National Audit Office

Optimising the defence estate

Ministry of Defence

REPORT

by the Comptroller and Auditor General

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Optimising the defence estate

Ministry of Defence

Report by the Comptroller and Auditor General

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Comptroller and Auditor General
National Audit Office

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Key facts

2%	£0.65bn	£4.3bn
reduction in the size of the Ministry of Defence's (the Department's) built estate since April 2015	the Department's forecast of net benefits from its Defence Estate Optimisation Portfolio by 2040, down from its initial forecast of £2.4 billion made in 2016[1]	the Department's funding over the 10 years to March 2031 to fund its Defence Estate Optimisation Portfolio

The Department has reduced the size of its estate:

£391 million receipts from estate sales in 2015-16, mainly from the sale of the Old War Office in London which raised £357 million. These sales did not count against the Department's commitment to raise £1 billion between April 2016 and March 2021.

£538 million receipts from estate sales between 2016-17 and 2020-21, compared with the 2015 Spending Review commitment to raise £1 billion in disposal proceeds during this period.

The Department forecasts that its Defence Estate Optimisation Portfolio will achieve:

69 number of sites the Department plans to sell between 2021-22 and 2040-41 through the Portfolio.

£2.7 billion forecast savings in estate running costs by 2040-41, if all planned disposal programmes are achieved, which form a significant element of the net benefits of the Portfolio.[1]

The Department's target to reduce the size of its built estate was set in 2015 and has not yet been updated to reflect changing operational requirements:

16% the Department's current forecast reduction in the size of its built estate by 2040-41 if all planned disposals are completed, compared with its target of a 30% reduction over this period.

Not known optimal size of the estate to meet current and future operational needs, although the Department has begun to assess this in the light of the Integrated Review.

Note

1 The Department's estimate of the net benefits of its Defence Estate Optimisation Portfolio is calculated as the Net Present Value (NPV) of its infrastructure costs and benefits. This is based on the sale proceeds from site disposals, less the re-provision costs and the corresponding net change in future estate running costs, plus cost of disposal. As the costs, income and savings occur over 25 years, it calculates the NPV by applying an annual discount rate to each cash flow so that costs and benefits can be compared on a consistent basis. This calculation includes the residual value of the assets to reflect the ongoing beneficial use to the Department beyond the 25-year timeframe. The NPV is calculated in line with HM Treasury guidance.

Summary

1 The Ministry of Defence (the Department) has access to one of the largest estates in the country, accounting for 1.5% of the UK landmass.[1] In March 2020, the value of the Department's estate was £35.6 billion.[2] Its estate is crucial to delivering the country's defence capability as it is where some 230,000 military and civilian personnel live, work and train. The Department needs to manage the estate effectively within its budgetary limits and, in 2019-20, spent £4.6 billion (12% of its budget) on its estate. The Department must also retain some flexibility in its estate so it can respond to changes in operational requirements and evolving security threats, as recently set out in the Integrated Review of Security, Defence, Development and Foreign Policy (Integrated Review).

2 The Department's estate is spread throughout the country. It includes the 'built' estate, which consists of 900 sites with roughly 96,000 buildings, including offices, houses and storage units. The Department spends about 85% of its estate maintenance budget on this part of the estate. Around 40% of the Department's infrastructure is more than 50 years old and it regards 30% as not being in an acceptable condition. The Department also holds a 'rural' estate, including its training facilities and ranges, which accounts for 68% of its owned or leased land but is less costly to maintain.

3 In 2016, the Department published its strategy to optimise the defence estate. This set out its vision to provide a built estate "that is affordable and optimised to enable Defence capabilities, outputs and communities both now and in the future". The Department recognised that its estate is too large and that its scale, nature and location had not evolved enough to accommodate the Armed Forces' future needs. It proposed disposing of sites it no longer needed to help meet its 2015 Spending Review commitment to reduce the size of its built estate by 30% (23,200 hectares) by 2040-41. The Department's strategy also supported its commitment to meet government-set targets to raise £1 billion by the end of March 2021 through disposals, and to release enough land by March 2020 on which to build 55,000 homes.

1 The Department has access to approximately 344,200 hectares of land in the UK. It owns or controls 233,000 hectares of this land and has access rights to a further 111,200 hectares.

2 This is the net book value of the estate on 31 March 2020, according to the Department's Annual Report and Accounts 2019-20.

4 To fulfil its objective of optimising the use of its estate, the Department set up a 25-year investment strategy known as the Defence Estate Optimisation (DEO) Portfolio. The DEO Portfolio is the Department's main estate transformation programme, which aims to achieve a more efficient, smaller estate. It consists of a series of building projects to rehouse personnel and equipment, moving units to new locations and disposing of vacated sites. In 2016, the Department expected the DEO Portfolio would reduce the size of the built estate by 25%, and that other sales would reduce it by 5%. The Portfolio team works with the Top-Level Budgets (TLBs) which are responsible for managing and rationalising their own estate.[3] The Department's Defence Infrastructure Organisation (DIO) provides TLBs with advice and support on estate management, including disposals.

5 Between 1987 and 2016, we reported six times on the Department's management of its estate, highlighting a lack of progress in aligning the estate with military need. Our 2016 report concluded that the Department had started to improve its management of the estate but that the success of its latest estate optimisation strategy was uncertain, with a risk that it would not achieve its expected financial benefits. This study examines the Department's progress since 2015-16 in delivering this estate optimisation strategy and disposing of sites that are no longer needed. It sets out:

- the defence estate and Department's estate optimisation strategy (Part One);
- the Department's progress since 2015-16 in reducing its estate (Part Two); and
- whether the Department has established the necessary conditions to achieve its estate optimisation objectives (Part Three).

6 Our study focuses on the Department's rationalisation of its UK estate. Its management of the overseas estate is not within our scope. In addition, we do not evaluate the Department's approach to estate maintenance.[4] Our methodology is set out in Appendix One. Our main methods included analysing departmental data, conducting interviews, and a review of relevant published material, including national statistics. We undertook our study between October 2020 and March 2021. Unless otherwise stated, data are as of March 2021.

3 Top-Level Budgets include: Air Command, Army Command, UK Strategic Command, Navy Command, the Defence Nuclear Organisation, and the Defence Infrastructure Organisation.

4 The Department's approach to estate maintenance is discussed in Comptroller and Auditor General, *Improving Single Living Accommodation*, Session 2019–2021, HC 1129, National Audit Office, February 2021.

Key findings

The Department's estate

7 **The Department has reduced the size of its built estate by 2% since 2015-16 and expects to only meet around half of its target of a 30% reduction by 2040-41**. Its strategic vision since 2016 has been to have the right estate in the right locations to support current and future defence capabilities. The Department committed to reducing the size of its built estate by 30% (23,200 hectares) by 2040-41.[5] Since 2015-16, it has reduced its built estate by 1,600 hectares (2%). This follows slow progress in reducing the size of the estate over a much longer period. In March 2021, the Department had planned 69 site disposals over the next 20 years through the DEO Portfolio. The sale of these sites will not be sufficient to meet the 2040-41 target, even if they all take place. It now forecasts that the DEO Portfolio will reduce the size of the built estate by 13% (10,100 hectares) by 2040-41, and that other sales will reduce it by a further 3% (2,000 hectares). The Department's estate reduction target does not include the overseas or rural estate, including training areas and ranges (paragraphs 1.6, 1.7, 2.15 to 2.17, 3.10 and 3.13).

8 **The publication of the Integrated Review provides the Department with an opportunity to reassess the future size and shape of its estate**. It accepts its built estate is too large but has not yet determined whether the target of a 30% reduction in size, set in the 2015 Strategic Defence and Security Review, is still the right one. The target was intended to incentivise site disposals although, at the time, the Department considered this to be ambitious as much of its estate was already being used. The Integrated Review, published in March 2021, provides the Department with more clarity on future military capabilities, force structure and location. This means that the Department now has the opportunity, for the first time in many years, to reassess its requirements and set revised targets for estates rationalisation. The TLBs will develop infrastructure plans to support the long-term management of the estate, reviewing changing demands and future need to support military capabilities and personnel. There is also scope for the Department to reassess the whole of its holdings, including the rural and overseas estates, to identify additional opportunities for rationalisation (paragraphs 1.5, 1.7 to 1.10, 3.13, 3.14 and 3.24).

5 The Department accepted the government-set target in the 2015 Strategic Defence and Security Review.

9 **Reducing the size of the defence estate is a complex task, with planned site disposal projects taking an average of six years to complete**. As the Department uses most of its estate, it cannot sell sites without rehousing personnel and moving equipment to alternative locations. This can be a complicated, costly and lengthy process, involving the redevelopment of other sites. The time needed to complete the whole process depends on the nature of the site being sold, the scale of relocation to other sites and choice of disposal strategy. Our review of planned site disposals showed that, on average, the Department expects that it will take five years and seven months from the initial assessment phase to the site(s) housing relocated personnel being ready. The surplus site must also be prepared for disposal, which involves working with local authorities to achieve planning permission, dealing with any decontamination, marketing the site, and completing the sale. While the Department starts these tasks before relocating personnel affected by the disposal, it expects to take an average of six months to complete the sale of vacated sites. The Department may extend timeframes on certain projects to increase disposal receipts. It is also exploring the potential to speed up site disposal projects (paragraphs 1.11 to 1.15).

Progress since 2015-16

10 **The Department's initial plans to reduce the size of its estate were not realistic or achievable**. In 2016, the Department's emphasis was on trying to meet its target to reduce the size of the built estate by 30% and it developed a disposal programme led by its strategic business partner. However, the plan was based on immature data and the timing of disposals did not reflect the complexity of site preparation and relocating affected personnel. Forty-five of the 91 intended site disposals did not have detailed plans and the Department did not know if its suppliers had the capacity to deal with the required amount of work. For those sites which had them, the plans to complete works at the sites receiving relocated equipment and personnel were based on unrealistic timings, as they used high-level assumptions about the work required and time needed. The Department expected the disposal programme to evolve over time, but it did not identify the over-optimism in the programme when it approved the approach and could not test the realism of delivery targets. Subsequent changes in UK and US military requirements have also led the Department to retain 11 of 91 sites originally included in the programme (paragraphs 2.3, 2.5 to 2.7, 2.9, 2.7 and 3.16).

11 **The Department recognised that its approach of using a strategic business partner was unsuccessful**. In 2017, following a review of its approach, the Department renegotiated its strategic business partner contract with a termination date of 2019. It concluded that the contract had not transformed DIO and would not deliver anticipated savings in DIO costs of £5 billion over 10 years from 2014. It also decided that the TLBs should play a more active role in estate optimisation and therefore delegated responsibilities for estate management to them. It retained a renegotiated contract with the strategic business partner until 2019 as it needed access to the partner's skills and knowledge of estate optimisation plans (paragraphs 2.3, 2.4, 2.7 and 3.16).

12 **The Department has redesigned its approach, shifting away from prioritising disposals to optimising the use of its estate**. It has revised its DEO Portfolio plan three times. In 2018, it sought to reduce the Portfolio's complexity by resequencing disposals. In March 2020, after responsibility for estates management was delegated, the TLBs reassessed the potential to rationalise their estates and agreed a revised programme of disposals with the Portfolio team. The Department also spent two years assessing funding options after the government's 2018 decision to withdraw the private finance model left a shortfall of £2.8 billion in the DEO Portfolio. During this period, it deferred some disposal programmes within the Portfolio as future funding was uncertain. In December 2020, the Department approved a revised disposal programme following the 2020 Spending Review. It is now placing greater emphasis on optimising how it uses the estate, reflecting TLBs' assessments of their estate needs (paragraphs 2.2, 2.6, 2.7, 2.9, 2.11 and 2.12).

13 **The Department did not achieve its disposal targets**. It sought to achieve two government-set targets (for disposal proceeds and release of land for housing). These were intended to incentivise estate disposals although, when they were set in 2015, the Department did not know whether they were achievable. The Department has missed both targets. It raised £538 million between 2016-17 and 2020-21, against its target of £1 billion. However, it did delay two sales, totalling £85 million, from 2020-21 until 2021-22, due to the difficulties of relocating people during the COVID-19 pandemic. Had these gone ahead as planned, the Department would have raised £623 million. In addition, the Department raised £391 million from disposals in 2015-16. These were mainly due to receipts of £357 million from the sale of the Old War Office, although they did not count against its £1 billion target. By March 2020, it had also released land for approximately 9,200 houses, 17% of the target of 55,000 units set by the Ministry of Housing Communities & Local Government (paragraphs 2.16 to 2.21 and 2.23).

14 **The Department will not reduce expenditure on estate running costs as much or as quickly as expected**. Its rationale for reducing the size of the estate was to cut running costs. In 2016, the Department expected that the DEO Portfolio would save £4.1 billion by 2040-41. However, due to its revised disposal programme, the Department has now estimated that it will save £2.7 billion in running costs by 2040-41, a fall of 33%. As of March 2021, it had achieved running cost savings of £9 million from the Portfolio and £27.9 million from other sales. Overall, its expenditure on managing the estate has increased by 24% since 2015-16 to £3.1 billion in 2019-20, reflecting increased investment in maintenance after management of the estate was delegated to the TLBs. Having an estate larger than necessary contributes to the Department's wider budgetary pressures, at a time when it is making important choices on the military capabilities that it needs to deliver its defence objectives (paragraphs 1.6, 1.15 to 1.18 and 2.23).

15 The Department forecasts that its estate optimisation programme will deliver net savings over the next 25 years, although these have fallen by 73% since 2016 and remain uncertain. In September 2020, the Department forecast that the net benefits of the DEO Portfolio – measured in terms of sales income and reductions in future running costs – would be £0.65 billion over the next 25 years, down from its original forecast of £2.4 billion.[6] The reduced forecast reflects its revised estimates of higher costs to house displaced personnel, reductions in anticipated sale receipts and delays in achieving disposals, which means savings will not be realised as soon as initially anticipated. Furthermore, our review of the Department's cost model found that most of its cost estimates were based on preliminary studies rather than actual data on costs; additional costs falling to the TLBs were excluded; estimates did not include the additional cost of meeting recent sustainability targets; and the risk of cost increases was likely to be underestimated. While there will always be an element of uncertainty in cost forecasts, particularly when they cover a long period, collecting better data on costs would enable the Department to reassess the potential benefits of its estate optimisation programme (paragraphs 2.22 to 2.24 and 3.8).

The Department's preparedness to meet its estate optimisation objectives

16 The Department has revised responsibilities for delivering the DEO Portfolio. In May 2020, the Department introduced new arrangements for managing the DEO Portfolio. The Portfolio team oversees the strategy and supports the Portfolio Board, which has overall responsibility for its delivery. The TLBs manage their estates and undertake works to enable disposals, supported by DIO. The TLBs have incentives to achieve disposals as they are responsible for estates maintenance and the forecast savings have been deducted from their future budgets. Senior responsible owners in TLBs are mandated to achieve programme milestones but, as site disposals progress, it is not yet clear if the TLBs have sufficient discretion to manage the complex sequence of moves and activities that enable disposal projects to proceed. The TLBs need to undertake remedial work at sites before their closure, move equipment and personnel to new sites and fund some works to house them, while managing ongoing operational requirements at the sites receiving personnel (paragraphs 3.2, 3.3, 3.7 and 3.11).

6 The Department's estimate of the net benefits of its DEO Portfolio is calculated as the Net Present Value (NPV) of its infrastructure costs and benefits. This is based on the sale proceeds from site disposals less the re-provision costs and the corresponding net change in future estate running costs, plus cost of disposal. As the costs, income and savings occur over 25 years it calculates the NPV by applying an annual discount rate to each cash flow so that costs and benefits can be compared on a consistent basis. This calculation includes the residual value of the assets to reflect the ongoing beneficial use to the Department beyond the 25-year timeframe. The NPV is calculated in line with HM Treasury guidance.

17 **The Department has resolved the immediate funding gap in its estate optimisation Portfolio but recognises that affordability is likely to remain a challenge**. In 2021, it resolved the funding shortfall in the DEO Portfolio – caused by the withdrawal of private finance – and has committed to a budget of £4.3 billion over the 10 years to March 2031. This budget includes the DEO Portfolio generating sales income of £1.2 billion. These proceeds need to be realised as planned or else there will be timing mismatches between the need for, and availability of, funding for relocation and site preparation works. New site assessments show that initial forecasts of the cost of relocation work are likely to be underestimated, which means there is a risk that the Department has not made sufficient provision in future budgets for this work. Alternatively, the Department may need to restrict site refurbishments on affordability grounds. Furthermore, while the four-year Spending Review has provided certainty over the Portfolio's funding to 2024-25, there is less certainty on the Department's budget after this period. The Department will need to make difficult prioritisation choices about allocating funds, balancing investment in the estate with the development of new military capabilities (paragraphs 2.4, 2.13, 2.24 and 3.4 to 3.8).

18 **The Department has agreed a revised disposal programme with the TLBs**. In December 2020, it reset the DEO Portfolio following TLBs' assessments of the potential to rationalise their estate holdings. The Department is now planning to complete 27 site disposals over the next five years and 69 by 2040-41. By March 2021, it had completed 45 initial assessments and 209 surveys on sites within the Portfolio, together with more detailed assessments for 47 of the 92 re-provisioning projects to establish the scale of work required at sites that will house relocated personnel and equipment. The TLBs have also agreed interim mandates to take this forward. The revised programme means that the DEO Portfolio's contribution to reducing the built estate by 30% (23,200 hectares) has fallen from 19,300 hectares (25%) to 10,100 hectares (13%) (paragraphs 1.7, 3.10 and 3.11).

19 **The Department continues to face significant practical challenges in delivering the DEO Portfolio**. Drawing on our wider work on the government estate and implementing major projects, we assessed whether the Department was well prepared to deliver its strategy of optimising the estate. We found that it continues to face several challenges. In particular:

- **Skills and capabilities**. Since the termination of the strategic business partner contract in 2019, the Department has continued to employ contractors to provide the skills that it needs, such as quantity surveyors and project management experts. The Department is building its in-house capability and had recruited 53 new staff by March 2021. It aims to have recruited 91 staff by 2023-24, at which point it does not plan to use contractors for core activities, including quantity surveyors, designers and project managers (paragraphs 3.16 to 3.20).
- **Management information**. The Department has recognised the weaknesses in the completeness and quality of its management information on the cost and condition of its estate. By 2025, it plans to have introduced an asset management system to help address this. It also expects that a new infrastructure data and management information strategy will improve its estates data and enable the TLBs to make more informed decisions on where to invest and which sites to sell (paragraphs 3.23 to 3.25).
- **Managing interdependencies with the wider estate strategy**. The DEO Portfolio is one strand of the Department's wider estate strategy and the need for sites will be affected by a range of factors, including internal initiatives on future military accommodation. For example, the Portfolio will need to revise its planning assumptions as the Department decides how to roll out the Future Accommodation Model (offering Armed Forces personnel different housing options), which is currently at pilot stage. In addition, the Portfolio team will need to carefully manage the sequencing of disposals as any delays in selling sites will affect the availability of funding in future years. This involves managing the many uncertainties in the disposal process (paragraphs 3.5 and 3.15).
- **Government sustainability targets**. The Department needs to manage the estate in accordance with the government's sustainability policies, and the DEO Portfolio is a key element of the Department's plan for achieving its net zero target by 2050. However, the Portfolio's cost estimates do not consider the additional costs of increasing the standard of buildings to a net zero standard. The Department is working with its technical experts to assess the scale of cost increases, but its initial estimate is that construction costs will increase by 20% to 30% at least (paragraph 3.26).

Conclusion on value for money

20 In 2016, the Department launched its estate optimisation strategy, which highlighted the crucial role of the estate in supporting military capability. Yet in the five years since we last reported, the Department has continued in the cycle of re-organising and re-planning its estates disposal programme and has made limited progress in rationalising its estate. It has cut the size of the built estate by just 2% and reduced its estimate of DEO Portfolio's net benefits from £2.4 billion to £0.65 billion. Despite this, some of the changes over the past year mean that the Department is now better placed to rationalise its estate. In particular, it has resolved the funding shortfall on its estate disposal programme and has agreed site disposals with the TLBs. More broadly, the Integrated Review also provides the Department with clarity on future military capabilities and force structure, which will influence the size and location of the estate it needs.

21 The Department must now seize the opportunity to rationalise its estate and carry out planned disposals. It is still too early to judge whether its changes, such as the revised governance arrangements, will prove successful and the complexity and time needed to complete site disposals remain a significant challenge. Also, it is not yet clear whether cost pressures will grow as the Department better understands the costs of providing sustainable new accommodation on sites receiving relocated personnel. So far, the Department has yet to demonstrate it can deliver value for money from its estate. Continuing pressures on the use of the defence budget mean the need for a more affordable estate that supports military personnel and capabilities remains as strong now as it was in 2016.

Recommendations

22 Our recommendations are intended to support the recent progress that the Department has made in better positioning itself to rationalise its estate. It should:

a **reassess the potential for estates optimisation and set revised targets for a realistic disposals programme in the light of the revised defence priorities set out in the Integrated Review and defence command paper**. The publication of the Integrated Review and defence command paper now provide the Department with an opportunity to reassess the potential to reduce the size of its estate, including its leasehold, rural and overseas estates. The Department has begun to consider the implications as part of its revised strategy for defence infrastructure. As part of this, it should establish a revised performance framework, including new and realistic targets for estate optimisation which are based on the size and location of the estate that is needed, and for forecast savings in running costs. The targets should be based on a clear understanding of what size estate the Department needs to fulfil its objectives, while reflecting the need for flexibility and resilience;

b **review the effectiveness of the DEO Portfolio's governance arrangements**. Given that it is one year since the new arrangements for managing the DEO Portfolio were introduced, the Portfolio team should assess whether these provide appropriate oversight and the ability to influence disposals. The Department told us that the existing arrangements on TLB delegations are under review. It should be prepared to test its governance arrangements against the principles that we saw work well for Carrier Strike and Army recruitment, which had a common strategic direction and strong leadership, delegated authorities to manage projects and clear accountabilities for achieving shared objectives;

c **analyse the factors that slow down estate optimisation and tackle the practical challenges that hamper progress in rationalising the estate**. Delivery of the Department's Portfolio will be challenging as disposing of sites involves a lengthy, complex process of preparing sites and moving equipment and personnel to new sites. The DEO Portfolio team should conduct analysis to better understand and tackle the root causes of delays. It should use this work to stress-test whether future delivery schedules on planned site disposals are achievable and identify potential risks to future funding flows. The Portfolio team should also work closely with the TLBs to ensure that site preparation work is undertaken at the right time to support estate optimisation. At a programme level, the Department should develop a clear view of the interdependencies that need to be managed, such as other accommodation initiatives and sustainability targets; and

d **build a more detailed understanding of its estate and the full cost of achieving disposals**. The Department is implementing an asset management strategy to improve its management information on its estate. As part of this, it should collect detailed information on the time and cost needed to dispose of sites, including the resources needed to relocate units and prepare sites for disposal. It should use these data to improve the reliability of forecasts produced by its cost model, which would help test if its estimate of future funding requirements is realistic and identify the uncertainties that the DEO Portfolio needs to manage.

Part One

The defence estate

1.1 This part provides an overview of the Ministry of Defence's (the Department's) estate, explains its strategic aims and approach to rationalising the estate, and sets out the costs of managing the estate.

The Department's estate

1.2 The defence estate is where some 135,000 military personnel, 59,000 civilians, and 33,000 volunteer reserves live and work. The estate plays a crucial role in supporting and enabling military capability by providing the Armed Forces with the facilities they require to operate and train. It consists of more than 900 sites across the UK. These are used for a range of purposes, including military bases and service accommodation, supporting capabilities such as rapid air response, and storing equipment to provide military aid to the civil authorities in emergency situations, such as flooding (**Figure 1** on pages 16 and 17).

1.3 The Department has access to approximately 344,200 hectares of land in the UK, which comprises 1.5% of the country's landmass. It owns or controls 233,000 hectares of this land and has access rights to a further 111,200 hectares.[7] The Department also manages 200,000 hectares of land overseas, which is not covered in this report. As of March 2020, the value of the Department's estate was £35.6 billion. The owned estate (**Figure 2** on page 17) includes:

- **the rural estate** – which is 157,500 hectares (68%) and is used for training and ranges. The land includes 13 national parks, 33 Areas of Outstanding Natural Beauty and 11 National Scenic Areas; and

- **the built estate** – which comprises 75,400 hectares (32%) containing offices, technical facilities, and storage and support for military equipment and inventory. It consists of 900 sites, which have roughly 96,000 buildings including houses, technical assets, such as storage units and training facilities, and other assets such as runways and electrical networks.

7 In April 2020 the Department held access rights to 206,700 hectares. Following restructure of land management agreements, its access rights decreased by 88,300 hectares (but it still makes use of some of this land for training by paying when it needs access). It also reclassified an additional 7,300 hectares as part of the rural estate (note does not sum to 111,200 owing to rounding).

Figure 1
The distribution of the defence estate across the UK, April 2021

The defence estate has a national footprint

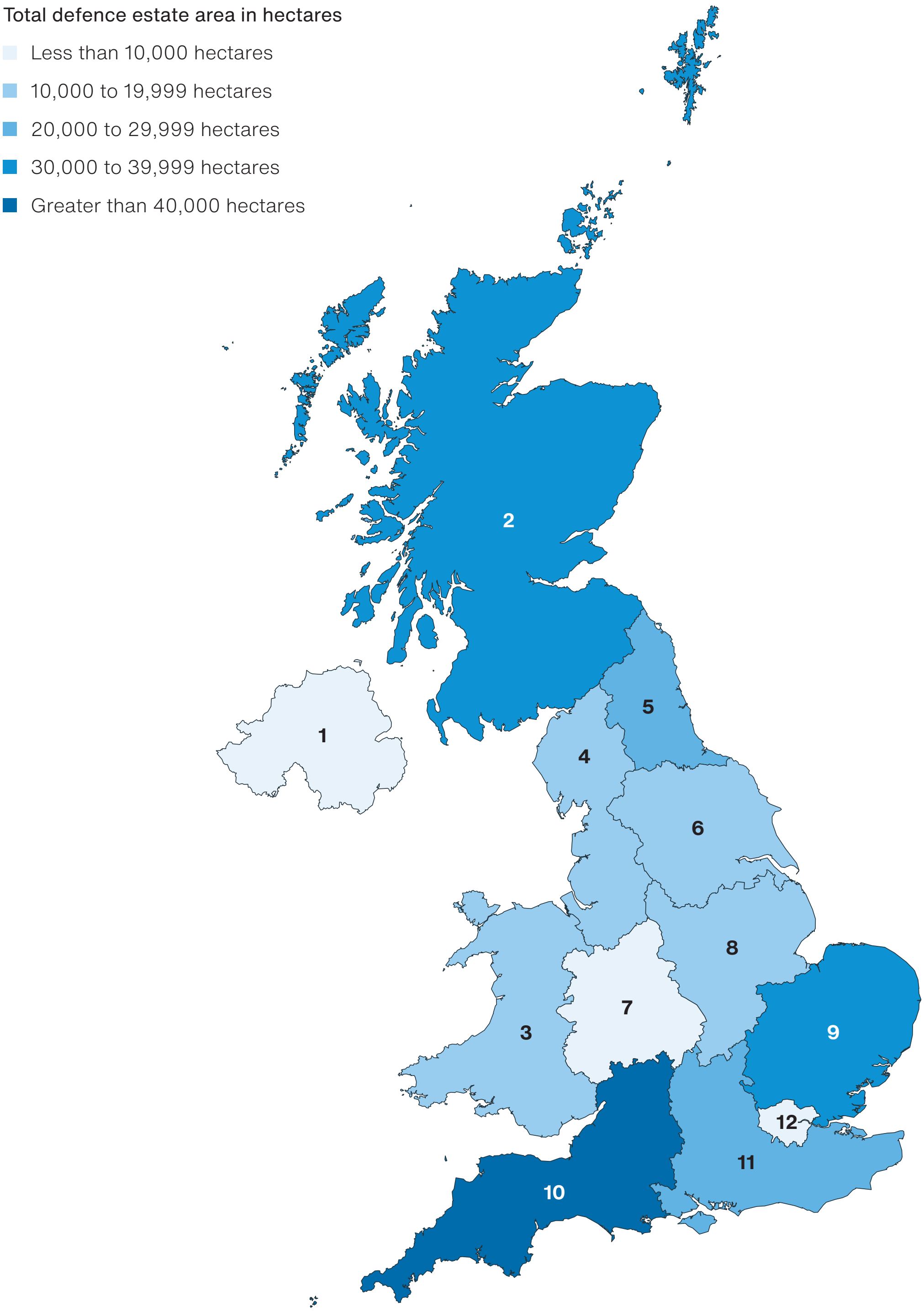


Figure 1 *continued*
The distribution of the defence estate across the UK, April 2021

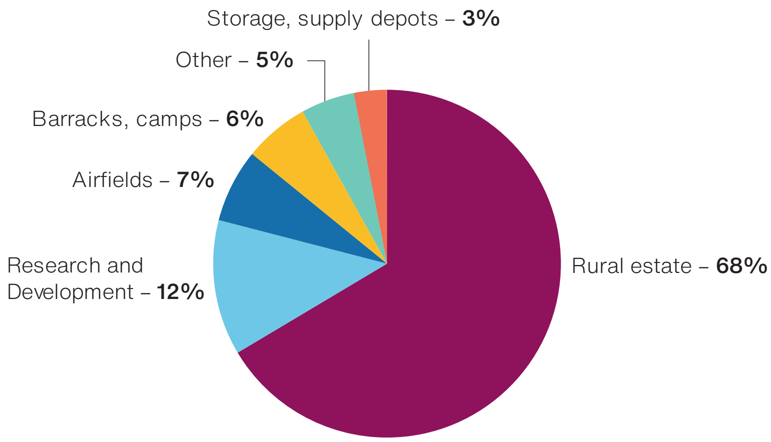
Country/ Region	1. Northern Ireland	2. Scotland	3. Wales	4. North West	5. North East	6. Yorkshire and the Humber	7. West Midlands	8. East Midlands	9. Eastern	10. South West	11. South East	12. London
Number of establishments	39	136	56	42	14	70	52	52	84	173	215	87
Built estate in hectares	400	11,700	3,300	6,100	400	4,300	2,700	4,600	20,200	12,700	8,800	500
Rural estate in hectares	1,400	22,600	16,300	7,500	23,300	9,300	2,600	7,000	10,700	42,900	13,700	–

Notes
1 The built estate contains offices, technical facilities and storage and support for military equipment and inventory.
2 The rural estate is used for training and ranges.
3 Figures are displayed to the nearest 100 hectares.

Source: National Audit Office analysis of Ministry of Defence data

Figure 2
The UK defence estate in 2020 by type of use

The 'built' estate makes up 32% of the total area owned or controlled by the Ministry of Defence



Notes
1 Figure based on Office for National Statistics data for land owned and leased estate.
2 'Other' includes service family accommodation; communications stations; reserve forces' and cadets' associations; and naval bases.
3 All figures are rounded.

Source: National Audit Office analysis of National Statistics data

1.4 While the built estate represents 32% of the Department's owned estate, the Department estimated that it accounts for more than 85% of the estate's operating costs, which were £3.1 billion in 2019-20. The Department recognises that much of its built estate is old, poor quality and expensive to run. Around 40% of its estate assets are more than 50 years old and approximately 30% are not in a condition which the Department considers acceptable. The Department regularly reviews the condition of its estate to prioritise maintenance investment and seek to improve the condition of its assets. Following the 2020 Spending Review, in which the government announced an additional £16.5 billion of funding over four years from 2021-22, the Department has committed an extra £500 million to preventative maintenance over this period.

The Department's estate optimisation strategy

1.5 Responsibility for managing the estate is shared across the Department. Its Head Office (Finance and Military Capability team) sets the overall strategic direction and level of resources for defence infrastructure. It tasks the Department's Defence Infrastructure Organisation (DIO) with developing and maintaining guidance and standards. The DIO provides advice, insight and assurance across the defence estate, including on stewardship and promoting sustainability. The Top-Level Budgets (TLBs) plan and deliver infrastructure requirements and objectives within their allocated budgets.

1.6 In 2016, the Department published its estate optimisation strategy, *A Better Defence Estate*.[8] Its vision was to develop "infrastructure that is affordable and optimised to enable defence capabilities, outputs and communities both now and in the future". Its objectives were to:

- **support military capability** – by managing infrastructure as a strategic asset to support defence outputs and be responsive to changing requirements and future trends; and
- **drive down the cost of operating the estate** – by concentrating investment around a significantly smaller estate that more efficiently enables military capability, while reducing whole-life costs.

8 Ministry of Defence, *A Better Defence Estate*, November 2016.

1.7 The Department's estate optimisation strategy reflected its commitments to estate reduction set out in the 2015 Strategic Defence and Security Review. This committed the Department to reduce its built estate by 30% (23,200 hectares) by 2040-41. The target was arbitrarily based on the reduction in the size of the Armed Forces – 30% since 2000 – and recognised that the estate had not been reduced to the same extent (a 9% fall over this period). Furthermore, the target did not reflect wider defence initiatives, such as the relocation of service personnel and families from Germany, which added pressure on the UK estate. The target was intended to incentivise site disposals although, at the time, the Department considered this to be ambitious as much of its estate was already in use. This objective was consistent with the government's wider public spending commitments and reflected the Department's need to adapt the estate to support military objectives and make it more affordable. The target related to the built estate and the Department did not set targets for the rationalisation of the rural or overseas estates.

1.8 Since 2016, the Department has continued to recognise that the scale, nature and location of the estate does not reflect the size and composition of the Armed Forces. In February 2021, the permanent secretary confirmed to the Committee of Public Accounts that there was scope to release land to enable a smaller and more effective estate that supports military outputs. The defence command paper,[9] published in March 2021, reiterated the need to reduce the size of the estate and emphasised the opportunity to contribute to greening government objectives.

1.9 The Department is revising its 2015 estate strategy. It will set out how the estate can support the delivery of military capability, including the need to:

- ensure the estate has resilience to respond to constantly evolving security threats, natural hazards and climate change;
- innovate to future-proof and 'green' the estate;
- improve the condition of the estate so that it reflects the current and future accommodation, work and training needs; and
- be able to respond to significant change in the next 20 years to enable effective defence capabilities and operations.

9 Ministry of Defence, *Defence in a competitive age,* CP 411, March 2021.

The Defence Estate Optimisation Portfolio

1.10 In 2016, the Department's estate optimisation strategy set out its intention to dispose of 91 sites by 2040. It established a 25-year portfolio of site disposal programmes, including moving and rehousing personnel and preparing sites for sale.[10] In 2017, this was renamed the Defence Estate Optimisation (DEO) Portfolio.[11] The Portfolio is the Department's main estate transformation programme to enable a more efficient, smaller estate that supports military capability and its personnel. It is headed by the director of infrastructure, who is the senior responsible owner, and reports to the Deputy Chief of Defence Staff (Financial and Military Capability).[12] The Portfolio aims to reduce estate running costs, prevent unnecessary investment in buildings and generate site disposal receipts that can be used to finance future reinvestment. In its initial plans, the Department expected the DEO Portfolio would reduce the total size of its built estate by 25%, with other unspecified estate rationalisation programmes delivering the remainder of its 30% reduction target.

Disposing of sites

1.11 Disposing of sites can be a complex and lengthy process. The Department uses most of its estate, which means it cannot sell sites without rehousing personnel and moving equipment to alternative locations. It also needs to engage stakeholders (such as local authorities, developers and bodies such as Homes England), complete any necessary remedial works before sale and enter a process to secure the market price. Additionally, the Department must complete re-provisioning work at other sites to accommodate the displaced equipment and personnel.

1.12 Site disposal projects can vary from moving units into existing barracks with minor modifications through to whole site rebuilds including family accommodation outside the barracks. They can involve 'chains' of interdependent moves involving the redevelopment of other sites. For example, the sale of Hounslow Barracks required the Army to move 11 units – in the UK and overseas – and complete re-provisioning work at two bases. In March 2021, the DEO Portfolio contained 71 planned site disposals between 2021 and 2042, 61 of which require 92 re-provisioning projects at other sites to be completed before they can go ahead.

10 This re-provisioning work involves building, renovating or changing the use of existing assets, at sites that will house displaced units. It includes accommodation, work areas and storage.

11 The Department's Investment Approvals Committee approved the Footprint Strategy Strategic Business Case in September 2016, and the Secretary of State announced *A Better Defence Estate* in November 2016 which included most of the Footprint Strategy conclusions. During 2017, the Department established the Defence Estate Optimisation Programme to deliver the Footprint Strategy. In 2019, the Department changed the Defence Estate Optimisation Programme into a Portfolio.

12 Individual estate optimisation programmes within the Portfolio are led by senior responsible owners appointed by the Front-Line Command or TLB. A DIO head is responsible for enabling the infrastructure elements of the DEO Portfolio.

1.13 Our assessment of the Department's plans – for the 61 disposals that require redevelopment elsewhere – shows that the time from starting the assessment phase at the site receiving displaced units to the new accommodation being ready to house them can vary between two and nine years, with a median being five years and seven months (**Figure 3** overleaf).[13] The Department then expects it to take an average of six months for the site to be sold, even though some tasks can begin before a site has been fully vacated. The timing of disposal will depend on the size of the asset and the disposal strategy, ranging from auction to tender to a longer-term partnership with a developer. The wide variation in disposal times also reflects the nature of the site. For example, in three cases, the Department expects it will take more than three years to complete the sale, whereas in 15 cases the disposal of a vacated site is expected to take fewer than three months. However, overall, the Department expects almost 90% of the 61 disposals requiring redevelopment work elsewhere before the site is sold will take five years or longer to complete.

1.14 The Department is looking at ways to speed up disposals. The Portfolio team is working with commercial teams to support quicker construction and delivery of sites. Early findings suggest it may be able to complete disposal programmes between 12 and 18 months faster. The Department is also engaging wider government initiatives – such as Project Speed, which aims to reduce the time to deliver government infrastructure projects – to remove hurdles to infrastructure project delivery.[14]

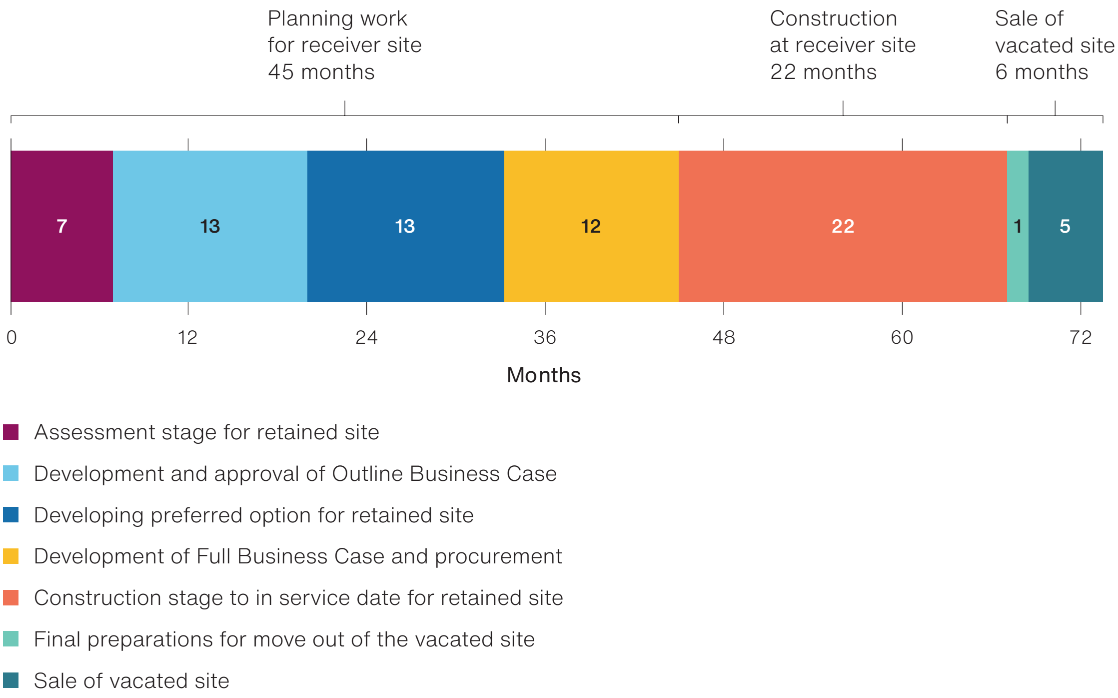
13 The assessment phase includes reviews including feasibility studies and scrutiny reviews, as well as the agreement and sign-off of interim mandates.

14 Project Speed was set up in June 2020 by the Chancellor of the Exchequer to accelerate, improve and reduce the cost of delivering economic and social infrastructure. Project Speed is led jointly by HM Treasury and the Infrastructure and Projects Authority (IPA), supported by the Cabinet Office.

Figure 3

Ministry of Defence's median time to complete disposals through the Defence Estate Optimisation (DEO) Portfolio between 2021 and 2042

The Ministry of Defence (the Department) expects to take on average more than six years to complete the work needed to house displaced units and sell the vacated site



Notes

1 This figure is based on the median time to complete each stage as set out in the Department's schedule for the DEO Portfolio, as agreed by the Portfolio Board in December 2020.

2 Our analysis of planning and construction work is based on the timings of 92 re-provisioning projects included in the DEO Portfolio that the Department plans to complete by 2040-41.

3 Our analysis of the sale of vacated sites is based on the timings of the disposal of 71 sites included in the DEO Portfolio at March 2021 that the Department planned to sell by 2042.

4 The Portfolio team is working with commercial teams to support quicker construction and delivery of sites. Early findings suggest it may be able to reduce the average 67 months for planning and construction work by between 12 and 18 months.

Source: National Audit Office analysis of Ministry of Defence data

1.15 The Department has established processes to provide assurance over disposals:

- After identifying a site for disposal, the Department undertakes a technical assessment including a survey to identify land quality and any liabilities.
- It undertakes a commercial appraisal of local market conditions, the site's potential worth and investment needed to maximise value. It engages contractors to undertake a full development appraisal of the site's potential and pursue any town planning approvals to increase the potential value. These factors inform the disposals strategy – auction, sale by tender or delivery partner approach – and time taken. Disposals are subject to open market competition unless there is a pre-emptive right to buy at market value.
- Monthly updates on progress throughout the sales process.
- The chief executive of DIO is responsible for approving and signing-off the disposal of land and property and has delegated this according to the value of the sale.[15]
- Sales are concluded following open market competition and/or at a price independently determined to represent open market value. The sale of land and property below market value requires approval from the Secretary to the Treasury and approval from the Department's ministers.

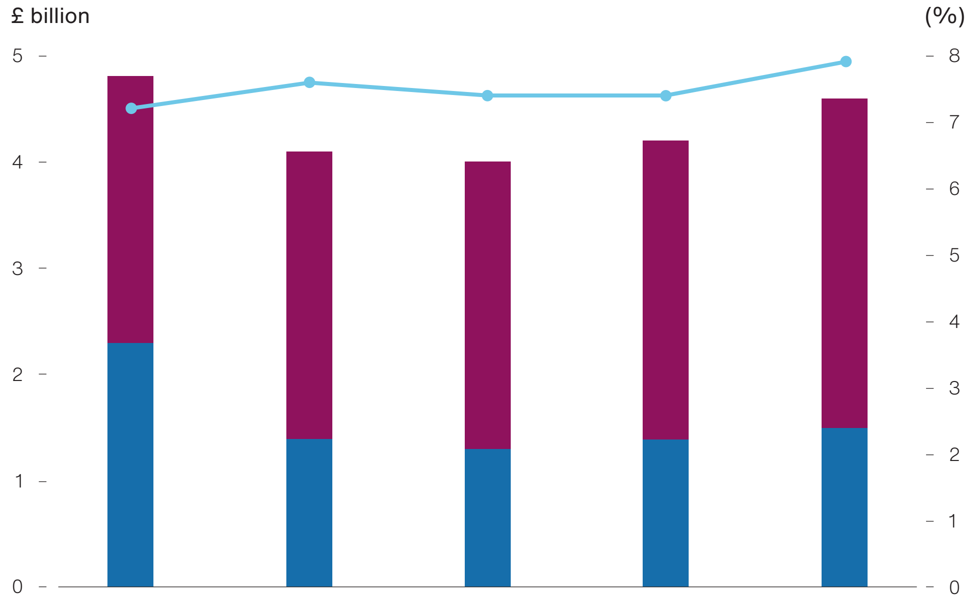
Estate costs

1.16 In 2019-20, the Department spent £4.6 billion on infrastructure (12% of its budget), of which £3.1 billion was spent on maintaining its estate. Expenditure on estate maintenance has increased by 24% since 2015-16, reflecting additional investment to address the poor condition of the estate and the efforts made by TLBs since responsibility for estate management was delegated to them in 2018 (**Figure 4** overleaf).

15 DIO head of estates has full delegation to sell land and buildings up to £25 million in consultation with TLBs; for disposals of land and buildings above £25 million and below £75 million, DIO head of estates has delegated authority subject to endorsement by the Disposals Committee; for disposals of land and buildings above £75 million, DIO head of estates has delegated authority subject to endorsement by the Disposals Committee and Executive Committee.

Figure 4
Ministry of Defence's annual estate expenditure, 2015-16 to 2019-20

The Ministry of Defence's spending on estate management has increased and is now two-thirds of annual estates-related expenditure



	2015-16	2016-17	2017-18	2018-19	2019-20
Spending on estate management (£bn)	2.5	2.7	2.7	2.8	3.1
Spending on infrastructure, excluding estate management (£bn)	2.3	1.4	1.3	1.4	1.5
Percentage total defence spending on estate management (%)	7.2	7.6	7.4	7.4	7.9

Source: National Audit Office analysis of Ministry of Defence Annual Accounts

1.17 In 2016, the Department forecast that the DEO Portfolio would release £140 million of running costs over the next 10 years and save £4.1 billion by 2040-41. In December 2020, the Department updated its assessment and forecast that the DEO Portfolio would reduce estate running costs by £2.7 billion by 2040-41 and reduce future maintenance costs by £2.2 billion over the same period. The Department has incorporated forecast savings into TLBs' plans, meaning that failure to achieve planned disposals will increase financial pressures as maintenance costs will not reduce by as much as forecast. As of March 2021, the disposals through the DEO Portfolio had led to a £9 million reduction in running costs. The Department had also secured a £27.9 million reduction in running costs as of March 2021 due to disposals outside of the DEO Portfolio.[16]

1.18 Reducing the size of the estate will help the Department to target its estate maintenance budget. It faces a maintenance backlog and expectations of increased preventative maintenance due to the legacy of underinvestment and a 'fix-on-fail' maintenance regime, in place since 2010. Previous National Audit Office reports have illustrated the financial pressures the Department faces in addressing these problems.[17] In 2020, it identified that its infrastructure programme had a shortfall of £1.4 billion over 10 years, under which the condition of the estate would continue to decline, and that ending this decline would require £4.8 billion of extra funding in the next four years. Following the 2020 Spending Review, the Department has allocated additional funding to estate maintenance to help improve the condition of its assets (paragraph 1.4).

16 Of this, £8.3 million relates to reduced maintenance costs from the sale of the Old War Office.
17 Comptroller and Auditor General, *Improving Single Living Accommodation*, Session 2019–2021, HC 1129, National Audit Office, February 2021. Comptroller and Auditor General, *Delivering the defence estate*, Session 2016-17, HC 782, National Audit Office, November 2016.

Part Two

Progress in rationalising the estate since 2015-16

2.1 This part examines the Ministry of Defence's (the Department's) progress in rationalising its estate since 2015-16. We explain how the Department has changed approach; set out its progress in achieving estate disposals; and examine the progress made by the Defence Estate Optimisation (DEO) Portfolio.

Changes to the Department's approach to estate optimisation

2.2 Since 2016, the Department's aim of creating a smaller, better defence estate has remained constant. Over this period, the DEO Portfolio has led on the Department's estate optimisation programme, alongside the completion of disposals already being negotiated by the Defence Infrastructure Organisation (DIO). In 2016, we reported that the Department's estate optimisation strategy was based on assumptions and estimates and that it expected its plans would evolve over time.[18] We explain below how the Department has:

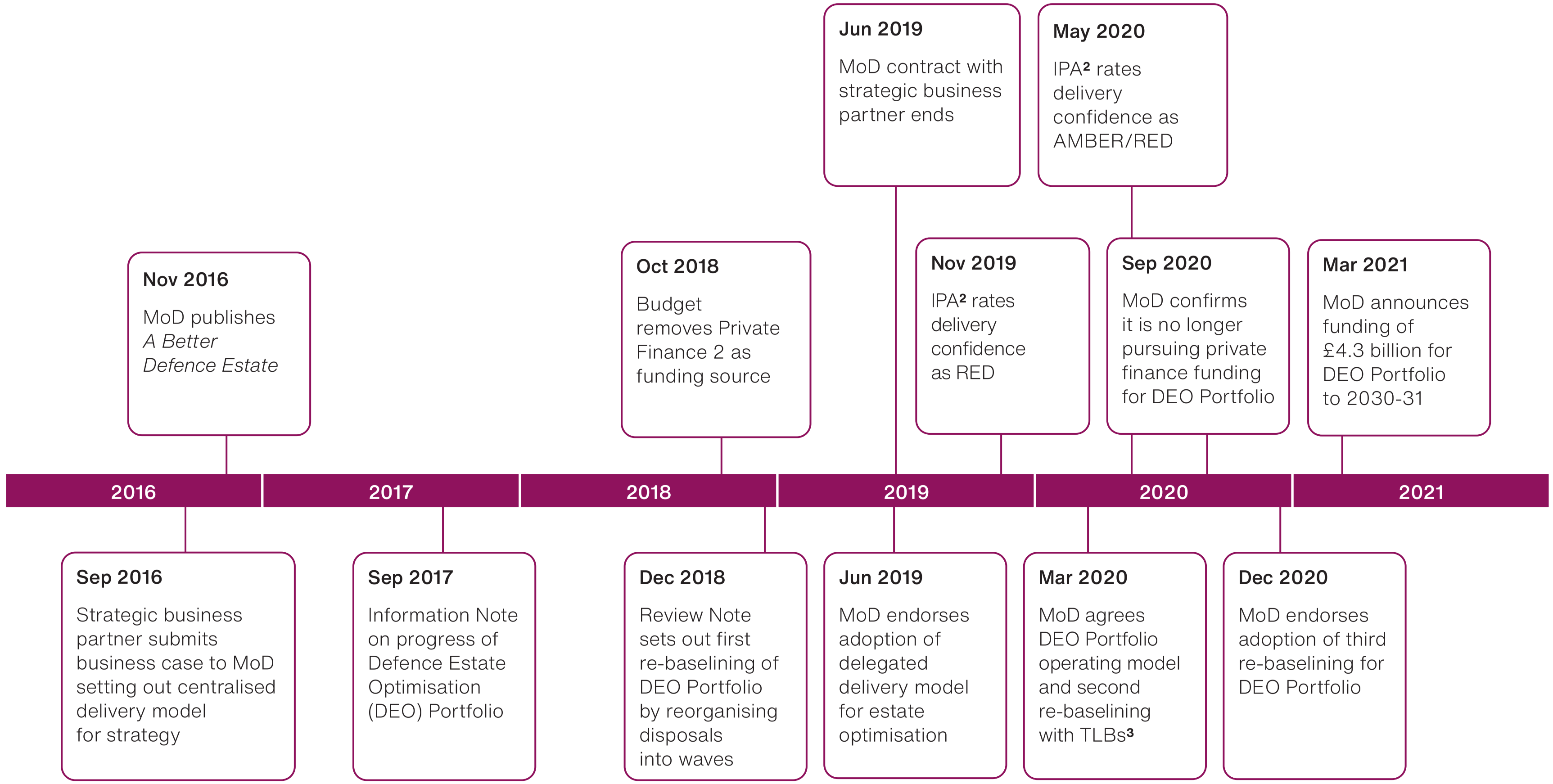
- redesigned its delivery model, replacing a centralised approach by delegating responsibility for estates management to the Top-Level Budgets (TLBs);
- secured the funding it needs to proceed with the DEO Portfolio; and
- reprioritised its plans three times and refocused the DEO Portfolio away from prioritising site disposals to focusing on optimising the estate to support military capability (**Figure 5**).

18 Comptroller and Auditor General, *Delivering the defence estate*, Session 2016-17, HC 782, National Audit Office, November 2016.

Figure 5

Defence Estate Optimisation (DEO) Portfolio chronology, 2016 to 2021

The DEO Portfolio was re-baselined in 2018 and twice in 2020



Notes

1 When the Ministry of Defence (MoD) re-baselined the DEO Portfolio, it reviewed which sites should be included in the Portfolio, and the scheduling and cost of work.

2 IPA is the Infrastructure and Projects Authority.

3 The Top-Level Budgets (TLBs) include: Air Command, Army Command, Navy Command, UK Strategic Command, the Defence Nuclear Organisation, and the Defence Infrastructure Organisation.

Source: National Audit Office analysis of Ministry of Defence data

Centralised delivery model, 2016 to 2019

2.3 In September 2016, the Department approved a business case for estate optimisation which defined what the defence estate should look like in 2040. The business case, which the Department developed with its strategic business partner, identified 14 estate optimisation programmes and established a central Portfolio Management Office to manage the disposal plan.[19,20] However, this was based on immature management information about its estate, and the Department did not identify the over-optimism in the agreed disposal programme when it approved the business case.[21]

2.4 In December 2016, the Defence Board considered an internal review into its overall approach to managing defence infrastructure.[22] It concluded that the strategic business partner approach, which it had introduced in 2014, had not delivered the intended transformation of DIO and would fail to deliver its ambition to save £5 billion in DIO costs over 10 years.[23] Capita told us that it would have taken longer than it expected to implement the estate optimisation programmes. The Department therefore decided to delegate infrastructure funding to the TLBs once they, the DIO and Head Office were ready to operate effectively. In July 2017, the Department renegotiated its contract with the strategic business partner and set a June 2019 termination date. The Department retained the strategic business partner because its personnel were integral to the delivery of some key activities, including the DEO Portfolio, and its management had detailed knowledge of the implementation plans.

2.5 The Department now recognises that the initial disposal programme – developed in 2016 – was unachievable as it failed to take account of the complex process of preparing sites for disposal, particularly the time needed to build new accommodation elsewhere to rehouse displaced units, known as 're-provisioning'. The TLBs had flagged their concerns about the lack of firm re-provisioning plans when the disposal programme was developed in 2016. The Department did not have clear re-provisioning plans for 45 of the 91 sites earmarked for disposal, including 11 sites scheduled for release by 2020. It also worked on the assumption that it could complete all assessment studies within 18 months, despite not knowing whether the contracted companies had the capacity to do that. These studies are essential in understanding what construction work will be needed on sites that receive relocated equipment and personnel.

19 In 2014 the Department signed a 10-year gain-share contract with a private sector consortium led by Capita, supported by AECOM and PA Consulting, to become its strategic business partner to run the Defence Infrastructure Organisation and help it achieve savings which had already been removed from its budget. See Comptroller and Auditor General, Delivering the defence estate, Session 2016-17, HC 782, National Audit Office, November 2016.

20 In 2016 the Department identified around 300 locations, from a total of 1,366 locations forming the built estate, to be within the scope of its estate optimisation strategy. These 300 sites accounted for approximately 85% of operating costs for the built estate. The sites for disposal were selected from these 300 sites.

21 Our 2016 report found that the Department's management information about its estate had improved, but that it expected to update further some of these data. See Comptroller and Auditor General, *Delivering the defence estate*, Session 2016-17, HC 782, National Audit Office, November 2016.

22 The Department began the Defence Infrastructure Model Review in June 2016.

23 See Comptroller and Auditor General, *Delivering the defence estate*, Session 2016-17, HC 782, National Audit Office, November 2016, for the National Audit Office's analysis of the fundamental weaknesses with the strategic business partner approach.

2.6 In 2018, the Department undertook its first re-baselining of its plans to improve the affordability and deliverability of the DEO Portfolio. It sought to reduce the complexity of the Portfolio by establishing a series of prioritised disposal 'waves'. This altered the sequencing of disposals so that receipts generated from preceding waves would provide funding for projects in subsequent waves, which helped to simplify the funding arrangements. The Programme Board agreed that the focus should be on achieving site disposals and proposed that Head Office's role be strengthened. The Portfolio plan reflected the early stage most projects were at. However, the Department's technical scrutineers assessed that the plan was rudimentary and used high-level assumptions about the work required and time needed for this, rather than bespoke plans for individual sites.

Delegated delivery model since 2019

2.7 In 2019, the Department terminated its contract with the strategic business partner, having delegated responsibilities for estates management to TLBs, together with non-DEO Portfolio estate funding. It intended that delegation would enable the TLBs to take a more holistic and balanced view of expenditure across the DEO Portfolio and their wider capital infrastructure portfolio. It is now placing greater emphasis on optimising how it uses the estate, reflecting TLBs' assessments of their estate needs.

2.8 In November 2019, the Infrastructure and Projects Authority (IPA) gave the Portfolio a 'red'-rated delivery confidence assessment and concluded that progress since 2016 had been disappointing. The IPA was impressed by the DEO Portfolio's clear rationale, the commitment of its leadership team, the ownership being taken by TLBs and DIO's engagement. However, it said that the Portfolio required an immediate re-baseline of its plans, scope and costs against a more appropriate set of planning assumptions because the baseline for costs and timescales set in 2016 had been extremely optimistic.

2.9 From 2019, the DEO Portfolio team collaborated more closely with the TLBs. The Department's second re-baselining of its plans, designed to improve deliverability by identifying dependencies, was approved by the Portfolio Board in March 2020. The revised approach adjusted timescales for approvals and commercial activity to make them more realistic. It also placed greater emphasis on enhancing defence capability, rather than simply reducing the size of the estate. In May 2020, a second IPA review found that the DEO Portfolio team had made good progress and improved its delivery confidence to 'amber red'. However, the IPA concluded that the Department needed to secure additional funding for its plans.

Funding the DEO Portfolio

2.10 The DEO Portfolio requires funding as re-provisioning costs exceed the income from disposals. In 2016, the Department identified that it needed £1.9 billion from external borrowing to supplement its funding allocation and planned disposal receipts. It intended to raise £1.7 billion through Private Finance 2 arrangements and £0.2 billion from leasing some Service Family Accommodation.[24] However, the Department's technical scrutineers raised concerns about using a Private Finance Initiative approach, questioning whether it would deliver value for money and concluding that the Department had not properly analysed alternative options. Despite this, the Department's investment approvals committee, which approves major investment decisions, agreed that the Portfolio could pursue this approach.

2.11 Subsequently, in October 2018, the government announced that it would not use Private Finance 2 for new projects, concluding that the model was inflexible and overly complex, and had been used only six times, most recently in 2016.[25] The Department delayed plans to release 20 disposals sites because of the lack of funding. It recognised that the removal of private finance affected its ability to release land over the next five years and that an inability to secure alternative funding posed a significant risk to the DEO Portfolio. The DEO Portfolio team continued to explore whether alternative private funding options complied with HM Treasury policy, but in 2020 concluded there was no viable method of private finance.

2.12 In December 2020, following the Spending Review, the Department approved a third re-baselining of its plans. It forecast that, without additional funding, the DEO Portfolio would have a £2.8 billion funding shortfall by 2040-41. This was £0.9 billon higher than in 2016 because the Department's forecast of disposal receipts had fallen due to market factors, its reassessment of development opportunities, and increases to re-provisioning estimates because of their greater maturity and increased inflation. In January 2021, the Department rated the Portfolio's financial position as 'red', which resulted in the overall delivery confidence rating remaining as 'amber red'.

24 In 2012, government set out a new approach to involving private finance in the delivery of public infrastructure and services through long-term contractual arrangement, Public Finance 2. This was intended to continue drawing on private finance and expertise in the delivery of public infrastructure and services while addressing past concerns with the Public Finance Initiative and responding to the changed economic context. See HM Treasury, A new approach to public private partnerships, December 2012.

25 HM Treasury, Budget 2018, HC 1629, October 2018. The six Private Finance projects had a total capital value of around £900 million (HM Treasury and Infrastructure and Projects Authority, Private Finance Initiative and Private Finance 2 projects: 2018 summary data, May 2019).

2.13 In March 2021, the Department announced it would invest £4.3 billion in the DEO Portfolio over the decade to 2030-31 (**Figure 6** overleaf).[26] This relies on the Department achieving £1.2 billion in sales receipts between 2021-22 and 2030-31, and on it reducing building costs by £0.1 billion compared with the plans it had agreed in December 2020. The Department is reviewing the Portfolio's cost assumptions to reflect the project assessment studies it is currently carrying out. As part of this review, it plans to remove two disposals from the DEO Portfolio which will reduce the funding requirement by £0.7 billion.

Progress with estate disposals since 2015-16

2.14 Since 2016, the Department has altered the timing and number of planned site disposals, and by the end of 2020 it had sold fewer sites than originally planned. We set out below its progress against the targets set in the 2015 Spending Review. This includes its target to reduce its built estate by 30% by 2040-41 and government-set targets to release land with the capacity to build 55,000 new homes by March 2020 and to raise £1 billion from sales between April 2016 and March 2021.

Progress in reducing the size of the defence estate

2.15 Between April 2015 and March 2021, the Department sold 1,900 hectares of land. This comprised 1,600 hectares (2%) of its built estate and 300 hectares (0.2%) of its rural estate. This follows slow progress in reducing the size of the estate over a much longer period. The 2% reduction in the built estate contributed to the Department's target to reduce its built estate by 30% by 2040-41. This reduction was through a combination of the sale of 700 hectares (0.9%) of sites included in the DEO Portfolio, and 800 hectares (1.1%) from other sales, some of which were through initiatives that had begun before the Portfolio was established.

Progress against the government's estate disposal targets

2.16 In 2015, the government set two land disposal targets.[27] These were:

- **proceeds target**: to raise £5 billion between 2015 and 2020 by releasing surplus public sector land and property across the UK; and
- **land for new homes target**: under its Public Land for Housing Programme, the government aimed to increase housing supply by releasing surplus public sector land for at least 160,000 new homes in England by March 2020. The Ministry of Housing, Communities & Local Government (MHCLG) was responsible for this programme and set targets (in housing units) for each major landowning department.

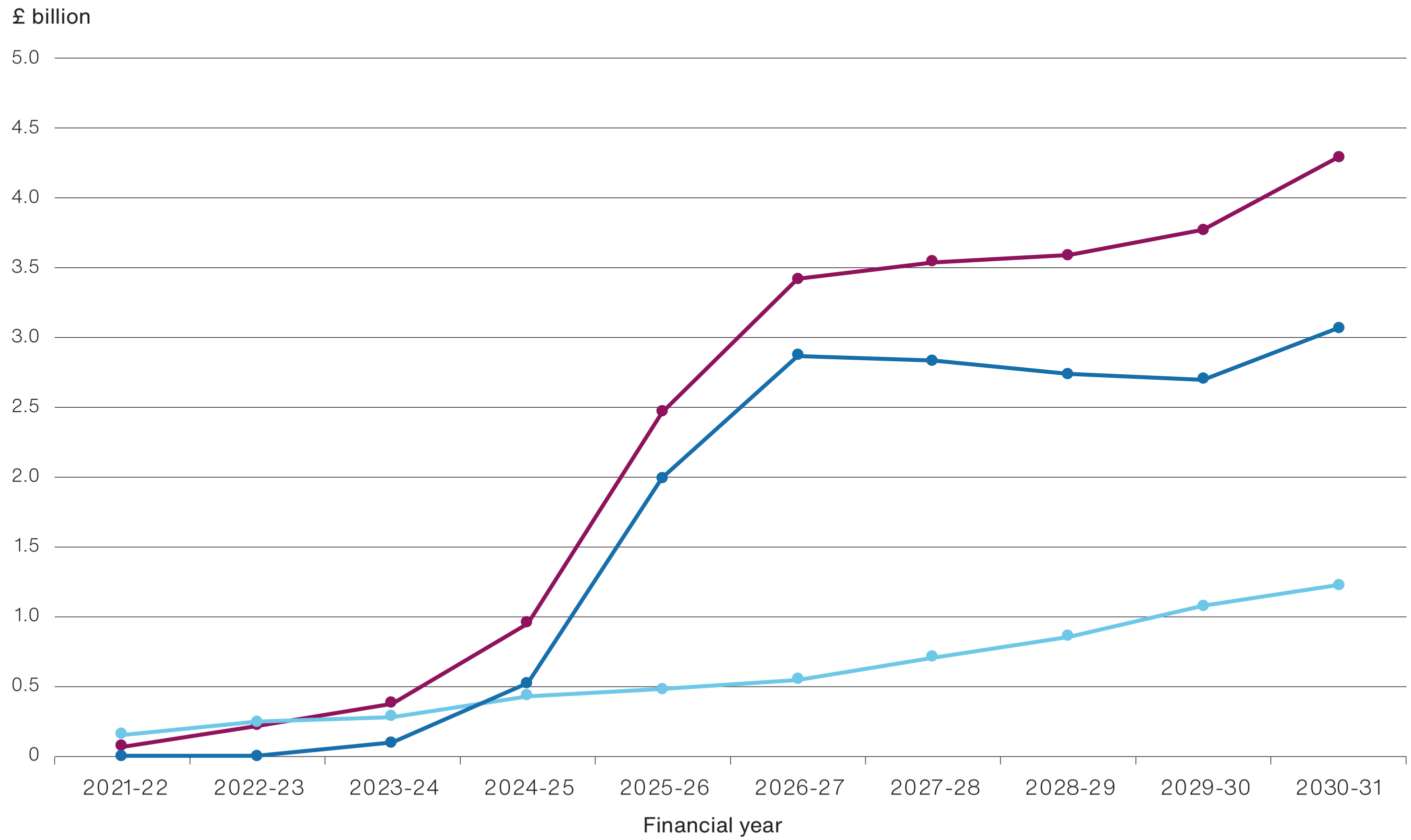
The Department committed to supporting these government targets for the use of the public estate. These were intended to incentivise estate disposals, although the Department did not know whether they were achievable.

26 Ministry of Defence, Defence in a competitive age, CP 411, March 2021.
27 HM Treasury, *Spending Review and Autumn Statement 2015*, November 2015.

Figure 6

Defence Estate Optimisation (DEO) Portfolio funding, 2021-22 to 2030-31

The Ministry of Defence (the Department) has announced £4.3 billion funding for the DEO Portfolio up to 2030-31



	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Department's estimated cumulative capital requirement (£bn)	0.1	0.2	0.4	1.0	2.5	3.4	3.5	3.6	3.8	4.3
Department's planned cumulative disposal income (£bn)	0.2	0.2	0.3	0.4	0.5	0.5	0.7	0.9	1.1	1.2
Department's cumulative funding requirement (£bn)	0.0	0.0	0.1	0.5	2.0	2.9	2.8	2.7	2.7	3.1

Source: National Audit Office analysis of Ministry of Defence data

Proceeds targets

2.17 Between April 2015 and March 2021, the Department generated £929 million from sales of land and property (**Figure 7** overleaf). These receipts have contributed to two overlapping targets:

- Sales the Department completed between April 2015 and March 2020 counted towards government's target of raising £5 billion by 2020. In December 2020, the Cabinet Office reported that government had achieved its target, raising £5.2 billion from land disposals, and that the Department had contributed £761 million through 166 sales. This included £357 million in March 2016 for the Old War Office in Whitehall.[28]
- In the 2015 Spending Review, the Department committed to raising £1 billion in disposal proceeds from April 2016 to March 2021.[29] By March 2021, the Department had raised £538 million from 342 sales. Because of the COVID-19 pandemic, the Department delayed two sales, totalling £85 million, from 2020-21 until 2021-22. Had these gone ahead as planned, it would have raised £623 million in disposal proceeds by the end of 2020-21.

Land for new homes target

2.18 In 2015, as part of its Spending Review settlement, the Department was set a target to release land in England for 55,000 homes by March 2020, the largest target of all departments. At no stage did the Department forecast that it could achieve this target. In August 2016, it told ministers that it could achieve 47,240 housing units (86% of the target), although it subsequently noted that this was highly challenging with significant risk. Despite these reservations, in November 2016, the Department outlined how it would meet the 55,000 target in its estate optimisation strategy. In 2017, MHCLG acknowledged that the Department was only likely to achieve 13,420 housing units (**Figure 8** on page 35).

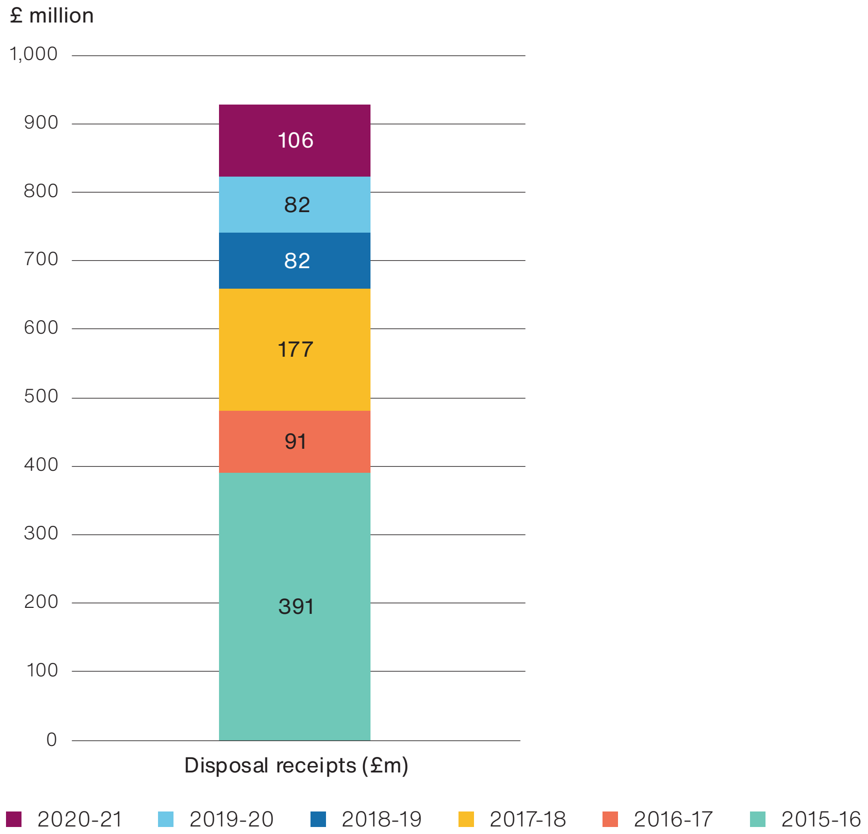
28 Cabinet Office, *Transparency Report: Government's land and property disposals in 2019-20 and retrospective reporting for 2018/19, 2017/18 and 2016/17*, December 2020.

29 Sales completed by March 2020 could contribute to both the government's £5 billion target and the Department's £1 billion target.

Figure 7

Ministry of Defence's UK estate disposal receipts, 2015-16 to 2020-21

The Department received £929 million from sales of its estate between 2015-16 and 2020-21

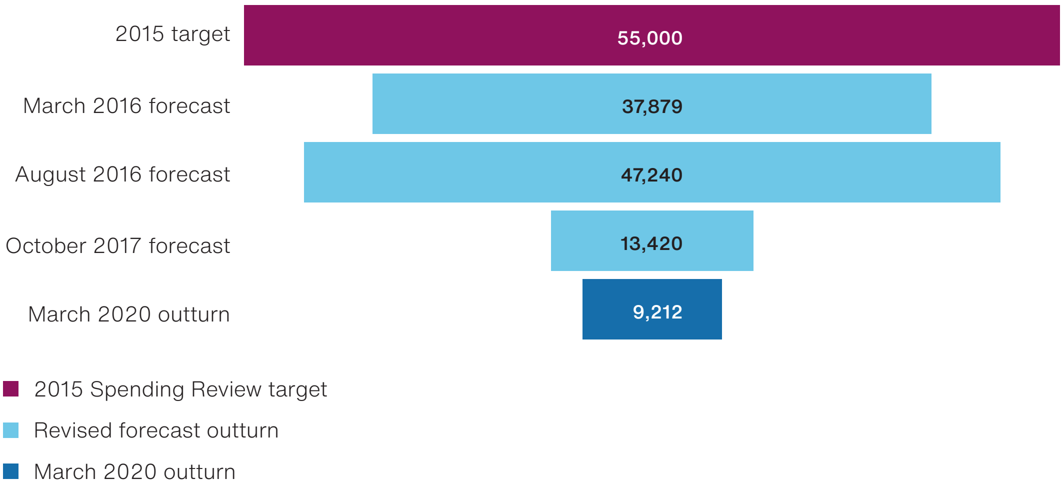


Source: National Audit Office analysis of Ministry of Defence data

Figure 8

Ministry of Defence's forecasts of the release of land for new homes in England by March 2020

At no stage did the Ministry of Defence (the Department) forecast that it would achieve its target of releasing land with the potential to provide 55,000 new homes by March 2020



Notes

1 In 2015, as part of its Spending Review settlement the Department was set a target to release land in England for 55,000 homes by March 2020.

2 In March 2016, the Department rated 68% of its forecast 37,879 contribution (25,600 housing units) as 'high risk', defined as "at least one issue preventing exchange of contracts which is very unlikely to be resolved before the end of the programme". Therefore, the Department had identified land with a housing potential of 12,100 that it considered there was some likelihood it would exchange contracts by March 2020. It achieved 76% of this housing potential.

3 The October 2017 revised forecast was acknowledged by the Ministry of Housing, Communities & Local Government.

Source: National Audit Office analysis of Ministry of Defence data

2.19 By March 2020, the Department had released land for 9,212 housing units (**Figure 9**), 17% of its original target and 69% of the 2017 revised forecast. The main reason for not meeting the target was because it completed fewer disposals from the DEO Portfolio than planned, and so achieved just 3% of forecast housing units from this source. Other factors were:

- the Department anticipated it would transfer sites to the Homes and Community Agency (HCA) with potential for 20,500 homes.[30] However, following a joint review by HCA and DIO, they determined that some sites were not viable for housing developments and that others could not be sold quickly enough to contribute to the target. Therefore, HCA accepted fewer sites, which contributed just 3,824 housing units to the target; and
- MHCLG did not accept the Department's proposal that two Single Living Accommodation (SLA) units should count as one housing unit. MHCLG insisted that SLA should be counted on a ratio of 4:1, in the same way as university accommodation. Using a 2:1 ratio would have enabled the Department to claim an additional 1,300 housing units by March 2020. However, this would have been a counting adjustment rather than the release of additional housing units.

Other government departments also struggled to meet this target, and in 2019 we reported that MHCLG expected departments to have released enough land for around 65,000 homes by 2020 (41% of its target).[31]

Progress with the DEO Portfolio

2.20 The Department's re-baselining of the DEO Portfolio has altered the timing and number of planned site disposals. It now plans to dispose of 83 sites by 2039, compared with its 2016 plan to dispose of 91 sites by 2032 (**Figure 10** on page 38).[32] Following discussions with TLBs and other stakeholders, the Department removed 15 sites originally included in the DEO Portfolio, 11 of which it will retain to support military needs. For example, changed operational requirements meant that the United States requested that the Department retained three large sites – RAF Alconbury, RAF Mildenhall and RAF Molesworth – for continued use by United States Visiting Forces. The Department has also added nine new sites to the DEO Portfolio for disposal since 2016.

30 In January 2018 HCA became Homes England.
31 Comptroller and Auditor General, *Investigation into the government's land disposal strategy and programmes,* Session 2017–2019, HC 2138, National Audit Office, May 2019.
32 The approved 2021 disposal schedule includes two disposals (in 2034 and 2041) which the Department plans to remove from the DEO Portfolio.

Figure 9

Delivery of housing unit potential in England by March 2020

Ministry of Defence (the Department) achieved 17% of its land release for housing target

Source of new housing units	Potential number of homes, November 2016	Outturn March 2020	Percentage achieved
			(%)
Existing Ministry of Defence disposals	11,200	1,026	9
Defence Estate Optimisation Portfolio disposals	15,200	416	3
Transfer of sites to the Homes and Communities Agency	20,500	3,824	19
Accommodation optimisation	8,100	3,946	49
Total	**55,000**	**9,212**	**17**

Notes

1 The Department set out the potential number of homes in *A Better Defence Estate*, November 2016.

2 In 2017, the Ministry of Housing, Communities & Local Government acknowledged the Department's revised forecast that it would release land for 13,420 homes. The outturn achieved in March 2020 was 69% of the revised forecast.

3 Accommodation optimisation consists of the release of superfluous Service Family Accommodation (1,098 by March 2020); new Service Family Accommodation (1,529 by March 2020); and new Single Living Accommodation (5,276 individual units by March 2020, counted as 1,319 housing units using a 4:1 ratio).

4 In January 2018 the Homes and Communities Agency became Homes England.

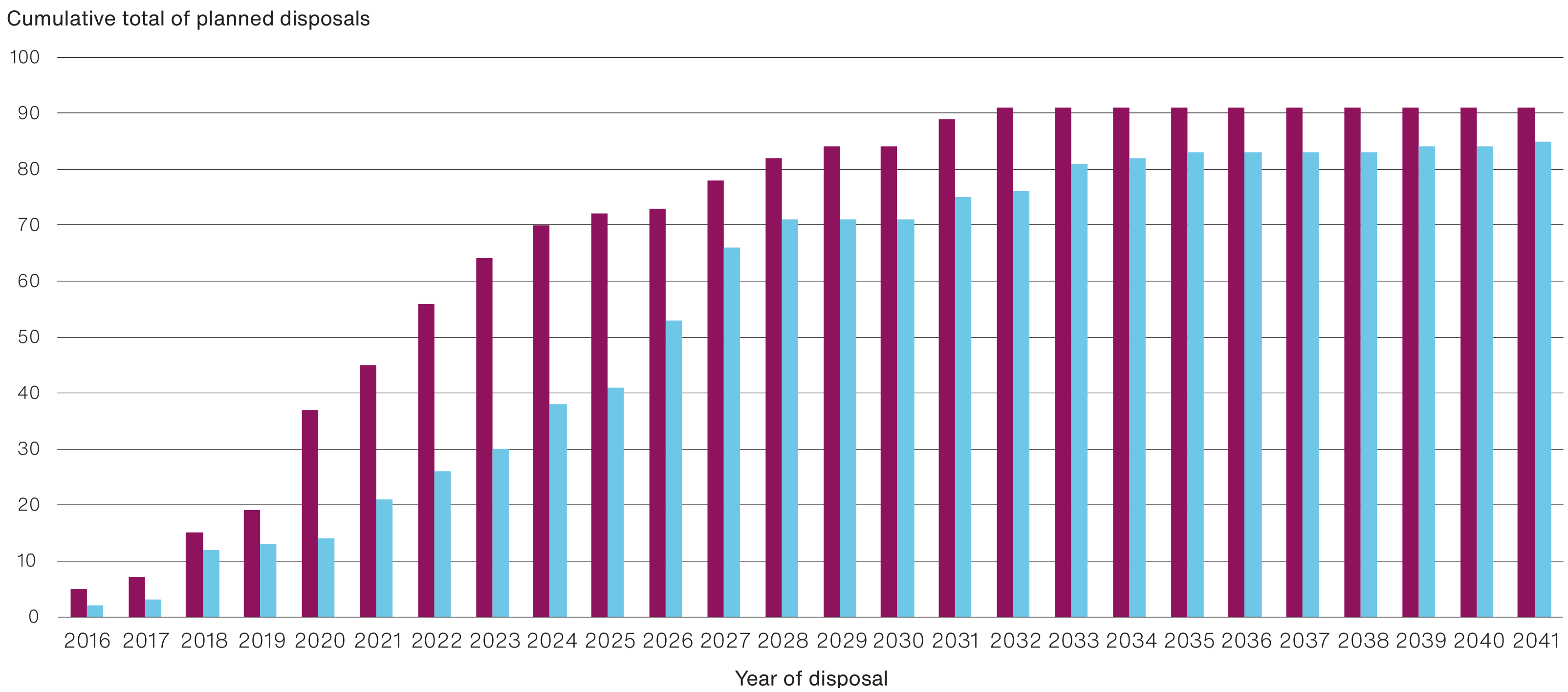
5 By December 2020, the Department had released land for a further 1,932 housing units and anticipates this will increase to 2,251 by the end of 2020-21.

Source: National Audit Office analysis of Ministry of Defence data

Figure 10

Comparison of Defence Estate Optimisation (DEO) Portfolio disposal plans from 2016 and 2021

The Ministry of Defence's (the Department's) 2021 plan is that fewer disposals will be completed and nine years later than originally planned



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
2016 disposal schedule	5	7	15	19	37	45	56	64	70	72	73	78	82	84	84	89	91	91	91	91	91	91	91	91	91	91
2021 disposal schedule	2	3	12	13	14	21	26	30	38	41	53	66	71	71	71	75	76	81	82	83	83	83	83	84	84	85

Notes

1 2016 disposal schedule includes 11 sites which the Department now plans to retain, and four that are no longer part of Defence Estate Optimisation (DEO) Portfolio.

2 2021 disposal schedule includes nine sites that were not included in the 2016 schedule.

3 2021 disposal schedule includes actual site disposals up to 2020.

4 2021 disposal schedule includes two disposals (in 2034 and 2041) which the Department plans to remove from the DEO Portfolio.

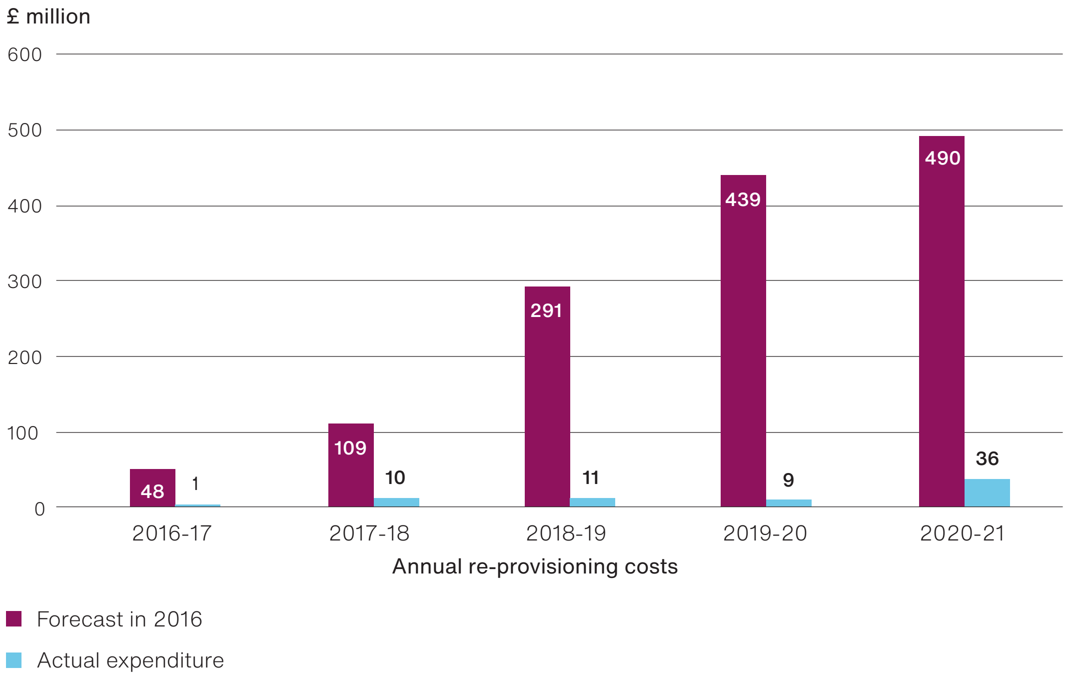
Source: National Audit Office analysis of Ministry of Defence data

2.21 The DEO Portfolio's main expense is building new facilities at retained sites to accommodate units that will move out of sites due for disposal. However, it has made slower than expected progress with re-provisioning work, which is crucial for enabling site disposals to proceed. During the five years to March 2021, it spent £67 million on this work, just 5% of its £1.4 billion budget (**Figure 11**). This is partly because 13 of the 14 sites that the Department has sold were standalone sites and did not need re-provisioning work to house relocated units. However, the Department still needs to complete re-provisioning work to enable the disposal of 14 sites that it originally planned to sell by the end of 2020. This slow progress reflects the lack of realism in the Portfolio's original disposal programme, which underestimated the level of complexity and time needed to re-provide facilities elsewhere to enable the Department to vacate and sell sites (paragraphs 1.11 and 2.5).

Figure 11

Comparison of planned and actual Defence Estate Optimisation (DEO) Portfolio re-provisioning expenditure, 2016-17 to 2020-21

Ministry of Defence spent just 5% of its forecast re-provisioning costs between 2016-17 and 2020-21



Note

1 Re-provisioning costs are for infrastructure construction, including new build, renovation and change of use of existing assets, at sites that will house displaced units. It includes accommodation, work areas and storage.

Source: National Audit Office analysis of Ministry of Defence data

Changes to the economic case for the DEO Portfolio

2.22 In 2016, the Department estimated that the Portfolio would provide net benefits of £2.4 billion over 25 years. The benefits are based on disposal income and reduced infrastructure running costs at disposal sites, after taking account of re-provisioning costs and any increased running costs at the new sites. In 2020, the estimated net benefits had fallen to £0.65 billion, a reduction of 73%.[33]

2.23 The Department's revised disposal plans have altered its 25-year forecasts of costs and benefits when 2021 figures are compared with those from 2016:

- Re-provision costs increasing by £0.2 billion (3%) to £6.2 billion.
- Disposal receipts falling by £2.2 billion (50%) to £2.2 billion.
- Running cost savings falling by £1.4 billion (33%) to £2.7 billion.
- Savings from future maintenance costs falling by £0.9 billion (29%) to £2.2 billion.[34]

2.24 The Department has proposed that extending the time horizon from 25 to 50 years would provide a truer picture of the long-term benefits of the DEO Portfolio because it includes more years in which the expected benefits of having a smaller estate can be seen. It estimates this would double the net present value to £1.3 billion. However, the Department accepts that the data used in the cost model for the Portfolio, which both supports the economic case and identifies funding requirements, is still maturing. In particular:

- most re-provisioning plans and estimates still use preliminary capacity studies, rather than more detailed assessment studies of individual sites and benchmarking data for actual costs;
- the model is limited to the infrastructure and DIO implementation costs. Costs falling to TLBs are not included and will be funded through the annual budgeting process. The Department has no central estimates of the TLBs' costs;

33 The Department's estimate of the net benefits of its DEO Portfolio is calculated as the Net Present Value (NPV) of its infrastructure costs and benefits. This is based on the sale proceeds from site disposals less the re-provision costs and the corresponding net change in future estate running costs, plus cost of disposal. As the costs, income and savings occur over 25 years it calculates the NPV by applying an annual discount rate to each cash flow so that costs and benefits can be compared on a consistent basis. This calculation includes the residual value of the assets to reflect the ongoing beneficial use to the Department beyond the 25-year timeframe. The NPV is calculated in line with HM Treasury guidance.

34 These are unfunded costs that would be incurred at a site earmarked for disposal based on what it would cost to keep the site safe and operable were it retained and are called sustain avoidance savings.

- costs do not consider the effect of uplifting all assets to comply with the Department's plans to achieve net zero by 2050. A 20% increase to meet the net zero standard could increase estimated building costs by more than £1 billion. The Department expects that lower running costs will help offset the increased capital investment, but has not yet estimated what these savings will be; and
- the degree of risk contingency is set at around 9%, rather than a more prudent 15%–20% that is usual considering the maturity of the DEO Portfolio.[35] An increase to 15% would require an additional £200 million of funding.

Were all these factors included, it is uncertain whether the expected benefits of the Portfolio would still exceed the costs.

35 HM Treasury provides guidance for how departments should take account of uncertainty, optimism bias and risk in *The Green Book*, December 2020.

Part Three

The Department's preparedness to meet its objectives

3.1 This part examines how well prepared the Ministry of Defence (the Department) is to deliver its estate optimisation strategy in the future. We examine the Department's revised governance arrangements for the Defence Estate Optimisation (DEO) Portfolio; the latest position on the funding arrangements; and whether it has established the necessary conditions to deliver the Portfolio.

Responsibilities for delivering the Defence Estate Optimisation Portfolio

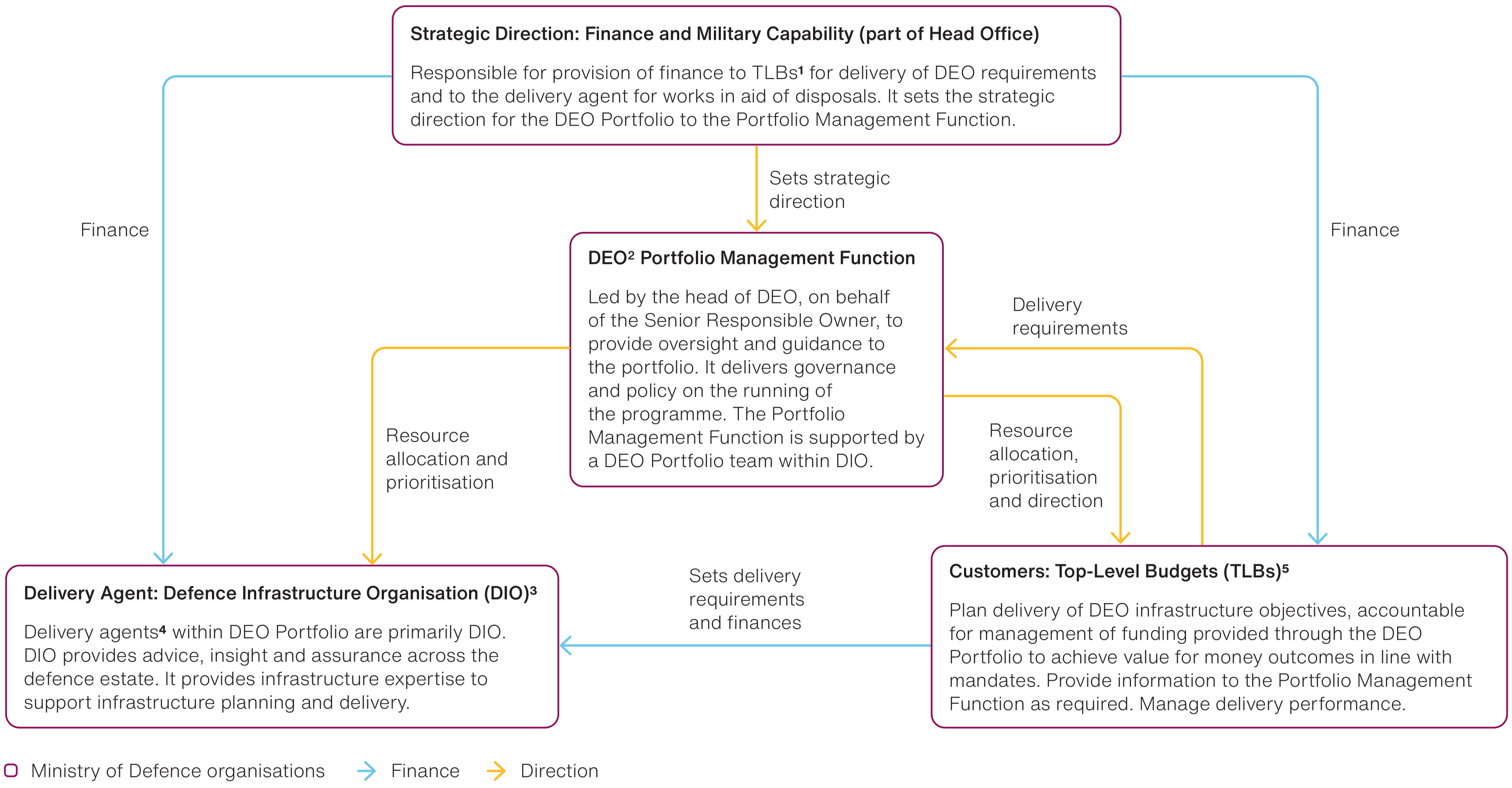
3.2 In May 2020, the Department introduced revised governance arrangements for the DEO Portfolio, setting out responsibilities for delivering and monitoring programmes within the Portfolio (**Figure 12**). The Portfolio Board, chaired by the programme's senior responsible owner, provides direction on implementing the Department's strategy and holds the Top-Level Budgets (TLBs) to account. It is supported by the DEO Portfolio team and working groups which oversee progress, assess risks and dependencies, and manage changes to the delivery schedule. The TLBs are expected to optimise their estates and, unlike previously, they are now accountable to the Portfolio Board through signed mandates for the timely completion of re-provisioning, the relocation of service personnel and the disposal of sites. They are supported by the Defence Infrastructure Organisation (DIO), which provides infrastructure and programme planning advice to the DEO Portfolio and delivers the infrastructure for the TLB projects. The Department has told us that the Portfolio's governance arrangements with TLBs are under review, and that it expects to delegate more to them during 2021-22.

3.3 The Department has issued the TLBs with indicative budgets for the next two years which align with the site disposal plan. This approach provides a financial incentive to TLBs as the planned savings from disposals are reflected in their delegated budgets, which means that any failure to achieve disposals as planned will create financial pressures. However, TLBs can retain any new or additional savings from estate rationalisation above those reflected in their budgets.

Figure 12

Responsibilities for managing the Defence Estate Optimisation (DEO) Portfolio since 2020

Responsibility is shared between the Ministry of Defence's Head Office, Top-Level Budgets and Defence Infrastructure Organisation



Notes

1 The Top-Level Budgets (TLBs) include Air Command, Army Command, Navy Command, UK Strategic Command, the Defence Nuclear Organisation, and the Defence Infrastructure Organisation.

2 DEO Portfolio is the Defence Estate Optimisation Portfolio.

3 DIO also fills a role as the infrastructure expert providing information and assurance to delivery agents, the Portfolio Management Function and the TLBs.

4 Other delivery agents include Information & Systems Services (ISS), the Surgeon General and industry partners.

5 The TLBs provide updates on performance progress to the Portfolio Office, based on DIO updates. The Portfolio Office is responsible for reporting to Head Office.

6 The director of infrastructure is the DEO Portfolio's senior responsible owner and reports to the Deputy Chief of Defence Staff (Financial and Military Capability).

Source: National Audit Office analysis of Ministry of Defence data

Affordability of the DEO Portfolio

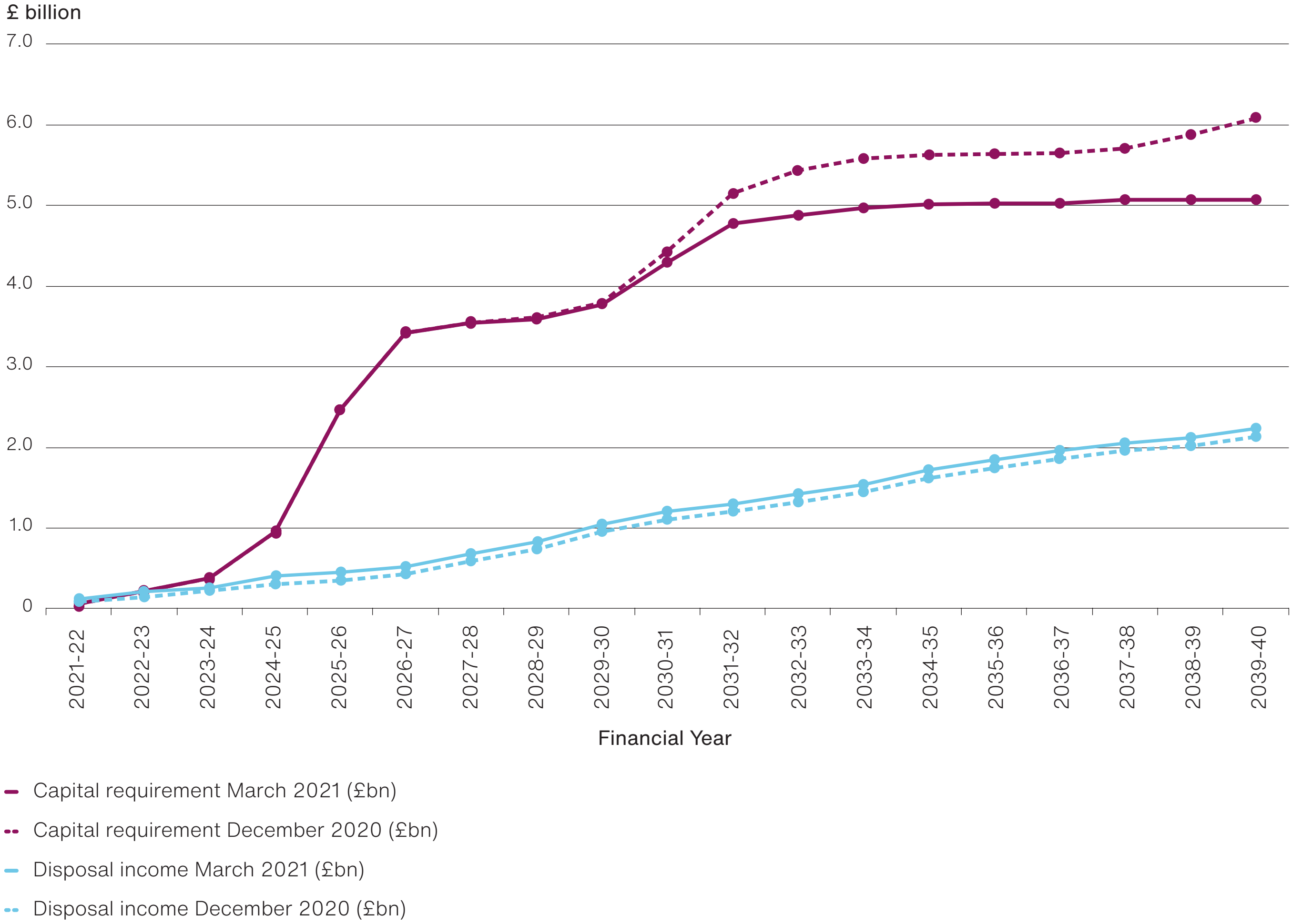
3.4 The Department has increased its planned investment in its estate and the DEO Portfolio. In March 2021, it announced it would invest £4.3 billion in the DEO Portfolio over the decade to March 2031. This commitment addresses the medium-term funding shortfall created by the withdrawal of private finance alternatives (paragraph 2.11). It means that compared with the re-baselined plans agreed in December 2020, the Department must increase its sales receipts over the next 10 years by £90 million and reduce building costs by £130 million. However, to meet its revised plans for between 2031 and 2040, the Department must reduce building costs by £870 million compared with its December 2020 plans (**Figure 13**). It plans to do this by no longer going ahead with two disposal programmes it was considering (paragraph 2.20), which it forecasts will save £0.7 billion in re-provisioning costs between 2026-27 and 2040-41.

3.5 The new funding package is based on the Department generating sales income of £2.2 billion between 2021-22 and 2039-40. The Department recognises that sales receipts, and the year in which they are received, may fluctuate and there is a risk that forecast income will be lower than expected. Disposals might be affected by factors such as market conditions, the impact of COVID-19, the planning application process and programme dependencies, such as the readiness of sites receiving displaced units. If disposal proceeds are not realised when planned, mismatches will arise between the need for funding for re-provisioning works and the available funding. The Department has underwritten disposal income to enable the DEO Portfolio to make financial commitments and, if needed, it can reallocate funding from other budgets to augment any shortfalls in sales receipts through its annual budget process. This mechanism provides more certainty for the DEO Portfolio by allowing it to make the necessary financial commitments to undertake re-provisioning work. However, any reduction in sale receipts would require the Department to make a corresponding reduction in expenditure from other budgets.

Figure 13

Defence Estate Optimisation (DEO) Portfolio cumulative funding requirement, 2021-22 to 2039-40

To meet its current funding requirement, the Ministry of Defence (the Department) must increase sales receipts by £0.1 billion and reduce building costs by £1 billion, compared with the baseline it approved in December 2020



Note

1 2021 disposal schedule includes two disposals (in 2035 and 2042) which the Department plans to remove from the Defence Estate Optimisation Portfolio. The Department estimates that this will save £0.7 billion in re-provisioning costs between 2026-27 and 2040-41.

Source: National Audit Office analysis of Ministry of Defence data

3.6 The DEO Portfolio team is working with the TLBs to address the forecast expenditure peaks in 2025-26 and 2030–2032, identifying opportunities to smooth the profile (**Figure 14**). It plans to reduce capital spending in 2023-24 and 2024-25 by bringing forward some work to before March 2023 and delaying some activity until after April 2025. If any work is delayed, however, this might add to the planned expenditure peak in 2025-26.

3.7 To achieve disposals, the Department must first undertake remedial work at sites before their closure, move equipment and personnel to new sites and fund some non-construction work there. The cost of this work is not included in the DEO Portfolio budget and there is no central estimate of likely costs. TLBs must fund these works from their annual budgets, and costs will be identified as assessment studies are completed and the plans for individual programmes mature. We found that TLBs anticipate that these costs will not be significant. However, the Army estimates it will cost £11 million between 2020-21 and 2023-24 to move units as part of eight programmes in the DEO Portfolio.[36] Furthermore, TLBs do not yet have adequate budgetary provision for all this work. For example, the Department estimates that the disposal of RAF Henlow will incur costs of £23.8 million which are not funded in budgets.[37]

3.8 As is normal with complex, long-term infrastructure projects, there is uncertainty over the Portfolio's longer-term budget as disposals are scheduled to 2041. In particular:

- the Department is only now undertaking most of the assessment studies it needs to develop detailed plans and more accurate costs for each programme. These studies might establish that the costs are significantly different to those on which the budgets are currently based;
- while the government's increased defence funding over the next four years in the 2020 Spending Review has provided the Portfolio with more certainty up to 2024-25, its budget from 2025-26 to 2030-31 is based on planning assumptions agreed with HM Treasury. Funding after 2030-31 is undecided; and
- when deciding the future funding in the DEO Portfolio, the Department will consider competing priorities across its whole budget, including its equipment programme. The need for investment in new military capabilities – set out in the defence command paper – is also likely to coincide with the DEO Portfolio's peaks in resources in the mid-2020s and early-2030s.

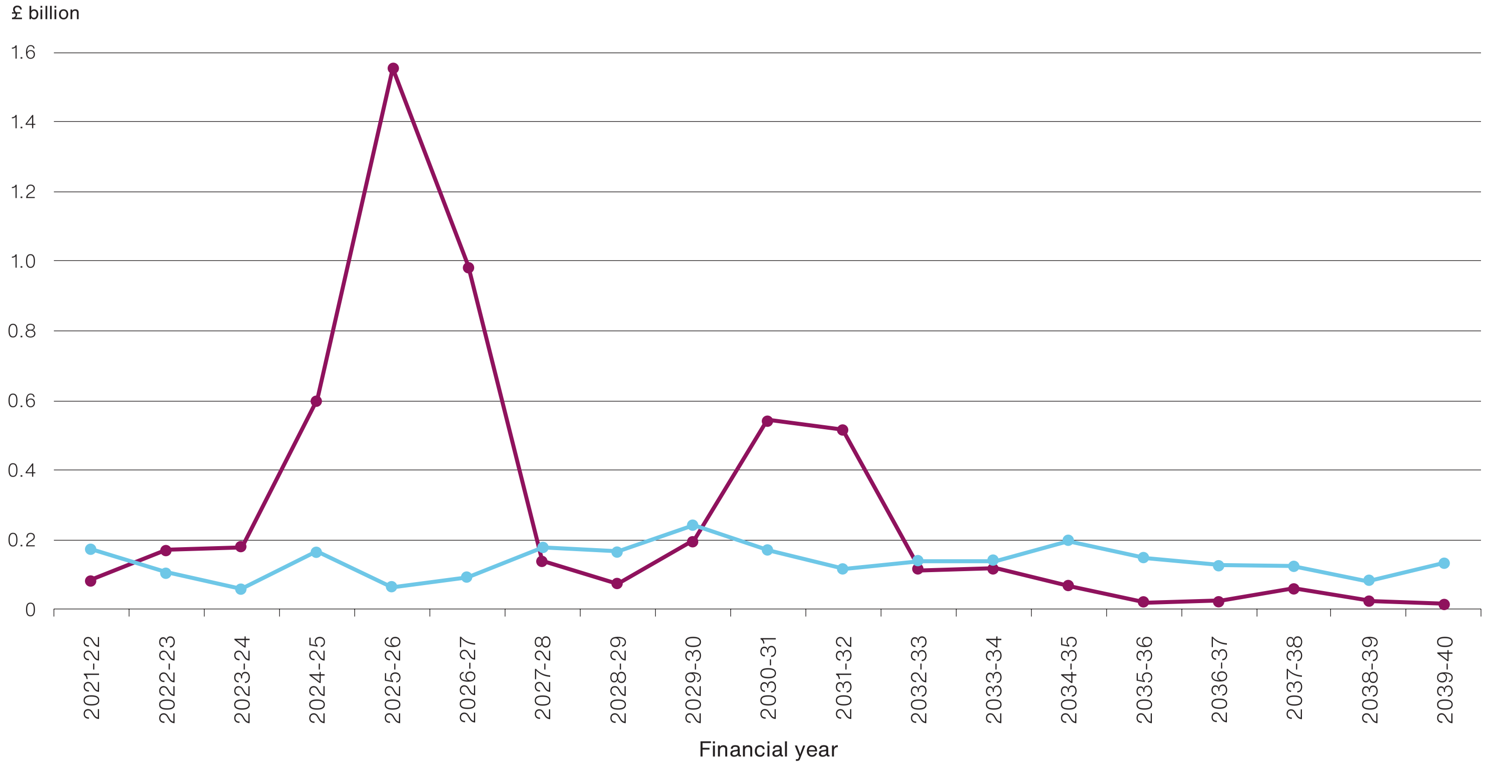
36 These costs payable by the Army are in addition to the £39 million forecast cost of the eight programmes that will be paid by the DEO Portfolio.

37 These costs will be split between Air Command (£21.0 million), Strategic Command (£2.1 million) and Defence Equipment & Support (£0.6 million). The forecast cost of this programme, including frictional costs, is £69.7 million.

Figure 14

Defence Estate Optimisation (DEO) Portfolio annual funding requirement, 2021-22 to 2039-40

Expenditure peaks occur in 2025-26 and 2030-31, which the Ministry of Defence is working to smooth



Financial year	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40
● Capital requirement March 2021 (£bn)	0.1	0.2	0.2	0.6	1.5	1.0	0.1	0.1	0.2	0.5	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
● Disposal income March 2021 (£bn)	0.2	0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1

Source: National Audit Office analysis of Ministry of Defence data

The conditions needed to deliver estate optimisation

3.9 Drawing on our wider work examining the implementation of government estate disposal programmes, we identified the conditions needed to deliver an estates rationalisation strategy.[38] Drawing on these criteria, we assessed whether the Department was now well placed to implement its disposal programme.

Strategic planning

3.10 In December 2020, the Portfolio Board approved a revised baseline for the DEO Portfolio. This included TLBs' agreement of the potential to rationalise their estates. The Department intends to complete 27 site disposals over the next five years and 69 by 2040-41. By March 2021, it had completed 45 initial assessments and 209 surveys on sites within the Portfolio, together with more detailed assessments for 47 of 92 re-provisioning projects. In 2016, the Department expected that DEO Portfolio would reduce the size of the built estate by 25% (19,300 hectares) but its latest estimate is that this has reduced to 13% (10,100 hectares).

3.11 The DEO Portfolio team has agreed to the revised plans with the TLBs and all have signed interim mandates to take them forward. However, these mandates only cover 2020-21 and 2021-22, which is the period up to when the TLBs will get full financial delegation. They give responsibilities to programme senior responsible owners to complete certain milestones but lack enforcement mechanisms or sanctions. Furthermore, as the mandates do not apportion the Department's overall targets to individual TLB-run programmes, they do not empower senior responsible owners to realise the forecast benefits.

3.12 The TLBs have reviewed their estates, including the scope for rationalisation beyond the sites included in the DEO Portfolio. They highlighted that there is limited scope for further disposals as this would create risks for the resilience of future operations. In particular:

- Army Command is completing the Army Basing Programme, which has moved more than 20,000 troops back to the UK from Germany. It is also reviewing its Reserve footprint and aims to deliver a more effective Reserve estate inside the M25 area;
- Navy Command has identified scope for additional disposals in the longer term and is working with the Defence Science and Technology Laboratory (DSTL) and DIO to identify rebasing opportunities;
- Air Command highlighted the resilience risks of further estate reductions; and
- UK Strategic Command is optimising how Defence Medical Services are being provided but these reforms are not expected to lead to significant disposals.

38 Comptroller and Auditor General, *Progress on the government estate strategy*, Session 2016-17, HC 1131, National Audit Office, April 2017.

3.13 The Department also has 187 planned sales between April 2021 and March 2041 which sit outside of the DEO Portfolio. These involve the sale of 1,100 hectares of land, which will reduce the built estate by 1.4%. This is in addition to the 800 hectares (1.1%) sold between April 2015 and March 2021 (paragraph 2.15). Taken together, the Department expects that these sales will contribute 2,000 hectares (3%) towards its target to reduce the built estate by 30% by 2040-41.

3.14 In March 2021, the government published the Integrated Review of Security, Defence, Development and Foreign Policy (the Integrated Review), which set out national security and international policy.[39] The Integrated Review – and supporting defence command paper – set out policy decisions on new capabilities, force structure and location. For example, the Integrated Review included objectives to reshape the UK's Armed Forces, including plans for a smaller Army and deployment of Armed Forces overseas more often and for longer periods. These developments affect what the Department will need from its estate and it now has an opportunity to assess the implications for its estate optimisation plans. There is also scope for it to reassess its whole estate, including the rural and overseas holdings, to identify additional opportunities for rationalisation and disposals. When considering its estate needs, the Department takes account of a range of issues including its current and future operational needs, the cost of the estate and wider environmental factors. It must also retain some flexibility to respond to changing demands or support the development of new capabilities. The Department estimates that it will take six months to work through the implications of the Integrated Review for the defence estate and make any changes to its estate optimisation plans. This will draw on a 'utilisation' project that is developing demand data for the estate. The Department will continue work on site disposal projects within the Portfolio while it undertakes this review.

Interdependencies

3.15 The DEO Portfolio is one strand of the Department's wider estates strategy and there are several related initiatives that have complex interdependencies with the Portfolio (**Figure 15** overleaf). For example, the Portfolio team will need to revise its planning assumptions as the Department decides how to roll out the Future Accommodation Model (FAM), which offers Armed Forces personnel different housing options and is currently at pilot stage.[40] FAM would reduce the need for new Service Family Accommodation provided through the Portfolio. The DEO Portfolio team liaises with the FAM team and will adjust its planning assumptions as the pilots are completed to ensure alignment between the projects.

39 HM Government, *Global Britain in a competitive age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403, March 2021.

40 The Department has been looking at how it can improve the accommodation offer for service personnel and in 2019 it launched the three-year FAM pilots. FAM aims to provide more choice to more personnel over where, how, and with whom they live; provide personnel with an accommodation subsidy based on need, rather than rank or relationship status; and enable personnel to remain mobile, while also providing support if they want greater stability for themselves and/or their family.

Figure 15

Other initiatives relating to UK defence estate optimisation

The Defence Estate Optimisation (DEO) Portfolio interacts with several other defence estate initiatives

Initiative	Impact on estate optimisation	Estate optimisation's impact on the initiative
Future Accommodation Model (FAM)		
A change in accommodation entitlement for service personnel including greater private sector provision.	Will affect how many new build accommodation units are needed at re-provisioned sites. Greater use of private sector housing can lower DEO Portfolio costs.	DEO Portfolio timetable impacts both the FAM roll-out plan and its affordability. DEO Portfolio data provide the foundation for base size estimates informing the FAM cost model.
Annington Homes		
Service Family Accommodation (SFA) lease providing 38,000 homes. Contract renegotiation currently underway.	Finalise review negotiations to determine future SFA rental costs which might impact retention and relocation by service personnel across sites.	Providing updated lay-down plans to identify renegotiation opportunities.
Command plans		
Top-Level Budgets are responsible for their respective Command plans.	Delivery of planned projects could be affected by different prioritisations in the future.	Updated lay-down plans including unit moves may lead to reaprioritisation of projected spending plans.
Void reduction plan		
Initiatives to reduce the SFA void rates from 23% to 10%.		Identifying how many SFA units will be needed at a site given the disposals and relocation timetables.
Building standards	Defines the building design standards for new built properties, which may impact unit costs of site redevelopments.	
Single Living Accommodation (SLA) Management Information System		
An SLA occupancy information system for allocating accommodation.	More accurate data SLA bed-spaces usage can provide a more accurate assessment of accommodation need and supply.	
Future defence infrastructure services		
New estate-wide infrastructure maintenance contracts.		DEO Portfolio identifies which sites will close or expand, which affects future contract costs.
Healthcare infrastructure	Provision of appropriate medical and dental facilities at receiver sites.	

Source: National Audit Office analysis of Ministry of Defence data

Skills and capabilities

3.16 In 2017, we reported that government must build capacity to ensure it has sufficient skilled staff to implement its estate optimisation strategy.[41] The Department recognises that it needs access to skills such as quantity surveyors, designers, project managers and technical advisers. After the Department ended the strategic business partner contract in 2019, it still needed the services that the contract had supplied. It is seeking to develop its long-term capability by recruiting and developing the necessary skills but, in the interim, still depends on short-term contractual support.

3.17 It will take time for the Department to recruit and train staff with the skills that it needs.[42] It has increased the number of personnel working on the DEO Portfolio from six in April 2019 to 53 in March 2021, compared with a target of 61 at that point. The Department aims to have recruited 91 staff by 2023-24, at which point it no longer plans to use contractors for core portfolio delivery but will still contract for some specialist and technical roles (**Figure 16**). It acknowledges, however, that it faces an ongoing challenge to retain and develop staff with the appropriate skills and experience to deliver a portfolio of this scale.

Figure 16

Planned resource profile for Defence Estate Optimisation Portfolio core delivery posts, 2020-21 to 2023-24

The Ministry of Defence plans that all core delivery posts will be filled by civil servants before 2023-24

	2020-21	2021-22	2022-23	2023-24
Planned civil servant posts	61	68	85	91
Planned contractor posts	59	42	28	0
Total	**120**	**110**	**113**	**91**

Notes

1 Actual civil servant posts in March 2021 was 53.

2 The 2023-24 number for planned contractor posts does not include specialist or technical contractors which the Ministry of Defence (the Department) still plans to use.

Source: National Audit Office analysis of Ministry of Defence data

41 Comptroller and Auditor General, *Progress on the government estate strategy*, Session 2016-17, HC 1131, National Audit Office, April 2017.

42 In February 2020 the Department published *Professionalisation Plan for Defence Infrastructure 2019–2021*, setting out its vision: "to be the best performing and most effective infrastructure profession across government offering fulfilling military and civilian careers across the most diverse and unique infrastructure portfolio in the UK and overseas."

3.18 Since the termination of the strategic business partner contract in 2019, the Department has continued to employ contractors to support the DEO Portfolio. In June 2019, it entered a two-year £45 million contract with Mace, a consultancy and construction firm, to provide construction and project management expertise while the Portfolio builds up its internal capability.[43] To March 2021, the Department spent £33.9 million under this contract. It has extended this contract for another two years from March 2021, at an additional cost of £27 million. In doing so, it reshaped the support to reflect variations in demand, incentivise innovation, encourage the adoption of industry best practice and transfer skills from contractors to civil servants.

3.19 The Department still plans to use contractors for specialist work not central to DIO's core activities or which is more efficiently delivered through buying-in. In March 2019, the Department approved a business case for £60 million over five years to award contracts for strategic property advisers and strategic environmental technical advisers to support disposals at 42 sites. This is specialist work to support and complement departmental capability. To March 2021, the Department had spent £8.2 million through these contracts.

3.20 Under the delegated delivery model for the DEO Portfolio, TLBs are considering their resource requirements to deliver the programmes for which they are responsible. Any required posts are funded by TLBs, not the DEO Portfolio, and in January 2021 the Department reported that not all were in place.

Supplier capacity

3.21 A critical element of the DEO Portfolio is the timely construction of new facilities at locations that will house units moved from disposal sites. The Department has identified insufficient capacity in the construction industry as a risk to delivering site disposals. It has therefore developed a commercial strategy for the DEO Portfolio which is based on regional frameworks and a standardised approach to construction activities. The Department has carried out pre-tender engagement with suppliers and identified support for its approach. In January 2021, it started the procurement process to establish three framework contracts: commercial construction, professional services and house-building.[44]

43 The contract provides a range of skills that the Department needs, such as quantity surveyors; schedulers and project management experts.

44 The Department is still developing its plans for a fourth framework, to provide off-site modular manufacture of standardised designs for Single Living Accommodation.

Engagement with local authorities

3.22 Early engagement with local authorities is critical to maximising the potential value of surplus sites by obtaining planning permission for future use, and to enable re-provisioning work at sites (**Figure 17**). In 2019, the Department noted that problems in obtaining planning permission accounted for half of the instances where the housing development had not been achieved. It has therefore adopted a range of measures to develop its working relationship with local authorities, including:

- inviting engagement on how its housing unit allocation may be considered as part of authorities' local plans;
- encouraging early engagement with local authorities and developing a joint approach to delivery;
- improving communications. For sites due for disposal or redevelopment within the next five years, engagement with local authorities will be at least quarterly, with at least annual engagement for other sites in the DEO Portfolio; and
- more promptly informing local authorities of changed plans when these have been announced and seeking ways to mitigate the impact, especially where they had included sites within local development plans.

Figure 17
Ministry of Defence engagement with English local authorities: case studies

Location	Details
St George's Barracks, North Luffenham, Rutland	The Ministry of Defence (the Department) plans to dispose of St George's Barracks, North Luffenham, in 2024. Since 2017, it has worked with the local council to develop plans for up to 3,000 homes, together with commercial development, leisure and community facilities on this site. This has resulted in a significant improvement in the potential value of the barracks.
Waterbeach Barracks, Cambridgeshire	In April 2019, the Department reported that planning permission had not yet been granted for a development of 6,500 houses at Waterbeach, despite it having submitted the application in February 2017. The local council granted outline permission in September 2019, and work began on the site in November 2020.
Cheadle Hulme, Greater Manchester	In December 2019, the Department reported that the local council had given its site in Cheadle Hulme planning consent for light industrial use. The Defence Infrastructure Organisation is currently seeking to overturn this decision as an allocation of residential use would significantly increase the value of the land and contribute to the Department's housing target.

Source: National Audit Office analysis of Ministry of Defence data

Management information

3.23 The Department recognises the importance of improving the management information on its estate. The TLBs have identified that they need more granular data on the running costs of their sites to make informed decisions about estate optimisation, including where to invest or disinvest. The Department has developed a defence infrastructure data and management information strategy which, by 2025, it expects will enable it to:

- identify future infrastructure targets and analyse the current infrastructure footprint;
- inform on infrastructure performance, including environmental targets, which can be used to help determine future use; and
- capture information on existing utilisation and make informed decisions on estate rationalisation.

3.24 In response to recommendations in our 2016 report, the Department has also been seeking to develop more reliable and consistent management information on the cost and condition of its estate.[45] It is developing an asset management system to enable TLBs to better understand the extent to which its assets are supporting the delivery of its estate strategy, including whole-life costs. The Department believes this will include the implementation of a more systematic process of operating, maintaining, upgrading and disposing of infrastructure assets. By January 2021, the Department had assessed 65% of the assets on its estate. However, it acknowledges that it will not provide a competent level of asset management, as defined by the Institute of Asset Management, until late 2025.[46]

3.25 Management information on the progress of the DEO Portfolio has improved and, in September 2020, the Portfolio Board endorsed the format of a monthly Portfolio Dashboard. This provides the Portfolio Board with information on finance and affordability, contractor performance, progress against milestones and risks, alongside commentary from both the central DEO Portfolio team and TLB programmes.

45 Comptroller and Auditor General, *Delivering the defence estate*, Session 2016-17, HC 782, National Audit Office, November 2016.

46 The Department expects that DIO's Asset Management Programme Strategy for 2020 to 2030 will move it from a position of 'Immaturity' to one of 'Competence' as assessed under ISO 55000 within five years.

Environmental commitments

3.26 In March 2021, the Integrated Review reiterated the government's commitment to reaching net zero by 2050. Defence is the biggest emitter of greenhouse gases in central government.[47] The Department will contribute to the net zero target through the rationalisation of the estate and refurbishment or replacement of dated buildings offering the most cost-effective means of reducing its carbon emissions. It has stated that future construction will be as sustainable as possible, with consideration given to achieving net zero across the lifecycle of new buildings.[48] The Department recognises that the DEO Portfolio is a key element of delivering the net zero commitments, and is changing its building design standards to support this.[49] However, the Portfolio's cost estimates do not consider the additional costs of increasing standards from current building regulations to adopting an enhanced standard in line with industry best practice. The Department is working with its technical support experts to identify what the increase in costs will be. Its initial estimate is that adopting an enhanced (silver) standard to uplift assets would increase construction costs by between 20% and 30% at least. However, the technical support experts reported that achieving net zero (gold) standard would need extensive investment in wider infrastructure and renewable forms, and that information is not yet mature enough to price this.

COVID-19 pandemic

3.27 The COVID-19 pandemic has caused disruption, although not as much as the Department initially feared. For example, the proceeds from completed site disposals exceeded its planning assumption for 2020-21. It continued to place contracts for DEO Portfolio work during 2020-21 as planned, mainly for assessment studies, although some work, such as surveying of sites, had been delayed because of the current restrictions. Its work to develop the skills and capabilities was initially affected but has now regained progress. The Department recognises that the affordability of the Portfolio will be affected if the pandemic leads to disposal proceeds falling because of changes to the property market or costs increasing from delays to programmes. Furthermore, COVID-19 might alter working practices, which may reduce utilisation and the extent of the new build requirement, which would require the Department to delay programmes so that it can adapt its housing plans to reflect any such changes.

47 In 2019-20, the defence estate emitted about 700,000 tonnes CO_2e greenhouse gas emissions (27% of the Department's emissions) and used around 5,000,000 MWh energy (equivalent to about 245,000 dwellings).
48 Ministry of Defence, *Climate Change and Sustainability Strategic Approach*, March 2021.
49 The Department's guidance states that all new and major refurbished buildings must have the highest level of energy performance that it can achieve while remaining cost-effective over the lifetime of the building components.

Appendix One

Our audit approach

1 Between 1987 and 2016, we reported six times on the Ministry of Defence's (the Department's) management of its estate, highlighting a lack of progress in aligning the estate with military need. This study, therefore, examines the Department's progress since 2015-16 in rationalising its estate by assessing:

- the defence estate and Department's estate optimisation strategy;
- the Department's progress since 2015-16 in rationalising its estate; and
- whether the Department has established the necessary conditions to achieve its estate rationalisation objectives.

2 Our audit approach is summarised in **Figure 18**. Our evidence base is described in Appendix Two.

Figure 18
Our audit approach

The objective of government

The defence estate is where its people live, work and train, and ultimately deploy from. The Ministry of Defence's (the Department's) strategy is to create an estate by 2040-41 which better supports our military capability, is better quality, and more efficient.

How this will be achieved

It will do this by creating an estate by 2040-41 that is 30% smaller through a portfolio of site disposals and redevelopments. Site disposals will provide savings which can be recycled into defence. The Department will invest in defence estate enhancements in locations where the Armed Forces need it.

Our study

Examines the Department's progress in delivering its estate strategy and progress towards its objectives.

Our evaluative criteria

Whether the Department has established a strategy to achieve an estate of the right size to meet its operational needs.

Whether the Department has made its planned progress since 2015-16.

Whether the Department is putting in place appropriate arrangements to deliver its estate strategy in the future.

Our evidence

(see Appendix Two for details)

We:

- carried out semi-structured interviews with senior officials in the Department;
- reviewed departmental documents; and
- analysed departmental data including mapping analysis.

We:

- carried out semi-structured interviews with senior officials in the Department;
- reviewed sales data;
- compared 2016 plans with 2021 outturn data;
- analysed national statistics data; and
- analysed departmental data including financial data.

We:

- carried out semi-structured interviews with senior officials in the Department;
- reviewed departmental documents;
- evaluated future plans against National Audit Office (NAO) guidance; and
- reviewed cost models using NAO frameworks.

Our conclusions

In 2016, the Department launched its estate optimisation strategy, which highlighted the crucial role of the estate in supporting military capability. Yet in the five years since we last reported, the Department has continued in the cycle of re-organising and re-planning its estates disposal programme and has made limited progress in rationalising its estate. It has cut the size of the built estate by just 2% and reduced its estimate of DEO Portfolio's net benefits from £2.4 billion to £0.65 billion. Despite this, some of the changes over the past year mean that the Department is now better placed to rationalise its estate. In particular, it has resolved the funding shortfall on its estate disposal programme and has agreed site disposals with the TLBs. More broadly, the Integrated Review also provides the Department with clarity on future military capabilities and force structure, which will influence the size and location of the estate it needs.

The Department must now seize the opportunity to rationalise its estate and carry out planned disposals. It is still too early to judge whether its changes, such as the revised governance arrangements, will prove successful and the complexity and time needed to complete site disposals remain a significant challenge. Also, it is not yet clear whether cost pressures will grow as the Department better understands the costs of providing sustainable new accommodation on sites receiving relocated personnel. So far, the Department has yet to demonstrate it can deliver value for money from its estate. Continuing pressures on the use of the defence budget mean the need for a more affordable estate that supports military personnel and capabilities remains as strong now as it was in 2016.

Source: National Audit Office

Appendix Two

Our evidence base

1 We reached our conclusions on the Ministry of Defence's (the Department's) progress with its estate optimisation strategy, and whether it is delivering value for money, based on our analysis of evidence collected primarily between October 2020 and March 2021. Although we were able to complete all our fieldwork, some elements – in particular, site visits – were not possible due to the restrictions imposed in response to the COVID-19 pandemic.

2 Our audit approach is outlined in Appendix One. We applied an analytical framework with evaluative criteria addressing: whether the Department has established a strategy to achieve an estate of the right size to meet its operational needs; whether the Department has made its planned progress since 2015-16; and whether the Department is putting in place appropriate arrangements to deliver its estate optimisation strategy in the future.

3 To assess whether the Department has established a strategy to achieve an estate of the right size to meet its operational needs, we:

- analysed Office for National Statistics figures on the Department's land holdings, leaseholds and access rights to assess the size of the defence estate, understand its composition, and establish how this has changed since 2016;
- undertook analysis of departmental data on its estate holdings, including mapping analysis on its location to understand the current layout;
- undertook semi-structured interviews with stakeholders including Head Office, the Commands and the Defence Infrastructure Organisation (DIO). These covered whether the Department has a detailed strategy that set out clear objectives, targets and roles and responsibilities;
- reviewed documentary evidence including guidance, terms of reference and board minutes. This allowed us to identify and understand the strategy and how it has evolved since 2016;

- reviewed project documentation and governance papers relating to the Defence Estate Optimisation (DEO) Portfolio and individual programmes within it. Our analysis was triangulated with semi-structured interviews;
- analysed the DEO Portfolio cost model to establish the planned time required to provide new infrastructure at retained sites and dispose of vacated sites. We augmented this analysis with follow-up interviews and questions regarding the end-to-end tasks. This allowed us to understand and document this complex process; and
- analysed departmental data including financial data to understand recent trends in annual estate maintenance spending.

4 To examine whether the Department has made its planned progress since 2015-16, we:

- reviewed the original business case and subsequent updates, alongside board minutes, ministerial updates and DEO Portfolio's performance reporting. This enabled us to understand how the Department's plans have changed since 2016, the rationale for these changes and the impact they have had on progress implementing the DEO Portfolio;
- undertook semi-structured interviews with stakeholders in Head Office, the Commands and DIO. We triangulated evidence from these semi-structured interviews with our analysis of the DEO Portfolio business case and documents reporting progress;
- compared the original disposal schedule with the latest iteration provided in the cost model. This enabled us to understand and demonstrate how the Department's plans have changed since 2016;
- analysed how the Department's plans for funding the DEO Portfolio have changed from initially partly relying on private finance to now being funded entirely through sales receipts and public funding;
- reviewed data provided by the Department regarding sales completed between 2015-16 and 2020-21, to assess its performance against its overlapping targets of contributing towards government's target of raising £5 billion by 2020 through sales between April 2015 and March 2020, and raising £1 billion from land sales completed between April 2016 and March 2021;
- analysed data regarding the housing unit potential of land released since 2015-16, to assess its performance against its target of releasing land for 55,000 new houses by March 2020;

- compared cost and benefit plans from 2016 with outturn data from 2021 to analyse how these have changed, assess progress during the past five years and establish what impact the changes have had on the economic case for the Department's plans;
- reviewed Infrastructure and Projects Authority reports on the DEO Portfolio and undertook semi-structured interviews with HM Treasury and the Infrastructure and Projects Authority. We triangulated this with evidence gathered from the Department regarding its delivery model, funding plans and progress; and
- assessed the Department's progress compared with recommendations in previous National Audit Office and Committee of Public Accounts reports on the defence estate.

5 To examine whether the Department had put in place appropriate arrangements to deliver its estate optimisation strategy, we reviewed documentation on its plans, governance arrangements and planning assumptions. We evaluated these against previous National Audit Office work setting out the conditions needed to deliver an estate rationalisation strategy. Specific areas we examined included:

- the impact of the March 2021 Integrated Review of Security, Defence, Development and Foreign Policy on the Department's strategic planning;
- whether the Department had established the necessary funding to deliver its estate optimisation strategy and the risks;
- interdependencies between the DEO Portfolio and other defence initiatives that relate to the Department's estate;
- the Department's plans and initiatives for ensuring it has the skills and capabilities it needs to undertake estate optimisation;
- how the Department is seeking to ensure there is adequate supplier capacity;
- how the Department is seeking to work with key stakeholders, such as local authorities, to assist the progress of its plans;
- what the Department is doing to ensure it has the management information it needs;
- the relationship between its estate optimisation plans and its environmental commitments; and
- the impact that the COVID-19 pandemic has had on the Department's estate optimisation plans.

6 To collect evidence to test the Department's arrangements against these criteria, we:

- carried out semi-structured interviews with the Commands and Head Office to identify plans impacting estate optimisation. We triangulated evidence from these interviews with our other analysis;
- reviewed the current DEO Portfolio cost model using the National Audit Office framework to review models. This enabled us to assess the affordability of the Department's plans over the next 20 years;
- reviewed the Department's management information and its quarterly internal major projects reports. This enabled us to assess how the Department has been managing future risks to the Portfolio; and
- analysed Commands' estate optimisation plans, triangulating evidence with our semi-structured interviews.

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