

Milton Keynes
Draft Local Aggregates Assessment 2018
(Reporting on 2017 data)

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Summary - Milton Keynes Council 2018 (for the calendar year 2017)

	2017 Sales (Mt)	Average (10 yr) Sales (Mt)	Average (3 yr) Sales (Mt)	Trend (10 yr) Sales (Mt)	Trend (3 yr) Sales (Mt)	Adopted MLP provision Rate (Mt)	Reserve (Mt.)	Land bank (Yrs.)	Capacity (Mtpa)	Comments
All Sand & Gravel	0.24	0.17	0.19			0.17	C	1	0.30	Supply contribution of sand and gravel sites is very limited with insufficient permitted reserves to maintain a 7 year landbank. To address shortfall 4 sites allocated in MLP, potentially adding 1.98 Mt to the supply. A planning application for one of these sites has been submitted.
Crushed Rock										Not produced in Milton Keynes.
Recycled/Secondary Aggregates									0.08	Capacity of 0.08 Mtpa to produce recycled aggregate. Zero capacity for producing secondary aggregates.
Rail Depot Sales (S & G)	C	*	C	*		-	-	-	0.275	Only one rail depot therefore sales figures are confidential. Sand and gravel originated from Northamptonshire and crushed rock from Derbyshire and Neath Port Talbot.
Rail Depot Sales (Crushed Rock)	C	*	C	*		-	-	-		

'C' confidential

*Data unavailable

Executive Summary

The National Planning Policy Framework (NPPF) requires Mineral Planning Authorities (MPAs) to plan for a steady and adequate supply of aggregates by preparing an annual Local Aggregates Assessment (LAA). The LAA is required to:

- forecast the demand for aggregates based on average of 10 year sales data and other relevant local information,
- analyse all aggregate supply options, and
- assess the balance between demand and supply.

This LAA is the 2018 edition and includes the most recent (2017) aggregate sales and reserves data for Milton Keynes. The 10 year period covered by this LAA is 2008 up to 2017. The main facts and figures from the report (by aggregate type) are set out below.

Sand and gravel

- Milton Keynes has three permitted sand and gravel sites. Estimated reserves as of 31 December 2017 cannot be published for confidentiality reasons but are known to be limited.
- Sales of sand and gravel in 2017 were 0.24 million tonnes (Mt) and are the highest they have been in the last 10 years.
- In 2014 (the most recent figures available) 0.76 Mt of sand and gravel was sold in the Milton Keynes - Buckinghamshire sub-region, of which 0.41 Mt was exported. 0.43 Mt of sand and gravel was imported, leaving an export/import balance of 0.2 Mt; making the sub-region a minor net importer.
- The Milton Keynes Minerals Local Plan (MLP) sand and gravel provision rate is 0.17 million tonnes per annum (Mtpa). It is based on 3 year average sales (2010 – 2012) and local factors affecting the supply and demand for sand and gravel. Average aggregate sales for the most recent 10 year period (2008 – 2017) and 3 year period (2015 - 2017) are 0.17 Mtpa and 0.19 Mtpa respectively.
- Currently the supply contribution of sand and gravel sites in the borough is limited. Based on the MLP provision rate there are insufficient permitted reserves (as of 31/12/2017) to maintain a 7 year landbank, as required by national policy. To address this four sites for sand and gravel extraction have been allocated in the MLP which, subject to planning permission, have the potential to increase the landbank significantly.

Crushed rock (limestone)

- Milton Keynes does not have any significant crushed rock resources. There have been no sales of limestone for aggregate purposes for at least the last 10 years and there are currently no permitted sites.
- No annual apportionment/provision rate has previously been identified for limestone and is still not considered appropriate.
- In 2014 (the most recent figures available) imports of crushed rock into the Milton Keynes - Buckinghamshire sub-region totalled 0.49 Mt. As Milton Keynes does not produce crushed rock, it is a net importer.

Secondary and recycled aggregate

- Milton Keynes currently has one aggregate recycling facility. There is a lack of consistent sales data available for aggregate recycling facilities therefore it is therefore not considered necessary (or is it possible) to determine an annual provision rate.

1. Introduction

- 1.1. The National Planning Policy Framework (NPPF) sets out the requirement for Mineral Planning Authorities (MPAs) to prepare an annual Local Aggregates Assessment (LAA) to plan for a steady and adequate supply of aggregates. The LAA is required to assess the demand for, and supply of, aggregates in the MPA's area covering:
 - A forecast of the demand for aggregates based on the rolling average of 10 years sales data and other relevant local information;
 - An analysis of all aggregate supply options, as indicated by landbanks, mineral plan allocations and capacity data. This analysis should be informed by planning information, the aggregate industry and other bodies such as local enterprise partnerships; and
 - An assessment of the balance between demand and supply and the economic and environmental opportunities and constraints that might influence the situation. It should conclude if there is a shortage or a surplus of supply and, if the former, how this is being addressed.
- 1.2. This LAA details the current and future situation in the MPA area of Milton Keynes in terms of aggregate supply and demand including sales data, imports and exports and aggregate provision rates to 2032. It considers how local circumstances may impact on future aggregate supply and demand.
- 1.3. The LAA is updated on an annual basis and will enable the Council to monitor trends in aggregate production and assess the effectiveness of MLP policies including Policy 1: Providing for sand and gravel. This LAA is the 2018 edition and includes the most recent (2017) aggregate sales and reserves data for Milton Keynes.
- 1.4. The LAA is submitted to the South East England Aggregates Working Party (SEEAWP), an advisory body made up of MPAs across the region, for consideration and scrutiny. The AWP has a role to monitor the operation of the Managed Aggregate Supply System (MASS) through providing technical advice, particularly on supply provision.

Data limitations

- 1.5. Milton Keynes is a relatively small MPA with a limited number of quarries. For some years it is not possible to publish annual sales figures for reasons of commercial confidentiality but this year, because there are three active quarries in the Borough, it has been possible. However, it is not possible to publish the 2017 reserve figure due to one of the three quarries being fully worked this year and therefore the reserves only applying to two sites.

2. Aggregate supply and demand

Geology

- 2.1. The bedrock geology of Milton Keynes is mostly Jurassic mudstone and limestone with Cretaceous sand and sandstone outcrops in the south-east of the borough (Figure 1). Areas of superficial deposits are extensive in the borough and largely obscure this underlying geology (Figure 2, Table 1).
- 2.2. Sand and gravel is the main aggregate mineral resource in Milton Keynes largely found in river terrace deposits of the Great Ouse River and its tributaries. The majority of deposits are concentrated in the valley of the River Ouse to the north of the M1 motorway. Small patches of sand and gravel are also found in glaciofluvial deposits, however it is likely to be too clayey and chalky to be of economic interest. The majority of glaciofluvial deposits have been fully worked or sterilised by urban development. Sand and gravel is also found in deposits referred to as Sand and Gravel of Unknown Age and Origin but has now been either worked or sterilised by urban development. At the end of 2017 sand and gravel extraction took place at only three quarries in Milton Keynes.
- 2.3. Milton Keynes does not have any significant crushed rock resources. Over at least the last 10 years there has been no extraction of crushed rock. Currently there is a small operational quarry at Western Underwood (Olney) that extracts limestone for non-aggregate building stone purposes. Apart from this one quarry, there has been no other working of building stone in Milton Keynes for many years. Further resources are known to be in the locality although the total yield is likely to be small.

Table 1: Superficial mineral deposits in Milton Keynes

Deposit		Description
River deposits	Alluvium	Comprised of clay and silt, alluvium underlies the present day floodplains, generally occupying a wide but shallow channel cut into the underlying river terrace deposits. Concealed river terrace sand and gravel deposits underlay the alluvium and are referred to as 'sub-alluvial gravels'.
	River terrace	River terrace deposits, largely comprised of sand and gravel, are predominantly found in the river valleys associated with the Great Ouse river and its tributaries.
Sand and Gravel of Uncertain Age and Origin		Clayey, sandy gravel designated Sand and Gravel of Uncertain Age and Origin, occurs only in the valley of the River Ouzel.
Glacial deposits	Till	Glacial till (boulder clay), is found on the higher, plateau-like, ground in the borough.
	Glaciofluvial	Glaciofluvial deposits are comprised of clayey sand and gravel, found beneath, within and upon the till.
	Glaciolacustrine	Glaciolacustrine deposits comprise silt, clay with sparse sandy layers and are associated with the till.
Mass movement deposits	Head	Head occurs on the lower valley sides and valley bottoms where it merges with the river terrace deposits. It is typically gravelly, sandy clay.

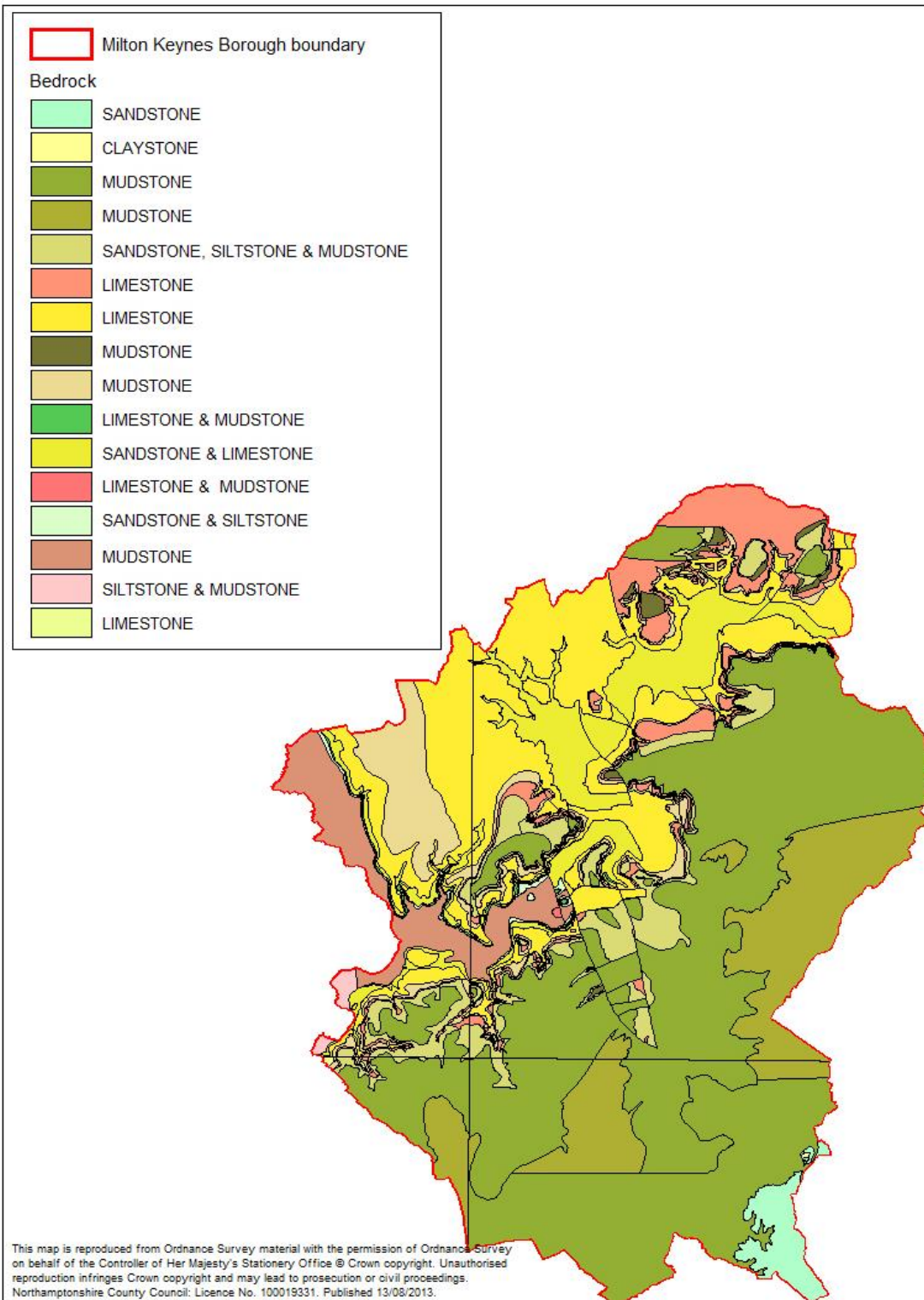


Figure 1: Geological bedrock map of Milton Keynes

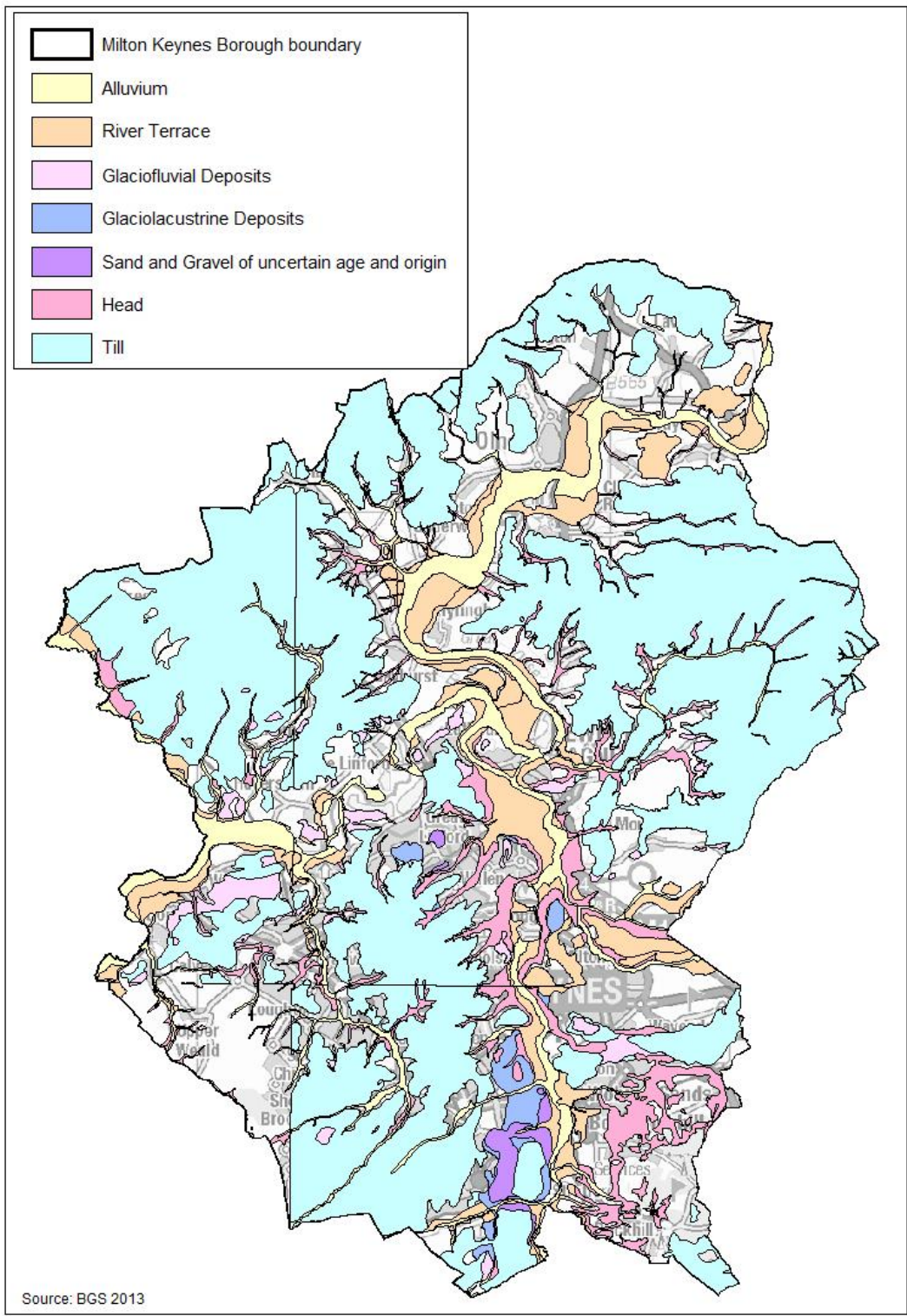


Figure 2: Geological map of the superficial mineral resources of Milton Keynes

Sand and gravel

Current supply

2.4. In Milton Keynes there are three sand and gravel sites with planning permission: land at Calverton (Passenham), land south of Caldecote Farm (Newport Pagnell) and land east of Haversham Road (New Bradwell), all of which were active during 2017. The details of these sites are presented in Table 2. The location of these sites and associated geology are shown in Figure 3.

Table 2: Permitted sand and gravel sites in Milton Keynes (as of 31/12/2017)

Site	Operator	Status	Permission end date
Land at Calverton, Passenham	RGS Roadstone	Quarry with permission for the extraction of 0.475 million tonnes (Mt) of sand and gravel. Extraction within permitted area completed in 2017.	2017
Land south of Caldecote Farm, Newport Pagnell	Smith Construction	Active quarry with permission for the extraction of 0.45 Mt of sand and gravel.	2023
Land east of Haversham Road, New Bradwell	Hanson Quarry Products Europe Ltd	Active quarry with permission for the extraction of 0.28 Mt of sand and gravel.	2020

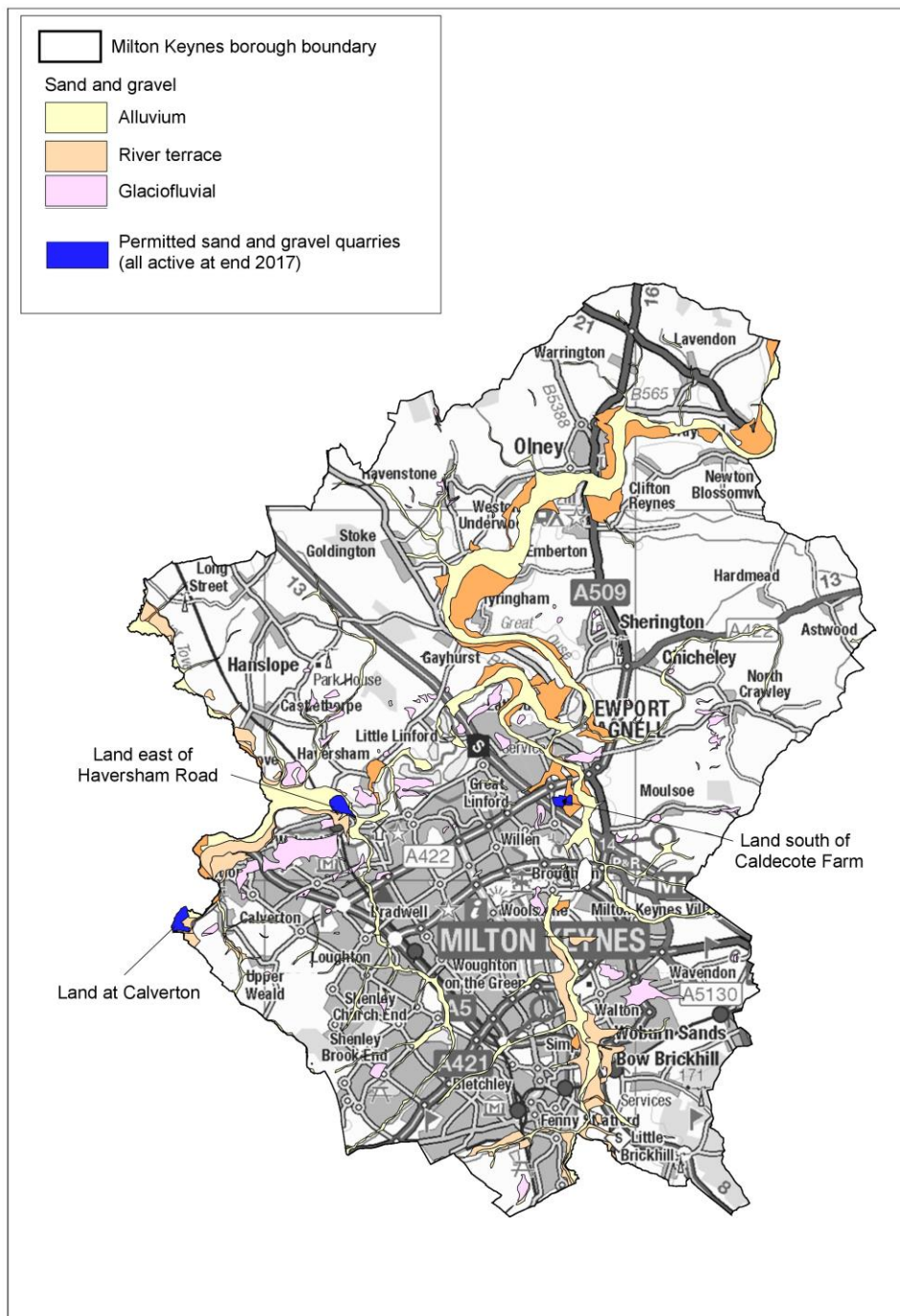


Figure 3: Geology of Milton Keynes with permitted sand and gravel sites

2.5. Estimated total sand and gravel permitted reserves for Milton Keynes as of 31 December 2017 cannot be published for confidentiality reasons but are known to be limited.

Milton Keynes sales

2.6. In 2017 sales of sand and gravel in Milton Keynes were 0.24 Mt. Sales of sand and gravel have fluctuated over the last ten years. Between 2008 and 2010 sales increased year on year before decreasing year on year between 2011 and 2014. Sales increased significantly in 2015, then fell in 2016 and increased again in 2017 (by 45%), to the highest levels seen in the last 10 years. It is likely that the decline in sales between

2011 and 2014 and between 2015 and 2016 is directly attributable to a deficit between rates of extraction and rates of replenishment through new permissions. Between 2011 and 2014 two active quarries of medium scale (land at Caldecote Farm and Manor Farm) came to their end of life. Between 2011 and 2012 the only other permitted site was land at Calverton, which was inactive for this period. The growth in sales in 2015 can be attributed to increased production levels at the land at Calverton site and commencement of extraction at the land east of Haversham Road quarry, which was granted permission in 2014. There were no sales from the land at Calverton site in 2016, resulting in an overall decline in sales for this year. The growth in sales in 2017 can be attributed to sales resuming at Calverton and to higher production levels at the other two active sites.

Imports and exports

- 2.7. A national Aggregate Minerals (AM) survey is conducted by the Department of Communities and Local Government (DCLG) and British Geological Society (BGS) every four years (with the exception of the latest survey for 2014, five years after the previous one in 2009). The survey includes analysis of movements (imports and exports) of aggregates for each MPA in England and Wales. Import data for Milton Keynes is combined with Buckinghamshire as one sub-region however sales data is presented separately.
- 2.8. Results of the survey indicate that movements of sand and gravel into and out of the sub-region are almost self-balancing; with only 0.2 Mt more sand and gravel imported than is exported (Table 3).

Table 3: Buckinghamshire and Milton Keynes sand and gravel imports and exports 2014 (million tonnes)

Total sales	Imports Buckinghamshire and Milton Keynes sub-region	Exports Buckinghamshire and Milton Keynes sub-region	Balance
0.76 Mt Buckinghamshire and Milton Keynes sub-region (0.08 Milton Keynes)	0.43	0.41	0.2

Note: As Buckinghamshire and Milton Keynes are reported on a sub-regional basis the above figures do not include imports / exports within the sub-region (i.e. between Buckinghamshire and Milton Keynes). Source: AM survey 2014 (Table 9b: Sales of primary aggregates by MPA and principal destination sub-region, and Table 10: Imports of primary aggregates by sub-region).

- 2.9. Sand and gravel produced within the Buckinghamshire and Milton Keynes sub-region in 2014 totalled 0.76 Mt, of which just under half (0.35 Mt) remained within the sub-region. Exports from the sub-region totalled 0.41 Mt with 0.34 Mt staying within the South East region and the remainder exported to other areas outside of the region.
- 2.10. Specific to Milton Keynes, the majority (97%) of sand and gravel produced in 2014 stayed within the sub-region (Table 4). There were no exports to the South East region (beyond the Buckingham-Milton Keynes sub-region) presumably because Milton Keynes is on the edge of the region, with a large proportion of the borough surrounded by counties in the East of England and East Midlands regions.

Table 4: Destination of sand and gravel produced in Milton Keynes in 2014

Destination region	Destination sub-region	Percentage
South East	Buckingham and Milton Keynes	97%
East Midlands	Northamptonshire	2%
East of England	Bedfordshire (Central Bedfordshire, Bedford, Luton)	1%

	Suffolk	
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- 2.11. Results from the earlier AM survey, undertaken in 2009, showed that the Milton Keynes and Buckinghamshire sub-region was a net exporter of sand and gravel with 0.40 Mt (44%) of the total produced being exported whilst 0.24 Mt was imported, leaving a balance of minus 0.16 Mt. The move out of the economic recession since 2010 may explain the growth in imports in the later survey as sand and gravel production increased nationally.
- 2.12. In the South East, as nationally, the majority of sand and gravel and crushed rock aggregate is transported by road, with significantly less transported by rail and water. Some of the sand and gravel and crushed rock imported into Milton Keynes is by rail and uses the medium sized rail depot at Bletchley. Between 2016 and 2017 sales of sand and gravel from the depot increased whilst sales of crushed rock decreased during the same period. In 2017 all of the sand and gravel imported into Milton Keynes via rail originated from Northamptonshire, the crushed rock from Derbyshire and Neath Port Talbot.

Limestone

Current supply

- 2.13. At present, there are no permitted sites for the extraction of limestone for aggregate purposes in Milton Keynes. One site at Weston Underwood Quarry currently extracts limestone for non-aggregate building stone purposes, however it is a small site with limited output.

Milton Keynes sales

- 2.14. There have been no sales of crushed rock in Milton Keynes in the 10 year period between 2008 and 2017. With regards to the production of limestone for non-aggregate building stone purposes, there were no sales between 2007 and 2009 but in more recent years between 2010 and 2017 there have been a very small amount of sales (although figures cannot be identified for confidentiality reasons).

Imports and exports

- 2.15. The 2014 AM survey shows that in 2014 imports of crushed rock into the Milton Keynes – Buckinghamshire sub-region totalled 0.49 Mt. Milton Keynes does not produce any crushed rock and as such is a net importer. The previous 2009 AM survey showed that imports into the sub-region were 67% lower (0.16 Mt).

Recycled and secondary aggregates

- 2.16. Recycled aggregates, which include concrete, stone and brick are sourced from reprocessed materials that have previously been used in construction, demolition and excavation (CD&E) work. Secondary aggregates are usually by-products of other industrial processes that have not been used in construction. They include both natural and manufactured materials such as china clay, slate, flue ash and slag.
- 2.17. There is an increased importance of, and reliance on, alternative aggregate sources. Production of recycled and secondary aggregates is increasing in England and Wales especially following the introduction of the Landfill Tax, which discourages the disposal of waste to landfill, and the Aggregates Levy which taxes the extraction of primary aggregates. It is estimated that up to 25% of total aggregate production and consumption in England is comprised of secondary and recycled aggregates. As the alternative aggregate sector grows, and provided the aggregate produced is of good quality, the reliance on primary aggregates will reduce.

- 2.18. Facilities that produce recycled aggregates within Milton Keynes include: Cotton Valley Waste Transfer Station (permitted April 2016 – not yet operational) for recycling inert CD&E waste with a capacity of 0.08 Mtpa; and a waste transfer and recycling facility located at Chesney Wold, Bleak Hall that segregates hardcore aggregate waste and sends to the aggregate recycling facility at Whitsundoles Compound in Bedfordshire for reprocessing. Milton Keynes does not produce any secondary aggregate.
- 2.19. The data available on secondary and recycled aggregate is variable and not considered completely reliable, particularly at the sub-regional level. National surveys undertaken for CD&E waste provide comparable datasets from 1998, 2003 and 2005. The 2005 dataset shows total arisings of CD&E waste for the South East of 14.2Mt, of which 4.2Mt is attributed to Berkshire, Buckinghamshire (including Milton Keynes) and Oxfordshire. More recently the Waste and Resources Action Programme (WRAP) undertook a study to estimate CD&E waste at a National level indicating arisings of 94.5, 76.9 and 77.4Mt for 2008, 2009 and 2010 respectively. The study estimated that 55% was recycled and 11% re-used or recovered on exempt sites (e.g. as cleanfill for engineering purposes usually land reclamation, agricultural improvement or infrastructure projects).

3. Future aggregate supply

Aggregate provision

- 3.1. An annual aggregates provision figure for Milton Keynes is required to ensure an adequate and steady supply of aggregates is maintained to meet anticipated needs of the construction industry and reflect housing provision and growth.

Sand and gravel

- 3.2. The NPPF requires each MPA to calculate their own provision rate on the basis of average aggregate sales over a 10 year rolling period and other relevant local information.
- 3.3. Table 5 presents the total sand and gravel sales in Milton Keynes during the 10 year period (2008 - 2017) and shows the 10 year average sales for the period 2008 - 2017 and 3 year average sales for the period 2015 - 2017. The most recent 10 year period of sales would give a sand and gravel provision figure of 0.17 Mtpa.

Table 5: Total sand and gravel sales in Milton Keynes 2008 – 2017

Year	Sand and gravel (Mt)
2008	C
2009	C
2010	C
2011	C
2012	C
2013	C
2014	C
2015	C
2016	C
2017	0.24
Total sales 2008 - 2017	1.7
10 year average 2008 - 2017	0.17
3 year average 2015 – 2017	0.19

'C' confidential

- 3.4. Government Planning Practice Guidance for Minerals (DCLG, 2014 - paragraph 64) states that MPAs should also look at the average 3 year sales to identify the general trend of demand and whether it may be appropriate to increase supply. The average 3 year sales figure for the period 2014 - 2016, as reported in the previous LAA, was 0.13 Mtpa; which is 32% lower than the most recent 3 year period (2015 - 2017). The provision rate for sand and gravel in the adopted MLP¹ is 0.17 Mtpa (based on the 3 year average sales 2010 – 2012) which is 11% lower than the 0.19 Mtpa provision rate based on the most recent 3 year average sales and the same as the 0.17Mtpa provision rate based on the most recent 10 year average sales.
- 3.5. Table 6 compares the provision of sand and gravel based on different provision rates (including the MLP provision rate) for the remaining 16 years (1 January 2017 – 31 December 2032) of the 20 year plan period (1 January 2013 – 31 December 2032).

¹ The MLP was adopted on 1 July 2017.

Table 6: Provision of sand and gravel in Milton Keynes to 2032 based on alternative provision rates

	Adopted MLP provision rate	10 year average sales provision rate (2008 – 2017)	3 year average sales provision rate (2015 – 2017)
Annual provision rate (Mtpa)	0.17	0.17	0.19
Total plan requirement (Mt): Annual provision x 16 year remaining plan period (2017 to 2032)	2.7	2.7	3
Permitted reserves (as at 31/12/17) (Mt)	C	C	C
Undersupply (-) over supply (+) (rounded to the nearest Mt)	-3	-3	-3

'C' confidential

3.6. Comparison of total plan requirements under each provision rate with permitted reserves as at 31 December 2017, indicates that there are not enough remaining reserves in Milton Keynes to meet a 16 year remaining plan requirement. In looking to address the apparent shortfall in supply, the MLP identifies four sand and gravel allocations. Originally these four sites had the potential to add a further 2.08 Mt to the supply however, in light of the recently submitted application for allocation site A1 Calverton/Passenham Extension, this total has reduced by 0.10 Mt to 1.98 Mt (Table 7). The reserve at Calverton/Passenham Extension is now estimated to be 0.15 Mt, reduced from 0.25 Mt. This loss in reserve is a result of a requirement to preserve some of the archaeological features identified onsite in situ and due to a 30m stand-off buffer being applied to the northern boundary, separating the site from the River Great Ouse.

Table 7: Allocated sites for sand and gravel extraction in the adopted MLP

Allocations	Approximate reserve (Mt)
A1 Calverton/Passenham Extension	0.15*
A2 Quarry Hall Farm	0.72
A3 Northampton Road, Lathbury	0.65
A4 Manor Farm and Lavendon Mill	0.46
Total reserves	1.98

*In light of submitted application, reserve reduced from 0.25 Mt to 0.15 Mt.

3.7. In addition to allocated sites, it is possible that unallocated, or 'windfall' sites in Milton Keynes may come forward during the plan period and add to the supply.

Limestone

3.8. It is not possible (nor is it considered appropriate) to identify a provision rate for crushed rock as there have been no sales of crushed rock for at least the last 10 years.

Secondary and recycled aggregate

3.9. It is also not possible to determine a provision rate for secondary and recycled aggregates based on average sales over a 10 year period. Sales information is difficult

to obtain due a low response rate to AM surveys in Milton Keynes and unfortunately where data has been provided in the past, it is not consistent.

Landbanks

- 3.10. A landbank is a stock of planning permissions for mineral extraction which are calculated by dividing permitted reserves by the provision figure. National planning policy requires landbanks of at least 7 years for sand and gravel to be maintained. Approximate landbanks for sand and gravel for Milton Keynes as of 31 December 2017 are shown in Table 8.

Table 8: Landbanks for sand and gravel in Milton Keynes in 2017

	MLP provision rate	10 year average sales provision rate (2008 – 2017)	3 year average sales provision rate (2015 – 2017)
Annual provision rate (Mtpa)	0.17	0.17	0.19
Permitted reserves (as at 31/12/17) (Mt)	C	C	C
Landbanks (rounded to full years)	1	1	1

'C' confidential

- 3.11. The Milton Keynes area has a history of not meeting landbank figures due to a limited number of extraction sites coming forward which often creates a deficit between rates of extraction and rates of replenishment through new permissions. Under the MLP provision rate there are not enough reserves remaining to meet the minimum 7 year landbank requirement. Should the sand and gravel allocations in the MLP be brought forward and permitted they have the potential to increase the landbank significantly. In 2017 a planning application was submitted to the Council for the extraction of 0.15 Mt of sand and gravel at allocation site A1 Calverton/Passenham Extension. The application is yet to be determined.
- 3.12. No landbanks have previously been required to be maintained for crushed rock as no apportionment/provision figure was adopted and this continues to be the case.

4. Consideration of local circumstance

- 4.1. The NPPF requires MPAs to base their future mineral requirements on average sales over a 10 year rolling period, factoring in relevant local information to provision determination where applicable.
- 4.2. Local factors affecting the supply and demand of sand and gravel in Milton Keynes are discussed below. No apportionment has previously been identified for crushed rock in Milton Keynes due to low output; therefore consideration of local information affecting its supply and demand is not included.

Demand for sand and gravel

Construction levels and population growth

- 4.3. Sand and gravel is used in the construction industry for purposes such as the making of concrete and mortar or for roadstone or drainage material. The level of construction, including house building and infrastructure, therefore contributes to the demand for sand and gravel and are key local factors to consider when determining a provision figure for Milton Keynes.
- 4.4. Milton Keynes has historically been, and continues to be, one of the fastest growing areas in the country. Since it was designated a New Town in 1967, the population has grown from 60,000 to over 261,750 (ONS 2015). Its projected growth in population between 2015 and 2026 is over 46,000 people. To support this growing population, Milton Keynes is planned to achieve 20,800 net housing completions over the next 15 years.
- 4.5. The rate of house building in Milton Keynes has fluctuated over the last 20 years. Figure 5 shows the number of housing completions over the last 10 years between 2007/08 and 2016/17. Net housing completions were at their lowest in 2013/14 (1,001 completions) and peaked in 2007/08 (2,317 completions).

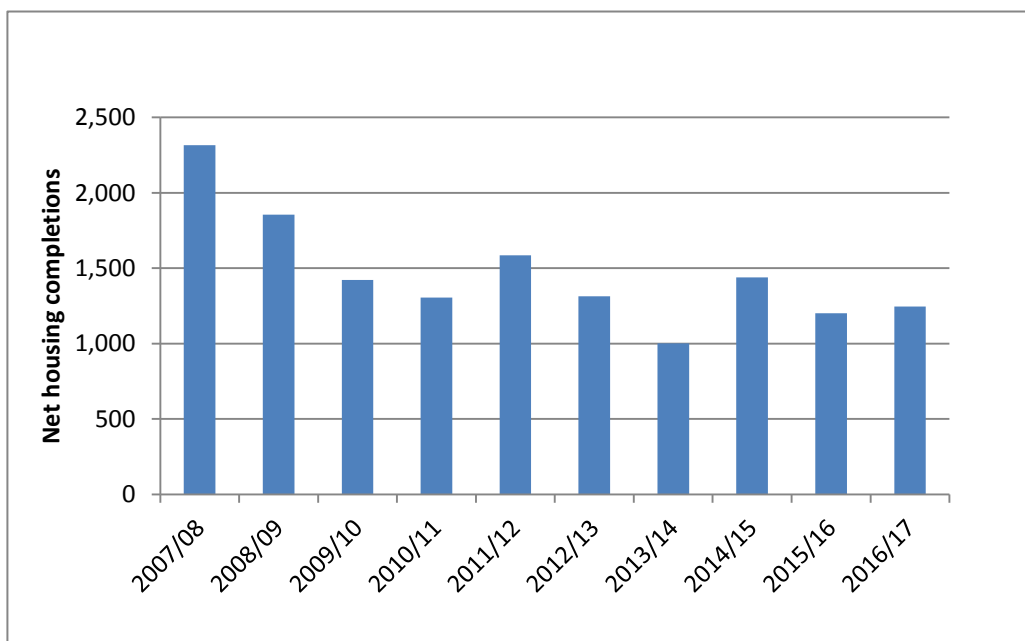


Figure 5: Net housing completions in Milton Keynes 2007/08 – 2016/07

- 4.6. The emerging Milton Keynes Local Plan (Plan: MK) sets out a requirement for approximately 26,500 dwellings to be built within the plan period 2016 - 2031, equating to around 1,766 dwellings per annum. In 2016/17 total completions were 1,247; 519 dwellings below target. It is possible there will be a fall in construction levels across the UK over the coming years as there is evidence that the construction related economy

is under-performing. The impact on development in Milton Keynes will be monitored through the council's Authority Monitoring Report.

- 4.7. Nevertheless, a degree of caution should be exercised when considering the correlation between demand for aggregate and level of house building. Between 2008 and 2010 for example sales of sand and gravel increased by 14% but during this same period the total number of house building completions in the borough decreased by 30%. Conversely, sales of sand and gravel began to fall between 2011 and 2014 when rates of housing building were also relatively low.
- 4.8. Two national infrastructure projects are planned for Milton Keynes and are identified in the National Infrastructure Delivery Plan (NIP) 2016 - 2021. The first is the development of an East West Rail link between Cambridge, Milton Keynes and Oxford. Phase 1 of the scheme from Bicester to Oxford is complete and Phase 2, linking Oxford to Milton Keynes, is being developed. The second is the development of an Oxford to Cambridge Expressway (via Milton Keynes) to improve east – west connectivity by road. The expressway is currently being investigated and is one of six strategic studies that will inform the development of the second stage of the national Road Investment Strategy (RIS2). Both the East West Rail and Expressway infrastructure schemes are identified by the National Infrastructure Commission as central to achieving the vision of the Cambridge – Milton Keynes – Oxford Arc to maximise the potential of this growth corridor as a connected, knowledge-intensive cluster, enabling land for housing and employment growth to be unlocked.
- 4.9. The Milton Keynes Local Investment Plan (2015) identifies minimum infrastructure requirements, including transport developments, to enable sustainable growth in Milton Keynes for the plan period 2012 - 2026. This plan, together with the emerging Plan:MK, outlines a number of indicative transport projects for Milton Keynes including the development of the A421 – A4146 link road and dualling of the A421, as well as the East West Rail link referred to above.
- 4.10. The High Speed Two (HS2) rail network connecting London and the West Midlands (Phase One) continuing onto Manchester and Leeds (Phase Two) has been taken through its statutory processes and initial work on its construction has commenced. However no part of the new railway line will pass through Milton Keynes with the nearest point being 15 miles to the west. It will place demands on aggregates nationally but it is difficult to identify at this stage the detail of the amount of mineral required.
- 4.11. Housing and other infrastructure proposals, even if they come to fruition as planned, will not result in a significant change from previous years as in and around Milton Keynes there has always been a growth focus. There is no indication therefore that the level of demand for sand and gravel will increase beyond that experienced previously and as such, it is not necessary to factor in any additional growth to a provision rate.

Supply of sand and gravel

Mineral commitments/allocations

- 4.12. The supply contribution from permitted sand and gravel sites in Milton Keynes is very limited. The land at Calverton (Passenham) site was fully worked in 2017. Reserves remaining at the land east of Haversham Road (New Bradwell), and land south of Caldecote Farm (Newport Pagnell) sites are limited with permissions due to expire in 2020 and 2023 respectively but are expected, at current rates of progress, to complete well before these dates.
- 4.13. Four sand and gravel sites are allocated in the MLP. If all sites are developed (subject to planning permission in accordance with relevant local plan policies) they will potentially add a total of 1.98 Mt to the existing supply. In 2017 a planning application

was submitted for the extraction of sand and gravel at allocation site A1 Calverton/Passenham Extension. If approved, the site will contribute 0.15 Mt to the supply of sand and gravel in the county.

Commitments for producing secondary and recycled aggregates

- 4.14. The majority of development in Milton Keynes is on greenfield sites and few buildings and structures are demolished therefore a limited amount of recycled material is generated to be used as aggregate. Once the waste transfer station at Cotton Valley Sewage Works is operational, Milton Keynes will have capacity for the processing of up to 0.08 Mt of CD&E waste to produce recycled aggregates. There will however remain a continued reliance on primary aggregate sources to meet demand.

Investment opportunities

- 4.15. The nature of the mineral resources in Milton Keynes is such that large scale sites are not likely to come forward in the long term. This means that in the future, sites are likely to be more of the scale of those allocated in the MLP. Such sites are probably more suited to medium sized operators rather than the larger international companies who operate in the UK. At the time of producing the MLP, it was known that medium sized operators were actively looking for opportunities in the Milton Keynes area. Currently however it appears that operator interest in the Borough is limited, particularly for standalone sites. Only one application for sand and gravel extraction has been submitted since the MLP was adopted (allocated site A1 Calverton/Passenham Extension) which is an extension to an existing site. Nevertheless the Borough is more than capable of delivering at least two to three sites at any one time into the future which would be in line with the MLP provision figure of 0.17 Mtpa.

Resources and constraints

- 4.16. The MLP identifies four allocations that are considered to meet requirements to 2031 and which are capable of being delivered. This will far from exhaust the opportunities for further extraction post-2031. There will be further opportunities in the Ouse Valley in areas where environmental and amenity considerations are such that extraction would not be ruled out on these grounds. However there is the possibility that the Tove Valley could be an alternative long term location subject to the resource being of a scale and quality but balancing the potential higher costs to access these sites, to make extraction worthwhile.