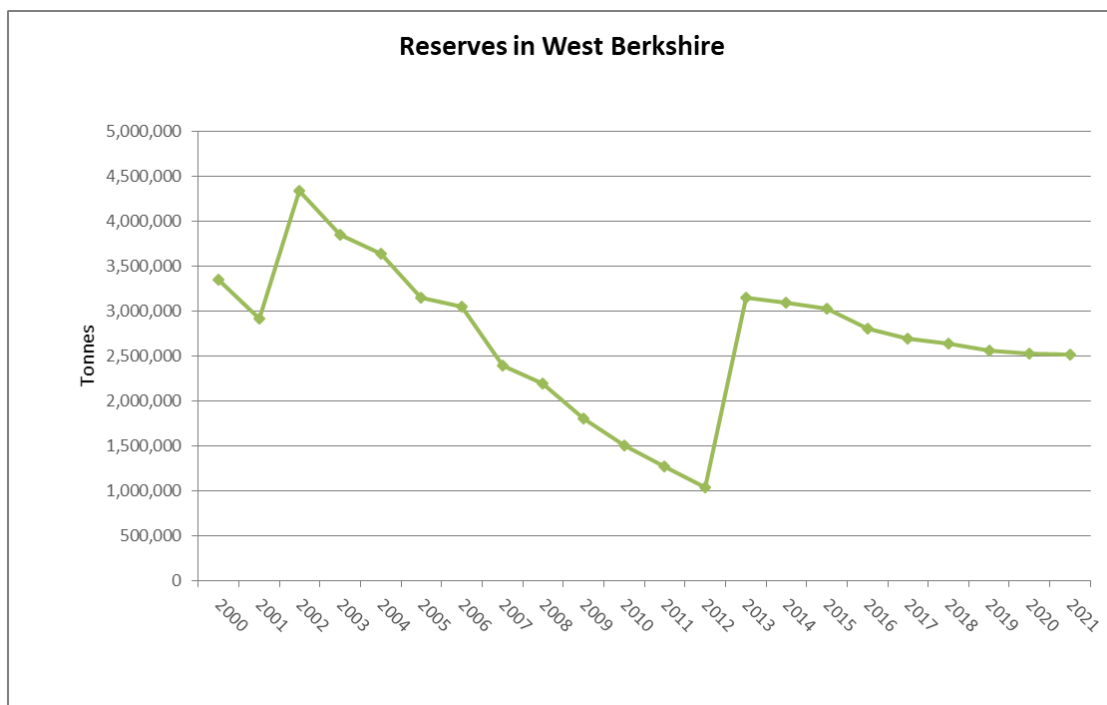


Figure 3.4 – Aggregate Reserves in West Berkshire. Source: West Berkshire District Council - Annual Aggregates Monitoring Surveys.

3.3.5 Whilst Figure 3.4 does indicate that there is a significant level of permitted reserves in West Berkshire at present, it has to be noted that the majority of these reserves are located in a single site that has been implemented but has yet to commence production. It is understood that the operator is working towards the site becoming operational in the near future. Permitted reserves at the end of 2021 totalled 2,520,000 tonnes, all of which were sharp sand and gravel with no soft sand reserves remaining.

## 4.0 Recycled and Secondary Aggregates

### 4.1 Recycled and Secondary Aggregates in West Berkshire

- 4.1.1 Recycled aggregates are obtained from the processing of construction and demolition waste and secondary aggregates are those derived as a by-product of other quarrying, mining or industrial operations.
- 4.1.2 Recycled aggregates have historically been used in low grade construction applications, such as fill, but it is understood that this situation is changing due to advances in the recycling industry. This matter will be kept under review, as advances in recycling techniques, such as aggregate washing facilities and advances in sorting, screening and blending operations can facilitate the production of a higher quality material, which may be able to replace more and more primary minerals. Such washing facilities have been permitted at sites in West Berkshire. In addition, construction techniques are also evolving to ensure that the minimum amount of primary material is utilised.
- 4.1.3 Regarding secondary aggregates, Forterra Thermalite produce an autoclaved aerated building block largely from Pulverised Fuel Ash, cement and lime at its facility in Thatcham. Substandard blocks are crushed into a fine dust (secondary aggregate) and used in the manufacture of concrete blocks. However, these figures are confidential. Additionally, an energy from waste facility has recently been granted permission in West Berkshire, and there are currently operational EfW facilities in relative proximity to West Berkshire, such as Ardley Energy from Waste plant in Oxfordshire, and Colnbrook (Lakeside) Energy from Waste plant in Slough. These facilities produce Incinerator Bottom Ash (IBA) which can be recycled for use as aggregate.

### 4.2 Demand Indicators

#### *Production/Sales*

- 4.2.1 The data sources for recycled aggregates are regarded as less robust than the information collected for primary aggregates. The figures are collected yearly, as part of the aggregate monitoring survey carried out by each Mineral Planning Authority on behalf of the South East Aggregate Working Party, but the response rate for these surveys is often lower than the response rate for primary aggregates, and does not include monitoring of aggregate generation from mobile plants. As such, the results should be treated with caution and should be relied upon as no more than a 'reasonable indication' of what is taking place.
- 4.2.2 The output/sales of recycled aggregates in 2021 has been calculated as 362,279 tonnes.
- 4.2.3 As can be seen from Figure 4.1, recycled aggregate sales in West Berkshire have generally been increasing over the last 10 years. However, there was a dip in 2020, likely due to the Covid pandemic. The average of sales for this period is 319,101 tonnes, and the past 3 year average is 320,273 tonnes. Reported sales in 2021 (362,279) were approximately 25% higher than 2012 (289,547).

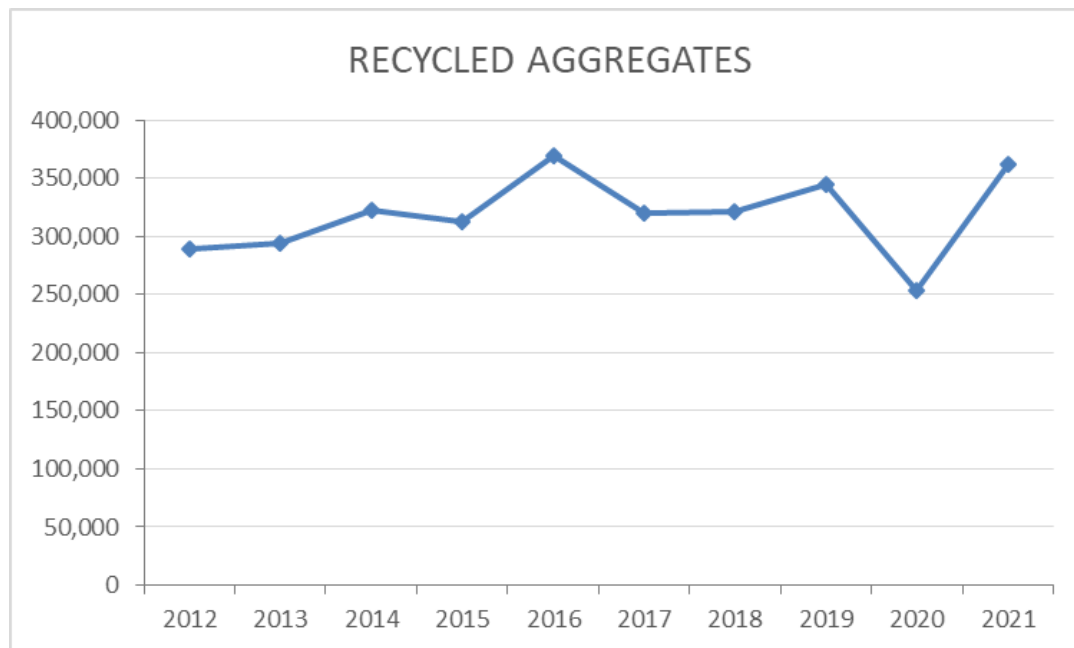


Figure 4.1 - Recycled Aggregate Sales in West Berkshire. Source: West Berkshire District Council Aggregate Monitoring Surveys (2012 – 2021).

#### *Recycled Aggregate Utilisation*

- 4.2.4 A further method for estimating the use of/demand for recycled aggregates in West Berkshire can be made by applying a national rate of utilisation of recycled aggregates, as a proportion of total aggregates used in the construction industry. Recycled and secondary aggregates are estimated to represent approximately 30% of the total market for aggregates in Great Britain<sup>12</sup> and in 2021 it was 28%<sup>13</sup>.
- 4.2.5 The national rate of utilisation percentages have been applied to the estimated total primary aggregate consumption figures for West Berkshire (sand and gravel and crushed rock), to calculate an estimate of the amount of recycled aggregate consumed in West Berkshire. This method has also been used to estimate a combined primary and recycled aggregates consumption estimate for West Berkshire. This has shown (Appendix A) that in 2020 (the most recent year for which data is available), an estimated 149,749 tonnes of recycled aggregate was consumed in West Berkshire.
- 4.2.6 The estimated consumption figure for recycled aggregates of 149,749 tonnes is significantly lower than 2021 sales figures for recycled aggregates (362,279 tonnes), suggesting that the remainder is exported out of the district. Therefore in order to provide the recycled aggregate capacity required to continue recent levels of sales it is recommended to use an average of sales rather than estimates of consumption to determine future demand and encourage supply of these aggregates.
- 4.2.7 The last 10 year average of sales of recycled aggregates is 319,101 and the average for the last 3 years is 320,273 tonnes. Given the national priority to first seek to take account of the contribution recycled aggregates can make to the supply of materials before considering extraction of primary materials, (NPPF para 210(b)) it would be prudent to use

<sup>12</sup> Mineral Products Association (MPA), (2017). *Long-term Aggregates Demand and Supply Scenarios, 2016 – 2030* [online]. Available at: [https://mineralproducts.org/MPA/media/root/Publications/2019/MPA\\_Long\\_term\\_aggregates\\_demand\\_supply\\_scenarios\\_2016-30.pdf](https://mineralproducts.org/MPA/media/root/Publications/2019/MPA_Long_term_aggregates_demand_supply_scenarios_2016-30.pdf) (Accessed 8th September 2022).

<sup>13</sup> Mineral Products Association (MPA), (2022). *Sustainable Development Report 2022* [online]. Available at: [https://www.mineralproducts.org/MPA/media/root/Publications/2022/MPA\\_SD\\_Report\\_2022.pdf](https://www.mineralproducts.org/MPA/media/root/Publications/2022/MPA_SD_Report_2022.pdf) (Accessed 8th September 2022).

the higher of these figures (3 year average) in planning for the supply of recycled aggregates.

### 4.3 Supply Options

#### *Construction and Demolition (C&D) Waste Arisings*

- 4.3.1 In March 2012, DEFRA published a new methodology<sup>14</sup> that can be used for estimating total construction and demolition waste generation, which was developed in partnership with other agencies and industry bodies and used only existing data sources. An attempt has been made to apply that methodology to West Berkshire using available data sources in the Local Waste Assessment 2020 (based on 2018 data). The methodology estimates that approximately 350,000 tonnes of CDE waste was produced in West Berkshire in this year (see Appendix B for methodology). The estimates of CDE waste since 2014 using this methodology have fluctuated between around 350,000 – 570,000 tonnes (Table 4.1), suggesting supply of raw materials to provide recycled aggregates is not constrained.

Table 4.1 - Estimates of CDE Waste in West Berkshire based on modified 2012 DEFRA Methodology.

Year	CDE Estimate (tonnes)
2014	439,268
2015	500,096
2016	569,441
2017	458,619
2018	347,089

- 4.3.2 Due to the fact that there are no restrictions upon the movement of C&D waste across administrative boundaries and that excavation waste is less able to be recycled for use as aggregate, it is considered that the volume of construction and demolition waste sold as recycled aggregates in West Berkshire is considered a more representative figure to ensure that adequate capacity is planned for, rather than the amount of CDE waste arising in the district.

#### *Sites*

- 4.3.3 At the end of 2021, West Berkshire had six sites with planning permission to manage inert waste and produce recycled aggregates. Their planning status, sales, and theoretical operational capacities are shown in Table 4.2. All of these sites were operational in 2021. The location of recycled aggregate facilities in West Berkshire are shown on Figure 3.1.
- 4.3.4 Table 4.2 shows that the level of actual recycled aggregates production is significantly lower than the theoretical levels of production capacity. This is likely to be due to the fact that some of the sites do not deal exclusively with the production of recycled aggregates, and not all inert waste treated at such sites is suitable for recycled aggregate use. In addition, this data excludes any recycled aggregate production on development sites through the use of mobile plant (however this processing is unrecorded).

<sup>14</sup> Methodology for Estimating Annual Waste Generation from the Construction, Demolition and Excavation Sectors in England, March 2012, DEFRA  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/119680/CDE-generation-methodology.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/119680/CDE-generation-methodology.pdf)  
 West Berkshire Council

Table 4.2 - Recycled Aggregate Facilities in West Berkshire

Site Name	Recycled Aggregate produced (tonnes)	Recycled Aggregate Production Capacity (tpa)	Status at End of 2021 <sup>15</sup>
Reading Quarry	261,112	275,000	Operational
Whitehouse Farm	82,962	100,000	Operational
Theale Quarry (Sheffield Bottom)	10,000	90,000	Operational
Colthrop, Grundons	3,000	10,000	Operational
Moore's Farm	5,195	20,000	Operational
Old Stocks Farm	0	16,250	Operational
<b>Total Operational Capacity</b>		<b>511,250</b>	
<b>Total Permitted Capacity</b>		<b>511,250</b>	
<b>Total Recycled Aggregates Produced in 2021</b>	<b>362,279</b>		
Sources of capacity estimates: Data from WBC, WDI and Planning permissions Capacity estimate based primarily on WBC (operator returns), and permit information, or planning permission information Key: * Temporary planning permission + Some figures will include skip waste, recycling and construction and demolition processing			

4.3.5 In addition, the Beenham Tile factory crushes 'non specification' concrete tiles for re-use in the production of new tiles (which are mixed with primary aggregate) such that recycled aggregate is being used to directly replace primary aggregates in this process. Similarly, Forterra Thermalite produce an autoclaved aerated building block at its facility in Thatcham and substandard blocks are crushed into a fine dust and used in the manufacture of concrete blocks.

<sup>15</sup> For some sites this information was assumed as no return was received  
West Berkshire Council



## 5.0 Rail Imported Crushed Rock and Marine Aggregate

### 5.1 Aggregate Rail Depots in West Berkshire

- 5.1.1 All counties in the UK have to import aggregates from elsewhere, as the available geology within each county means that no single minerals planning authority area produces the exact profile of types of aggregate, in the exact amount consumed therein. The geological composition in West Berkshire means that the area needs to import supplies of crushed rock, as there are no sources of crushed rock in the authority area. Crushed rock is imported into the district through the rail depots located at Theale. Small volumes of marine dredged sand and gravel are also known to be imported into West Berkshire through the district's rail depots. West Berkshire's aggregate rail depots are shown on Figure 3.1.
- 5.1.2 Prior to 2016 there were only two "aggregate depots" in West Berkshire - one a depot importing crushed rock that is used to produce asphalt, the other a road to rail aggregates depot that imports primarily hard rock, together with some sand and gravel that is subsequently exported by road with the exception of what is used on-site at concrete batching plants.
- 5.1.3 From 2016, there were effectively four aggregates depot 'sites', as the depot importing crushed rock for asphalt is now utilised by two different operators, with separate sales figures. In addition, one depot that previously imported cement has begun to import raw aggregates for the manufacture of concrete and for onward transportation. As such, this site is also included in sales figures for imported aggregates.

### 5.2 Demand Indicators

#### *Sales/Imports*

- 5.2.1 As explained previously, West Berkshire does not produce any crushed rock indigenously, nor are there any marine landing sites. As such the only 'sales' figures for these aggregates are recorded at the rail depots within the district. Therefore, these figures are also import figures.
- 5.2.2 Actual returns for the sales at these depots have historically been confidential due to them being commercially sensitive when there were only two rail depots operating within the District. As such, sales were estimated as a proportion of Berkshire-wide sales. However, in 2016 there were effectively four aggregates depot 'sites' operating within West Berkshire, and therefore, West Berkshire specific figures for crushed rock can be obtained from this year onwards. However, sales of rail imported marine sand are still confidential due to the fact that not all depots were importing this aggregate.
- 5.2.3 In 2021, 975,803<sup>16</sup> tonnes of crushed rock was sold at the district's depots, slightly higher than 953,334 tonnes in 2020. Sales of crushed rock and marine sand over the past decade are shown on Figure 5.1. This shows that sales of both aggregates have been generally increasing over this period. The 10 year sales average for crushed rock in 2021 was 732,849 tonnes, with a 3 year average of 904,071 tonnes. For marine sand and gravel the 10 year sales average in 2021 was 85,361 tonnes with a 3 year average of 86,117 tonnes.
- 5.2.4 Due to commercial confidentiality, sales of marine sand and gravel are based on the past three year sales average in line with SEEAWP guidance. In 2021 this was 86,117 tonnes.

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<sup>16</sup> This is an estimated value as returns from two operators are outstanding.  
West Berkshire Council

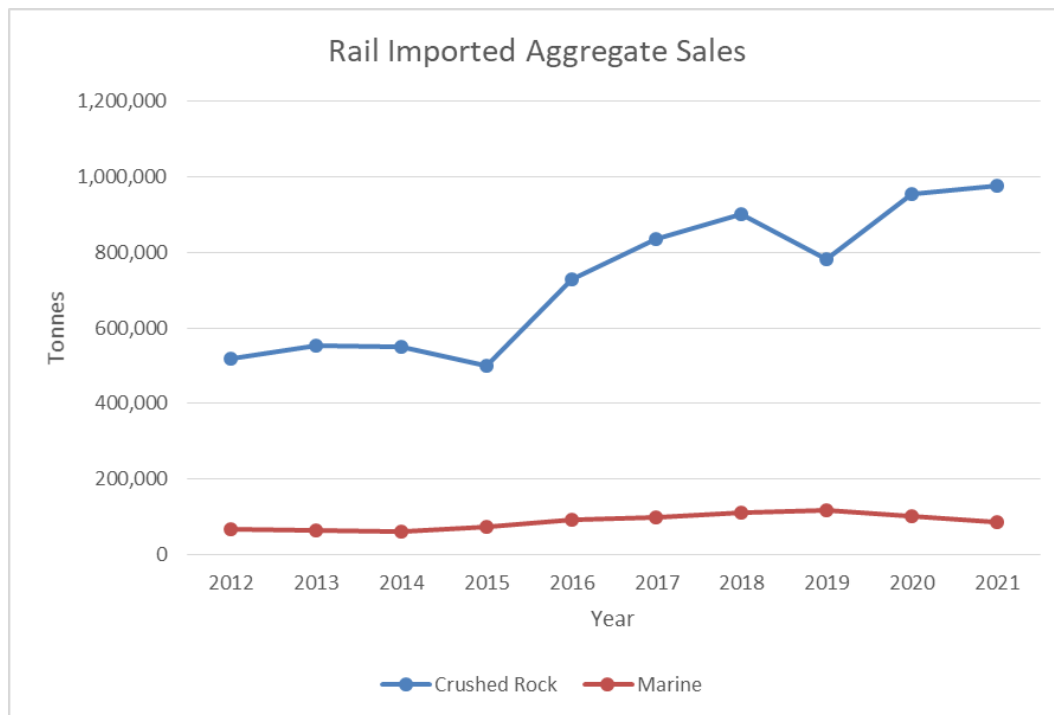


Figure 5.1 - Sales of Rail Imported Crushed Rock and Marine Aggregate at Rail Depots in West Berkshire. Source: West Berkshire District Council Aggregate Monitoring Surveys (2012 – 2021).

*Consumption*

- 5.2.5 Historic movements of rail-imported aggregates into the former county of Berkshire have been captured approximately every four years as part of the aggregates monitoring survey undertaken by the British Geological Survey on behalf of the government. The amount of crushed rock and marine sand and gravel imported is also the same as the amount consumed, as neither of these aggregates are produced indigenously. The most recent data from AM2014 and AM2019 is outlined in Table 5.1.
- 5.2.6 It is possible to estimate consumption of rail imported aggregates in West Berkshire based on its proportion of the Berkshire-wide population in 2014 (17.7%) and 2019 (17.2%). This is shown in Table 5.1, which also shows that consumption of marine sand and gravel has increased and consumption of crushed rock has decreased from 2014 – 2019.

Table 5.1 - Rail Imported Aggregate Consumption in Berkshire and estimated West Berkshire Consumption 2014 &amp; 2019.

	2014	2019
	<b>Marine Sand and Gravel (tonnes)</b>	
<b>Berkshire Consumption</b>	152,000	213,000
<b>Est. West Berkshire Consumption</b>	27,360	36,636
	<b>Crushed Rock (tonnes)</b>	
<b>Berkshire Consumption</b>	1,161,000	886,000
<b>Est. West Berkshire Consumption</b>	205,497	152,392

Source: Aggregate Minerals Surveys (2014 & 2019), Table 11 & ONS.

5.2.7 The demand for hard rock and marine aggregate imports is likely to be driven, to some degree, by major mineral utilising businesses within West Berkshire, creating demand for these aggregates to be imported into the area to meet their specific market need for the end product e.g. asphalt. These specific market forces are likely to result in an inflated mineral demand within West Berkshire above that needed for the level of consumption for the area i.e. for house building, general construction etc. In addition, due to the fact that there are a limited number of rail depots in Berkshire, it is assumed that some of the material imported into Theale is then transported by road to other Berkshire Unitaries, or even surrounding authorities such as Hampshire. Therefore the 'demand' as indicated by the level of aggregate sales at West Berkshire rail depots, is almost certain to be higher than the actual level of consumption of these aggregates in West Berkshire. However, it will be important to continue to plan for the current level of sales to ensure that existing supply arrangements are able to be fulfilled.

### 5.3 Supply Options

#### *Imports*

5.3.1 As part of the AM2019 survey, BGS supplied data for the consumption of primary construction aggregates in 2019 by sub-region, identifying the source MPAs which the aggregates came from (Table 5.2).

Table 5.2 - Sources of Crushed Rock Imported into Berkshire 2019

Source MPA	Percentage	Tonnes
Somerset County Council	60-70%	531,600 – 620,200
Leicestershire County Council	10-20%	88,600 – 177,200
Outside England and Wales, North Somerset Council, Oxfordshire County Council, Derbyshire County Council, Shropshire Council, Neath Port Talbot,	1-10%	8,860 – 88,600
Gloucestershire County Council, Cambridgeshire County Council,	<1%	<8,860
<b>Total</b>		886,000

Source: AM2019 Source of primary aggregates by sub-region - percentage categories (2021), BGS.

5.3.2 Table 5.2 shows that Somerset is the dominant source of crushed rock for Berkshire (60-70%), with smaller amounts coming from other sources around the UK, but also outside of England and Wales. The most recent Somerset LAA (fifth edition, incorporating data from 2007 – 2016<sup>17</sup>) states that there are approximately 377 million tonnes of permitted reserves for crushed rock and a landbank of 28.1 years at the end of 2016. The LAA acknowledges

<sup>17</sup> Somerset County Council, (n.d.a.). *Somerset Local Aggregate Assessment (Fifth Edition)* [online]. Available at: <https://www.somerset.gov.uk/waste-planning-and-land/somerset-minerals-plan/> (Accessed 8<sup>th</sup> September 2022).

that Berkshire is among the counties importing the largest amount of crushed rock from Somerset due to limited indigenous supply and high development demand, together with the available rail connections. The rail capacity in Somerset is indicated to be sufficient and with headroom capacity to allow an increase in the amount moved by rail subject to demand. In addition, production capacity from crushed rock quarries within Somerset stands at over 21.8 million tonnes. Thus, there does not appear to be any supply issues with continuing to source crushed rock from Somerset. Safeguarding existing capacity within West Berkshire for the importation of crushed rock will be important to ensure these flows are able to continue in future.

- 5.3.3 The sources of marine sand and gravel imported into Berkshire in 2019 and approximate proportions of total imports are outlined in Table 5.3. Most comes from landings at wharves in London.

Table 5.3 – Sources of Marine Sand and Gravel Imported into Berkshire 2019

Source MPA	Percentage	Tonnes
Barking & Dagenham	60-70%	127,800 – 149,100
Medway	20-30%	42,600 – 63,900
Bristol	1-10%	2,130 – 21,300
Hampshire, Portsmouth, Southampton	<1%	<2,130
<b>Total</b>		<b>213,000</b>

Source: AM2019 Source of primary aggregates by sub-region - percentage categories (2021), BGS.

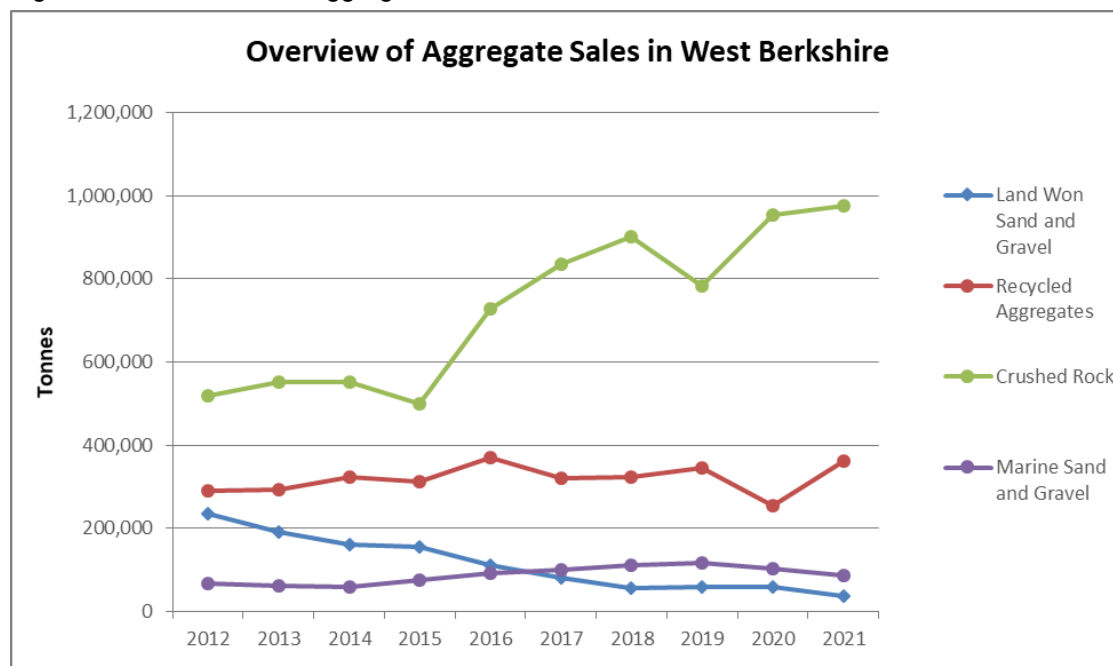
- 5.3.4 The London Aggregates Assessment (2018)<sup>18</sup> indicates (p.8) that the three marine regions supplying London and the South East would be able to maintain supplies to London and South East Market for 21 years at current extraction rates. Therefore, there does not appear to be a supply issue with imported marine aggregates. However, the London LAA does highlight that the safeguarding of wharves and railheads will potentially be an issue with increased pressure from development. If these infrastructure assets are lost, capacity to transport these aggregates could be restricted.

<sup>18</sup> Greater London Authority, (2018). *Local Aggregate Assessment for London 2018* [online]. Available at: [https://www.london.gov.uk/sites/default/files/london\\_laa\\_july\\_2018.pdf](https://www.london.gov.uk/sites/default/files/london_laa_july_2018.pdf) (Accessed 8th September 2022).

## 6.0 Overview of Aggregate Sales

- 6.1 The sales of land-won sand and gravel, recycled and secondary aggregates and rail imported crushed rock and marine sand and gravel are shown in Figure 6.1, which shows the changes in the overall aggregate mix seen in West Berkshire in recent years.
- 6.2 There has been a steady decline in sales of land won sand and gravel extracted from within West Berkshire alongside a general increase in recycled aggregate production, marine aggregates and crushed rock sales. Since 2012 the level of recycled aggregates produced in West Berkshire has exceeded the level of primary aggregate sales. However, as previously mentioned, recycled aggregates are not able to substitute for all aggregate uses. There is also a possibility that further land won sand and gravel, marine aggregates and crushed rock are being imported into West Berkshire to supplement the need for indigenous resources. This obviously has its own environmental impacts and sustainability issues.

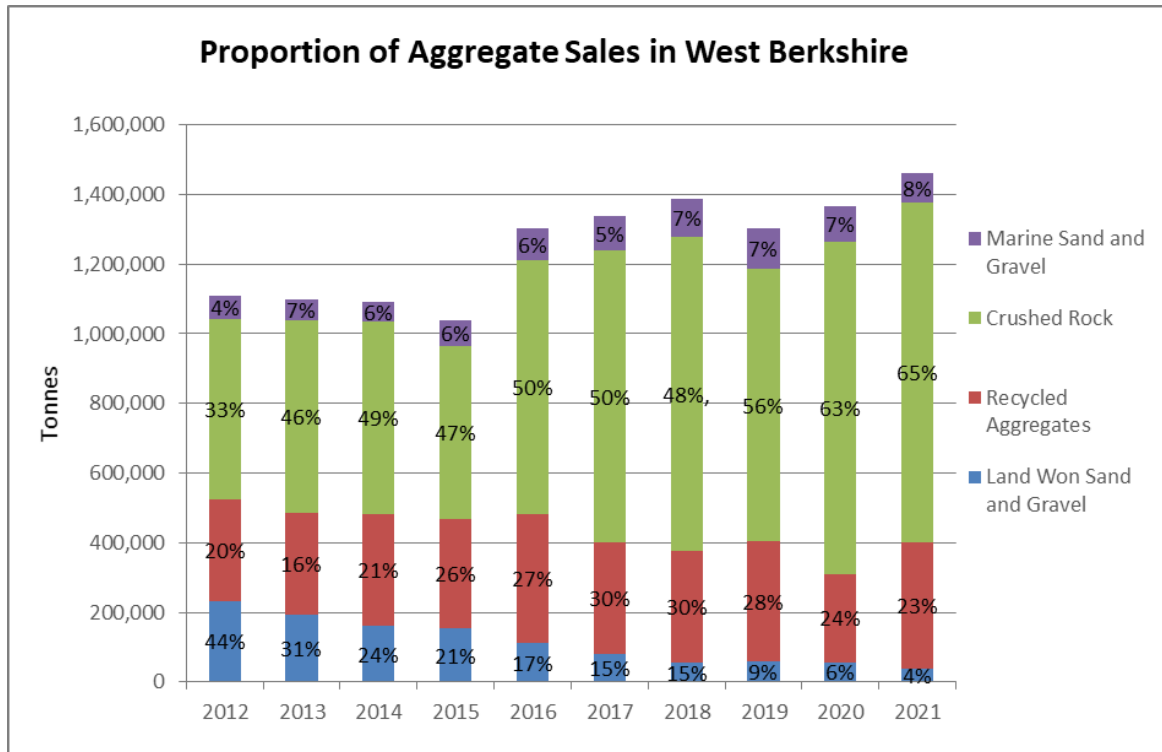
Figure 6.1 – Overview of Aggregate Sales in West Berkshire 2012 - 2021.



Source: West Berkshire District Council Aggregate Monitoring Surveys (2012 – 2021).

6.3 Figure 6.2 shows how the composition of aggregates sold within West Berkshire has changed in recent years. It can be seen that sales of rail imported crushed rock and marine sand and gravel have increased proportionally since 2012, while sales of recycled aggregates have remained relatively static. At the same time, sales of land won sand and gravel have been decreasing proportionally (from 44% in 2012 to 4% in 2021).

Figure 6.2 – Proportion of Aggregate Sales in West Berkshire.



Source: West Berkshire District Council Aggregate Monitoring Survey Returns (2012 – 2021).



## 7.0 Future Aggregates Supply

### 7.1 Future Demand

7.1.1 This section looks at factors that may be associated with a change in the demand for aggregates in West Berkshire in future.

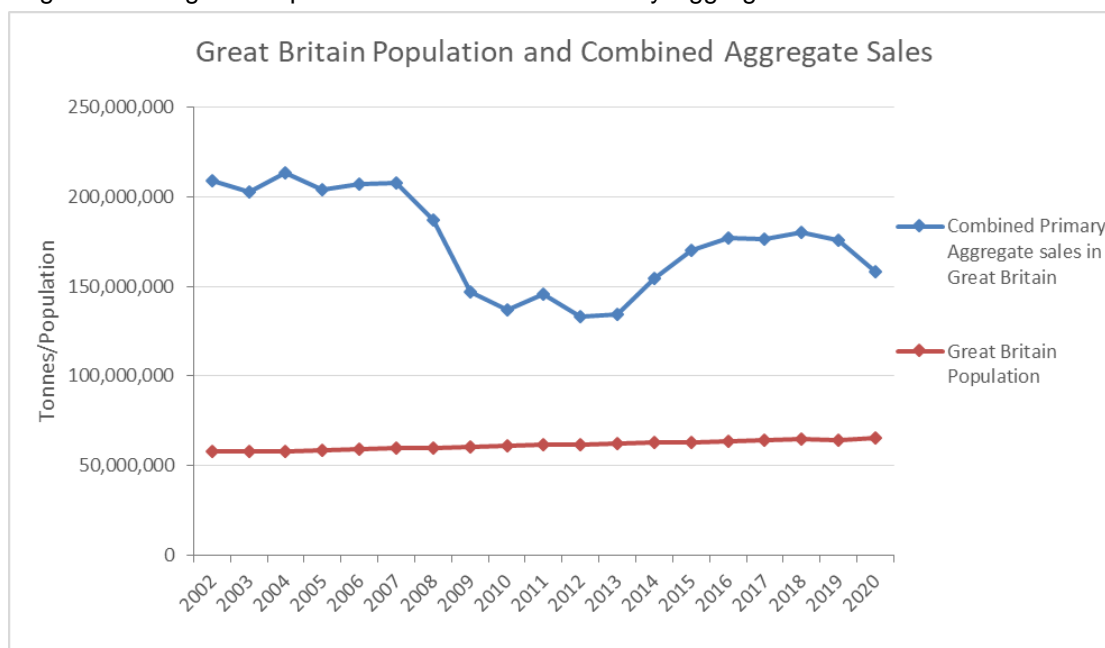
#### *Population Change*

7.1.2 Trends in population growth and aggregate usage may be considered when assessing future demand for aggregates. Population projections can give an indication of possible household growth and wider overall demand for aggregate.

7.1.3 Figure 7.1 shows the Great Britain population growth and primary aggregate sales over the period 2002 – 2020. Population growth was 0.76% per annum over this period on average. Aggregate sales varied, but have generally decreased over this time. Therefore, there does not appear to be a relationship between recent population growth and aggregate sales in Great Britain.

7.1.4 The population in England is forecast to grow 0.69% on average per year from 2018 – 2043 and the population in West Berkshire is forecast to grow 0.03% on average per year over the same period<sup>19</sup>. These future levels of growth are lower than historic population growth from 2002 - 2020. Therefore, it is not considered that the predicted increase in population in future will significantly alter the demand for aggregates, over what has been identified by using the past 10 year sales average.

Figure 7.1: England Population and Combined Primary Aggregate Sales 2002 – 2020



Source: ONS, Annual Mineral Raised Inquiry 2002 – 2014 (DCLG), Annual Minerals Yearbook 2015 - 2020 (BGS).

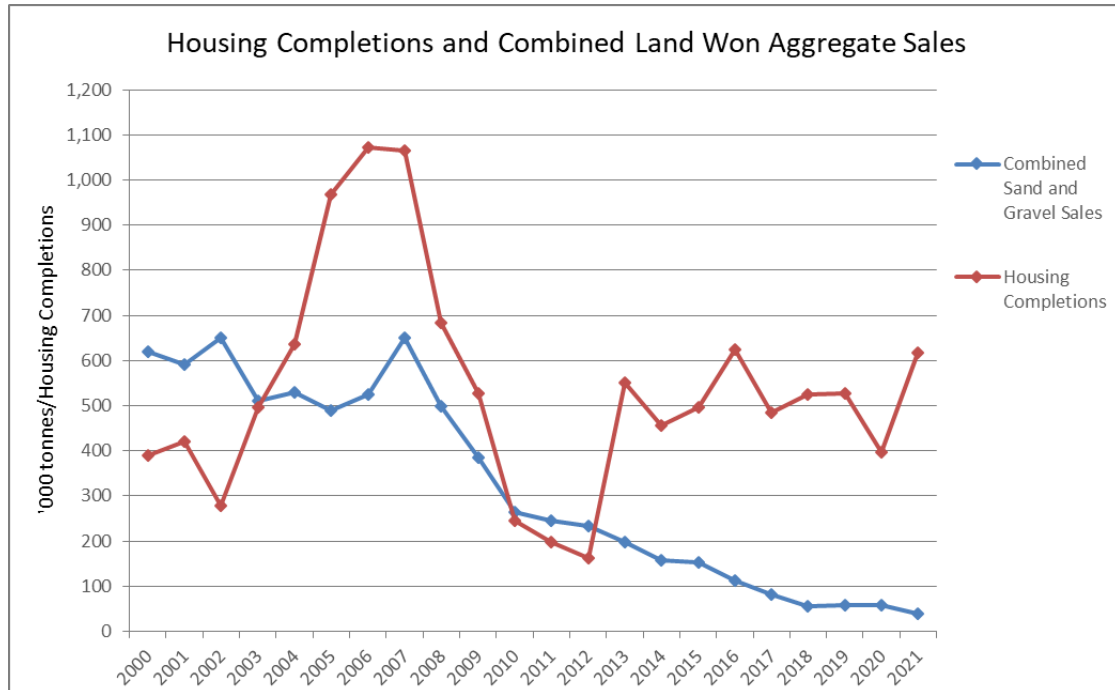
#### *Household Growth*

7.1.5 The adopted West Berkshire Core Strategy (July 2012) contains proposals for the delivery of at least 10,500 homes over the plan period (2006 – 2026) at a rate of 525 net additional dwellings per annum. The emerging Local Plan Review is preparing to deliver a rate of between 520 – 575 dwellings per annum in the period to 2037.

<sup>19</sup> ONS, (2020). *Population Projections for Local Authorities: Table 2* [online]. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandtable2> (Accessed 8th September 2022).

7.1.6 Net housing completions and primary aggregates sales since 2000 are shown on Figure 7.2. It can be seen from this that there does not appear to be a direct link between primary aggregate sales from within West Berkshire and house building, particularly since 2013. If it was assumed that the level of housing provision in West Berkshire was to remain at a similar level, this planned provision is considered unlikely to result in a significant alteration in West Berkshire's demand for aggregates.

Figure 7.2 - Housing Completions and Land-won Aggregate Sales from sites in West Berkshire.



Source: West Berkshire District Council Annual Monitoring Reports; West Berkshire District Council Annual Monitoring Surveys.

7.1.7 The slightly higher housing provision figure in the Local Plan Review may increase the level of demand for aggregates in West Berkshire. However, there does not appear to be a direct linkage between housing provision and primary aggregate demand in any case, as shown in Figure 7.2.

#### *Economic Forecasts*

7.1.8 Economic forecasts are considered to be useful for providing an overall contextual picture and an indication of potential aggregate demand.

7.1.9 The Thames Valley Berkshire Strategic Economic Plan<sup>20</sup> identifies an average increase in GVA from 2000 – 2010 of 2.6%. The average increase from 2010 – 2020 is predicted to be 1.8%, and from 2020 – 2025 is 2.6%. It should be noted that these predictions were made before the Covid-19 outbreak that resulted in a severe contraction of the UK economy in 2020. Furthermore, in 2019 parliamentary discussions regarding the UK's departure from the European Union (Brexit) created uncertainty which is also considered to have a negative impact on economic growth not considered by the Thames Valley Berkshire Strategic Economic Plan.

<sup>20</sup> Thames Valley Berkshire Local Enterprise Partnership, (2013). *Strategic Economic Plan 2015/16 – 2020/21* [online]. Available at: <http://www.thamesvalleyberkshire.co.uk/getfile/Public%20Documents/Strategic%20Economic%20Plan/TVB%20SEP%20Consultation%20Draft%20low%20res.pdf?inline-view=true> (Accessed 8<sup>th</sup> September 2022).

7.1.10 The Office for Budgetary Responsibility (OBR) forecasts for GDP until 2026 are<sup>21</sup>:

	2020	2021	2022	2023	2024	2025	2026
<b>GDP % change</b>	-9.4	7.5	3.8	1.8	2.1	1.8	1.7

7.1.11 HM Treasury comparison of independent GDP forecasts<sup>22</sup> published in August 2022 indicate growth of:

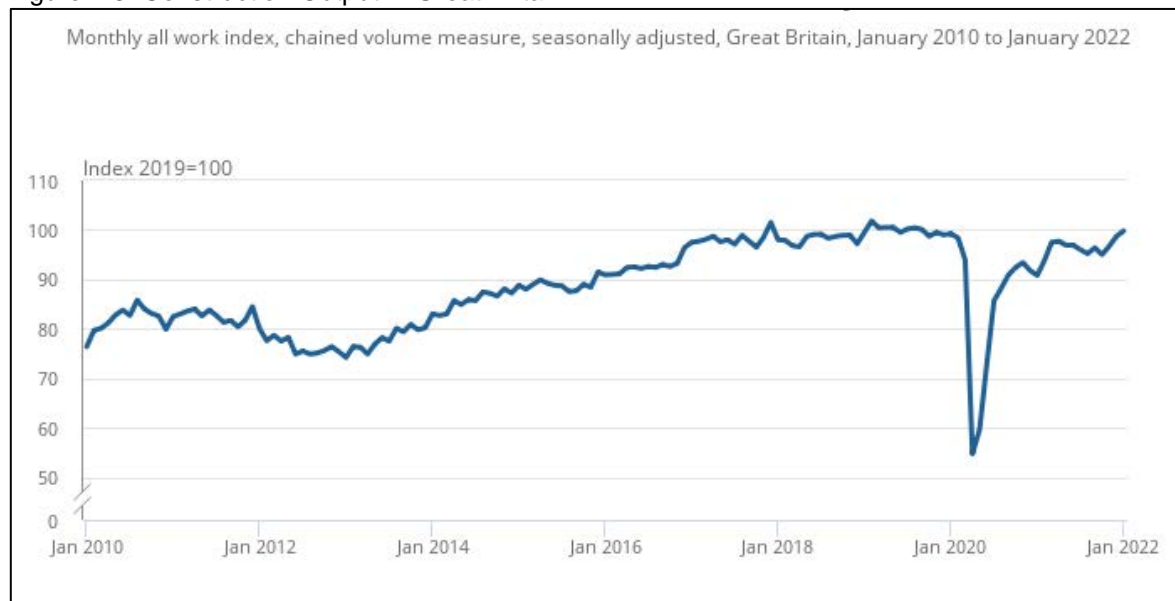
	2022	2023	2024	2025	2026
<b>GDP % change</b>	3.8	0.6	1.5	1.8	1.8

7.1.12 GDP growth appears to have recovered since the effects of the Covid pandemic. Short to medium term uncertainties now centre round the war in Ukraine and rising inflation and energy prices.

*National Construction Forecasts*

7.1.13 The Office for National Statistics produce a bulletin (Construction Output in Great Britain)<sup>23</sup> detailing estimates of output in the construction industry. Construction output is an important economic indicator and is also used in the compilation of the output measure of gross domestic product (GDP). The estimates of construction output since 2010 are shown in Figure 7.3. Construction output fell by 40.1% in April 2020 (linked to the Covid pandemic); this was driven by a 41.2% decrease in new work and a 38.1% decrease in repair and maintenance; all of these decreases were the largest monthly falls on record since the monthly records began in January 2010.

Figure 7.3: Construction Output in Great Britain



Source: ONS

<sup>21</sup> Office for Budgetary Responsibility, (OBR). *Economic and Fiscal Outlook March 2022* [online]. Available at: [https://obr.uk/docs/dlm\\_uploads/CCS0222366764-001\\_OBR-EFO-March-2022\\_Web-Accessible-2.pdf](https://obr.uk/docs/dlm_uploads/CCS0222366764-001_OBR-EFO-March-2022_Web-Accessible-2.pdf) (accessed 8th September 2022).

<sup>22</sup> HM Treasury, (2022). *Forecasts for the UK Economy: A Comparison of Independent Forecast* [online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1100380/Forecomp\\_August\\_2022\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1100380/Forecomp_August_2022_update.pdf) (Accessed 8th September 2022).

<sup>23</sup> ONS, (2022). *Construction Output in Great Britain* [online]. Available at: <https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/datasets/outputintheconstructionindustry> (Accessed 8th September 2022).

7.1.14 The Construction Products Association, in its report 'Construction Industry Scenarios 2021 - 2022'<sup>24</sup> predict that construction output will rise by 14% in 2021, and again by 4.9% in 2022 as the industry continues to recover from covid induced restrictions.

*National Aggregate Forecasts*

7.1.15 In its 2022 Regional Overview and Forecasts of Construction and Mineral Products Markets in Great Britain<sup>25</sup>, the MPA noted that construction activity in Great Britain was above pre-Covid levels by the end of 2021, and output rose a record 12.7% above 2020 levels. Construction output is also predicted to rise by 4.3% in 2022 and 2.5% in 2023.

7.1.16 The report also considers growth at a regional scale and in the South East, construction output is expected to continue rising by 2.8% in 2022, 3.5% in 2023, and 3% on average from 2022 – 2025.

7.1.17 The MPA has also produced long-term aggregates demand & supply scenarios, 2016-30<sup>26</sup>. Whilst the scenarios are estimated national demands, it is considered that they can be taken to reflect the situation in the south east.

7.1.18 The report studied two scenarios in order to estimate future demand for aggregates:

1. Baseline Scenario
2. Low Material Intensity Demand Scenario

7.1.19 The baseline scenario assumed that material intensity (volume of aggregates used per £1,000 spent) remains flat at its 2018 level, and growth is in line with economic and population growth. It predicted that demand for aggregates would increase steadily until 2030, but still not quite reach pre-recession levels (shown in Figure 7.5). The low intensity scenario assumed a decline in material intensity of 1.8% per annum, reflecting increases in resource efficiency in construction. This scenario predicted that demand would steadily decrease until 2030.

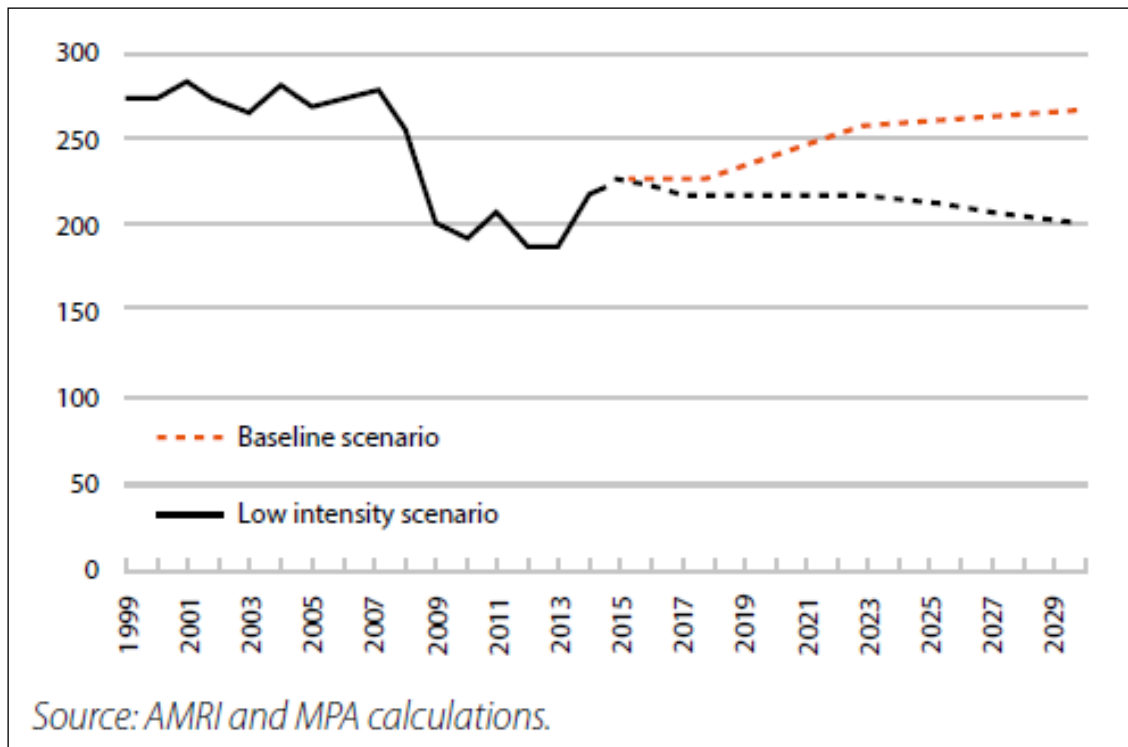
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<sup>24</sup> Construction Products Association, (2021). Construction Industry Scenarios - Winter 2020/21 [online]. Available at: <https://www.constructionproducts.org.uk/publications/economics/construction-industry-forecasts/construction-industry-scenarios-winter-20201/> (Accessed 8<sup>th</sup> September 2022).

<sup>25</sup> Mineral Products Association, (2022). *Regional Overview and Forecasts of Construction and Mineral Products Markets in Great Britain* [online]. Available at: [https://mineralproducts.org/MPA/media/root/Publications/2022/Regional\\_overview\\_and\\_forecasts\\_markets\\_in\\_GB\\_Spring22.pdf](https://mineralproducts.org/MPA/media/root/Publications/2022/Regional_overview_and_forecasts_markets_in_GB_Spring22.pdf) (Accessed 8<sup>th</sup> September 2022).

<sup>26</sup> Mineral Products Association (MPA), (2017). *Long-term Aggregates Demand and Supply Scenarios, 2016 – 2030* [online]. Available at: [https://mineralproducts.org/MPA/media/root/Publications/2019/MPA\\_Long\\_term\\_aggregates\\_demand\\_supply\\_scenarios\\_2016-30.pdf](https://mineralproducts.org/MPA/media/root/Publications/2019/MPA_Long_term_aggregates_demand_supply_scenarios_2016-30.pdf) (Accessed 8<sup>th</sup> September 2022).

Figure 7.5: Total GB aggregates demand (Mt) to 2030, baseline and low intensity scenarios.



Source: Long-term aggregates demand & supply scenarios, 2016-30, MPA<sup>27</sup>.

7.1.20 However this modelling does not take account of the measured decline in 2019 and the impact of the Covid pandemic.

#### Infrastructure Projects

7.1.21 At a local level, the West Berkshire Core Strategy (2012) identifies a number of infrastructure schemes to be implemented over the plan period, including:-

- Junction improvements along the A339 in Newbury, at Monks Lane, at the A343 Andover Road, and at the A34 / A343 south interchange.
- Rail and highway improvements at Newbury Racecourse Road Site.
- Improvements to Newbury Station.
- Various upgrades to existing electricity and gas infrastructure across West Berkshire.
- Upgrades to existing waste water infrastructure across West Berkshire, notably at Newbury/Thatcham and Sandleford Park.
- Sustainable Urban Drainage Systems.

7.1.22 In addition, the Thames Valley Berkshire Strategic Economic Plan sets out infrastructure priorities of the Local Enterprise Partnership. West Berkshire schemes include:

- Newbury – Kings Road Link Road
- Newbury – Sandleford Park, strategic housing allocation requiring supporting infrastructure including schools, highway improvements and provision for retail facilities in the form of a local centre and business employment
- Newbury – Railway Station Improvements
- Theale - Park and Rail at Theale Station at Programmed Entry Level and a business case is being worked on.

<sup>27</sup> Mineral Products Association (MPA), (2017). *Long-term Aggregates Demand and Supply Scenarios, 2016 – 2030* [online]. Available at: [https://mineralproducts.org/MPA/media/root/Publications/2019/MPA\\_Long\\_term\\_aggregates\\_demand\\_supply\\_scenariors\\_2016-30.pdf](https://mineralproducts.org/MPA/media/root/Publications/2019/MPA_Long_term_aggregates_demand_supply_scenariors_2016-30.pdf) (Accessed 8th September 2022).

- 7.1.23 This represents a commitment to an ongoing level of development over the plan period. Other development proposals which (may) place greater demand on aggregates supply within West Berkshire most recently include:
- development at Atomic Weapons Establishment, Burghfield,
  - the regeneration of Thatcham town centre, and
  - the mixed development scheme at Newbury racecourse.
  - Market Street redevelopment (Predominantly residential, some mixed use development).
- 7.1.24 To understand the wider demand for aggregates, based on construction, the National Infrastructure Delivery Plan 2016-2021 (NIDP) has been considered. This provides a strategic overview of UK infrastructure investment to 2020-21.
- 7.1.25 The NIDP identifies several construction projects within 20-40 miles<sup>28</sup> of West Berkshire, including:
- Smart Motorway – M4 Reading to London
  - Development associated with Crossrail
  - Electrification of the Great Western Mainline (including the line between Reading and Newbury) (complete 2019).
- 7.1.26 Other large-scale projects taking place in the South East include High Speed 2 (HS2) rail and Expansion at Heathrow. These projects may place demands on large quantities of mineral in surrounding areas resulting in minerals from further away being used to make up such increases in local demand.
- 7.1.27 Together these national and local construction projects will require a range of aggregates amounting to on-going demand that will need to be met through the supply of sand and gravel, crushed rock and recycled aggregates in the years ahead.
- 7.1.28 Analysis of the list of 300 ‘shovel ready’ projects given funding by the Government in August 2020<sup>29</sup> does not reveal any that would necessarily result in any significant increase in the demand for aggregate in West Berkshire.

#### *Alternative Aggregates*

- 7.1.29 NPPF paragraph 210(b) requires Mineral Planning Authorities to take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously.
- 7.1.30 Recycled aggregates will potentially reduce the need for primary aggregates in the future, although there are only limited uses for which these can substitute and therefore there will always be a requirement for some land-won aggregate within the district. In addition The Mineral Products Association has identified that the contribution of Recycled and Secondary Aggregates to total aggregates supply has remained at approximately 28-29% for the years 2016 – 2020<sup>30</sup>, suggesting that this is approximately the maximum proportion able to be recovered using current technologies.

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<sup>28</sup> A distance of 20 - 40 miles is suggested because this is the estimated distance over which the majority of the aggregate types produced in West Berkshire (recycled aggregates and land won sharp sand & gravel) are likely to be transported (however soft sand is understood to travel further).

<sup>29</sup> Ministry for Housing, Communities and Local Government and Ministry for Business, Energy and Industrial Strategy, (2020). *£1.3 Billion Investment to Deliver Homes, Infrastructure and Jobs* [online]. Available at: <https://www.gov.uk/government/news/1-3-billion-investment-to-deliver-homes-infrastructure-and-jobs> (Accessed 8<sup>th</sup> September 2022).

<sup>30</sup> Mineral Products Association, (2022). *The Contribution of Recycled and Secondary Materials to Total Aggregates Supply in Great Britain – 2020 Estimates* [online]. Available at:



- 7.1.31 This matter will be kept under review as advances in recycling techniques may facilitate the production of a higher quality material, which may be able to replace more and more primary minerals.
- 7.1.32 There is also a possibility that further marine aggregate and crushed rock may be able to be imported into West Berkshire to supplement the need for indigenous resources. The amount of marine sand and gravel imported into Berkshire increased from 2014 to 2019, and marine aggregate supplies have been increasing over time nationally, so it is probable that this will continue.
- 7.1.33 The demand for primary aggregates and alternative aggregates are reflected in their respective past 10 year sales averages. Where it is more economic, or practical to use recycled and secondary or alternative aggregates in preference to primary materials, the market will decide this. Therefore, if the demand for primary aggregates is decreasing, then this will be reflected by a declining 10 year average of sales. Similarly, if the demand for alternative aggregates is increasing proportionally, then this will be reflected in an increasing 10 year average of sales. These market changes over time would be reflected in the 10 year sales average approach, and therefore are not considered significant to warrant an identified departure from this.

#### *Summary*

- 7.1.34 It is apparent that the demand for aggregates in West Berkshire is likely to be driven by a variety of both local, and wider than local factors, such as economic growth, housing growth and other development projects within and around the authority area. In addition existing industrial processes that utilise large volumes of aggregates also continue to inflate the level of demand for aggregates in West Berkshire. While the Brexit transition and pandemic impacted sales, these effects were temporary and economic growth has since recovered. Overall, it is considered that there are no clear identifiable factors that might result in a significant alteration to the level of need in West Berkshire for construction aggregates in the foreseeable future over that identified over the past 10 year period.

## **7.2 Relevant Local Information**

- 7.2.1 NPPF paragraph 213 (a) requires Mineral Planning Authorities to plan for a steady and adequate supply of aggregates by basing its LAA on a rolling average of 10 years' sales data *and other relevant local information*. This section aims to identify whether there is any other relevant local information that would support a departure from the 10 year average in determining the Annual Provision Rate for the LAA.

#### *Local Industry*

- 7.2.2 In respect of existing mineral users, the Beenham Tile Factory, located on the A4 approximately midway between Newbury and Reading, uses approximately 100,000 tonnes per annum of sand and gravel. This tile factory is a strategic facility that manufactures concrete tiles that are used in developments across the whole of the South East of England. The rail linked asphalt plant in Theale is also a major user of primary aggregates in West Berkshire and is understood to utilise approximately 350,000 tonnes per annum of primary mineral (imported crushed rock). However, like the tile factory, whilst some of the "product" manufactured will be used within West Berkshire, a significant proportion is also exported for use in the surrounding area. This tile factory and asphalt plant have both operated for decades, and whilst it is assumed that these facilities will continue to place a level of "demand" on mineral resources in the authority, this level of demand is not



anticipated to increase significantly than from the previous decade, and therefore the “need” for these industries will be captured in the past 10 year sales.

#### *Environmental Constraints*

- 7.2.3 Approximately 74% of the administrative area of West Berkshire is located within the North Wessex Downs Area of Outstanding Natural Beauty (AONB). Much of the northern area of the district, where the main deposits of soft sand have historically been worked, lies within the AONB (see Figure 3.1).
- 7.2.4 Whilst mineral extraction is not excluded from such areas, the NPPF states that when determining planning applications for major development (including major mineral development) in Areas of Outstanding Natural Beauty, National Parks and The Broads, great weight should be given to the conservation of the landscape and scenic beauty, as well as conservation of wildlife and cultural heritage, and that permission should not be granted unless in exceptional circumstances, and where it can be demonstrated to be in the public interest (paragraph 177). Consideration of all supply options will need to be undertaken in demonstrating exceptional circumstances in this test. The NPPF also confirms that landbanks of non-energy minerals should, as far as is practical, be maintained from sites outside such national level designations including AONBs (paragraph 211a).
- 7.2.5 Whilst the NPPF also indicates, at paragraph 210(b), that mineral planning authorities should aim to source minerals supplies indigenously, these are relevant local factors that could affect the availability of supply of soft sand going forward.
- 7.2.6 The emerging West Berkshire Minerals and Waste Local Plan (MWLP) was submitted for examination in July 2021. The examination hearings were undertaken in February 2022, and consultation on the Proposed Main Modifications was undertaken in May-July 2022. The MWLP has considered how to meet demand for soft sand over the plan period in light of the constraints of the AONB. One site is proposed to be allocated within the AONB to meet demand for soft sand over the Plan period.
- 7.2.7 Therefore, in line with National Policy, the AONB is not considered to be such an absolute constraint that would warrant planning for a rate of supply that is different to the 10 year sales average.

#### *Decline in Operational Aggregate Sites and Reserves in West Berkshire*

- 7.2.8 Of relevance to the future supply of aggregate minerals in West Berkshire is the significant decline in aggregate producing mineral sites and declining reserves in operational sites in the district in recent years. In 2001, there were 13 operational sand and gravel sites in West Berkshire, and by 2021 there was just one site in production. Consequently, overall sales of land won aggregates within the district have declined noticeably in recent years.
- 7.2.9 Therefore, consideration should be given to whether the decline in sales in recent years due to the declining reserves in active quarries has suppressed sales to such a degree that a departure from the 10 year sales average is considered necessary. The 10 year sales average for sharp sand and gravel in 2022 was 97,913 tonnes, and for soft sand was 16,369 tonnes. The combined 10 year sales average for sand and gravel was 114,300.
- 7.2.10 It is known that the sites in production in West Berkshire between 2018 and 2021 were nearing the end of their permitted reserves, and therefore sales of sand and gravel were much lower than if the sites had been operating at normal levels. This, along with other sites being exhausted, has acted to suppress sales of sand and gravel in recent years, in relation to estimated demand. Total combined sand and gravel sales in 2021 were 114,300 tonnes.

- 7.2.11 Estimates of consumption have been considered in order to determine whether the 10 year sales averages are an appropriate level at which to plan for the future supply of aggregates in the district.
- 7.2.12 Total sand and gravel consumption in West Berkshire was estimated to be between 123,602 (2020) – 163,916 (2019) tonnes (the most recent years for which data is available). The 2020 figure is likely to be suppressed by the covid pandemic. In any case, the combined 10 year sales average for sand and gravel of 114,300 tonnes, would seem to indicate that this level of supply would not be sufficient to satisfy local or wider demand for these aggregates.
- 7.2.13 Therefore, it is considered that relying on the past 10 year sales average may not be sufficient to plan for a steady and adequate supply of sand and gravel, based on the fact that the number of aggregate producing sites, reserves in these sites and corresponding sales have reduced in recent years in West Berkshire.
- 7.2.14 As the 10 year average sales values for 2018 were only at around the estimated maximum consumption estimates, the approach taken in the 2019 LAA was to plan for sales using the 10 year average sales for 2017 (as set out in the 2018 LAA). This approach was again taken in the 2020 LAA (using the 2018 APR), and it was this approach that has fed into the aggregate requirements in the Minerals and Waste Local Plan.
- 7.2.15 Going forward, it is anticipated that as the allocated sites in the MWLP (and/or current inactive sites) commence production, a new 10 or 3 year average will be sufficient to base the Annual Provision Rate on. However, until such time as this occurs, it is considered that keeping the Annual Provision Rate that the MWLP is based on remains appropriate in this LAA. Therefore, it is considered that the previous 2018 APR should again be utilised as a basis for monitoring the plan until such time as the allocated sites commence production.

## 8.0 Annual Provision Rates (APR)

### *Land Won Sand and Gravel*

- 8.1 In addition to utilising the 10 year average approach to assessing future demand for aggregate, National Planning Guidance<sup>31</sup> suggests that Mineral Planning Authorities should look at average sales over the last 3 years in order to determine whether it might be appropriate to increase supply. The three year average figures for all aggregates are significantly below the 10 year average figures (Table 8.1), which suggests that there has not been a recent increase in the sale of aggregates such that a higher figure than the 10 year sales average should be used determine the rate at which minerals should be planned for. In fact, consideration of the most recent three years sales averages indicates that sales are likely to continue at a lower level in the short term at least.

Table 8.1 Ten Year and Three Year Sales Averages for Sand and Gravel

	10 Year Sales Average (tonnes)	3 Year Sales Average (tonnes)
<b>Sharp Sand and Gravel</b>	97,931	45,943
<b>Soft Sand</b>	16,369	5,510
<b>Total Sand and Gravel</b>	114,300	51,453

- 8.2 As outlined in section 7.2, it is considered that relying on the past 10 year sales average may not be sufficient to plan for an adequate supply of sand and gravel, based on the fact that the number of aggregate producing sites, reserves in these sites and corresponding sales have reduced to a single site in recent years in West Berkshire. Therefore, it is recommended that the previous 2018 rates should remain in place for 2021 (189,233 tpa for sharp sand and gravel and 43,470 tpa for soft sand), as shown in Table 8.2. This situation will need to be monitored in future, particularly with the implementation of allocated sites in the MWLP, to determine whether these rates remain appropriate.

### *Recycled Aggregates*

- 8.3 The last 10 year average of sales of recycled aggregates is 319,101 and the average for the last 3 years is 320,273 tonnes. Given the national priority to first seek to take account of the contribution recycled aggregates can make to the supply of materials before considering extraction of primary materials, (NPPF para 210(b)) it would be prudent to use the higher of these figures (3 year average) in planning for the supply of recycled aggregates. Therefore, this is the recommended APR rate for these aggregates outlined in Table 8.2.

### *Rail Imported Aggregates (Marine Sand and Gravel and Crushed Rock)*

- 8.4 For rail imported marine sand and gravel, sales have been increasing over the preceding 10 years (Figure 5.1). The 10 year sales average for this aggregate is 85,361 tonnes and the 3 year average is 86,117 tonnes. In terms of ensuring there is sufficient rail capacity available for the importation of these aggregates, it would be prudent to use the higher of these figures in planning for future supply. Therefore 86,117 tonnes is recommended as the APR for this aggregate, as outlined in Table 8.2.
- 8.5 For crushed rock, sales have also been increasing over the preceding 10 year period. The 10 year sales average for this aggregate is 732,849 tonnes and the 3 year average is 904,071 tonnes. As with marine sand and gravel, in order to ensure sufficient rail capacity is available for the importation of this aggregate it would be prudent to use the higher of

<sup>31</sup> Minerals Planning Practice Guidance: Paragraph 064 Reference ID: 27-064-20140306.  
<https://www.gov.uk/guidance/minerals>

these figures in planning for future supply. Therefore 904,071 tonnes is recommended as the APR for this aggregate, as outlined in Table 8.2.

*All Aggregates*

- 8.6 Therefore, after consideration of the future demand for aggregates within West Berkshire, and factors affecting supply in the district, the following Annual Provision Rates are proposed in Table 8.2:

Table 8.2: 2022 Annual Provision Rates – All Aggregates

	<b>APR (tpa*)</b>
<b>Land Won Sharp Sand and Gravel</b>	189,233
<b>Land Won Soft Sand</b>	43,730
<b>Total Sand and Gravel</b>	232,964
<b>Recycled Aggregates</b>	320,273
<b>Marine Sand and Gravel (Rail Imported)</b>	86,117
<b>Crushed Rock (Rail Imported)</b>	904,071

\*Tonnes per annum

## 9.0 Balance between Supply and Demand

### 9.1 Land-Won Sand and Gravel

#### *Landbank*

- 9.1.1 The balance between supply and demand can be shown in one way by the calculation of the 'landbank' of supply for land won aggregate minerals. The landbank is based on the amount of remaining reserves (supply) and a given extraction rate (demand). The NPPF requires that a landbank of at least 7 years is maintained for sand and gravel (para 213(f)).
- 9.1.2 The total permitted reserves at the end of 2021 stood at approximately 2,520,000 tonnes, all of which were sharp sand gravel (soft sand reserves were fully depleted in 2019). Based on the Annual Provision Rates, the landbank for sharp sand and gravel at the end of 2021 was 13.3 years, for soft sand was 0 years and for combined sand and gravel was 10.8 years (shown in Table 9.1). Table 9.1 also shows the landbank based on the 10 and 3 year sales averages for comparison.

Table 9.1 - West Berkshire Landbank Calculations 2022 (years)

2022	Sharp Sand and Gravel	Soft Sand	Total Sand and Gravel
<b>LAA Rate (tpa)</b>	189,233	43,730	232,964
<b>10 Year average</b>	97,931	16,369	114,300
<b>3 year average</b>	45,943	5,510	51,453
<b>Remaining Reserves</b>	2,520,000	0	2,520,000
<b>Landbank based on LAA Rate</b>	13.3 years	0 years	10.8 years
<b>Landbank based on 10 year average</b>	25.7 years	0 years	22.0 years
<b>Landbank based on 3 year average</b>	54.9 years	0 years	49.0 years

- 9.1.3 Table 9.1 shows that the landbank, based on the APR is currently above the required 7 years for sharp sand and gravel and total sand and gravel. However, there is no landbank for soft sand as there are no remaining permitted reserves. If the level of sales of construction aggregates in West Berkshire remains at the level seen in more recent years (3 year average), then the permitted reserves of sharp sand and gravel would last much longer, although the landbank for soft sand still remains far below the required 7 years, indicating that additional reserves of this aggregate are required in order to maintain a 'steady and adequate supply' in line with NPPF paragraph 213. The MWLP will allocate one site for soft sand, which, once permitted will act to raise the landbank for soft sand again.

#### *Production Capacity*

- 9.1.4 Production capacity is also a relevant factor in assessing the balance between supply and demand. If the ability to produce the APR from sites within the district is not available, then it will not be able to achieve a 'steady and adequate supply' of aggregates as required by the NPPF. A list of sites and their production capacities are listed in Table 9.2.
- 9.1.5 The level of annual production from operational sites (combined sand and gravel) in West Berkshire at the end of 2021 was estimated at 20,000 tonnes, which is far below the APR for combined sand and gravel of 232,964 tonnes per annum. However, inactive sites have the potential to contribute to a further 260,000 tonnes per annum, in which case this rate could be met. However, whether inactive sites are able to resume/start production to meet

future demand is not certain. Allocated sites in the MWLP will assist in maintaining production capacity once they come on-stream, but unless sites come forward through the planning process, the combined APR is not likely to be achieved in the near future.

Table 9.2 - Estimated Production Capacity in West Berkshire

Site Name	Type of Aggregate	Comments	Capacity (tonnes)
<b>Active</b>			
Harts Hill	Hoggin	There is no tonnage limit on annual output, although there is a maximum number of HGV's (25 per day, limiting output to circa 140,000 tpa). Reserves of circa 20,000 tonnes remaining (based on operator returns) to be worked by 30 <sup>th</sup> February 2023.	20,000
<b>Total Operational Capacity</b>			<b>20,000</b>
<b>Inactive</b>			
Kennetholme	Sharp Sand & Gravel	Inactive and mostly restored. Small amount of reserve remaining under siltponds (20,000 tonnes), to be extracted by July 2023.	20,000
Craven Keep	Sharp Sand & Gravel	Inactive, small remaining reserve of 55,000 tonnes, with two years permitted for extraction.	27,500
Moores Farm	Sharp Sand & Gravel	Active inert waste recycling facility, however inactive in terms of mineral extraction. Small remaining reserve of approximately 10,000-15,000 tonnes required to be extracted by 31 <sup>st</sup> December 2023. No limit on production.	12,500
Lower Farm, Wasing	Sharp Sand & Gravel	Extraction of 2.4 mt of sharp sand and gravel at a rate of 200,000 tpa. Extraction yet to commence.	200,000
<b>Total Non-operational Capacity</b>			<b>260,000</b>
<b>Total Permitted Capacity</b>			<b>280,000</b>

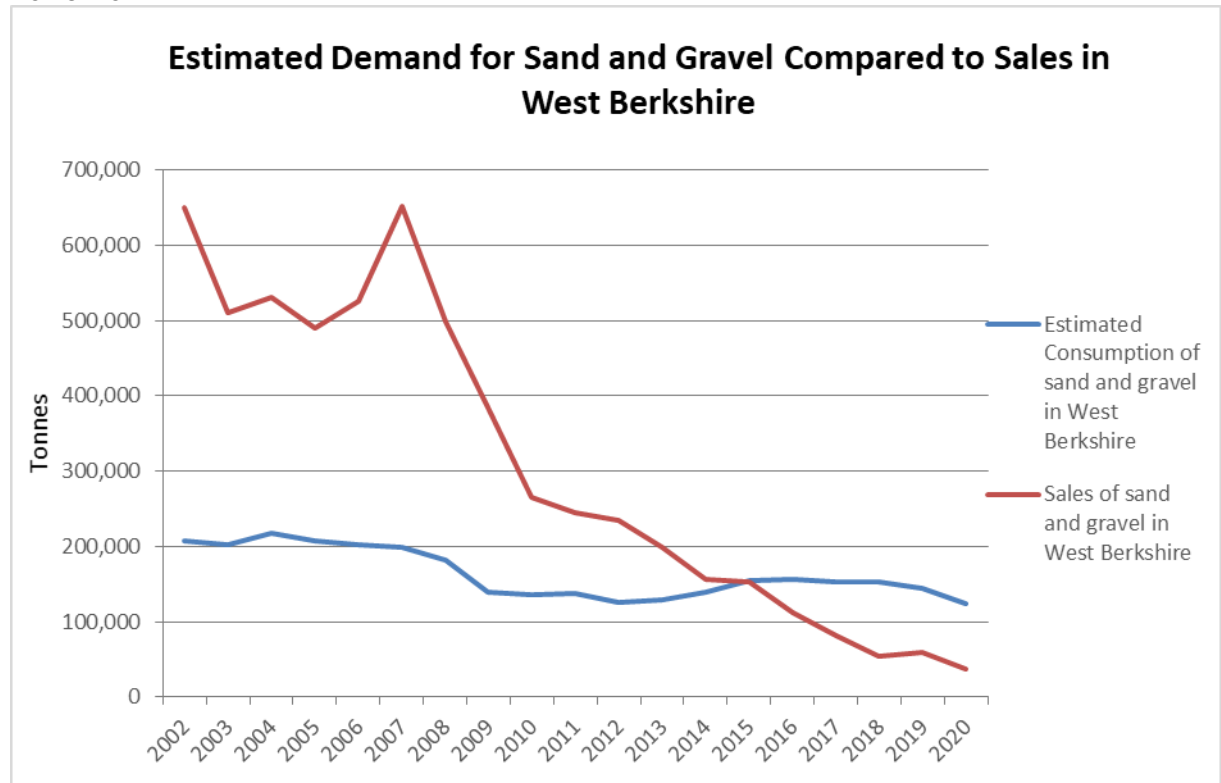
- 9.1.6 These figures show that current operational capacity in West Berkshire is extremely limited by the amount of remaining available reserves at active sites and suggests that production capacity is a significant factor that could affect the balance of supply to the county. However, when taking into account currently permitted but inactive reserves (for sharp sand and gravel) the production capacity would be sufficient to meet the APR for this aggregate and further sites are expected to come on-stream pending the adoption of the MWLP. Production of soft sand is currently constrained by the lack of permitted reserves.

#### *Estimated Demand Compared to LAA Rate*

- 9.1.7 Perhaps the most obvious way to demonstrate the balance between supply and demand is by comparing demand (consumption) with sales. This has been done for land won sand and gravel from 2002 – 2020 (the most recent year for which data is available) in Figure 9.1.



Figure 9.1 – Estimated Demand for Sand and Gravel in West Berkshire compared to Sales in West Berkshire.



Sources: UK Minerals Yearbooks 2003 - 2021<sup>32</sup>, ONS population data<sup>33</sup>.

9.1.8 Figure 8.1 shows that in West Berkshire, sales of sand and gravel have consistently been above estimated levels of consumption until approximately 2015, when estimated demand was higher than sales within the district. This demonstrates that West Berkshire is likely to have moved from being a net exporter of sand and gravel historically, to being a net importer in recent years.

9.1.9 This highlights the importance of the MWLP in facilitating the provision of sufficient sites to meet demand in future.

## 9.2 Recycled and Secondary Aggregates

9.2.1 The level of recycled aggregates estimated to have been produced, and also consumed, within West Berkshire is understood to have increased over the past decade.

9.2.2 The overall potential operational construction and demolition waste recycling capacity in West Berkshire in 2021, as indicated by industry surveys is some 511,250 tonnes. All of this capacity remains available for future growth, as it is for permanent operations. The level of output of recycled aggregates in 2021 was 362,279 tonnes, which is significantly above the estimated level of consumption of recycled aggregates in West Berkshire of 149,749 tonnes (see Appendix A). Therefore, it is estimated that the volume of recycled aggregates produced in West Berkshire is supporting a demand that extends beyond the authority area. This has been confirmed through conversations with operators.

<sup>32</sup> British Geological Survey (BGS), (2022). *Downloads By Category (Statistics)* [online]. Available at: <https://www2.bgs.ac.uk/mineralsuk/search/home.html> (Accessed 7<sup>th</sup> September 2022)

<sup>33</sup> ONS, (2021). Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland [online]. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> (Accessed 7<sup>th</sup> September 2022).

- 9.2.3 Therefore, there does not appear to be an issue with the balance of supply to deliver the demand for recycled aggregates in West Berkshire and beyond.

### **9.3 Rail Imported Crushed Rock and Marine Sand and Gravel**

#### *Rail Depot Capacity*

- 9.3.1 As previously mentioned, from 2016 there were effectively four aggregates depot 'sites' operating within West Berkshire, an increase from two such sites prior to this. As such, actual capacity figures are now able to be published, rather than estimates as has been the case previously.
- 9.3.2 Operator returns for 2021 suggest that the capacity at West Berkshire's rail depots was in the region of 1,171,000 tonnes (although this is likely to be a minimum as one of the site capacities has been estimated based on the sales figure provided, not potential capacity and one operator recorded sales in excess of the stated capacity).
- 9.3.3 When considered against the proposed Annual Provision Rates for rail imported crushed rock and marine sand and gravel (904,071 and 86,117 tonnes respectively), the available rail depot capacity (1,171,000 tonnes minimum) suggests that this infrastructure is sufficient to maintain these rates (990,188 tonnes total), and also accommodate some growth in future. When considered against 2022 sales (1,061,920 tonnes of crushed rock and marine sand and gravel), the depots appear to be operating just under capacity (although as already noted this is likely to be a minimum capacity). Nevertheless, it will be essential to safeguard this infrastructure in future to ensure current levels of sales are able to be maintained in order to satisfy demand.
- 9.3.4 It is known that Network Rail intend to use permitted development rights to develop a new rail siding at Theale, and that this is likely to be used for aggregates. An application (21/02298/PAD56) has been submitted for prior approval relating to provision of an improved access road to the siding. This application is as yet undetermined. If an additional aggregates siding does become operational in future, this will act to increase capacity for importing crushed rock, marine sand and gravel, and potentially other aggregates.

## 10.0 Conclusions

- 10.1 West Berkshire has seen declining sales of land won sand and gravel won in West Berkshire over the last decade. In 2021, they accounted for only 4% of all aggregate sales in the district. There are no local considerations which indicate that the demand for sand and gravel in West Berkshire will increase significantly in the near future, or over the projected plan period. However, the number of active sites and remaining reserves in these sites has decreased in West Berkshire over recent years, and as a result the 10 year average of sales is not considered sufficient to plan for a steady and adequate supply of sand and gravel as required by the NPPF. **Therefore, consistent with the approach taken in LAA 2018, 2019 and 2020, it is considered that that the 2018 APR should remain in place for 2022 (189,233 tpa for sharp sand and gravel and 43,730 tpa for soft sand). This situation will need to be monitored in future to determine whether these rates remain appropriate, particularly as sites in the MWLP come forward.**
- 10.2 This LAA concludes that, **at the end of 2021, West Berkshire had a landbank of 13.3 years for sharp sand and gravel and 0 years for soft sand.** This indicates severe supply issues for soft sand. This is being addressed through the emerging West Berkshire Minerals and Waste Local Plan which identifies sites for mineral extraction, including one site for soft sand. Speculative planning applications for new sites or extensions could also be received in the short term. If sales of sharp sand and gravel remain lower than the APR for an extended period of time (as indicated by the 3 year average of sales), then the reserves will inevitably last for a greater period of time.
- 10.3 Recycled aggregates sales in 2021 were 362,279 tonnes, which accounted for 23% of total aggregate sales in West Berkshire. It is considered that the most appropriate way to meet increasing demand for recycled aggregates, and encourage their supply in line with the NPPF, is to ensure adequate provision is made to meet recent levels of sales (3 year average). **This equates to a level of need for recycled aggregates of 320,273 tonnes per annum. The current operational capacity to produce recycled aggregates in West Berkshire is 511,250 tonnes per annum.** This indicates that there are no capacity issues that would hinder the ability to meet demand.
- 10.4 With regard to rail based imports it is clear that the volume of primary aggregates imported into West Berkshire by rail is significant, and estimated to account for around 65% of the total aggregates sales in 2021. Sales of crushed rock from West Berkshire rail depots were 975,803 tonnes, and sales of marine sand and gravel are estimated at 86,117 tonnes. Sales of crushed rock have generally been increasing over the last decade. **The APRs for these aggregates are based on the past 3 year average of sales and equate to 904,071 tpa for crushed rock and 86,117 tpa for marine sand and gravel (990,188 total). Sales of both aggregates in 2021 were estimated as 1,061,920 tonnes.** The capacity at West Berkshire's rail depots in 2021 was in the region of 1,171,000 tonnes which **indicates that the depots appear to be operating below capacity when considered against 2021 sales and combined Annual Provision Rates. However, it will be essential to safeguard this infrastructure in future to ensure levels of sales are able to be maintained in order to satisfy demand.**

## 11.0 Consultation

- 11.1 The production of an LAA is a requirement set out by the NPPF and its content is guided by the NPPF and National Planning Practice Guidance (NPPG). The NPPF requires that West Berkshire has regard to the views of the South East Aggregate Working Party (SEEAWP) in the production of the LAA, and SEEAWP will therefore be consulted on the draft document.
- 11.2 In addition, the South West Aggregates Working Party, the London Aggregates Working Party and the following bodies will also be consulted on a draft version of this LAA, either because they are neighbouring authorities, or it is considered that there is a specific flow of aggregates between West Berkshire and their respective areas:

Reading Borough Council	Gloucestershire County Council
Slough Borough Council	Somerset County Council
Bracknell Forest Council	Hertfordshire County Council
Royal Borough of Windsor and Maidenhead	Leicestershire County Council
Wokingham Borough Council	Barking & Dagenham
Wiltshire Council	Shropshire Council
Oxfordshire County Council	North Somerset Council
Hampshire County Council	Derbyshire County Council
Buckinghamshire County Council	Neath Port Talbot Council
Surrey County Council	Bristol City Council
Medway Council	

- 11.3 Comments received have been summarised and responded to in the following table:

Consultee	Comment	Response
Somerset County Council	Noted and agree with the comments set out in the draft report in respect of Somerset's key role in supplying crushed rock to West Berkshire.	Noted
Leicestershire County Council	No comments	Noted
Gloucestershire County Council	Acknowledge aggregate supply link between Gloucestershire and West Berkshire (crushed rock limestone imports from Gloucestershire to West Berkshire). GCC M&W Policy officers can confirm that they are not aware of any indicators that show the availability of crushed rock, sourced from Gloucestershire, is likely to be hindered by the current state of the county's permitted reserves or productive capacity.	Noted
Surrey County Council	No comments at this time	Noted
Hertfordshire County Council	No specific comments	Noted

Oxfordshire County Council	<p>LAA methodology is in accordance with national planning guidance. Satisfied with current position of maintaining 2018 Annual Provision Rates and justification.</p> <p>Continued concerns regarding declining reserves and limited production capacity. Without adequate reserves or production capacity, West Berkshire will be reliant on other MPAs for supply, including Oxfordshire. Support for sites identified in the emerging Local Plan. Lack of production capacity is a significant concern, this could impact future sales figures and consequently APRs and future local plan allocations. It isn't clear where the 65,000tpa figure in the dashboard has come from.</p> <p>Support for West Berkshire's ability to supply recycled and secondary aggregates to meet their own demand over the Plan period. Pleased to note there is sufficient rail head capacity for the duration of the Plan period.</p>	<p>Support for LAA rate noted. Concerns regarding production capacity and reserves noted. The Minerals and Waste Local Plan allocates sites and therefore is facilitating solutions to these problems, which the comments reference.</p> <p>65,000tpa figure amended. Support for S&amp;R and Rail head capacity noted.</p>
SWAWP Member	<p>Sales are being referred to as in significant decline, however what is actually referred to is production of mineral in West Berkshire. Consumption has increased, and therefore sales will have increased. MPAs with declining reserves will always be in the position of reduced sales from these sites, as more aggregate is imported to compensate for the lack of mineral available in the county. The Landbank is skewed as it is based on a site that is permitted but not operational</p>	<p>The LAA follows convention and NPPF paragraph 213 by basing the LAA on a rolling average of 10 year's <b>sales data</b> and other relevant local information (emphasis added). West Berkshire doesn't hold sales data from other Mineral Planning Authorities. Imports are taken into account in consumption estimates and it is acknowledged that these are going up. The APR reflects acknowledgement that declining indigenous reserves are suppressing sales in relation to demand. Clarification has been added to identify that sales refers to quarries/production sites in West Berkshire.</p>
SEEAWP	<p>Concern over 15% headroom at rail aggregate depots, a figure of 25% headroom is what SEEAWP consider to be an adequate margin. Some clarification as part of the</p>	<p>Rail depot capacity estimate is a minimum due to a lack of up to date operator returns (two capacity estimates are based on sales rather than actual</p>

	<p>emerging Minerals and Waste Local Plan would be welcome. MPAs should strive to produce consistent dashboards. The title year of the LAA should be match that of the SEEAWP AM Report, therefore next year’s LAA would be dated 2022. This may cause some confusion for a short period.</p>	<p>capacity). Therefore the percentage headroom of 15% is also considered to be a minimum. It is understood that the 25% headroom figure is industry led, and if it is to be a guideline then accurate returns should also be provided. The Minerals and Waste Local Plan is due to be adopted in December 2022. No rail depot capacity issues were identified during the production of the MWLP, however it was acknowledged that safeguarding of the rail heads would be essential for the future supply of aggregates to West Berkshire and surrounding areas. The MWLP includes the Rail Depots as ‘Safeguarded Mineral Infrastructure’ under Policy 9. Monitoring of the MWLP and production of future LAAs will monitor this issue, and any concerns picked up as part of a review of the plan. The LAA dashboard has been checked against SEEAWP LAA guidance. Year of LAA will be noted accordingly.</p>
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11.4 The South East Aggregates Working Party considered the West Berkshire 2022 LAA at their meeting on 18<sup>th</sup> October 2022 and provided comments, which have been addressed as outlined above.



## Appendix A: Estimate of West Berkshire Primary, Recycled & Total Aggregate Consumption 2006 - 2020

Year	Primary Aggregate Sales in Great Britain (Sand and Gravel and Crushed Rock)	Great Britain Population	Great Britain Primary Aggregate Consumption per head (t)	West Berkshire Population	Est. West Berkshire Estimated Primary Aggregate Consumption	Estimated Recycling Percentage for Great Britain <sup>34</sup>	Estimated Recycled Aggregate Consumption (t)	Est. Total Primary and Recycled Aggregate Consumption for West Berkshire (t)
2006	207,137,000	59,083,854	3.51	149,153	522,903	25%	174,301	697,204
2007	208,078,000	59,557,392	3.49	150,086	524,361	25%	174,787	699,148
2008	187,256,000	60,044,620	3.12	151,020	470,973	27%	174,196	645,169
2009	146,812,000	60,467,153	2.43	151,954	368,939	28%	143,476	512,415
2010	136,639,000	60,954,623	2.24	152,888	342,722	28%	133,281	476,002
2011	145,943,000	61,470,827	2.37	153,822	365,202	29%	149,167	514,368
2012	132,930,000	61,881,396	2.15	154,486	331,858	29%	135,548	467,405
2013	134,358,000	62,275,929	2.16	155,394	335,257	28%	130,378	465,634
2014	154,552,000	62,756,254	2.46	155,732	383,527	29%	156,652	540,178
2015	169,969,000	63,258,413	2.69	157,460	423,079	29%	172,807	595,886
2016	176,851,000	63,785,917	2.77	158,576	439,663	29%	179,581	619,244
2017	176,280,000	64,169,395	2.75	158,473	435,342	30%	186,575	621,917
2018	179,935,000	64,553,900	2.79	158,527	442,290	29%	180,654	622,944
2019	175,772,000	64,169,395	2.74	158,473	434,216	28%	168,862	603,078
2020	158,555,000	65,185,274	2.43	158,465	385,070	28%	149,749	534,819

Source: AMRI Surveys 2002 – 2014, BGS Minerals Yearbooks 2018 - 2021, ONS (population data)

<sup>34</sup> Average difference between total aggregates and recycled aggregate for Great Britain, Market summary 1955 to 2012, MPA 2013 (email dated 16<sup>th</sup> August 2013). From 2014 – MPA Sustainable Development Reports: <https://mineralproducts.org/sustainability/reports.html>

## Appendix B: Estimate of West Berkshire Recycled Construction, Demolition and Excavation Waste 2014 - 2018

	2014	2015	2016	2017	2018	Notes
<b>Waste dealt with by transfer &amp; treatment facilities:</b>	<b>24,804</b>	<b>28,673</b>	<b>50,083</b>	<b>27,029</b>	<b>15,915</b>	
<b>Transfer</b>	17,816	16,264	31,065	11,200	5,919	Only included input to transfer sites outside of West Berks, because the onward movement of waste from these facilities will no longer record West Berkshire as the origin. Waste to transfer facilities within West Berks will be covered by final disposal/treatment in other steps. Source: WDI
<b>Treatment</b>	2,100	3,926	10,143	5,217	9,996	Only included sites outside of West Berks, as waste recycled as product (aggregates, soil) within West Berks included in Step 4. Source: WDI
<b>MRS</b>	2,817	1,702	1,283	1,040	525	Source: WDI
<b>CDE waste recoded as Ch. 19 12 12 at transfer facilities and disposed.</b>	2,071	6,781	7,592	9,572	8,993	Included transfer facilities within plan area to account for waste that is received as Ch. 17 and recoded as 19 12 12. This was done by applying the proportion of CDE waste from West Berkshire at transfer sites within West Berks managing Ch. 17 waste and producing Ch. 19 waste to the total 19 12 12 output. Source: WDI
<b>Waste deposited to land:</b>	<b>103,672</b>	<b>162,916</b>	<b>174,396</b>	<b>168,966</b>	<b>115,156</b>	
<b>Landfill</b>	101,341	51,897	78,373	87,019	78,700	Source: WDI
<b>On/In land</b>	2,331	111,019	96,023	81,947	36,456	Includes waste managed at formerly exempt sites. Source: WDI
<b>Waste dealt with under Exemptions</b>	21,200	21,200	21,200	21,200	21,200	The most common exemption dealing with CDE waste is a 'U1' exemption which allows use of waste to be used in construction without requiring a permit. A report

						<p>produced for WRAP<sup>35</sup> estimated the mean value for U1 exemptions is 600t. The nature of these exemptions is that they are generally only used once, i.e. as a one-off exercise.</p> <p>The number of U1 exemptions in West Berkshire was obtained from the Environment Agency's Register of Waste Exemptions<sup>36</sup>. Each registration lasts for 3 years, and so the total number of exemptions registered in the last 3 years was calculated (106) and multiplied by 600. This was then divided by three to give an approximate annual estimate, giving the figure shown.</p>
<b>Waste recycled as aggregate</b>	156,454	152,533	179,935	167,248	117,924	<p>Estimated from aggregates monitoring survey (including that recycled for non-aggregate use, e.g. construction fill) by multiplying total recycled product with estimated percentage originating in West Berkshire).</p> <p>Source: SEEAWP Aggregate Monitoring Surveys/Authority Annual Waste Surveys.</p>
<b>Berkshire and South East Unattributed Share</b>	133,138	134,774	143,827	74,176	67,376	To account for a share of waste that has not been attributed below 'Berkshire or 'South East'. See Local Waste Assessment for methodology.
<b>TOTAL (tonnes)</b>	<b>439,268</b>	<b>500,096</b>	<b>569,441</b>	<b>458,619</b>	<b>347,089</b>	

Assume CDE Arisings =  $\sum$  waste dealt with by transfer & treatment facilities + waste deposited to land + waste dealt with under exemptions + waste recycled as aggregate.  
Use EWC codes from Ch. 17, excluding hazardous (assume 20 02 02 (soil and stones) and 19 12 09 (minerals, for example sand, stones) covered by C&I estimate)

<sup>35</sup> WRAP, (2013). *Review of the factors causing waste soil to be sent to landfill, 2007 to 2011*. [online] Available at: <http://www.wrap.org.uk/sites/files/wrap/CIS101-301%20Final%20Report%20final%2017%20april%2013.pdf> [Accessed 05 Feb 2019].

<sup>36</sup> Environment Agency, (n.d.a.). *Register of Waste Exemptions*. [online] Available at: <sup>36</sup><https://environment.data.gov.uk/public-register/view/search-waste-exemptions> [Accessed 05 Feb 2019].

## Glossary

Term	Definition
<b>Alternative Aggregates</b>	A grouping of Secondary and Recycled aggregates
<b>AMR</b>	Authority Monitoring Report
<b>AMRI</b>	Annual Mineral Raised Enquiry
<b>AONB</b>	Area of Outstanding Natural Beauty
<b>APR</b>	Annual Provision Rate
<b>AWP</b>	Aggregate Working Party
<b>BGS</b>	British Geological Survey
<b>C&amp;D</b>	Construction and Demolition Waste
<b>CDEW</b>	Construction, Demolition and Excavation Waste
<b>EWC</b>	European Waste Classification
<b>MHCLG</b>	Ministry of Housing, Communities and Local Government
<b>DEFRA</b>	Department of Environment, Food and Rural Affairs
<b>EA</b>	Environment Agency
<b>LAA</b>	Local Aggregate Assessment
<b>Land Won Aggregates</b>	Primary construction aggregates won from land (quarried)
<b>Marine Aggregates</b>	Primary construction aggregates won from the sea (dredged)
<b>MASS</b>	Managed Aggregate Supply System
<b>MPA</b>	Mineral Planning Authority
<b>Mt</b>	Million tonnes
<b>Mtpa</b>	Million tonnes per annum
<b>MWLP</b>	West Berkshire Minerals and Waste Local Plan
<b>NPPF</b>	National Planning Policy Framework
<b>NPPG</b>	National Planning Policy Guidance Website
<b>NWDAONB</b>	North Wessex Downs AONB
<b>ONS</b>	Office of National Statistics
<b>Recycled Aggregates</b>	Aggregate materials recovered from construction and demolition processes and from excavation waste on construction sites.
<b>RMLP</b>	Replacement Minerals Local Plan for Berkshire
<b>Secondary Aggregates</b>	Aggregates derived as a by-product of other quarrying and mining operations, including overburden, colliery spoil, china clay waste, slate waste; power station ashes, incinerator ashes and similar products.
<b>S&amp;G</b>	Sand and Gravel
<b>SEEAWP</b>	South East England Aggregate Working Party
<b>SWAWP</b>	South West Aggregate Working Party
<b>SEERA</b>	South East England Regional Assembly
<b>SEP</b>	South East Plan
<b>SSSI</b>	Site of Special Scientific Interest
<b>Tpa</b>	Tonnes per annum
<b>UA's</b>	Unitary Authorities
<b>WBMWLP</b>	Emerging West Berkshire Minerals and Waste Local Plan
<b>WDI / EA WDI</b>	Waste Data Interrogator / Environment Agency Waste Data Interrogator.

If you require this information in an alternative format or translation, please call 01635 511 111 and ask for the Minerals and Waste Planning Policy Team.

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