AtkinsRéalis

North East Cambridge Area Action Plan Infrastructure Delivery Plan (IDP)

Greater Cambridge Shared Planning Service (GCSPS)

North East Cambridge Area Action Plan: Infrastructure Delivery Plan (IDP)

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2.2	Final consultation draft	PP, CGL	MC, MG	CGL, MG	VD	27/11/25

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Acronyms

AAP	Area Action Plan
BCN Wildlife Trust	Bedfordshire, Cambridgeshire & Northamptonshire Wildlife Trust
BIS	Cambridgeshire's Business Intelligence Service
BNG	Biodiversity Net Gain
CBC	Cambridge Biomedical Campus
CCC	Cambridgeshire County Council
CIL	Community Infrastructure Levy
City Council	Cambridge City Council
CLP 2018	Cambridge Local Plan 2018
CPCM	Cambridgeshire and Peterborough Combined Authority
CPPF	Cambridge Past, Present and Future
CSLT	Cambridge Sports Lake Trust
CWS	City Wildlife Site
DCMS	Department for Culture, Media and Sport
Draft AAP 2021	Proposed Submission North East Cambridge Area Action Plan Regulation 19 (November 2021)
EWR	East West Rail
GCGIM	Greater Cambridge Green Infrastructure Mapping project
GCP	Greater Cambridge Partnership
GCSPS	Greater Cambridge Shared Planning Service
GCSWS	Greater Cambridge Shared Waste Service
GI	Green infrastructure
HIF	Housing Infrastructure Fund

ICB	Integrated Care Board
ICP	Cambridgeshire & Peterborough Integrated Care Partnership
ICS	Integrated Care System
IDP 2021	North East Cambridge IDP (Stantec and LUC, 2021)
LNR	Local Nature Reserve
LPA	Local Planning Authority
NAS	National Allotment Society
NE	Natural England
NEC	North East Cambridge
NEGIF	Natural England Green Infrastructure Framework
NHS	National Health Service
NPPF	National Planning Policy Framework
PLSS	Public Library Service Standards
RECAP	Cambridgeshire and Peterborough Waste Partnership
S106	Section 106 obligation
SCDC	South Cambridgeshire District Council
SCLP 2018	South Cambridgeshire Local Plan 2018
SE	Sport England
SEND	Special Educational Needs and Disabilities
SFC	Sports Facility Calculator
SME	Small Medium Enterprise
SPD	Supplementary Planning Document
UKPN	UK Power Networks

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1. Introduction

AtkinsRéalis, in collaboration with the Land Use Consultants (LUC), have been appointed by the Greater Cambridge Shared Planning Service (GCSPS) to review the infrastructure required to support planned growth in North East Cambridge (NEC).

Cambridge City Council (City Council) and South Cambridgeshire District Council (SCDC) have collaborated extensively to manage and promote sustainable growth in the Greater Cambridge area over a number of years. Both the City Council's Local Plan (2018) and the SCDC Local Plan (2018) identified the NEC area as a sustainable location for major residential and commercial growth. Specifically, Policy 15 (Cambridge Northern Fringe East and new railway station – Area of Major Change) and Policy SS/4 (Cambridge Northern Fringe East and Cambridge North railway station) establish that an Area Action Plan should be prepared to ensure a coordinated approach to the transformation of the area to deliver a new mixed use community focused around the new railway station at Cambridge North.

An initial Infrastructure Delivery Plan (IDP)[1] was prepared in 2021 to support the submission version of the North East Cambridge Area Action Plan (NEC AAP)[2]. However, the ambitions outlined in the NEC AAP are dependent on the relocation of the Anglian Water Wastewater Treatment Plant (WWTP) to unlock significant regeneration opportunities in NEC. While the Development Consent Order (DCO) for the relocation was finally granted in April 2025, at the time of updating the NEC IDP, there remains uncertainty whether this will be implemented. Consequently, the NEC AAP has not progressed to examination in public.

Since the original 2021 IDP was prepared, significant changes have been made in national policy and the regulatory environment. Planning applications have been submitted and determined in the NEC area, resulting in changes to the assumptions underpinning the infrastructure strategy and delivery. As a result, there is a need to review and update the existing infrastructure evidence base to ensure it reflects the current policy context, the market forces shaping change in the NEC, and the strategies and delivery programmes of various stakeholders.

This report presents an update to the 2021 IDP and has been produced to ensure that underlying assumptions and evidence remain relevant to the current context and that the conclusions reached in 2021 with the funding and delivery of infrastructure remain accurate, robust, and suitable to support sustainable growth in the NEC area. Given the ongoing uncertainty surrounding the future of the WWTP, this updated IDP has assessed the infrastructure needs arising in several growth scenarios based on different development trajectories.

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[1] North East Cambridge Infrastructure Delivery Plan (Stantec and LUC, 2021)
[2] GCSPS (Nov 2021) Proposed Submission North East Cambridge Area Action Plan Regulation 19.

The updated IDP will form a crucial part of the evidence base required to support both the emerging development plan and negotiations through the Development Management process for planning applications that come forward before its adoption. This includes informing GCSPS's approach to securing developer contributions, whether through the continued use of s106 obligations or the potential introduction of a Community Infrastructure Levy (CIL).

While this IDP aligns with current policy and guidance and is based on available evidence, it is important to note that it reflects a specific point in time. Infrastructure planning, by its nature, is an iterative and evolving process. This IDP consolidates extensive information from stakeholder strategies and delivery plans, compiled at different times and over varying timeframes, and these will be subject to future review. Market conditions will continue to influence planning applications in the NEC area, and the balance between public and private funding for infrastructure delivery will continue to evolve. Although this IDP forms a robust foundation for delivering change over the next 10 – 20 years, it must be regularly reviewed to ensure it continues to align with and respond to evolving policies, market conditions, and funding environments.

1.1 Scope

The starting point in our assessment has been to review the previous 2021 IDP. Like that study, this IDP evaluates the need for new and improved infrastructure across a range of typologies in response to the demand created by residential and commercial growth. The scope, nature and cost of infrastructure provision are informed by the vision and broader policy requirements of the emerging development plan, along with the ambitions of service providers and available evidence-based documents, to present a coordinated approach to delivering sustainable development.

The assessment excludes site-specific infrastructure required to service individual plots, sites or developments that would typically be addressed as development/build costs. The infrastructure typologies covered in this IDP include:

- Transport, including active travel, public transport and highways;
- Power;
- Waste and recycling;
- Digital networks;
- Social infrastructure including education; healthcare; community facilities; indoor sports and leisure; and
- Green infrastructure and open spaces, including allotments and outdoor sports facilities

A number of infrastructure types have been purposefully excluded from the IDP. This includes where provision is better delivered as a site-specific policy requirement, where infrastructure would be integrated into development proposals as a build cost, for reasons linked to the scale at which provision is planned and delivered or where there is a reliance on the market to deliver under the right commercial conditions. For

further information on the inclusion and exclusion of typologies, refer to Error! Reference source not found.. The exclusion of these infrastructure categories and/or issues in no way is intended to diminish the valuable role they play in supporting the delivery of sustainable development in NEC.

1.2 Report Structure

This report presents a detailed analysis of the infrastructure needs and delivery strategies for NEC. It is structured into a series of chapters, each addressing specific aspects of the IDP:

Chapter 2: Policy Framework and Context outline the national and local policy context that informs the development within the NEC area. It summarises key frameworks and strategies that shape the IDP, ensuring alignment with overarching policies. This chapter introduces the NEC area and highlights key characteristics that influence infrastructure planning and delivery, including existing land ownership.

Chapter 3: Methodology outlines the approach used to assess the infrastructure needs and requirements. It details the key assumptions and methodologies applied throughout the assessment, providing a clear foundation for the subsequent analysis and conclusions.

Chapter 4: Growth Scenarios sets out three potential development scenarios for the NEC area to account for the delivery of planning permissions since 2021, market pressures relating to the balance between residential and commercial development, and the implications of the WWTP remaining in situ.

Chapter 5: Infrastructure Needs and Requirements assesses infrastructure needs across multiple typologies. In broad terms, this includes transport, utilities, social infrastructure and green infrastructure to provide a holistic view of need across NEC. After establishing the infrastructure requirements within each of these broad sectors, the chapter evaluates potential or confirmed funding sources, identifies delivery partners and prioritises infrastructure projects according to their relative importance in unlocking development and supporting the delivery of the vision and objectives of the NEC area.

Chapter 6: Infrastructure Delivery addresses the costs and delivery of the identified infrastructure. It includes detailed cost estimates, residual cost calculations, and delivery schedules, covering the financial and logistical aspects of implementation.

2. Policy Framework and Context

This chapter reviews the planning policy framework in which this IDP and the NEC area are being developed, focusing particularly on policy and guidance relating to infrastructure delivery. This includes the National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG) and adopted and emerging Local Plans. The chapter provides an overview of the NEC area and the key characteristics that will shape infrastructure delivery.

2.1 National Planning Context

Updated in December 2024, the National Planning Policy Framework (NPPF)[3] It is a key strategic document which sets out the Government's national planning policies for England, and how they should be applied to development proposals. The NPPF provides comprehensive guidance on plan-making and strategic policies in the context of local planning.

At the heart of the NPPF is a presumption in favour of *"**sustainable development**"*, with Paragraph 8 determining this as having three sustainability objectives: economic, social and environmental.

The NPPF emphasises the role of Local Plans in shaping development, advocating for a *"**genuinely plan-led system**"* (Paragraph 15) where Local Plans create a positive vision for the future of their respective areas.

Paragraph 20 establishes the need for an overarching strategy for the pattern, scale, and design quality of places while ensuring sufficient provision of homes and infrastructure – including transport, telecommunications, water supply, wastewater, flood risk management, energy and waste management – as well as community facilities such as health, education, and cultural infrastructure.

Preparing, reviewing and examining plans

Paragraph 32 stresses that the preparation and review of policies should be evidence-based, and should be proportionate, focused on supporting and justifying the policies concerned, and considering market signals where applicable.

A key aspect of the plan-making process is ensuring that strategies and policies are the most appropriate for their local context, considering factors such as the regulatory framework, available evidence, and the views of stakeholders. These considerations are reflected in the tests of soundness (Paragraph 36), which form the basis for assessing Local Plans at public examinations. Plans will be considered *"sound"* if they are:

- *"(a) **Positively prepared*** – providing a strategy which, as a minimum, seeks to meet the area's objectively assessed needs; and is informed by

[3] National Planning Policy Framework (NPPF), last updated in December 2024.

agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;

- *(b)* ***Justified*** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;
- *(c)* ***Effective*** – deliverable over the plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and
- *(d)* ***Consistent with national policy*** – enabling the delivery of sustainable development in accordance with the policies in this Framework and other statements of national planning policy, where relevant".

The IDP plays a critical role in supporting the soundness of the development plan by ensuring that the strategy meets the area's objectively assessed infrastructure needs, backed by proportionate evidence, and supports the delivery of proposed development through the provision of new or enhanced infrastructure. This ensures that infrastructure is provided in line with growth requirements, both residential and commercial, and within the parameters of national policy on sustainable development.

Additionally, Paragraph 37 highlights that non-strategic policies will be tested soundly in a proportionate way, considering their consistency with relevant strategic policies for the area. This is particularly relevant to the IDP, where careful prioritisation of infrastructure categories is necessary to balance both strategic and non-strategic needs within the broader planning framework.

While the statutory Duty to Cooperate was rescinded when the Levelling Up and Regeneration Act 2023 received Royal Assent, the updated NPPF and accompanying PPG[4] retain an important emphasis on the value of collaboration and joint working between LPAs and prescribed bodies in addressing strategic planning matters, including infrastructure delivery.

Infrastructure contributions and delivery

NPPF Paragraph 35 addresses the need for developer contributions, such as Community Infrastructure Levy (CIL) charges and Section 106 agreements, to fund infrastructure required to support sustainable development. Such contributions are intended to ensure that developments do not place undue strain on existing infrastructure and that new infrastructure is provided in a timely and coordinated manner. It states that Local Plans should set out the expected contributions from development to achieve this aim.

[4] National Planning Practice Guidance (NPPG)(2024): Maintaining effective cooperation - Paragraph: 009 Reference ID: 61-009-20190315.

Developer contributions may only be sought to fund infrastructure delivery where they meet the following statutory tests[5]:

- Necessary to make development acceptable in planning terms;
- Directly related to the development;
- Fairly and reasonably related in scale and kind to the development;

These tests have been considered in the identification of infrastructure projects to support development at NEC.

National Planning Practice Guidance (PPG): Plan-making[6]

The PPG highlights the importance of creating a plan that not only presents a positive vision for the area but is also realistic about what can be achieved within a set timeframe[7]. This involves ensuring an adequate land supply, identifying necessary infrastructure, and establishing clear funding and delivery strategies. Early collaboration is required between policy-making bodies, infrastructure providers, service organisations, local partnerships, developers, and other stakeholders to identify infrastructure needs and address gaps.

To ensure a plan's viability, it must clearly define the contributions expected from development, including affordable housing and essential infrastructure such as education, healthcare, transport, and green spaces. These requirements should be based on evidence of infrastructure needs and development demand, ensuring they do not hinder the plan's deliverability. The viability of these policies should be assessed at the plan-making stage to confirm they are realistic and achievable.

2.2 Local Planning Context

Both the Cambridge Local Plan (2018) and the South Cambridgeshire Local Plan (2018) identify the NEC area as an 'Area for Major Change' and a sustainable location for major residential and commercial growth. This is specifically outlined in Policy 15 ('Cambridge Northern Fringe East and new railway station – Area of Major Change') and Policy SS/4 (Cambridge Northern Fringe East and Cambridge North railway station) of the aforementioned plans.

Cambridge Local Plan Policy 15 outlines the area's vision as an employment-focused zone centred around a transport interchange, with high-quality mixed-use development. The policy indicates that the primary focus will be on employment uses such as B1 (business), B2 (general industrial), and B8 (storage and distribution). It is

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[5] Community Infrastructure Levy Regulations 2010 (as amended): Regulation 122(2)
[6] NPPG: Plan-making, available at: https://www.gov.uk/guidance/plan-making#evidence-base
[7] NPPG: Delivery of Strategic Matters - Paragraph: 059 Reference ID: 61-059-20190315.

also stated that the development will include a variety of supporting commercial, retail, leisure, and residential uses, subject to meeting environmental conditions.

Policy 15 indicates that the specific scale, site capacity, viability, timelines, and phasing will be determined through the creation of an Area Action Plan (AAP). While the majority of the area lies within Cambridge, Chesterton Sidings and part of St John's Innovation Park are located within South Cambridgeshire.

South Cambridgeshire Local Plan Policy SS/4 highlights the NEC as a strategic location for the delivery of homes and jobs, with development planned around the proposed Cambridge Science Park Station. The policy notes that the Cambridge North railway station will catalyse the regeneration of the area, fostering a vibrant community that meets the needs of station users and facilitates phased development across the NEC. It is stated that the amount of development, site capacity, viability, time scales, and phasing of development will be established through the preparation of an AAP. Planning applications submitted prior to the adoption of the AAP will be assessed on their merits, provided they do not hinder the comprehensive vision set out in the AAP.

Policy E/1 states that suitable proposals for employment development and redevelopment within the Cambridge Science Park will be supported, provided they contribute to the ongoing growth of the Cambridge Cluster, which is renowned for its high-tech research and development enterprises.

Policy E/9 promotes the development of key employment clusters within the NEC, including sectors such as biotechnology, biomedical research, computer services, high-tech manufacturing, IT/telecommunications, healthcare, research, and clean technology. The policy encourages the provision of suitable units for start-ups, SMEs, and incubator units to support these industries.

Policy E/10 allows for the inclusion of appropriately scaled ancillary leisure, dining, and social hub facilities within business parks and employment areas.

The development of the NEC area will require collaboration between landowners, developers, the City Council, SCDC, Cambridgeshire County Council (CCC), and Highways England, particularly in addressing constraints upon the strategic road network in line with the Duty to Cooperate as set out in the NPPF.

2.3 Site Context

The NEC area encompasses approximately 182 hectares of brownfield land, situated between the A14 Milton Interchange (A14/A10 roundabout) to the north and west, the Cambridge-King's Lynn and Peterborough/Birmingham railway line to the east, and the residential neighbourhoods of Chesterton and King's Hedges to the south.

To the north, the NEC area is bordered by Milton, Milton Country Park, and the Fen countryside to the east. Milton Road runs through the area from north to south; the eastern half of the NEC is characterised by Anglian Water's Wastewater Treatment Plant (WWTP) and falls within Cambridge City, while the western half is

characterised by Cambridge Science Park and is part of South Cambridgeshire's administrative area.

In terms of regional integration, NEC is strategically positioned near key growth corridors, including the London-Stansted-Cambridge UK Innovation Corridor, the Oxford-Cambridge Arc, and the Cambridge-Norwich Tech Corridor. The Oxford-Cambridge Arc has been recognised by the National Infrastructure Commission (NIC) as a National Asset.

The proposed East-West Rail project, scheduled for completion by the 2030s, will enhance regional connectivity by significantly improving links to Milton Keynes and Oxford, with the addition of a new Cambridge South Station. Furthermore, the NEC is well-served by the bus network, including proposed initiatives such as the Greater Cambridge Partnership's Waterbeach to Cambridge guided busway scheme.

The figure below illustrates the spatial extent of the NEC AAP study area:

Figure 2-1 - NEC AAP Study Area

Source: NEC AAP, GCSPS

Existing land parcels and ownership

NEC encompasses a range of land ownership, including a mix of public and private ownership, such as academic institutions and industrial estates. While land ownership within the AAP is fragmented, several larger sites are under single ownership, including:

- Cambridge Science Park (Trinity College)
- St John's Innovation Park (St John's College)
- Cambridge Business Park (The Crown Estate)
- Trinity Hall Farm Industrial Estate (Brockton Everlast)
- DB Cargo
- Brookgate (Brookgate Land Ltd)
- Water Recycling Centre (WWTP) (Anglian Water)
- Former depot and golf driving range land (Cambridge City Council)
- Cambridge Regional College (owned by the College itself)

Anglian Water's WWTP, along with the Cowley Road golf driving range and the former Park and Ride facility (owned by the City Council), are capable of being amalgamated to potentially form a single larger development site. The land around Cambridge North Station and the former railway sidings is owned by Network Rail (NR). A development consortium, comprising Network Rail (NR), Brookgate, and DB Cargo, has been established to bring this land forward for development. The remaining sites within the NEC area, including Nuffield Road and Cowley Road Industrial Estates, are owned by various landowners, including the City Council and institutional investors. These major landowners play a crucial role in unlocking the area's development potential.

Emerging North East Cambridge Area Action Plan

The Emerging Plan for the NEC AAP establishes a strategic framework for the coordinated development and regeneration of the NEC area. The proposed spatial framework defines specific spatial and land parcel divisions within the AAP. Both the Cambridge Local Plan (2018) and South Cambridgeshire Local Plan (2018) acknowledged that early feasibility investigations were underway regarding the relocation of Anglian Water's WWTP, with the potential to unlock significant regeneration opportunities in the NEC area. As the relocation of the WWTP became more likely, the AAP evolved to establish a more transformative long-term vision and policy framework. The development strategy for the NEC is underpinned by key principles aimed at enhancing sustainability, connectivity, and economic vitality. The plan proposes introducing significant new housing, densified commercial development while ensuring the provision of local services and amenities.

The vision for the NEC AAP is to establish a 'healthy, inclusive, walkable, low-carbon city district' with a vibrant mix of high-quality homes, workplaces, services, and social spaces, fully integrated with surrounding neighbourhoods. Located within a 15-minute bicycle ride from Cambridge City Centre, the Draft AAP 2021 (Regulation 19) anticipates that, subject to the relocation of the WWTP, the area could be transformed into a new low-carbon city district – supporting the delivery of new homes, jobs, and a range of community facilities and open spaces.

A series of master plans is being developed in collaboration with developers to deliver this vision and ensure that the full potential of NEC can be achieved, maximising the benefits of regeneration for new and existing communities in the wider area.

3. Methodology

3.1 Our Approach

Scoping and baseline review

The IDP review process has focused on the IDP prepared by Stantec and LUC in 2021 (IDP 2021) to support the Submission Version (Regulation 19) of the North East Cambridge Area Action Plan (Draft AAP 2021). The IDP 2021 was published as a key part of the evidence base and, if not for the requirement to await the planning application process for the relocation of the WWTP, would have been submitted to the Planning Inspectorate to underpin and justify the Council's approach to infrastructure delivery in NEC. The IDP review comprised a series of discrete tasks exploring whether the evidence, assumptions, and policies that informed the 2021 IDP remain the same or require updating:

- **Policy review** – a review of prevailing National Policy and Planning Practice Guidance alongside key adopted and emerging Local Plan policies (including the draft AAP) that frame the approach to infrastructure need, delivery, and funding in NEC.

- **Strategy mapping** - identifying relevant strategies for service providers to understand ambitions and priorities, baseline conditions, and any committed projects and funding for each infrastructure typology.

- **Infrastructure evidence base review** - reviewing relevant thematic studies and topic papers prepared to quantify the potential impact of development within NEC and any studies completed in the intervening period that inform the approach to infrastructure delivery.

This desktop review informed the project team's judgment on whether the scope of the IDP 2021 remained appropriate for NEC. Where policies and/or strategies had evolved since 2021, or evidence indicated that stakeholders were pursuing different models of delivery, this information was reflected in the thematic chapters of this report and the accompanying infrastructure schedule.

Growth scenarios

The brief required consideration of the infrastructure needs arising in three potential growth scenarios:

1. **NEC AAP proposed growth + planning consents;**

2. **NEC AAP proposed growth + developer aspirations** for increased commercial floorspace;

3. **Cambridge Wastewater Treatment Plant remains in situ.**

Further detail on the balance between residential and commercial floorspace and the anticipated distribution across land parcels is outlined in Section 4.

In addition, the project team worked with the GCSPS and Cambridge County Council to agree on a set of household population projections that accounted for the proposed housing mix. When combined with the housing numbers in the different growth scenarios, these projections provided a robust basis for understanding the anticipated demographic makeup of the new community in NEC and the resulting infrastructure needs.

Understanding Infrastructure Needs

1. **Baseline -** for each typology, the project team reviewed existing provisions within and in proximity to the NEC to understand the capacity to absorb additional demand arising as a result of housing and commercial growth. This included identifying infrastructure projects that are underway or have committed / ring-fenced funding.

2. **Understanding metrics and aligning with Growth Scenarios –** the project team identified the metrics or multipliers that allow increases in housing numbers, population, or levels of activity to be translated into demand for new and improved infrastructure

3. **Stakeholder engagement –** the project team tested our understanding of the baseline conditions, investment plans, and the modelled impact of growth with key stakeholders with responsibility for delivery. This included a range of internal Council services and external partners.

These tasks informed an **infrastructure schedule** comprising projects that have been identified to meet the additional needs arising as a result of development in NEC. This schedule is presented in **Section 6.2** and follows a consistent format across each of the typologies.

Where appropriate, the AtkinsRéalis and LUC technical team has drawn on their collective experience of infrastructure planning and delivery to comment on issues, including whether the range of projects identified is appropriate to support growth, and their compliance with the statutory tests[8] and other pertinent issues linked to funding and delivery.

Infrastructure Cost, Funding, and Delivery Review

For each infrastructure project identified, the project team has identified the anticipated cost of delivery, the funding status, and the body/bodies with responsibility for delivery. Our approach to appraising and interrogating cost information is informed by the depth of evidence that underpins particular projects. Where costs are provided through standards, stakeholder engagement, or recent

[8] Community Infrastructure Levy Regulations 2010 (as amended), Regulation 122.

strategy can be evidenced and are robust, they are reflected in the infrastructure strategy, subject to any necessary index linking to account for cost inflation.

The project team has also drawn on detailed costing information derived from the AtkinsRéalis Benchmark+ tool[9] where this contains comparable projects that can add further weight to the reliability and accuracy of projected costs. Where a more detailed investigation has been undertaken to develop reliable project costs, this is outlined in the relevant chapters. Any costs provided by third parties have been challenged to ensure that they are appropriate, including accounting for emerging policies around climate change adaptation and mitigation. Throughout this process, it has been identified whether funding has been secured to deliver the identified projects, be that through capital/grant funding, private investment, developer contributions, or a combination. Where a funding gap exists, we have set out the parties responsible for the delivery of infrastructure projects and the most likely funding sources.

Prioritisation:

All infrastructure projects in the schedule have been considered compatible with the statutory tests outlined above, but nevertheless, a prioritisation exercise has been undertaken to outline the relative importance of different interventions. This exercise was not intended to suggest that some measures are unnecessary but may inform the phasing of delivery and efforts to address gap funding, for example. The prioritisation exercise identified:

- **Critical infrastructure** – interventions/projects without which planned development across the NEC area will simply be unable to proceed.
- **Essential infrastructure** – interventions/projects that are essential if development is to take place in a manner that allows the Councils and partners to comply with legislative requirements and/or key policies.
- **Placemaking infrastructure** – plays a vital role in ensuring that development in NEC is consistent with the vision and policy framework for the area.

Final IDP

The ‘final’ IDP comprises this technical report with a thematic commentary on each infrastructure typology and a more detailed infrastructure schedule. The schedule outlines the full range of infrastructure required to support development in NEC, detailing associated costs and delivery timeframes. Importantly, it also identifies infrastructure that remains unfunded and where developer contributions may be required to adequately mitigate the impacts of proposed development. It is important to note that, by its nature, infrastructure planning is a dynamic process that needs to be kept under review as evidence changes, funding patterns and commitments shift, and development is delivered.

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[9] AtkinsRéalis have an in-house global cost database and benchmarking tool with access to various projects across a range of assets and building type.

4. Growth Scenarios

4.1 Overview

The Draft AAP 2021 presented a vision and policy framework for development at NEC, underpinned by a detailed evidence base and engagement with a range of stakeholders, including landowners and developers. However, uncertainty around the future relocation of Anglian Water's WWTP and changing market dynamics resulting in more commercially focused development proposals have led to the development of a number of growth scenarios. These growth scenarios reflect changes in the mix and quantum of development since the proposed submission of the IDP 2021, with corresponding changes to a number of assumptions around the composition of development at particular sites, the distribution of land uses across NEC, and the housing and employment trajectories. Three growth scenarios have been established, each defining a distinct development outcome.

The scale and distribution of growth within NEC are crucial for determining the infrastructure requirements throughout the plan period. As such, the growth scenarios have been identified to guide future development and address uncertainties. While the DCO for the relocation of Anglian Water 's WWTP was granted in April 2025, this IDP was developed at a time when, even with the consent in place, it remains unclear if and when the relocation will be implemented. Therefore, one of the updated scenarios considers the potential continuation of the WWTP in its current location, addressing substantial limitations in certain areas due to amenity concerns. Detailed descriptions for each scenario can be found in Appendix B: Development Growth Scenarios but are summarised below.

Scenario 1: NEC AAP with consented trajectory - during the intervening period since 2021, new development proposals have come forward across the NEC area. These have departed from the previously assumed mix and development quantum proposed in the Draft NEC AAP. The departures reflect the switch to more economically viable commercial land development relative to residential. Current planning applications are noted to promote a greater proportion of commercial floorspace than the earlier AAP proposed. The scenario shows an increase in the net additional commercial floorspace from 224,400 sqm under the 2021 AAP to 385,897 sqm, resulting in an uplift of c.18,915 additional jobs. The overall number of new homes to be provided at NEC reduces under this scenario from 8,350 units to 7,835 units.

Scenario 2: NEC AAP with developer aspirations trajectory - amplifies the Scenario 1 trend with significant intensification of commercial floorspace. This scenario reflects the individual landowner's aspirations for their sites. It reflects the trend seen in current planning and pre-application discussions, where landowners are promoting significantly higher levels of commercial floorspace than advocated through the draft NEC AAP. Cumulatively, this scenario would deliver a net uplift in commercial floorspace of c.1.2m sqm, with c.787,746 sqm coming forward within the NEC plan period to 2041. This level of commercial floorspace would produce 62,558 new jobs, bringing the overall number of jobs across NEC to 71,642. This scenario

sees the number of residential homes reduced further to 7,395, with 5,273 of these new homes proposed to be delivered within the plan period to 2041.

Scenario 3: Cambridge Wastewater Treatment Plant will remain in situ - this scenario reflects the developer aspirations established through scenario 2 that sees substantial commercial floorspace coming forward on all sites across NEC, including the part of the Hartree site that can still come forward for redevelopment, even with the WWPT remaining in situ. Given the odour issues, and that many of the bad neighbour uses would also remain, it is unlikely that landowners would seek to develop out sites for residential use. Under this scenario, sites allocated for residential or that already have consent for residential, will seek to convert the residential floorspace to commercial use. As a result, scenario 3 could see the NEC area deliver a further c.1.1 million sqm of commercial floorspace, providing for a further 60,000 jobs. However, this scenario marks a drastic reduction in residential units, with only 90 units proposed across the whole of the NEC area.

The comparison of the scenarios against the Draft AAP 2021 reveals notable differences in total commercial floorspace, job creation, and residential units, highlighting the evolving focus of the development strategy. The Draft AAP 2021 proposed an uplift of 224,400 sqm of commercial space, supporting 11,153 new jobs, while including 8,350 residential units. This balance indicates an intention to foster both commercial growth and residential availability.

Table 4-1 - Overview of the Growth Scenarios

Scenario	Net New Commercial (sqm)	Net New Jobs*	Total Jobs	Residential Units	Population
Draft NEC AAP	224,400	11,153	23,755	8,350	17,135
Scenario 1: Draft NEC AAP and consented trajectory	385,897	18,915	29,167	7,835	16,078
Scenario 2: Draft NEC AAP and developer aspiration trajectory	1,209,594	62,558	71,642	7,395	15,175
Scenario 3: WWTP to remain in situ	1,157,274	60,504	70,239	90	185

Source: GCSPS. *Note: net new jobs are net uplift, which includes retained plus new jobs.

4.2 Scenario Testing

Relative to the Draft AAP, the growth scenarios present an increase in commercial development and job creation, reflecting the strength of demand for the intensification of employment floorspace, and particularly R&D and lab space, in the vicinity of the Science Park and the Innovation Park. The increase in commercial activity, with implications for commercial trips, necessitates a thorough examination of transportation infrastructure to ensure efficient connectivity for both commercial and residential areas. It also has potentially significant implications for demand for power and the nature of network reinforcements required. It has been advised that commercial demand will be for a combination of specialist lab space and more typical office floorspace at a ratio of 65:35[10].

The social infrastructure assessment is based on the different population estimates under each scenario. *Scenario 1: draft NEC AAP and consented trajectory* is considered as the "worst case scenario", where the total population forecast is 16,078 inhabitants when the development is built out. This represents a lower population than was forecasted in AAP as a result of the more commercially focused planning permissions secured since 2021, leading to an overall reduction of 515 homes in this scenario. Population projections are also supported by the more detailed modelling of household occupancy levels and revised child yields to support school place planning.

In the growth scenario with the WWTP remaining in situ, the number of homes that can be delivered is dramatically reduced, and the infrastructure demands will fall significantly as a result. This growth scenario would result in a very different vision for overall development at NEC.

This distinction is further explored in Chapter 5 Infrastructure Needs and Requirements to ensure infrastructure is delivered in proportion to both residential and commercial growth demands.

See **Appendix C**: Development Growth Scenarios for more details.

[10] Based on GCSPS issued Technical Note: estimating the split of office/lab spaces at NEC.

5. Infrastructure Needs and Requirements

This chapter assessed the infrastructure needs and requirements to ensure that infrastructure delivery is aligned with the growing demand of both residential and commercial development. The assessment reviews baseline conditions, the stakeholders involved in infrastructure delivery and the gaps or demands that need to be addressed across the NEC. For all projects identified as necessary to underpin growth, cost estimates are provided, funding gaps identified and responsibilities for delivery highlighted. Projects are prioritised to indicate their relative importance in unlocking growth and to inform the phasing of their delivery.

5.1 Transportation

5.1.1 Baseline

Active travel

Active travel measures are a very important component of the overall travel options within the NEC area. To achieve the sustainability goals for the site, high-quality walking and cycling routes (as well as public transport) must be the primary option for travel to, from, and within the site. At present, travel by active modes in the area is inhibited by the severance effects of traffic on Milton Road and Cowley Road, the Cambridgeshire Guided Busway alignment, fencing, and private land. The Cambridgeshire Guided Busway also represents a barrier to movement between NEC and the residential areas to the south of the site, including Nuffield Road, Kings Hedges and Chesterton. Limited crossing places over the busway restrict access by active modes to employment in NEC both now and in the future.

Cambridge North Station is located at the eastern extent of the NEC area, approximately two kilometres (a 30-minute walk) from Cambridge Regional College and 1.6 kilometres (a 22-minute walk) from the centre of Cambridge Science Park. These relatively long walking distances make rail travel to/from NEC via Cambridge North Station less attractive, and/or deter the use of active modes for the journey between the station and NEC.

Projects such as the Chisholm Trail and the Waterbeach Greenway provide opportunities for improved active travel access to and from surrounding areas. Upon completion of phase 2, the Chisholm Trail will provide a direct walking and cycling route to Cambridge Biomedical Campus via Cambridge Railway Station, connecting the Cambridgeshire Guided Busway active travel route to the city via a segregated route. Pedestrians and cyclists will be able to use the Chisholm Trail to safely access areas south of the NEC area. The proposed Waterbeach Greenway would connect NEC to Milton and Waterbeach via the Jane Coston Bridge over the A14.

Part of the route, on Cowley Road, has now been completed with a 4-meter-wide segregated cycle path and an upgraded 2-meter-wide footpath. South of Cowley Rd,

there is a gap between Cowley Rd and Milton Road (approx. 420m) where active travel upgrades are needed, and the signalised crossing at the Cowley Rd bend needs to be improved.

To the north of the Jane Coston Bridge, improvements for walking and cycling are also required. This includes a walking and cycling link through Milton Village for which proposals are being developed, and improved walking a cycling provision to Milton Country Park. Due to Cambridge's unique cycling culture, these schemes present an opportunity for improved and increased active travel journeys for those wishing to access areas both north and south of the site.

Public transport

The main public transport serving the NEC area is bus services using the Cambridgeshire Guided Busway, rail services to/from Cambridge North Station, and bus services along Milton Road, including to/from Milton Park and Ride. There is already overcrowding on some services using the Busway and on train services, and the development of the NEC site is expected to add additional demand for travel on these services. The road network in the area is heavily congested, particularly during peak times. Milton Interchange, immediately north of NEC, is a particular bottleneck with significant congestion at peak times. As a result, bus services on Milton Road are subject to extended and unreliable journey times, making them less attractive.

A number of public transport enhancements are proposed or under construction, which are intended to improve public transport accessibility in the north of the city. On Milton Road, the Greater Cambridge Partnership (GCP) has delivered extensive improvements to public transport, cycling and walking infrastructure between NEC and Mitcham's Corner. The scheme includes continuous segregated cycleways and footpaths along with new and improved signalised crossing facilities. This scheme also provides sections of inbound and outbound bus lanes, allowing buses to bypass general traffic, leading to improved reliability and journey times and making them a more viable alternative to travel by private car.

A second major project planned by the GCP for the area is the Waterbeach to Cambridge busway and travel hub. This new infrastructure would provide an attractive public transport alternative to the private car for journeys from the north of the city, including Waterbeach and Landbeach, with the potential for onward travel to destinations further afield, including Ely.

The proposed route would connect with the existing Cambridgeshire Guided Busway and provide direct services to Cambridge Regional College and Cambridge Science Park. By bypassing the A10 and Milton Interchange, buses would experience faster and more reliable journey times than cars in the southern part of the A10 corridor. The new Waterbeach travel hub is projected to intercept traffic into the City Centre, adding to the services already provided by the Milton Park and Ride. This new infrastructure will intercept more journeys into the area and so help to reduce the private car traffic in NEC. Furthermore, better connectivity between Milton and NEC may encourage a Park and Cycle culture in which commuting employees will be able to park at Milton Park and Ride and still access their workplace via active travel

networks. The Waterbeach to Cambridge Greenway will support this by improving the level of Active Travel provision between Milton and NEC.

Traffic Management

As mentioned above, the highway network currently operates at or over capacity during weekday peak hours. Congestion on Milton Road and Kings Hedges Road is are particular issue in the local area. For the NEC development to be successful, it must avoid adding to the existing congestion issues. There is limited opportunity to increase highway capacity, and even if opportunities were available, increased road capacity will act against the desired increase in use of public transport and active travel modes. In practice, providing attractive alternatives to car travel for new and existing journeys in the area is likely to be the only viable option for avoiding a worsening congestion situation. This applies both for journeys to and from the NEC as well as journeys within it. Reducing the number of journeys to/from the NEC by promoting people to live and work locally will also contribute to avoiding worsening traffic conditions.

5.1.2 Stakeholders

Key stakeholders include scheme promoters (GCP and Cambridge County Council), public transport operators, existing landowners and occupiers, and future developers. Coordination is required between all stakeholders to ensure that a sustainable, integrated and coherent transport network is provided both within and locally to NEC. This includes ensuring that infrastructure is in place early in the redevelopment of the site (see 'Phasing').

5.1.3 Gap and Future Needs

The transport evidence base was prepared in 2019[11], a variety of topic papers, the North-East Cambridge Development – Transport Position Statement and Approach[12], the AAP[13] and previous IDP[14] have all informed this IDP. The AAP and IDP used the findings of the transport evidence base work to inform a plan to deliver the infrastructure needed for the development of NEC. The AAP developed a wide view of the area and set out the vision for the future, identified goals and outlined what was needed for the area to be successful. Key themes the AAP identified as important were sustainability and connectivity, meaning people are able to live and work in the same area, whilst allowing the movement of people in and out of the district. The idea to build a new integrated sub-region of Cambridge was then broken down further in the IDP. The IDP identified the practicalities of the vision and broke the AAP down into topics to make the delivery of infrastructure possible.

The transport evidence base identified a 'trip budget' within which the transport impacts of development at NEC would need to be contained in order to avoid major

[11] NEC Area Action Plan Transport Evidence Base (20th September 2019)
[12] NEC Development – Transport Position Statement and Approach (January 2025)
[13] Proposed Submission NEC Area Action Plan Regulation 19 (November 2021)
[14] NEC Area Action Plan Infrastructure Delivery Plan (December 2021)

impacts on the highway network. The trip budget was calculated by counting the number of traffic accessing NEC in the peak periods. This trip budget was used to inform all other subsequent documents relating to transport and connectivity in NEC, as well as the overall mix and quantum of development. The 'trip budget' defined the maximum number of vehicle trips for the whole AAP area entering via Milton Road as:

- 3,900 vehicles (combined directions) in the morning weekday peak hours; and
- 3,000 vehicles (combined directions) in the evening weekday peak hours

Similarly, the maximum number of vehicle trips accessing the site via Kings Hedges Road is:

- 780 vehicles (combined directions) in the morning peak hour; and
- 754 vehicles (combined directions) in the evening peak.

By requiring new development to adhere to the trip budgets, the regeneration of NEC should not add further traffic volumes to these roads. However, the trip budget approach highlights the need to provide infrastructure and services which support travel by active modes and public transport, both for new and existing journeys.

Amongst the portfolio of transport papers, those addressing transport[15], internalisation16F[16] and smart infrastructure17F[17] They are the most relevant for delivering transportation infrastructure. These all considered the issues regarding the trip budget as described above, and each made recommendations to help reduce the use of private cars in and out of the area. Each paper focused on specific elements of the AAP to provide a more detailed perspective on how to overcome these challenges on a topic-by-topic basis.

The NEC Development Transport Position Statement and Approach (January 2025)[18] considered transport demand based on the updated development projections. As part of this, internalisation figures, car mode share and trip rates were reviewed to reflect the updated scenarios that this IDP utilises. The Transport Position Statement revised these figures and explored mitigations to reduce car usage and promote sustainable travel options, including the strategic, local and internal measures detailed below. As part of this exercise, costs were outlined, as well as the apportionment of costs for the strategic schemes that cover areas beyond

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[15] GCSPS (2021) NEC AAP Proposed Submission Topic Paper: Transport, available at: NEC AAP Document Library
[16] GCSPS (2021) NEC AAP Proposed Submission Topic Paper: Internalisation, available at NEC AAP Document Library
[17] GCSPS (2021) NEC AAP Proposed Submission Smart Infrastructure Topic Paper: Future Mobility, available at NEC AAP Document Library
[18] CCC (2025) NEC Development - Transport Position Statement, available at Cambridgeshire.cmis.uk.com/CCC_live

the NEC area. The Transport Position Statement (January 2025) is currently in draft form and will be updated with the latest costings.

Changes since 2021

A significant amount of time has passed since the publication of the evidence documents, including changes to proposed projects that would impact the way in which the development would function. Projects like East West Rail (EWR) and the route of the Waterbeach Greenway were assumed to be delivered in a particular way that would serve the NEC development. Changes to these programmes leave gaps in the transport infrastructure as it alters how public transport is forecasted to be used. These are each discussed in more detail below.

Options for EWR included a northern route via Cambridge North station. This was referred to in the AAP in the context of providing sustainable connections to other cities and longer-distance trips. EWR to Cambridge North would have linked cities such as Oxford and Milton Keynes with the Science Park and Business Parks located in the NEC area, bringing employment opportunities and agglomeration effects. However, EWR is no longer planned to stop at Cambridge North Station will now take a Southern approach to Cambridge, and in the process, it will serve Cambridge South instead. EWR may, however, serve Cambridge Station, meaning these wider connections would still be available to passengers from NEC, albeit with a change at Cambridge, reducing the positive impacts for NEC.

The proposed route of the Waterbeach Greenway has also changed since 2021, when it was proposed to cross the A14 via an underpass close to the railway and the eastern extent of the AAP area. The route is now proposed to cross the A14 500 metres further west via the Jane Coston Bridge to the east of Milton Interchange, then follow Cowley Road south towards Cambridge North Station. In addition, the existing two-way cycle track on Cowley Road has been widened to four metres in width, the zebra crossing at Cowley Road upgraded, a new parallel crossing provided to St John's Innovation Centre and on-street parking removed. This revised route means the Greenway provides direct access to the centre of the NEC area, close to Milton Road, but means a longer route for those travelling to/from the very eastern side of the development or seeking to access Milton Country Park from Cambridge North Station. Overall, however, the route will improve the current connection over the A14 from Milton and Waterbeach, providing direct access to the NEC AAP area.

Since 2021, the amount of commercial development proposed has significantly increased. It is now assumed that, under scenario 1, up to 7,835 homes and 18,915 new jobs[19] will be generated by the development. This represents a decrease in projected homes from the initial 8,350 dwellings proposed in the Draft AAP and a potential increase of a further 7,762 jobs, depending on the final mix of houses and commercial floorspace. The proportion of commercial versus residential development affects the share of journeys which are made entirely within the site (previously assumed to be 10%); a more even balance reduces the number of

[19] Based on Scenario 1 – Draft NEC AAP + Consented

external trips, which is beneficial to achieving the trip budget. The higher amount of commercial development now proposed, circa 385,897 sqm for Scenario 1 up to circa 1.2m sqm under Scenario 2, is therefore likely to reduce the share of trips which are internal and therefore more journeys are likely to originate outside the AAP area. As a consequence, more attention will be needed on measures to manage private car trips to and from the commercial development.

Since the publication of the transport evidence base in 2019, the COVID-19 pandemic has fundamentally and permanently altered how people choose to work and travel. The increase in flexible working has been seen countrywide, with more people having the option to work from home. This will have an impact on absolute volumes of travel, particularly at peak times. However, due to underlying growth in demand for travel, traffic levels on the network surrounding NEC have returned to pre-COVID levels. As a result, the evidence used to underpin the AAP and 2021 IDP is considered to remain applicable.

5.1.4 Strategy and projects

Transport projects intended to facilitate the development of NEC have focused on making travel to/from the area as sustainable as possible. The trip budget and national policy encourage these values, and so ensuring that sustainable practices are functional within the site is key to its success. In 2022, the road user hierarchy in the highway code was updated to put vulnerable road users first: pedestrians, cyclists and horse riders. This hierarchy is reflected in the strategy for the NEC development, for example, the proposed improved infrastructure for pedestrians and cyclists. Therefore, the road hierarchy aligns well with the values embedded in the AAP.

One way in which the sustainability of the site can be increased from a transport perspective relates to local accessibility. Opening the NEC area to make travel to/from surrounding communities easier will improve access to jobs for existing residents, and access to services for new residents, such as sports and leisure facilities and schools. Plans for improving transport, therefore, need to incorporate measures to provide for safe and convenient travel on foot or by bicycle for these shorter journeys.

Table 5-1 and Table 5-2 include a list of the transport infrastructure projects that are required to mitigate the transport impacts of the development of NEC. These tables describe each proposed measure and provide an update on each since the publication of the IDP in 2021. The tables categorise the projects into those entirely within the area (‘internal’), ‘local’ schemes in the vicinity of NEC, and ‘strategic’ schemes affecting a wider area. The schemes in these tables are taken from those detailed in Tables 17 and 18 of Appendix 2 of the Cambridgeshire County Council’s North East Cambridge Development Transport Position Statement and Approach 2025.

The mitigation measures set out in Table 5-1 and Table 5-2 are required to ensure that the NEC area will be able to provide the infrastructure necessary to mitigate the effects of the development (i) within the NEC area and (ii) outside the NEC area and necessary to mitigate its wider impacts, comprising infrastructure schemes being

delivered by other bodies including GCP and the CPCA. There is a requirement for all developments within the area to contribute to the delivery of this package. In summary, development in the NEC area will be required to:

- Deliver all infrastructure within their site boundaries as part of each development;
- Directly deliver other internal measures and local junction works where applicable; and
- Contribute to the area-wide Strategic Transport Mitigation Package.

The responsibilities for the delivery of these projects lie with either the developer, Cambridgeshire County Council, or GCP. It is expected that the delivery for most of the internal and local projects will be the responsibility of the developers, with the Cambridgeshire County Council. Local and strategic measures will be undertaken by Cambridgeshire County Council, working with developers where this is needed. Strategic measures will be undertaken by GCP, Cambridgeshire County Council, or the CPCA, as they not only serve NEC but also serve neighbouring areas. Collaborative working will be required to ensure these projects are delivered with appropriate coordination.

5.1.5 Phasing, Costs, and Funding

The potential phasing of the transport projects is summarised in Table 5-1 and Table 5-2, which is in line concerning the proposed phasing of the residential elements of the NEC. As such, many of the active travel schemes will need to be completed at an early stage due to their relevance to the development of the residential areas planned for the NEC area and to enable the trip budgets set in the transport evidence base to be adhered to. The larger strategic public transport corridor schemes (i.e., the busway schemes) are likely to proceed over the next 10 years, should they receive consent. It should also be noted that some of the projects referenced, such as the Milton Road Corridor Improvement Scheme, Waterbeach Greenway, and Chisholm Trail, are already under construction and in some cases functionally complete.

A costing exercise was undertaken to determine robust cost estimates of each internal and local transport measure. It is noted that the majority of these schemes are in very early stages of conception, and so they are not in planning or design stages; therefore, specifications were in an outline form. This costing exercise included the following elements:

- High-level Bill of Quantities prepared based on the standard method of measurement (MMHW),
- Quantities defined based on high-level assumptions; rates across various similar projects to arrive at a benchmark unit rate/ sqm;
- Accounted for non-measurable items and/or elements yet to be designed (informed by estimating experience);
- Applied percentage allowance for preliminaries including temporary traffic management, overheads and profit, design costs and project/programme management;

- Applied percentage allowance for risk/uncertainty based on the maturity of design information available, considering the benchmarked percentages of comparable projects and in line with Department for Transport guidelines for schemes at a very early phase;
- Consideration of land purchase costs and ground conditions/contamination is excluded from the estimates.

The costs of these measures, alongside any assumptions made for each measure/scheme, are referenced in the Appendix D.

Due to the nature of the strategic measures, costs associated with NEC are apportioned to reflect the expected benefit received in the area. The apportionment of these costs is included within the Transport Position Statement and Approach 2025 and shown in Table 5-2.

Funding for the various mitigation measures will originate through developer S106 contributions, GCP funding, and other government funding schemes. Each mitigation will be funded separately and is dependent on the scale and use of the infrastructure. Details of this can be found in Table 6-3 within section 6.2.

5.1.6 Prioritisation

A prioritisation exercise has been undertaken for each of the individual transport schemes as described in Section. 3.1. The results of the prioritisation exercise for transportation schemes are summarised in Table 5-1 and Table 5-2 below.

It is worth noting that all active travel schemes are considered to be 'essential' to avoid severance, given the requirement to keep vehicle trips to and from the NEC to within the agreed trip budget.

5.1.7 Summary

Transport infrastructure in NEC is designed to promote active and sustainable travel within and beyond the site, ensuring compliance with the NEC Trip Budget. Many of the Greater Cambridge Partnership schemes, like the Waterbeach Greenway and the Chisholm Trail, provide segregated outward cycle links and improve bus connectivity to the NEC area. In combination with internal measures, like improved cycle provision and east-west crossings, active travel infrastructure is prioritised to provide the most attractive and easiest option for internal travel. Sustainable transport, including improved bus services, guided busway, and the promotion of rail, is made a priority for outward travel. These transport modes are given priority as they will reduce the number of vehicles on the road and enable the area to adhere to the slim transport budget laid out in the Transport Evidence Base.

A variety of projects have been adapted since the publication of the 2021 IDP. Changes to the alignment of the Waterbeach Greenway and the promotion of the southern approach of EWR mean that the area is serviced by external transport measures in a different way from what was originally envisioned. Furthermore, certain projects have been revised or are no longer proposed as they are considered less effective than previously thought. Milton Road crossings have been revised,

particularly the underpass to the south of the site that facilitates crossing the busway. It has been proposed that this underpass be either upgraded or filled in and made into an at-grade crossing. In addition, two local schemes have been added, which were not included in the original list of local transport measures in the 2021 IDP (improvements to Cowley Road and improved cycle and walking links to North Cambridge Academy).

A full list of the projects proposed, and their updates can be found in the Gap and Future Needs Section. The schemes detailed in this updated IDP include several more strategic schemes. This is due to the distribution of trips to and from the NEC area being the whole of the Cambridge sub-region. This is detailed in the Transport Position Statement and Approach 2025.

The costings for each of the internal and local measures have been reassessed, and new updated figures have been included in the Phasing, Costs, and Funding Section above. These figures are high-level estimates and are based on direct construction costs and project construction-related costs. It is recommended that these measures be delivered at an early stage of the development of the area, as they are key in unlocking the successful integration into the surrounding area, as well as limiting undesirable impacts on the local transport network.

Table 5-1 – Summary of Local and Internal Transport Infrastructure Projects

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
Bridge over Milton Road to Cambridge Science Park	A pedestrian and cycle-friendly bridge links over Milton Road, connecting to the Eastern section of the site to Cambridge Science Park.	18	CCC	Essential	2030-2035
Underpass between St John's Innovation Centre and Cambridge Science Park	The NEC underpass will provide a high-quality pedestrian and cycle access under Milton Road through the delivery of an underbridge-type structure.	13	CCC	Essential	2030-2035
Busway Crossings	The development should include the provision for 3no. Further ped/cycle crossings of the Busway East of Milton Rd (2no.) and West of Milton Rd (1no.).	0.6	CCC	Essential	2025-2030
Pedestrian and cycle bridge over the railway line	A bridge to connect the NEC site with the Fen Edge to the east of the site. The bridge will facilitate connections into the wider footpath and cycle path network.	15.3	CCC	Placemaking	2030-2035
Intra-NEC area shuttle bus system	Either specialist autonomous vehicles or driven vehicles that serve a 3-mile-long route,	22.5 (Driven vehicles) or 16.2(Autonomous)	CCC	Placemaking	2030-2041

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
	which would take 15 minutes to run (20-year Operating Costs).				
Upgrade to the Milton Road underpass under the Busway.	Improvements to the appearance and security of the underpass, including improved lighting, surfacing, and wall tiles.	1	CCC	Essential	2030-2035
Filling in of the Milton Road underpass under the Busway, and extending the existing surface-level footway/cycleway.	Long-term ambition to fill in the ramps and underpass and replace with surface provision.	2	CCC	Placemaking	2030-2035
Improvements to Cowley Road as an access route.	A comprehensive and high-quality pedestrian-focused public realm and landscape scheme was implemented to upgrade the character and design quality of the street and was designed to integrate and complement the new development coming forward on either side.	4.3	CCC	Essential	2025-2030
Provision for cycling on the Cambridge Science Park loop road.	This involves widening the footway to 3m or 3.5m for 0.6 miles with 15 entry treatments	1.8	CCC	Essential	2025-2030

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
	over side roads to create a continuous route and two tiger crossings.				
Improved crossing at Milton Road with the busway junction.	Reconfiguration of this junction to improve the north-south movement for pedestrians and cyclists.	1.3	CCC	Essential	2025-2030
Improved cycle and walking route to North Cambridge Academy Secondary School.	An improved route to the North Cambridge Academy Secondary School, which could involve the widening of footpaths and the installation of zebra crossings on quiet streets.	2.2	CCC	Essential	2025-2030
Park and Cycle opportunities at P&R locations	Provision of 300 cycle lockers to allow people to store their commuter cycles that they can leave at the park and ride overnight.	1.1	CCC	Essential	2025-2030
Consolidation Hubs at 2 no. Locations	Two 1500sqm spaces fitted similar to a small mail sorting office. This will be a space for residents to come and collect deliveries and mail.	6.9	CCC	Essential	2025-2035

Source: AtkinsRéalis analysis based on Cambridgeshire County Council

Table 5-2 - Summary of Strategic Transport Infrastructure Projects

Project	Description	Scheme Cost (£ million)	NEC %	NEC Contributions (£ million)	Delivery partner(s)	Prioritisation	Phasing
Waterbeach to Cambridge Bus Corridor	Busway connecting the new town of Waterbeach with North Cambridge, Travel Hub west of the A10, and a path for walkers, cyclists, and, where appropriate, horse riders.	100	12%	21.1	CCC to submit TWAO to SoS (on behalf of GCP)	Essential	2030-2035
Bus improvements for Cambridge	Bus improvements for Cambridge - contribution based on the number of additional buses required to cater for the additional trips generated by the proposed level of development in the NEC area.	Cost per Bus/Per Year*	N/A	16.9	GCP & CPCA	Essential	2025-2040

Project	Description	Scheme Cost (£ million)	NEC %	NEC Contributions (£ million)	Delivery partner(s)	Prioritisation	Phasing
Chisholm Trail Phases 1 & 2	3.5km, mostly off-road and traffic-free, walking and cycling route connecting Cambridge Station and Cambridge North Station.	22.9	85%	17.7	GCP	Essential	2025-2030
Waterbeach Greenway	Green Active Travel route between Waterbeach, Milton, and Cambridge North.	11.0	85%	7.9	GCP	Essential	2025-2030
Milton Road Corridor	Public transport priority measures include new sections of outbound and inbound bus lanes and new floating bus stops. Improved cycle facilities with segregated cycle provision	32.0	30%	9.3	GCP	Essential	2025-2030

Project	Description	Scheme Cost (£ million)	NEC %	NEC Contributions (£ million)	Delivery partner(s)	Prioritisation	Phasing
	along both sides of Milton Road and priority over side roads. Copenhagen-style priority crossings at side roads. TRO to ban verge parking.						
Cambourne to Cambridge Bus Corridor	Busway connecting Cambourne, the Bourn Airfield development, Hardwick, Coton, and the West Cambridge site, Travel Hub at Scotland Farm, and a new path for walkers, cyclists, and horse riders.	181.0	14%	36.7	CCC submitted TWAO to the SoS (on behalf of GCP)	Placemaking	2030-2035
10 other Greenways	10 other Greenways excl. Waterbeach.	94.0	2%	1.5	GCP	Placemaking	2025-2030

Project	Description	Scheme Cost (£ million)	NEC %	NEC Contributions (£ million)	Delivery partner(s)	Prioritisation	Phasing
excl. Waterbeach							
St Ives Greenway	St Ives Greenway	6.7	58%	3.3	GCP	Placemaking	2025-2030
An additional 1000 P&R spaces in Cambridge	An additional 1000 P&R spaces in Cambridge.	10.0	N/A	1.5	GCP	Placemaking	2025-2030
New Controlled Parking Zones in the surrounding area	New Controlled Parking Zones in the surrounding area.	0.5	N/A	0.5	GCP	Essential	2025-2030
Cambridge South East Transport Phase 2	New Busway between a new A11 Travel Hub and Cambridge Biomedical Campus linking the new Cambridge South Station with Granta Park and Babraham	**	N/A	4.8	CCC submitted TWAO to the SoS (on behalf of GCP).	Placemaking	2030-2035

Project	Description	Scheme Cost (£ million)	NEC %	NEC Contributions (£ million)	Delivery partner(s)	Prioritisation	Phasing
	Research Campus. A path for walkers, cyclists, and horse riders will run alongside the Busway.						

Source: AtkinsRéalis analysis based on Cambridgeshire County Council

*The contribution to the City bus improvements assumes that a typical double-deck bus has a capacity of 80 passengers, and therefore, there is a need for an additional 14 buses in the AM peak and 10 buses in the PM peak, which results in a total of 24 buses per day. In this initial assessment, it is assumed that there will need to be 100% support for two years. This cost includes assumptions for services to and from Cambridge City Centre, Milton Road, and Newmarket Road areas20

** Due to the early stages of the revised CSETS Scheme, the contribution to the bus element of the scheme is based on the additional buses required to cater for the trips to and from the NEC area, while the cycle elements are assigned to the southern section of Chisholm trail and the costs generated based on the proportion of trips as with the other schemes.

[20] CCC (2025) NEC Development – Transport Position Statement and Approach (January 2025). Available at: https://cambridgeshire.cmis.uk.com/CCC_live

5.2 Power

5.2.1 Baseline

The NPPF sets out that planners should ensure emerging policies are aligned with the investment plans of a range of infrastructure providers, including those in the utilities sector[21]. Further, it states that plans should set out a positive strategy for energy from renewable and low-carbon sources[22], including futureproofing to account for climate change ambitions over the lifetime of the plan. Power demand and capacity, by their nature, are dynamic. This is as a consequence of the changing development demand in the market year-on-year coupled with power network operators, in this case UKPN, tending to operate at near capacity, with future available capacity allocated on a 'first come first served' basis and often reacting to changes to committed and implemented development within the 'catchment' of the power network.

This general approach can often be at odds with the plan-led delivery of network upgrades, which by its nature forecasts demand over a longer timeframe, and it can increase the risk that capacity is not available when developments come forward. This can be particularly challenging where there is uncertainty over phasing or the composition of individual developments. While UKPN aim to work collaboratively with the LPAs, developers and OFGEM to fund and deliver network reinforcements at the right time, it should be assumed at this stage that capacity within the existing network will not be aligned with the additional demands that projected growth in NEC will bring and that a programme of reinforcement will need to be defined, sought, agreed and implemented.

The current situation indicates that the existing power network is operating at near capacity. The current power supply is provided by the existing Milton Road Primary Substation, which contains two transformers providing an overall capacity of 48 MVA (2x24 MVA). For the purposes of ensuring network resilience and the prioritisation of network reinforcements, UKPN modelling typically assumes the loss of one transformer and, as such, the modelled 'firm' capacity of Milton Road is 24MVA. Since 2021, a number of major developments in and around NEC have submitted connection requests to UKPN to further erode spare capacity.

The scale and availability of alternative sources of power have not been determined or confirmed and will form part of the Local Area Energy Plan (LAEP) for Cambridgeshire, which is currently being developed by Cambridgeshire County Council and partners. The identification and inclusion of alternative sources of power supply as part of this study may provide additional solutions for NEC that improve resilience by reducing the reliance on existing infrastructure. The Plan will also play an important role in supporting the net-zero and sustainability aspirations of the City Council and SCDC as they address the climate change challenge.

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[21] NPPF (2025) Paragraph 27
[22] NPPF (2025) Paragraph 165

5.2.2 Stakeholders

The key stakeholder with regard to power supply remains UK Power Networks (UKPN) as the prime power supplier for the development area.

5.2.3 Gap and Future Needs

It is generally accepted and acknowledged that capacity in the network is lacking as a result of the increasing demands presented by new development and growth, more energy-intensive land uses, and a policy environment that requires more electrical power as an integral part of transitioning to a cleaner and greener energy supply. Issues like the replacement of conventional gas-fired heating in favour of heat pumps and other electrical solutions, and increasing requirements to serve electric vehicle charging have increased the demand for electrical power, for example. Modelling completed in 2019 set out that demand capacity for the Cambridge area was 240 MW, but with projected residential and commercial growth and the electrification of transport, this will increase to 710 MW for the Cambridge area by 2031[23], which raises concerns about the capacity of the network to accommodate such significant increases without significant reinforcement. This modelling included up to 8,600 new homes at North East Cambridge.

The NEC Site Wide Energy and Infrastructure Study and Energy Masterplan study calculated the baseline energy consumption for the proposed level of growth (full build-out) as being 62 MWh per annum with a diversified peak of 16 MW.

Engagement with UKPN has confirmed that increased demand for commercial floorspace across the NEC and, particularly, the delivery of specialist laboratory and research space will give rise to different network demands and influence the necessary mitigation.

Any development clearance undertaken in parallel with the NEC development should ringfence any capacity released. Specific arrangements will need to be reviewed and agreed upon to determine options for the temporary retention of power capacity. This may assist in those critical early phases of development and delivery.

5.2.4 Strategy and Projects

It is proposed that the load demand for the proposed development will be met by a capacity upgrade at the existing UKPN Milton Road Primary Substation and the delivery of a new substation later in the plan period. At Milton Road, the works will consist of extending the footprint of the Primary Substation to accommodate an additional transformer. The UKPN Business Plan 2023 – 2028 does not include the upgrade of the existing Milton Road Primary Substation as a high-priority ‘core’ intervention, given the uncertainties around delivery at NEC. This is a result of a regulatory framework in which suppliers are restricted from making speculative upgrades/reinforcements to their networks due to the regulator having a duty to

[23] Asset Utilities (2019) Greater Cambridge Partnership - Local Network Analysis, p23.

demonstrate value for money. However, UKPN has confirmed that the Milton Road reinforcement was one of many schemes being monitored to ascertain clearer timescales for delivery and potential inclusion in the next 5-year plan.

As a result of major developments eroding spare capacity since the 2021 IDP was completed, UKPN have confirmed that additional network reinforcement above that identified at Milton Road will now be required. This may well require new power infrastructure to be provided within NEC, given that it will be an area of high demand and that locating a new substation within the area would minimise wider disruption and allow for more efficient coordination with load take-up as development is occupied. The location and specification of this additional reinforcement will be developed subject to UKPN modelling the impacts of revised residential numbers, the composition of different types of commercial floorspace, and further clarity on anticipated phasing. With NEC being located at the fulcrum of a number of other areas of strategic growth, this intervention could be designed to provide wider network resilience. UKPN is actively in discussion with the major developers at NEC on these issues.

The existing substation connects to the grid via pylons and overhead lines (132 kV capacity), and these transect the core site and the Science Park. It has been identified that there is a need to relocate these underground sites before these sites are ready to come forward for redevelopment. Undergrounding on the core site is relatively straightforward. Coordination of the undergrounding of the lines would need careful consideration in respect of the planning of the route and land issues, and the physical programme of implementation. The site-specific nature of this issue means it is best addressed as an abnormal development cost as and when individual developments are implemented, rather than an infrastructure project required in response to projected growth at NEC. Details about the implementation and phasing of these works could be secured via a planning condition or planning obligation for the affected developments. Consideration should be given to coordination with other strategic traffic management and spatial issues, and the potential designation of a utility infrastructure corridor.

Alternative suppliers for a greener, renewable solution will need to be identified and considered, noting that the net-zero carbon buildings policy in the Draft AAP seeks to reduce energy demand by requiring renewable energy generation to match annual energy requirements for new development. Available options can result in significant demand reductions to the existing network. The approach to alternative supplies will follow and support the developing polices and guidelines of both the City Council and SCDC about their respective climate change agendas.

5.2.5 Phasing, Costs, and Funding

The process for upgrading the existing Primary Substation to provide an additional transformer is widely reported to take up to three years. The period remains a realistic estimate. Associated costs for works of a similar scale and complexity have indicated costs range between £3 to £4 million. UKPN have confirmed an indicative cost of £4m based on 2020 prices and expects that this cost would be higher to account for cost inflation since. UKPN estimate that a new substation within NEC could cost in the region of £10m, though with this intervention likely required to serve

later phases of development, this cost should be treated as indicative. This cost would be for the substation only and would not account for the associated site-specific costs of connecting new developments, which would be variable depending on location.

More accurate costings would be developed as part of future iterations of UKPN's business plan with the intention that this evidence the need for funding applications to OFGEM. Where changing patterns of demand mean that a different scale of reinforcement is required or more quickly, they are able to utilise an uncertainty mechanism that allows ad-hoc requests to OFGEM for additional priority funding. Even though funding has not presently been identified for network upgrades to serve NEC, through collaboration with UKPN, this would likely be secured.

The process for this work needs to commence as early as possible if capacity is to be made available to the development in sufficient time so as not to impede the wider development programme. If more detailed projections at the application stage highlight a lack of availability in the network, temporary solutions may be required.

In determining the need for upgrades and the associated costs, UKPN modelling includes a range of assumptions around electrical demand and progress towards net zero. This includes, for example, assumptions around building fabric, the incorporation of renewable technologies, and electric vehicle charging points. A more prescriptive 'green' policy environment that presents higher network demands will likely increase the scale of investment required to maintain sufficiency of supply, but NEC AAP policies will also seek to reduce annual and peak energy demands through greater provision of renewable energy generation within new developments. This dynamic needs to be kept under review and can mean that costs are subject to change.

The substation will serve both the residential and commercial elements of the NEC AAP, and the cost, therefore, needs to be apportioned. Costs have been apportioned on the basis of forecasted energy consumption, referred to as peak demand.

While the costs associated with substation upgrades will normally be met by the supplier, the cost of connecting individual developments to the network will fall on individual developers as a development/build cost.

5.2.6 Prioritisation

The works to the Primary Substation(s) have been identified as critical enabling on the basis that without network upgrades, it is not confirmed that there will be sufficient power in the network for incoming residents and commercial tenants at NEC. The required upgrades to the Primary Substation(s) should be designed and delivered by UKPN. The time taken to design, obtain consent, and deliver these upgrades needs to be understood as part of the phasing of development and emphasises the critical nature of prompt funding and delivery to unlock growth.

5.2.7 Summary

Requirement to revisit current capacity and the upgrading programme will be key.

The substation upgrade remains critical, enabling infrastructure that needs to be provided in the first development phase, aligned, insofar as possible, with the first occupation of residential and/or commercial premises.

The expansion of renewable energy solutions throughout NEC and the wider area will have a significant influence on demand for electrical power. The forthcoming LAEP may highlight opportunities and interventions that affect this dynamic, and the type and scale of power infrastructure required to serve NEC. Similarly, while UKPN modelling makes assumptions around power demand associated with sustainability policies and net zero ambitions, the implications of these measures and a wide range of interventions on patterns of energy consumption will need to be monitored as development comes forward.

Table 5-3 – Summary of Power Infrastructure Projects

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
Substation at Milton Road	New transformer to increase capacity to meet future demand from residential and commercial floor space.	4	UKPN / OFGEM	Critical enabling	2025-2030
Delivery of a new substation	Capacity increase to meet future demand from residential and commercial floor space.	10	UKPN / OFGEM	Critical enabling	2030-2041

Source: AtkinsRéalis analysis

5.3 Waste

5.3.1 Baseline

CCC is the Waste Disposal Authority and has a statutory responsibility for waste planning and disposal across the county. In partnership with Peterborough City Council, CCC has prepared the Cambridgeshire and Peterborough Minerals and Waste Local Plan. CCC manages a network of nine Household Recycling Centres (HRC). Milton HRC is the closest to NEC, being located roughly 1km north. The City Council and SCDC are the designated Waste Collection Authorities responsible for the collection of household waste and have operated as the Greater Cambridge Shared Waste Service since 2016.

The planning policy context remains largely unchanged since the earlier IDP was completed in 2021. At that time, the joint Minerals and Waste Local Plan (MWLP) for Cambridgeshire and Peterborough had recently been adopted (July 2021), setting out the strategic framework for the management of waste arisings up to 2036. The MWLP sets out overarching objectives to contribute positively to the sustainable management of waste in a manner that supports climate change mitigation, adaptation, and builds in resilience to the effects of climate change.

The MWLP allocates and safeguards existing and proposed waste management and recycling facilities and sets out requirements for all major new developments to implement sustainable waste management practices. Data compiled at the time of the 2021 NEC AAP indicated that the plan area is a net importer of waste. The MWLP also stated that there were sufficient sites (existing and committed) to meet the identified future need, and no need for the Plan to allocate new sites.

The MWLP is supported by well-established guidance on the design and delivery of waste management, storage, and facilities as part of new developments. Policy 14 sets out that residential and commercial developments should be accompanied by a waste management toolkit that sets out how developments will be designed to provide suitable waste storage, waste collection, and recycling facilities in accordance with Greater Cambridge Shared Waste Service (GCSWS) requirements. The policy states that where appropriate, development may be required to contribute to the provision of bring sites and/or HRCs. Further guidance on the range of waste management infrastructure to be incorporated within developments and recommended design solutions is set out in the RECAP Waste Management Design Guide Supplementary Planning Document (SPD) (2012) and on the GCSWS website.

In 2022, planning permission was granted for the redevelopment, expansion, and upgrade of the (then) temporary Milton HRC to allow for its permanent retention at this location (see CCC/22/259/FUL). The development was scoped and scaled to accommodate projected household growth in Cambridge City and the South Cambridgeshire area up to the year 2070, anticipating increases in waste arising from the HRC from 12,500 tonnes per annum to 18,000 tonnes per annum by 2046 and 25,000 tonnes per annum by 2070. The development forms part of the council's overall strategy to improve climate resilience by expanding sustainable waste

management principles and by siting the facility in a location that minimises travel time for a large number of existing and future residents. The expanded facility is projected to serve up to 100,000 households over the AAP plan period, including those planned at NEC. Whilst it will primarily accommodate household waste, the facility will also have the capacity to accept commercial waste arising from SME businesses. Work is projected to begin in Autumn 2025 and be completed within 9 months. The project has a capital budget of up to £4.813m.

The County Council seeks contributions from residential and commercial development, with the approach set out in the RECAP Waste Management Design Guide SPD (2012) and the Draft Greater Cambridge Planning Obligations SPD (2024).

The previous 2021 IDP identified a need to fund three additional refuse vehicles to accommodate the increased demand for refuse collection as a result of planned residential growth at NEC. The collection of household waste is a matter for consideration by the IDP, as the scale of growth proposed at NEC will require additional refuse collection vehicles (RCV). As per the Draft Greater Cambridge Planning Obligations SPD (2024), the assumed provision is one collection vehicle per 3,000 dwellings on a fortnightly collection pattern. Where an underground collection system can be provided, the number of vehicles can be reduced.

Bring Banks are typically required to be installed on hard standing or public realm provided as part of developments to provide a network of local facilities to supplement the HRCs. At present, one set of banks should be provided for every 800 dwellings[24], with a lower level of provision generally expected where developments are in close proximity to an HRC. Guidance relating to bring bank provision is currently under review. The provision, funding and management of bring banks is entirely managed via private providers.

Managing the collection and disposal of commercial waste is not the responsibility of the Waste Authority, this is the responsibility of businesses and private contractors.

5.3.2 Stakeholders

Waste disposal is the responsibility of the Cambridgeshire County Council. It is managed through a network of HRCs and the Waste Treatment Facility at Waterbeach, with the Milton HRC facility serving the Cambridge and Northstowe area.

Waste collection and transfer to the Waste Treatment facility is the responsibility of the City and District Councils, represented by GCSWS, op who operate a fleet of vehicles for doorstep collection and also a network of bring sites.

[24] As per the Draft Greater Cambridge Planning Obligations SPD (2024) and RECAP Waste Management Design Guide

5.3.3 Gap and Future Needs

The Draft AAP indicates the residential units that will be flats, and for those, waste storage will typically be in the form of communal areas that may include compaction or the use of underground bunkers. While underground storage systems would bring space and collection efficiencies, they would also require more specialist vehicles with hydraulic cranes that are more expensive than RCVs that collect from ground level. It is anticipated that a number of major developers at NEC will make use of underground waste storage and collection regimes.

The council's existing waste collection regime comprises a fleet of RCVs that each cover up to 3,000 households. Each RCV accommodates all three waste streams: recycling, organic, and residual. A fourth waste stream for separate food waste collection will be operational from 2025. As set out in the Draft Greater Cambridge Planning Obligations SPD (2024), the capital cost of RCV ranges from £433k (£144 per dwelling) for an electric RCV to £240k (£80 per dwelling) for a diesel operated RCV. The equivalent costs for a 12-tonne food waste vehicle are £300k for an electric vehicle and £140k for a diesel (Hydrotreated Vegetable Oil) (HVO) vehicle.

The cost premium to adapt collection vehicles to allow collection from underground storage systems is anticipated to be in the region of £120k. The councils' fleet does not currently include any electric vehicles with adaptations for underground collection, and the availability of such vehicles should be kept under review to ensure that the costs outlined below remain robust. Electric vehicles are more consistent with corporate ambitions around climate action and the vision for environmentally sustainable development at NEC, though where diesel vehicles are the only practicable option there is a policy that such vehicles are fuelled by hydrotreated vegetable oil (HVO).

5.3.4 Strategy and Projects

The waste management facility requirements generated by growth at NEC will be provided at the Milton HRC facility. As noted above, the expansion of this facility has been sized to accommodate projected growth at NEC and a wider catchment area. It is noted that a sum of £13,968 was secured from the Brookgate development (at appeal), equivalent to £32.87 per dwelling.

In growth scenarios 1 and 2, in which the WWTP is relocated, the anticipated number of new homes in the NEC area will be in the region of 7,600 dwellings, creating a need for 3x new RCVs and a single dedicated vehicle for the collection of food waste.

Investment to expand the operational capacity of Milton HRC means that only limited provision of bring banks is necessary for local recycling. The shared waste service confirms that the only requirement to facilitate this is for an area of hardstanding with appropriate vehicle access for loading to be delivered. The installation, collection and maintenance of any bring bank facility would be fully funded by a private operator, with no cost implications for the council or developers.

5.3.5 Phasing, Costs, and Funding

The delivery of the new and expanded Milton HRC facility has been driven in part by the expiry of the temporary planning permission for this use and increased demand from the existing population. As a result, it will be delivered through 2025/26, in advance of much of the proposed residential growth in NEC. The capacity of the new facility has been designed to accommodate projected household growth up to 2070, including that proposed at North East Cambridge. Capital funding has been identified and allocated, with a budget of £4.81m as of November 2024[25]. A financial contribution was secured from the Brookgate development and, depending on the timing of future residential-led planning applications, there may be opportunities to secure further developer contributions.

Three additional RCVs will need to be delivered alongside housing delivery and via developer contributions, given that the additional cost arising is wholly attributable to proposed residential growth and no alternative capital funding has been identified. A cost of £433k would allow for an additional electric RCV or alternatively a diesel RCV with the necessary adaptations to undertake collection from underground storage systems.

While DEFRA funding has been made available to deliver a food waste collection service in Greater Cambridge, this funding is predicated on the existing number of households and so the additional costs associated with growth at NEC is currently a gap to be funded by developers unless further funding can be secured. S106 obligations will need to include appropriately worded obligations with triggers that require payments in advance of occupation, with consideration given to the amount of spare capacity in the existing vehicular fleet as part of the determination of planning applications.

5.3.6 Prioritisation

The expansion of the HRC is a critical project. The provision of sufficient household waste collection vehicle capacity is essential for mitigation to allow the proposed growth at NEC to come forward. Without the extra capacity, waste in the NEC area will not be able to be collected.

5.3.7 Summary

The expansion of Milton HRC is anticipated to be completed before the first occupation of the majority of the new homes across NEC. However, a new waste collection vehicle will need to be provided as the first tranche of new homes is occupied, unless it is revealed that there is space capacity in an existing collection regime for early occupiers. Further RCVs will need to be provided at key milestones in the delivery programme. With no immediate alternative funding option, waste collection is a cost that will fall wholly on future developers to contribute to and fund.

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[25] Cambridgeshire Environment and Green Investment Committee, November 2024: Milton Household Recycling Centre Redevelopment

Table 5-4 – Summary of Waste Infrastructure Projects

Project	Description	Cost (£ millions)	Delivery partners	Prioritisation	Phasing
Expansion of the existing temporary facility	Expansion of the existing temporary facility to accommodate household growth up to 2070	4.81	CCC / Developers	Critical	2025-2030
Residential Collection Vehicles	3x additional Electric RCVs for general waste and recycling, and 1x electric 12-tonne vehicle for food waste collection	1.6	GCSWS / Developers	Essential mitigation	2030-2040

Source: AtkinsRéalis analysis

5.4 Digital Networks

5.4.1 Baseline

The 2022 UK Digital Strategy highlighted how digital technology is increasingly integral to all facets of modern life. It set out that digital technologies were at the heart of the UK's economic future and prosperity, and that to realise this potential would require the delivery of world-class digital infrastructure.

National Planning Policy sets out that planning policies and decision-making have an important role to play in creating a planning framework that properly values and integrates digital infrastructure within new development. It underlines the role of digital infrastructure in supporting the modern knowledge and data-driven economy, but also the importance of high-quality and reliable communications infrastructure, including full fibre broadband and next-generation mobile technology, in fostering social well-being. Digital technologies will play an integral role in managing and monitoring the way in which patterns of development contribute to addressing climate and ecological emergencies.

Existing and emerging planning polices across Greater Cambridge recognise that digital infrastructure plays a critical role in supporting the economic, environmental, and social aspects of sustainable development.

In the context of delivering sustainable growth in NEC, digital infrastructure comprises the delivery of full-fibre broadband, mobile connectivity, and the incorporation of smart technologies in buildings and public spaces.

Broadband infrastructure

The integration of digital infrastructure – and specifically high-capacity broadband - in new development is an established part of the Local Plan, being a requirement in both the Cambridge Local Plan (Policy 42) and South Cambridgeshire Local Plan (Policy TI/10). In addition, as part of the Connecting Cambridgeshire programme, the CPCA, County Council, has adopted a policy of including fibre ducting in the specification of all transport and infrastructure schemes as part of a "dig once" scheme that aims to avoid future cost and disruption.

A number of capital programmes have been, and continue to be, delivered to improve Broadband connectivity across Cambridge and the wider region. Openreach announced a £30m investment to bring Fibre to 100,000 more homes and businesses in Cambridge in 2022. As part of the Central Government-led Project Gigabit, significant investments have been made across areas of Cambridgeshire with poor access to broadband facilities. CityFibre was selected in 2023 as the preferred delivery partner to provide Fibre to over 45,000 homes in Cambridgeshire as part of a £69m contract. As a result of these investment programmes, the majority of the NEC area was identified as being Gigabit broadband ready (i.e., capable of achieving download speeds of at least 1GB) in 2024.

Connecting Cambridgeshire has led the expansion of accessible WiFi in publicly accessible buildings through the CambWiFi programme. It currently provides free WiFi across around 200 public buildings in Cambridgeshire, including libraries, council offices, public leisure centres, children's centres, community centres, and P&R sites. Existing CambWiFi sites near the NEC area include Milton Park and Ride (north) and Chesterton Children's Centre, Shirley Community Nursery & Primary School (south). Further investment is being made to expand the initiative, and it is reasonable to expect that this would include the proposed District Centre in NEC.

Mobile Networks

A key ambition of Connecting Cambridgeshire is speeding up the delivery of fixed and mobile infrastructure. This aims to create a more resilient mobile network at a time when access to reliable data services (4G and 5G) is as important as reliable connectivity for voice calls.

The four Mobile Network Operators (MNOs) (BT EE, Vodafone, Three, VMO2) have coverage obligations as part of their license agreements with OFCOM. Under existing license requirements, each operator is required to provide good quality coverage to in excess of 90% of the landmass in England, with levels of compliance required to increase between 2024 and 2027. Coverage "not spots" are typically rural areas, but also is noted to include some business parks, major roads, and train stations. and areas subject to transformation that previously did not need consistent network coverage. The capital costs associated with network reinforcement are primarily led by the MNOs, though Central Government funding is available to supplement delivery, particularly across the public sector estate. The MNOs use predictive modelling to consider coverage and report back to OFCOM via the Connected Nations Report. OFCOM conducts comprehensive drive testing to check network coverage and identify areas requiring investment.

At the local level, Mobile Network coverage can be affected by the scale, composition, and materiality of development, and so MNOs need to be engaged at the development management stage to consider how development proposals might affect network coverage, whether reinforcements are needed as a result. As part of the delivery of the Cambridgeshire Digital Connectivity Strategy, a dedicated digital connectivity planning officer post has been created with a remit to proactively engage MNOs, to ensure Local Plans reflect the need for digital infrastructure, and to advise on how operational network requirements can be balanced with other local planning considerations.

Smart Technology and environmental monitoring

The NEC AAP supports the integration of smart technologies within development as an important means of monitoring whether the environmental ambitions of the AAP are being achieved. The creation of a low environmental impact urban district is central to the strategic objectives established for the NEC area, and integrating smart technologies within development is entirely consistent with the prevailing innovation district ethos.

The “Smart Cambridge” collaboration with the University of Cambridge and Greater Cambridge Partnership has led to the expansion of a network of digital totems over the last 5 years that now extends to the surrounding market towns in Cambridgeshire. The totems include real-time travel updates and can be synced to users’ smartphones. A number of pilot initiatives, including incorporating smart tech in street furniture and lighting columns, are under development.

5.4.2 Stakeholders

The timely delivery of digital infrastructure relies on a number of stakeholders at different stages of the development process. The capital costs of broadband infrastructure are primarily met by private providers, with Openreach and CityFibre delivering significant upgrades and expansions. Virgin Media is also in the process of upgrading its broadband network to full fibre. Providers need to be engaged at the appropriate time in the development, management, and delivery processes to ensure future upgrades and expansions coincide with additional demand as a result of growth. Similarly, while MNOs maintain models of network coverage, they are largely reactive to individual developments and consider network impact and the need for reinforcement as a site-specific mitigation, where necessary.

The deployment of smart technology within the NEC area will be reliant on collaboration with partners as part of the Connected Cambridgeshire initiative and directly via the Environmental Services teams at the Local Authorities. The responsibility for the provision and management of the monitoring lies with the Environmental Services teams within the Councils.

5.4.3 Gap and Future Needs

While existing broadband and mobile (4G/5G) networks are likely to be sufficient to accommodate growth in the west of the NEC area around the Science Park, the extent of transformation on the site of the WWTP will require the installation of a more comprehensive network of additional infrastructure to support the creation of a new mixed-use neighbourhood.

There is a need to monitor all phases of the development, and an opportunity to support resident, employment, and visitor safety through digital monitoring of transport routes/usage, public spaces, and the environment.

The range of environmental monitoring could encompass noise and air quality, consumption of energy and net zero carbon, consumption of water and waste arisings. In addition, smart technology has an important role in monitoring transport movements and volumes to demonstrate ongoing compliance with individual site and NEC-wide trip budgets.

A closed-circuit television (CCTV) network is also needed in the NEC area to improve safety and security by preventing and detecting crime.

5.4.4 Strategy and Projects

As with other utilities, the delivery (and capital funding) of broadband and telecommunications infrastructure will be a largely reactive process with delivery by private providers as development is consented and need arises. Cost saving and efficiency can be achieved by a coordinated approach to the delivery of digital infrastructure alongside other utilities, and this is an important consideration as part of the development management process and delivery. The “dig once” policy adopted by the County Council for the delivery of infrastructure projects should be adopted by private developers across NEC.

5.4.5 Phasing, Costs, and Funding

Where there are gaps in monitoring transport trips, air quality and noise in and around NEC, new equipment needs to be installed as soon as possible, before development commences, to ensure a detailed and consistent baseline and understanding of background data can be developed against which the impact of the NEC growth will be measured. The monitoring of water and energy consumption and waste production should mirror the delivery of development, but such monitoring would be a development cost.

Air quality monitoring estimates had been provided by the Environmental Services team at the City Council as part of the 2021 IDP. A potential cost had been indicated, inclusive of hardware, siting, connections, maintenance, and data management services. The costs will need to be re-visited for a detailed appraisal, but an estimate of £600,000 could be applied for the 2025 IDP.

The trip mode and trip budget estimate are based on an estimate of sensors and the need for up to two technology updates, ongoing maintenance, and monitoring revenue costs over the Plan period.

A CCTV network could be expanded as new developments are occupied, through a combination of direct development costs and off-site installations to be funded through developer contributions. The community safety figure had previously been based on 15x CCTV cameras at a unit cost of £25,000 plus installation, ongoing maintenance, and data management.

No existing capital funding has been identified for the installation of smart technologies across NEC, and it is anticipated that developer contributions would likely be required to fund and deliver this infrastructure.

5.4.6 Prioritisation

The monitoring, CCTV network, and smart totems are considered Placemaking infrastructure as these play a vital role in ensuring the development is environmentally friendly, and residents and visitors alike are not subjected to harmful levels of pollutant concentrations and remain safe. The installation and reinforcement of broadband and mobile networks to improve connectivity are critical enablers.

5.4.7 Summary

Air quality monitoring, trip mode, noise monitoring, and the digital platform all need to be provided at the very outset of site preparations to provide a baseline for what is to come. The other measures (energy, water, waste, and community safety) are related to NEC build-out and occupation, which is programmed for later periods. Funding the provision and ongoing maintenance/management of the digital monitoring equipment is a cost that is wholly attributable to the NEC developers.

Table 5-5 – Summary of Digital Networks Projects

Project	Description	Cost (£ million)	Delivery partners	Prioritisation	Phasing
Broadband	Installation/ reinforcement of fibre network to deliver gigabit broadband	Unknown – but fully funded	OpenReach / CityFibre / Virgin	Critical	2025-2030
Camb WiFi	Delivery of publicly available WiFi within new public/ community buildings	Unknown	Connected Cambridgeshire	Placemaking	2025-2040
Mobile Network reinforcement	New/improved infrastructure to boost network strength in areas of poor connectivity	Unknown – but fully funded	MNOs	Critical	2025-2030
Smart Totems	Expansion of the “Smart Cambridge” Project to deliver 2 Totems (1x small at £30k, 1x large at £90k)	0.12	GCP	Placemaking	2035-2045
Environmental Monitoring	Monitoring of air quality, trip mode, noise, water, waste, energy consumption.	2.4	Local Authorities	Placemaking	2030-2040

Project	Description	Cost (£ million)	Delivery partners	Prioritisation	Phasing
	Development of a digital platform.				
CCTV	CCTV to improve community safety.	0.5	Local Authorities	Placemaking	2030-2040

Source: AtkinsRéalis analysis

5.5 Social Infrastructure

5.5.1 Education

5.5.1.1 Baseline

Cambridgeshire County Council has a number of legal duties and responsibilities regarding the provision of a range of education across the county and works with a range of commissioners to ensure sufficiency of places from 0 to 19 years of age in mainstream education, and up to 25 years of age for young people with special educational needs or disability (SEND). Through regular Education Organisation Plans and Childcare Sufficiency Assessments[26]The County Council and its partners review how underlying population changes and house building drive demand for provision at the Early Years stage, Primary and Secondary Schools, and 16+.

Early Years (EYS)

The Childcare Act 2006, Education Act 2011, and Childcare Act 2016 establish the principal legal framework for the provision of Early Years services, requiring the county council to provide sufficient and suitable places to enable parents to work and undertake education and training that could lead to employment. This results in requirements to make provision for funded early years education for eligible 2-year-olds, 3-year-olds, and 4-year-olds. Political commitments made in 2023 have steadily increased the number of funded hours available for working parents such that, as of Sept 2024, all working parents of children aged 9 months to 3 years will be able to receive up to 570 hours funded hours annually (15hrs per week over a 38 week academic year), increasing to 1,040 hours (30hrs per week over a 38 week academic year) in September 2025. As of 2023, 74% of 2-year-olds accessed a funded Early Years Place due to less generous free entitlement compared to 98% of 3-year-olds and 96% of 4-year-olds[27]. These rates are broadly comparable with the National average, though the proportion of 2-year-olds taking up funded places is likely to have increased since.

While Local Authorities do not have a statutory Duty to provide all of this childcare provision directly, they are expected to work with registered private, voluntary, and independent providers to fully meet this need. There are 906 providers of Early Years providers across Cambridgeshire, ranging from registered childminders to pre-school and nursery provision within school settings, although it should be noted that the number and distribution of settings vary across the geography of Cambridgeshire. Since 2016, the county council has had a policy of incorporating early years provision within new schools, unless doing so would demonstrably lead to a surplus of local provision.

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[26] CCC (2023) Cambridgeshire Childcare Sufficiency Assessment. Available at: https://www.cambridgeshire.gov.uk/asset-library/cambridgeshire-childcare-sufficiency-assessment-2023.pdf

[27] CCC (2023) Cambridgeshire's 0-25 Education Organisation Plan 2023-2024, p18

Demand for Early Years provision in Cambridge North is high, and there is a recognised need for additional full-time day care provision, particularly for those under two. The Childcare Sufficiency Assessment 2023 forecasts that demand for Early Years places will grow considerably in the 5 years up to 2028 as a result of population change and, particularly, the delivery of new homes[28]. A substantial uplift in jobs across the NEC area is also likely to drive demand for Early Years childcare. The growth scenarios presented in Section 4 all represent increases in the number of jobs relative to the submission version of the AAP, with growth now expected to result in between 33,218 and 71,642 new jobs.

Primary and secondary education

The Childcare Act 2006 establishes a general duty to provide a school place for every child living in their area whose parents want their child to be educated in the state-funded sector. The Education and Inspections Act 2006 broadened this duty to require Local Authorities to promote choice for parents and secure a more diverse educational offer. The Academies Act 2010 made it possible for all publicly funded schools to attain Academy status, and the Education Act 2011 introduced a presumption that all new schools would be Academies, including Free Schools.

Primary school places are considered across planning areas that typically relate to the catchment areas for individual secondary schools and so contain several primary schools. The Cambridge City (North of River Cam) Primary Planning Area includes 11 Primary Schools, of which 6x are broadly within the catchment area of the North Cambridge Academy, which most closely aligns with the NEC area. The closest primary schools are Shirley Community Primary School (2FE) and Chesterton Primary School (1FE). Further primary school provision is available at Fen Ditton and Milton, roughly 1 km east and north of the NEC area, respectively.

As noted above, the closest secondary school is North Cambridge Academy. The Academy is non-selective, mixed gender, and has 5 forms of entry with an overall capacity of 750 students. The Academy is operating at capacity. Further secondary school provision is located at Impington Village College (approx. 1.5km North West of the NEC area), Chesterton Community College (approx. 2 km South West), Parkside Community College (approx. 4 km South West), and Coleridge Community College (approx. 3km South East). September 2023 saw the biggest secondary school intake across Cambridge for a number of years[29] and housing growth will bring additional pressure.

Post 16 education

Since 2015, the Local Authority Duty is to encourage, enable, and assist young people to participate in education and training up to the age of 19, or up to the age of

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[28] Cambridgeshire Childcare Sufficiency Assessment, CCC, 2023, available at: Strategies for schools and learning | Cambridgeshire County Council
[29] Secondary and primary school applications and offers, published June 2023, available at: Secondary and primary school applications and offers: 2023

25 for those with special educational needs and for whom an education, health and care (EHC) plan is maintained.

Once young people leave school at 16, they can choose from the following options:

- Full-time education, such as school, college, or continued home education
- Apprenticeships, work-based learning
- Part-time education or training if they are employed, self-employed, or volunteering for at least 20 hours per week

Typical post-16 education options in Cambridgeshire comprise 6th Form Colleges, Further Education Colleges, Academies with 6th form provision, and specific vocational skills centres. There are a number of special schools for young people with SEND whose needs cannot be met within the mainstream education sector, and a number of Independent Schools.

Cambridge Regional College is located at the western extent of the NEC area within the Science Park Campus. Chesterton Community College and Impington Village College both include 6th form colleges, while the College of West Anglia's Cambridge Campus is located in Milton.

SEND

The Children and Families Act 2014 aims to ensure all children can access the right support and provision to meet their needs and outlines a Code of Practice for children and young people with special educational needs and disabilities (SEND). The Code of Practice sets out a general presumption that children and young people with SEND remain in mainstream education, but that parents of those with an EHC Plan have the right to seek a place at a more specialist school or post-16 institution.

All mainstream schools are required to set out their approach and capabilities with regard to SEND provision so that parents can make informed decisions. Castle School is the closest specialist SEND school to the NEC area and offers the full range of education from pre-school to 6th form. As of November 2024, it was operating just more than its capacity, with almost 240 pupils enrolled[30]. Further provision is available at the Centre, Cottenham, providing secondary and 6th form education in a setting specialising in social, emotional and mental health with around 100 places, the Cavendish School at Impington specialising in autism with 80 places, and at Martin Bacon Academy, which provides 150 places for those with a range of complex educational needs from early years up to 19.

All of these settings are at, or near capacity. This reflects a trend across the county whereby the number of pupils with complex needs is increasing and, despite the availability of robust support systems, including educational psychologists and

[30] Get Information about Schools (GIAS), Department for Education, available at: Get Information about Schools

specialist teachers who provide vital services across schools, some indications existing resources may be insufficient to fully meet the demand[31].

5.5.1.2 Stakeholders

Cambridgeshire County Council is the principal stakeholder with responsibility for ensuring that sufficient school places are provided between the ages of 2 and 19 (and up to 25 in the case of those with an EHC Plan). However, the changing legislative landscape has meant that engagement with a range of other providers is essential in school place planning. This includes the various Academy Trusts who operate individual or groups of schools, further education providers, and a range of private and voluntary providers at the Early Years stage. The Department for Education is a key stakeholder and, notwithstanding the further detail on funding below, provides capital funding towards new school building, expansion, and refurbishment/maintenance.

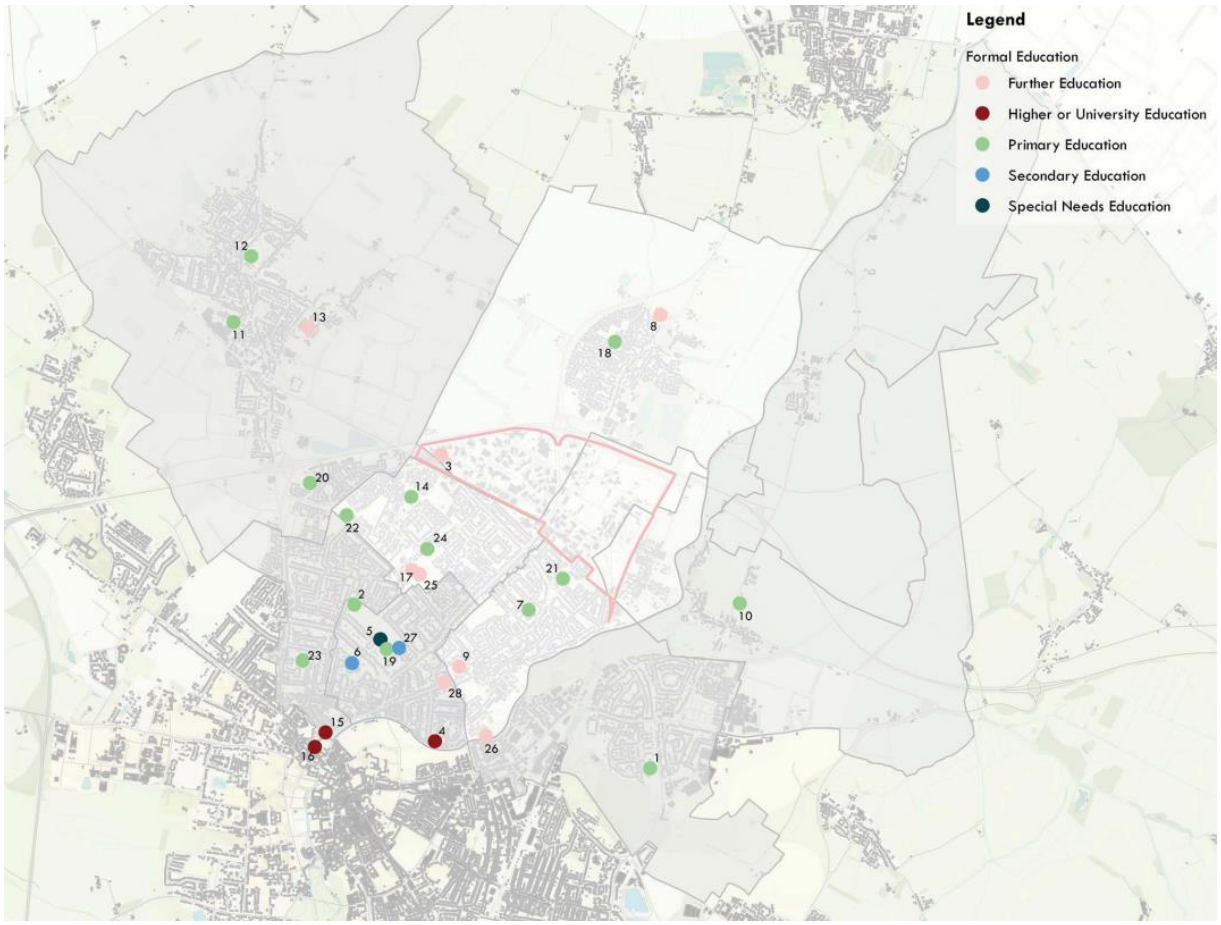

Figure 5-1 – Existing Educational Facilities within and near the NEC area

Source: NEC Community & Cultural facilities Audit provision (LDA Design, 2019: Pg 100)

[31] CCC - SEND Action Plan, available at: Funding special educational needs | Cambridgeshire County Council

5.5.1.3 Gap and Future Needs

The County Council adopted new child yield multipliers in November 2023. The child yields are derived through the use of school census data and population analysis to estimate the demand for different stages of education facilities as a result of different types of housing development.

The updated multipliers made a distinction between the anticipated Child Yields in Cambridge and the Cambridge fringe, where development is typically denser and includes a greater proportion of flats, and the more suburban housing delivered in other areas of the county.

In addition to this locational factor, child yields take into account the size of new homes (number of bedrooms) and housing tenure. The projected number of children for every 100 new homes are split by age groups corresponding to Early Years, Primary, and Secondary age groups, as follows:

Table 5-6 – Detailed Multipliers: Cambridge and Cambridge Fringe (number of children per 100 new homes)

Market and Intermediate Housing

Age range / No. beds	1	2	3	4+
0 to 3 yrs	0	10	20	35
4 to 10 yrs	0	8	20	45
11 to 15 yrs	0	5	15	30

Affordable and Social Rented Housing

Age range / No. beds	1	2	3	4+
0 to 3 yrs	0	40	60	70
4 to 10 yrs	0	30	60	100
11 to 15 yrs	0	15	60	90

The County Council has also revised its **SEND multiplier** in February 2025. This was to reflect changes in the number of children with EHC Plans and requiring education in a special school or within a SEND unit/Enhanced Resource Base. The

updated SEND Multiplier for the proportion of children between the ages of 4 and 15 years old is **2.17%**[32]**.**

Since 2021, the number of dwellings projected to be delivered in the NEC area has been updated to account for planning permissions consents granted in the period up to December 2024. The affordable housing tenure split has been updated in line with the revised NPPF and Draft Greater Cambridge Planning Obligations SPD (2024), now comprising 25% Shared Ownership/Intermediate housing and 75% Social/Affordable rent (with at least 10% at Social Rent).

An indicative dwelling mix to be delivered across the lifetime of the AAP has been developed on this basis. The number of homes below corresponds to Growth Scenario 1:

Table 5-7 – Dwelling Mix details

Dwelling type	1 bed	2 beds	3 beds	4 bed+	Total
Total dwellings	2,508	4,614	672	44	7,838
% of total	32%	59%	9%	1%	100%
Affordable & Social Rent	752	1,386	202	13	2,353
Market & Intermediate	1,756	3,228	470	31	5,485

Source: GCSPS

The modelled dwelling mix for Growth Scenario 1 (AAP + Consents) equates to the following additional demands for school places at the Early Years, Primary, Secondary School, and SEND levels:

Table 5-8 – Estimated children's population (0-15 years)

Typology	1 bed	2 beds	3 beds	4 bed+	Total
Early Years	0	876	215	20	1,111
Primary	0	673	215	27	915
Secondary	0	369	192	21	582
SEND (4 – 15 years)	0	23	9	1	33
Total	0	1,941	631	69	2,641

Source: ATR, GCSPS

[32] Children & Young People's Committee (February 2025): Child yield multipliers for early years and children and young people with special educational needs and/or disabilities (SEND), available at: CYPC Feb 25 Commitee Papers - Agenda Item 7

5.5.1.4 Strategy and Projects

Early years

New early years provision will be provided within the proposed primary schools. As below, the two new schools proposed on the Hartree development site are expected to provide 130 early years places. If it becomes clear that a third primary school is required, the default expectation would be that this, too, includes an element of early years provision. Alongside the direct provision, it is expected that additional demand for early years provision will be met by a range of providers in the private and voluntary sectors through a combination of existing facilities and childminders and new provision on-site within NEC. The County Council will have an important role in monitoring the adequacy of provision and coordinating the early years offer as new homes are delivered.

Primary

A single form entry (FE) primary school accounts for 210 children (30 children across each primary school year. Based on projected pupil estimates and the residential dwelling mix within NEC, it is anticipated that residential growth will generate a need for around 4.4FE at the primary school level, requiring two new primary schools on site. This will comprise a 3FE Primary School (630 places) with a 78-place nursery and a 2FE Primary School (420 places) with a 52-place nursery. In the alternative growth scenario, with a higher level of commercial floorspace, this requirement would drop to 2 x 2FE Primary Schools. With the WWTP remaining, any major residential development would be expected to provide investment in education facilities in accordance with the adopted Draft Greater Cambridge Planning Obligations SPD (2024) unless an assessment at the time of the application shows that additional demand could be accommodated in existing schools.

The Draft NEC AAP made provision for a third primary school based upon the fact that the dwelling mix used to forecast demand was high-level and indicative. The assumptions regarding child yields estimates and resulting school space requirements will need to be kept under review, having regard to final housing numbers, types, and tenures as NEC is built out.

Secondary

The average size of a secondary school in England is roughly 1,000 pupils, and so the anticipated number of secondary school aged pupils arising through growth is unlikely to be sufficient to support a new school. Instead, a more appropriate solution would be the expansion of an existing school in close proximity to North East Cambridge. The most likely candidate site, given its proximity, would be the North Cambridge Academy, which currently has capacity for 750 students but is intending a modest expansion in time for the start of the 2025/26 academic year. Further investigation would be required to understand the feasibility of an expansion of this scale, and it might be that additional capacity needs to be provided at numerous sites for reasons of practicality and to better respond to parental preference.

SEND

The demand for SEND places generated by new homes at North East Cambridge will be met through the provision of off-site places in line with the County Council's programme for delivering special schools across the county.

16+ education

A 2022 study by the County Council's Policy and Insight team and a number of partners investigated the range of 16+ facilities and their adequacy now and in the future, given population increases and planned development. A driver for the study was the need for greater collaboration in commissioning 16+ education provision in the absence of central government funding. Despite the broad variety of provision in the 16+ space, the review concluded that with new provision at Alconbury Weald, Cambourne and Northstowe, and other plans put forward by the Sector, there would be sufficient provision – and sufficient flexibility – to accommodate additional demand arising through planned growth[33].

5.5.1.5 Phasing, Costs, and Funding

The County Council has costed the two new primary schools (including early years provision) as £25m and £16.2m for the 3FE and 2FE schools respectively. These costs are indexed against build costs from Q2 2024 and reflect an expectation that space constraints and the general character of development will lead to primary schools being multi-storey and the more stringent environmental standards that development will need to adhere to as a result of policies in the draft AAP. These costs exclude any land costs.

An off-site expansion of a secondary school has not been fully costed and would require refinement when locations for targeted expansion were agreed. The Department for Education (DfE) produces indicative costs equivalent to £29,786 per pupil (3Q2023), and so this would equate to a capital investment of £17.3 million.

The provision of an off-site SEND school has not been identified, and therefore, a fully costed project is not known at present. The Department for Education (DfE) produces indicative costs equivalent to £116,708 per pupil for new SEND provision, and so this would equate to a capital investment of £3.8m.

While Basic Need funding is made available annually from the DfE, this funding is allocated to a wide range of works across the portfolio of schools in the county. This scale of investment into new and expanded schools does not currently form part of any capital programme, and it is unclear whether this level of central government funding could be invested in the required new build schools without undermining necessary investments elsewhere. In the absence of committed funding, it is assumed that developer contributions will be required to deliver these schemes.

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[33] CCC (2023) Cambridgeshire 0–25 Education Organisation Plan 2023–2024, available at: Cambridgeshire Education Organisation Plan 2023-24

The phasing of new and expanded schools needs to be closely aligned to the rate of housebuilding to ensure that there are sufficient school places available when new homes are occupied. Given capacity constraints at local primary schools, this will require one of the new schools to be provided in an early phase of the Hartree development and the second as part of a later phase. Subject to more detailed consideration of phasing as part of the determination of the Hartree planning application, temporary expansion at a local primary school may need to be explored for early occupiers. For other residential schemes where developer contributions are required, this may require s106 monies to be secured in advance of occupation of new homes to ensure the timely delivery of schools.

5.5.1.6 Prioritisation

Investment in education infrastructure is regarded as an essential mitigation. This is as a result of the strong legal duties to provide adequate supply and choice in educational provision, the expectations of incoming families and the extent to which a failure to supply new education provision would undermine the vision set out in the AAP and the delivery of sustainable development.

5.5.1.7 Summary

Table 5-9 – Summary of Education Infrastructure

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
Primary School #1	On-Site provision 3-FE with a capacity 708 places (630+78)	25	CCC / Developers	Essential mitigation	2030-2041
Primary School #2	On-Site provision 2-FE with a capacity of 472 places (420+52)	16.2	CCC / Developers	Essential mitigation	2036-2041
Secondary School	Off-Site expansion of Cambridge North Academy or an alternative	17.3	CCC / Developers	Essential mitigation	2030-2041
SEND	New off-site special school or SEND Unit	3.8	CCC / Developers	Essential mitigation	2030-2041

Source: AtkinsRéalis analysis

5.5.2 Healthcare

5.5.2.1 Baseline

Integrated Care Systems (ICS) were introduced in England in 2022 and bring together a range of organisations related to healthcare and wellbeing, including the county and district councils, the NHS, voluntary and community and social enterprises, Healthwatch, education, police, and fire services. The ICS is responsible for how health and care are planned, paid for and delivered across all of Cambridgeshire and Peterborough and is comprised of two core elements: the Cambridgeshire & Peterborough Integrated Care Partnerships (ICPs) and the NHS Cambridgeshire & Peterborough Integrated Care Boards (ICB). Within Cambridgeshire and Peterborough, two ICPs were created based on geographic locations: the North Cambridgeshire and Peterborough ICP for Peterborough, Fenland and Huntingdonshire, and the Cambridgeshire South Partnership focusing on East and South Cambridgeshire and Cambridge City, hence this latter is the relevant partnership for the NEC AAP.

While all organisations that are part of the ICS work together towards healthier futures for local communities, the ICB is the organisation that has statutory responsibility to deliver a plan to meet the needs of local people, now and in the future. The ICB holds the legal responsibility to plan, commission and fund most of the NHS services, including primary care, such as GP practices, dental, and pharmacies, and hospital, emergency ambulance services, and community treatment.

There are a limited number of health facilities located in close proximity to NEC. These include Nuffield Road Medical Centre, located less than 5 minutes south of NEC at Pippin Drive and Chesterton Medical Centre, located approximately 1.5km south on Union Lane. Both facilities are known to be operating at near capacity. The main Ambulance Hub is located on the Cambridge University Hospital NHS Foundation Trust site, with a response post in King's Hedges. The Ambulance Hub is known to be operating at capacity, requiring relocation to a new expanded site, which will need to be addressed through the IDP for the Greater Cambridge Local Plan. Additional Ambulance Response Posts will be identified as part of a Service Review being undertaken in 2025 by East of England Ambulance Service (EEAST).

5.5.2.2 Stakeholders

The ICB is the lead partner in the planning and delivery of new healthcare facilities throughout Cambridgeshire. The ICB's Integrated Care Strategy sets out the model of healthcare and support the ICB will deliver, alongside partners, to allow local people to enjoy healthy lives in better-connected communities[34]. This requires close collaboration with the LPAs at the plan-making and development management stage to understand the impacts of development on primary and secondary healthcare

[34] Cambridgeshire and Peterborough Health and Wellbeing and Integrated Care Strategy (2022), Cambridgeshire and Peterborough Integrated Care System. Available at: Health & Wellbeing Strategy

facilities and a range of other partners and providers to reflect their vision for the delivery of broader healthcare services.

The Draft AAP (2021) highlights the importance of the provision of health facilities in the NEC area to ensure access to health and social care services and has therefore identified the need for a health hub to support the new and existing community. The health hub should be flexible, adaptable and designed for long-term use. It will need to consider a range of primary, secondary and other social service needs of the wider community.

5.5.2.3 Gap and Future Needs

Most of the existing health infrastructure within Greater Cambridge is operating at or near capacity. The population has increased in recent years, and this has caused many GPs to reach capacity to the extent that they are not accepting additional patients. Moreover, the level of housing growth planned for Greater Cambridge, particularly in NEC, will further exacerbate the health and social care provision[35].

To meet the future demand generated by new development, health infrastructure will require improvement and the provision of new infrastructure. The NHS Long Term Plan and C&P ICS strategy are moving towards larger-scale, modernised integrated primary and community care hubs that accommodate a range of healthcare services[36].

The NEC Health Facilities and Wellbeing Topic Paper and the Draft AAP 2021, Policy 14: Social, Community and Cultural infrastructure, confirms that the proposed development at NEC will generate the need for a health facility to be located within NEC to support health and wellbeing in the area. The previous IDP 2021 identified a requirement of 1,500 sqm of floorspace to serve a population of 16,355 inhabitants.

The latest growth scenarios for the NEC area (provided in Section 4) estimate the projected population for each of the three alternatives, with the largest forecasted population of 16,078 (7,835 units) being as a result of growth scenario 1 (Draft AAP + planning consents). Using the latest standards of 150 sqm GIA floorspace per 1,750 patients[37] to assess the future need of health care provision in the NEC area, the estimated floorspace required for a new integrated care hub to serve the future population is 1,378 sqm.

5.5.2.4 Strategy and Priority Projects

The provision of clinical services is an evolving model, shifting from the traditional GP model to one of wider community care services that include hubs for local community welfare, clinical provision units, diagnostic centres, as well as space for

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[35] Cambridgeshire and Peterborough ICS Plan (2024)
[36] Cambridge City Council (2010) Planning Obligations Strategy SPD (2023 Update)
[37] GCSPS (2024) Draft Greater Cambridge Planning Obligations SPD. Available Greater Cambridge Shared Planning - Draft Greater Cambridge Planning Obligations Supplementary Planning Document Consultation

care professionals to work together. The strategy is to have a better utilisation of space that supports clinical service needs, where these are operationally viable[38].

The ICB has confirmed there is a need for a new dedicated facility to serve the NEC area; there is no capacity in the existing health infrastructure to absorb the level of growth, and expansion of those sites closest to NEC would be impractical as a long-term solution. A new facility presents the best opportunity to deliver healthcare services in an integrated manner, as reflected in the prevailing ICB strategy. It is noteworthy that this scale of provision is indicative, and more precise requirements would need to be determined as there is increased certainty over residential mix and the timeframes for delivery. It is recommended that the health hub be located on a site that is easily accessible to its residents. The design specification and particular requirements relating to servicing, access arrangements, parking, and facilities for mobile diagnostic services, for example, should be agreed in collaboration with the ICB to ensure a facility is fit-for-purpose and achieves a satisfactory relationship with residential and commercial neighbours.

5.5.2.5 Phasing, Costs and Funding

In line with the development of residential units, the health hub should be in place at the end of the plan period. However, to avoid the additional cost of an interim solution to cover the expansion of facilities running at maximum capacity, it is recommended that the health hub start construction in the early 2030s to ensure the new residents are properly served. In order to mitigate the upfront cost, the healthcare services could be more flexible by starting small and growing as the community establishes.

Table 5-10 - Housing Delivery Phasing (percentage every 5 years delivery)

Scenario	2020-2024	2025-2029	2030-2041	Plan Period	Beyond Plan Period
Draft NEC AAP + Consented	-	5%	38%	43%	57%
Developer Aspirations	-	8%	64%	71%	29%
With CWWTP in situ	-	0%	100%	100%	0%

Source: GCSPS

The cost for a facility of 1,378 sqm is estimated at £9,233,366 using the 2024 benchmark cost for mitigation in the form of a new build38F[39]. The Cambridgeshire

[38] ICS Strategy and focus group discussion, 25th November.
[39] GCSPS (2024) Draft Greater Cambridge Planning Obligations SPD, available at: Greater Cambridge Planning Obligations Supplementary Planning Document

and Peterborough ICS Estate Strategy (2023-2033)[40] highlights that the estate needs to support the NHS carbon reduction targets of an 80% reduction by 2032 and achieve Net Zero by 2040. Hence, new infrastructure facilities need to comply with this policy, and costs should account for adequate future proofing.

No capital funds have been secured for this facility, hence, the principal mechanism for funding will be through developer contributions. Subject to the phasing of development, interim solutions could be explored between the ICB, GCSPS and developers with appropriate mechanisms for funding and delivery secured in s106 Agreements. Suitable modular units for the upgrade of existing GPs i.e. Nuffield Road health centre are in the ranges of £500,000 for five-year rental. However, the more cost-effective approach, and the preference of the ICB, is for funding to be focused on a new facility to be delivered (potentially in part) in an early phase of development.

5.5.2.6 Prioritisation

The NEC area will significantly increase in population under scenarios 1 and 2, and considering the existing healthcare facilities nearby are already operating near capacity, the provision of a new modern health hub is prioritised as an essential mitigation.

5.5.2.7 Summary

Table 5-11 – Healthcare Cost Summary

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
Health Hub	Modern integrated healthcare hub	9.2	ICB / developers	Essential mitigation	2030-2035*

Source: AtkinsRéalis analysis based on NHS and Draft Greater Cambridge Planning Obligations SPD (2024).

5.5.3 Community Facilities

5.5.3.1 Baseline

Community facilities play a crucial role in delivering inclusive and sustainable communities. The provision of a network of accessible facilities can provide access to local services, information and opportunities for social interaction. As a result, they are a major contributor to inclusion, community cohesion and well-being and their

[40] Cambridgeshire & Peterborough ICS Estate Strategy 2023-2033, March 2023, available at: Cambridgeshire & Peterborough Health and Wellbeing and Integrated Care Strategy summary

integration within new developments and areas of change is a key focus of both Local Plans[41] and in the Draft AAP 2021.

The 2019 audit of community and cultural facilities identified a range of community centres, libraries, places of worship and post offices in the vicinity of North-East Cambridge. The distribution of facilities in the vicinity of NEC is highlighted below:

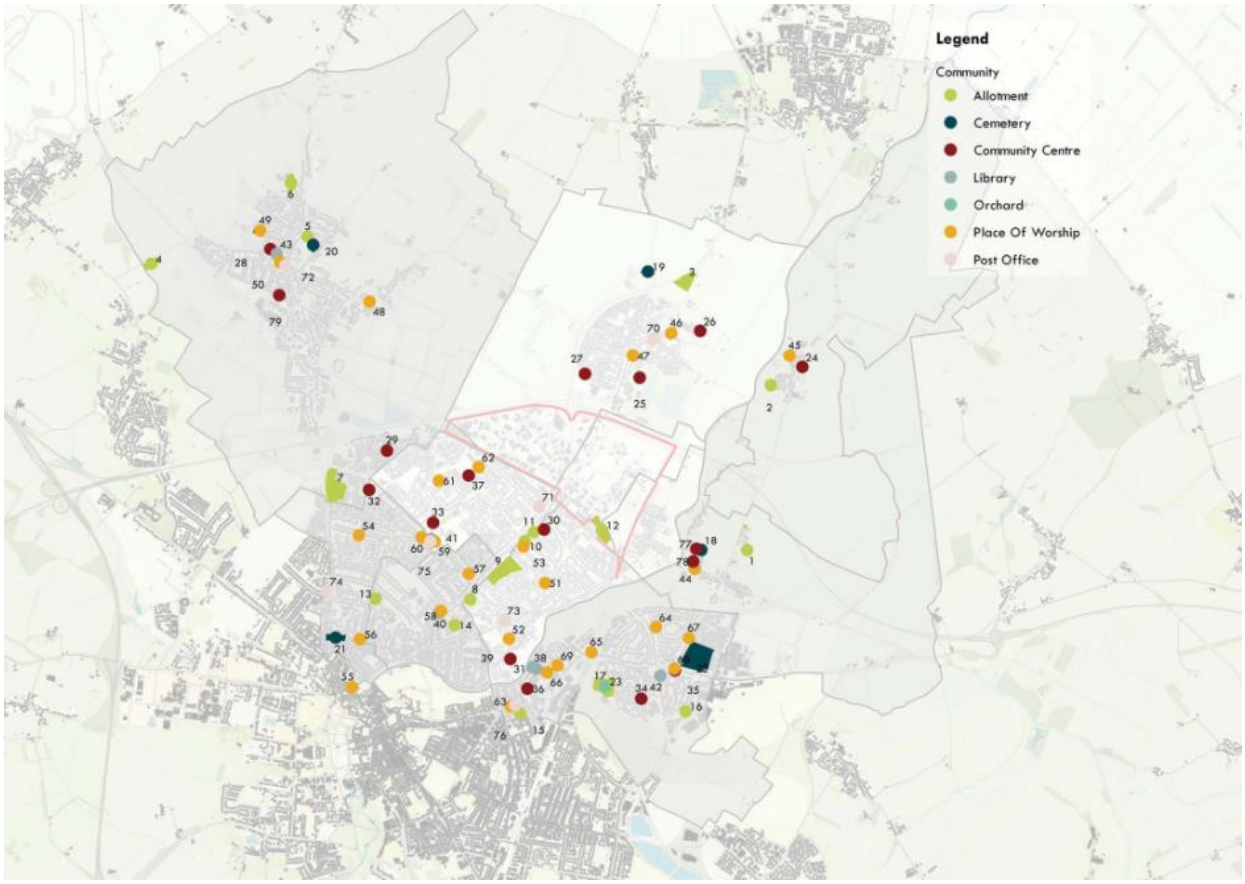

Figure 5-2 – Existing Community facilities around the NEC

Source: LDA Design (2019) Community facilities, Community & Cultural facilities Audit provision, Section 4.1

The Creating Stronger Communities Report[42] examined the provision of community facilities across Cambridge. It identified 107 facilities across various ownerships, along with gaps in provision and opportunities for service improvements. The strategy specifically highlighted a shortage of community centres in the East Chesterton ward, which overlaps with the NEC. East Chesterton is recognised as a

[41] See Cambridge Local Plan Policy 69 and South Cambridgeshire Local Plan Policy SC/4.

[42] Cambridge City Council (2019) Building Stronger Communities, pp27-29, available at: Community Centres Strategy

high-needs area, and the provision of new community centre(s) was highlighted as a priority to be considered as part of the NEC development.

Since the publication of the Report, new community centres have been delivered on the fringes of NEC, including Campkin Road and the Meadows. Lawrence Way has been returned to council housing, and Nuns Way Pavilion has been returned to sports use. The report notes that despite the absence of dedicated facilities in NEC, there are a series of facilities that support a wide range of activities that are run by organisations, including the City Council, Parish Councils, charities and religious groups.

The accompanying Cultural Placemaking Strategy (2020) also highlighted key strategies and policies promoting the provision of community facilities and providing insight into the sorts of facilities that might best relate to local needs. This Strategy and the accompanying audit remain the most recent evidence-based studies to support the need for new and improved community facilities in and around the NEC area.

The studies – and the consultation that informed them – pointed to local demand for a variety of spaces capable of accommodating community meeting spaces, youth groups, and performing arts spaces. As such, the strategy and the draft policies it informs highlight a need for new community facilities to move away from a traditional model of siloed delivery and to instead provide more flexible, multipurpose spaces capable of accommodating a diverse range of activities in the communities that they serve. Examples cited include Milton Road library, the Storey Field Centre in Eddington and the Clay Farm Centre in Trumpington.

5.5.3.2 Gap and Future Needs

There is a clear ‘gap’ in provision at NEC, and the scale of development proposed, and the estimated population growth that will occur, means that existing facilities in surrounding areas would likely be overwhelmed in the absence of new provision. As highlighted above, the provision of community and cultural facilities has an important role in delivering the overall AAP vision.

Overall need for new community facility floorspace has been derived by using revised population forecasts against a benchmark of 111 sqm per 1000 new residents[43], as recommended from new developments in the Draft Greater Cambridge Planning Obligations SPD (2024). This generates a “need“ as follows in each of the growth scenarios:

Table 5-12 – Estimated Community space within NEC

Growth Scenario	Estimated Community Space (in sqm)
Draft NEC AAP + Consented	1,785
Developer Aspirations	1,684

[43] GCSPS (2024) Draft Greater Cambridge Planning Obligations SPD, available at: Greater Cambridge Planning Obligations Supplementary Planning Document

With CWWTP in situ	21	

Source: The City Council & AtkinsRéalis analysis

The Public Libraries and Museums Act 1964 mandates councils to provide library services for all individuals. In 2005, a service level policy was introduced to help local authorities tailor services to community needs. There are no libraries within the NEC or its directly adjacent wards. The closest libraries are Arbury Court Library on Arbury Road and Milton Road Library in East Chesterton. It is anticipated that an appropriately scaled library will be established at NEC to serve the development.

5.5.3.3 Strategy and Projects

Community Centre

Given the variety of community needs that arise at this scale of development and the often-challenging funding arrangements for community facilities in the longer term, the AAP advocates a multifunctional community hub model, as has been pursued at other strategic sites across Greater Cambridge. As above, this should comprise 1,785 sqm of floorspace capable of hosting different social, educational, cultural and recreational activities, including, for example, youth clubs. The facility may be co-located with a new library and would be expected to offer publicly accessible WiFi as an extension of the Smart Cambridge initiative.

Public libraries

The county council have identified a need for a new library of approximately 400 sqm to serve the resident population projected at the Hartree development. This would comprise 350 sqm of dedicated library space and 50sqm of back-office space. In the event that the library forms part of a multi-purpose community facility, some efficiency might be achieved through the provision of shared back-office and supporting spaces. The county council have confirmed that this level of provision would be sufficient to accommodate growth at NEC as a whole.

5.5.3.4 Phasing, Costs and Funding

The cost of the provision of seven new community centres across Cambridge and South Cambridgeshire was reviewed, including the Cherry Hinton Hub, Meadows Community Centre and Cottenham Village Hall. The facilities reviewed ranged in size, cost, and location. The community centre developments that best reflect the NEC policy ambition to deliver a landmark community building as part of a mixed-use development are the M,420eadows and Storey's Field Centre. The build costs of each are £5,300 per sqm for Meadows (2022) and £5,100 per sqm for Storey's Field (2018). Further benchmarking of these costs has been undertaken by considering elemental build costs via BCIS and AtkinsRéalis' Benchmark+ tool.

While the timing of delivery will affect the cost of comparators, this demonstrates that the cost is robust. In addition to the upfront capital costs of £9,458,687 for the community centre, O&M costs associated with community facilities need to be considered at the outset to inform designs and specifications. For a community centre of 1,785 sqm, the O&M cost for 15 years has been calculated as £3,147,334.

Consideration also needs to be given to management responsibility if new facilities are to be sustainable in the longer term.

Given that the build cost benchmark for the Meadows is a more recent example, this has been adopted as the most robust cost for the construction of the new library, generating a construction cost of £2.12m. A detailed fit-out contribution of £750,442 has been determined based on an outline specification and benchmarking against published 2019 MLA (Museums, Libraries and Archives Council) rates. It is expected that the library will be delivered in the new District Centre. The total capital cost is therefore £2.87m while the O&M costs is £705,420.

At present, no external funding has been identified for the provision of community/cultural facilities, and it is anticipated that this will be delivered in-kind as part of the new District Centre within the Hartree development.

The sustainable operation of a new community hub requires that a critical mass of residents be established to generate a stable population. It is anticipated that provision will be required after 2030 and that other local facilities will be utilised on a short-term basis for early occupiers.

5.5.3.5 Prioritisation

New community facilities have been categorised as essential mitigation given the scale of population growth forecasted across NEC, the absence of local provision at present, and their important role such facilities will play in supporting the new community and helping to integrate new development into the existing urban fabric.

5.5.3.6 Summary

Table 5-13 – Community facilities Cost summary

Project	Description	Cost (£ million)	O&M cost (£ million) *	Delivery partner(s)	Prioritisation	Phasing
Community and Cultural Centre	Multi-purpose and multi-use space for the new community	9.46	3.1	CCC / City Council / SCDC / Developers	Essential mitigation	2030-2035
Public Library	A new library service for the community	2.87	0.7	CCC / Developers	Essential mitigation	2030-2035

Source: AtkinsRéalis analysis

Note: O&M cost for 15 years is calculated using benchmark life cycle costs from BCIS. BCIS provides separate life cycle costs for the fabric, maintenance, decorations, services, maintenance, cleaning, and utilities costs for different building types.

5.5.4 Indoor Sport and Leisure

5.5.4.1 Baseline

This section assesses the need for swimming pools, indoor sports facilities (sports halls) and high-density sports facilities. Outdoor sports and multi-use games are considered in Section 5.7.7.

Sports and leisure are important for the health and well-being of residents, and to help keep people physically active. Although there are many sports halls within Greater Cambridge, many are on school sites, which limit public access, or are ageing and are in need of investment. Existing sport and recreation provision at NEC includes the following; however, these facilities are private and require a membership to access them[44]:

- The Trinity Centre, a modern event complex which includes a restaurant, bar and fitness club,
- Revolution Health and Fitness Club,
- Cambridge Golf Driving Range on Cowley Road (which will not be retained),
- Cambridge Regional College, which includes two squash courts, two large sports halls, a climbing wall, fitness suite, an exercise studio and a floodlit outdoor 5-a-side all-weather pitch adjacent to the Science Park,
- RP fitness gym on Nuffield Road.

Swimming remains a popular activity, with current levels of swimming visits at over 600,000 within all City pools, and it is still increasing every year. If the City pools are to keep up with the local demand and future growth in the district, capital investment will be required to keep them serviceable, modern, and appealing. In addition, new swimming pools are needed in South Cambridgeshire, where provision is particularly low. There are no swimming pools within the NEC area.

5.5.4.2 Stakeholders

SCDC and the City Council are responsible for identifying the need for sports and leisure infrastructure within their respective areas, supported by appropriate developer contributions. However, smaller-scale, more incidental sports and recreation facilities (such as trim trails and trail circuits) may fall under the responsibility of other delivery partners.

[44] GCSPS (2021) NEC AAP Topic Paper Opens Space and Recreation, available at: Document Library | Greater Cambridge Shared Planning

5.5.4.3 Gap and Future Needs

As per Chapter 15, the Draft Greater Cambridge Planning Obligations SPD (2024), developers' contributions[45], all residential development and potentially some forms of commercial development should contribute to sports and leisure provision. It is stated that commercial developments above 5,000 sqm will be required to consider how the needs of their workers and visitors will be met for social and leisure facilities. It is anticipated that all commercial developments within NEC are large-scale, hence will need to consider the demand created for leisure facilities by workers. If the need cannot be met through existing or proposed on-site facilities, then off-site contributions could be considered.

An Interim Sports Assessment of Need Report (ISR) (April 2025) has been produced to update the baseline data for the current Greater Cambridge Indoor Sports Facility Strategy (ISFS) and Playing Pitch Strategy (PPS), both of which take account of the planned growth to 2031 described in the current Cambridge and South Cambridgeshire Local Plans. The ISR includes the growth area of North East Cambridge.

The ISR supports the scale of need for new swimming pool provision across Greater Cambridge and the strategic sense of providing a 50m pool in a location which serves the north, northeast and east of the city. Co-locating a significant amount of water space in one location would benefit from co-location with other sports facilities of a similar regional scale. This provides a sustainable, accessible offer for communities, as well as being the most effective operationally.

It is worth noting that the ISFS and PSS are currently being updated for Greater Cambridge. As these are not currently available, this IDP report uses the Sport England calculator to estimate an indicative measure of what should be provided for various sports typologies. Once the SFS and PPS are published, the findings and requirements of those strategies should be referred to.

Applying the highest population of 16,078, as per Scenario 1, into the Sports England's Sports Facility Calculator[46] there is a need for 4.56 indoor courts within NEC, which equates to one sports hall. Similarly, 0.79 of a swimming pool of 4 lanes (25 x 8.5m) or the equivalent of 3.15 lanes. This calculator is based on population demand instead of supply, but it is developed for strategic planning and high-level master planning.

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[45] GCSPS (2024) Draft Greater Cambridge Planning Obligations SPD, available at: Greater Cambridge Planning Obligations Supplementary Planning Document draft for re-consulation autumn 2025

[46] Sports England Facility calculator, available at: Active Places Power

5.5.4.4 Strategy and Projects

Ensuring access to a range of sports and leisure facilities plays an important role in the promotion of physical and mental health and well-being for communities and is integral to the vision for development at NEC.

The Draft AAP 2021 indicates that a formal indoor sports hall of 4-court size should be provided on-site. However, as noted above, the delivery of a new swimming pool would be best delivered outside of NEC to provide a strategic facility able to benefit a wider catchment area, and the council have identified a potential location that would serve this purpose.

5.5.4.5 Phasing, Costs and Funding

The delivery of sport and leisure facilities should follow the residential development, as stated in Chapter 4 Growth Scenarios. Most development will be in the last years of the Plan; therefore, it is anticipated that the sports hall will be built out at the end of the plan period. It is also anticipated that the sports hall will be located in the development's District Centre. Sport England's Sport Facilities Calculator indicates an estimated building cost of £3,318,131 for the sports hall and £3,504,946 for the swimming pool. It is expected that these facilities will be provided principally through S106 obligations from developers. Operation and maintenance (O&M) costs for 15-years are estimated at £1,839,650 for the sports hall and £394,924 for a 3-lane swimming pool. Future commercial developments within the NEC area may also directly provide sport and leisure facilities within their premises for their employees, such as through on-site gyms, or incentivise access to local facilities through memberships and/or vouchers, for example.

5.5.4.6 Prioritisation

Investment in indoor sport and leisure infrastructure, such as sports halls and swimming pools, is regarded as essential mitigation.

5.5.4.7 Summary

Table 5-14 – Summary of Indoor Sport and Leisure Projects

Project	Description	Cost (£ million)	O&M cost (£ million)	Delivery partner	Prioritisation	Phasing
Sports hall	4-court hall (equivalent to 966 sqm)	3.3	1.8	Local Councils / Developers	Essential mitigation	2030-2041
Swimming pool	Off-site swimming pool	3.5	0.4	Local Councils / Developers	Essential mitigation	2030-2041

Project	Description	Cost (£ million)	O&M cost (£ million)	Delivery partner	Prioritisation	Phasing
	equivalent to 3 lanes					

Source: AtkinsRéalis analysis.

Note: O&M cost for 15 years is calculated using benchmark life cycle costs from BCIS. BCIS provides separate life cycle costs for the fabric, maintenance, decorations, services, maintenance, cleaning, and utilities costs for different building types.

5.6 Open space, Green Infrastructure and Children and Teenagers Provision

This section of the IDP considers green infrastructure, informal public open space and provision for children and teenagers (play provision). Public open spaces designed and laid out for formal sport uses, such as playing pitches, are considered in the 'formal open space - outdoor sports' section.

5.6.1 Baseline

Green infrastructure is defined in the NPPF as *"A network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity".*

Open space includes the areas of open space which are planned and laid out as spaces which are generally free from structures and buildings, typically for public recreational use or to provide areas for nature. The NPPF defines open space as *"all open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity"*. There is significant crossover between the provision of open space and green infrastructure, as the majority of green infrastructure is provided within areas of open space (both private and publicly accessible open space).

Green infrastructure standards

The draft NEC AAP requires "*the protection, enhancement and recovery of the most valuable existing habitats and species present within a development site or adjoining it"*. Which in summary, equates to the need to safeguard and enhance existing green infrastructure features, albeit without specific numerical standards of retention or improvement, as this depends on site-specific circumstances. Furthermore, in accordance with the draft NEC AAP policies and the Environment Act (2021), developments within NEC are required to deliver Biodiversity Net Gain (BNG) (some minor exceptions to this apply). BNG is calculated in a specified manner in accordance with the biodiversity metric[47].

Design choices informed by the need to protect and enhance existing green infrastructure and deliver BNG interventions are likely to include street planting and other interventions such as the provision of green roofs. Many of these interventions will be developed as detailed design progresses and, as such, cannot be considered within this IDP, which focuses on more strategic green infrastructure requirements.

Landscaping, gardens and planting, which are not publicly accessible within residential and commercial developments, can also contribute towards the overall

[47] Department for Environment, Food & Rural Affairs, 2021 (last updated June 2025), available at: The Biodiversity Metric

provision of green infrastructure. However, these private amenity spaces cannot always be relied upon for the long-term provision of green infrastructure because individual property owners or managers may remove or change the planting in these locations. The approach of this IDP, therefore is to focus on the provision of publicly accessible open spaces within the NEC development sites as a key delivery tool for providing green infrastructure benefits on-site. Private amenity space will be determined by the policies of the local plan and site-specific design requirements.

Open space standards

There are no nationally mandated UK-wide standards for the provision of informal open space. Accordingly, local evidence bases related to open space provision have been produced by the City Council and SCDC. In Cambridge City, evidence relating to open space is set out in the Open Space and Recreation Strategy (2011)[48]. This evidence base informed the open space standards included in the adopted Cambridge Local Plan (2018)[49], the current Planning Obligations Strategy SPD (2014)[50] and the Draft Greater Cambridge Planning Obligations SPD (2024)[51] (The proposed replacement of the adopted 2014 SPD).

For South Cambridgeshire, the open space evidence is set out in the Recreation and Open Space Study (2013)[52]. This informs the open space standards in the adopted local plan[53], the current planning obligations strategy SPD (2014) and the Draft Greater Cambridge Planning Obligations SPD (2024). In both local authorities, planning policies set out that new development should provide open space; however, the amount of different open space typologies varies within each local authority.

The NEC area straddles the boundary of Cambridge City and South Cambridgeshire. However, once fully built out the NEC area will function as an extension of Cambridge City and therefore, as set out in Policy 8 of the NEC AAP, City Council standards will be applied across all NEC sites regardless of which council area they fall into. This IDP has therefore been prepared on the basis of using the City Council's standards for informal open space and provision for children and teenagers. The City Council's standards are set out in Table 5-15. It is noted that some sites within the NEC area where planning applications have been determined have utilised the South Cambridgeshire open space standards, and in these cases, delivery on site may differ from the outputs of this IDP.

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[48] Open Space and Recreation Strategy, October 2011, available at: Cambridge City Council Open Space and Recreation Strategy 2011
[49] Cambridge Local Plan, Cambridge City Council, 2018, available at: Cambridge Local Plan
[50] Planning Obligations Strategy Supplementary Planning Document (SPD), available at: Adopted Cambridge Planning Obligations Supplementary Planning Document
[51] Greater Cambridge Planning Obligations Strategy - Consultation 2024
[52] South Cambridgeshire Recreation Open Space Study 2013
[53] South Cambridge Local Plan, adopted on 27 September 2018, available at: South Cambridgeshire Local Plan 2018

Table 5-15 – City Council Standards for Informal Open Space and Children and Teenager Provision

Typology	Definition	Standard
Informal open space	Informal provision, including recreation grounds, parks, natural green spaces and, in town centres or urban locations, usable, high-quality, public hard surfaces	2.2 ha per 1,000 population
Provision for children and teenagers (play provision)	Equipped children's play areas and outdoor youth provision	0.3 ha per 1,000 population

Source: Cambridge Local Plan (2018)

The standards set out in the table above apply to the residential population anticipated to live within a development site. It is important to note that the Draft Greater Cambridge Planning Obligations SPD (2024) also expects commercial developments of 5,000 sqm floorspace and above to consider how they can contribute towards social and leisure facilities, including open space provision. This expectation will apply to the commercial developments within NEC, and provision of on-site spaces and/or contributions towards off-site spaces may arise as a result of this process. However, this will be determined on a case-by-case basis and has not been taken into account in the requirements set out in this IDP.

As set out in Policy 8 of the NEC AAP, it is expected that all informal open and children's play space requirements will be met on-site within the Area Action Plan area as a whole. This IDP therefore assesses the informal open space and play requirements across the NEC as a whole, using the standards set out in the Adopted Cambridge Local Plan. These are then apportioned according to the number of residential units anticipated to come forward in each development site and accordance with the anticipated population of those developments. In addition to funding the capital cost of provision, it is also expected that contributions towards the ongoing maintenance of these new spaces (including play equipment) are provided and secured through S106 agreements.

Open Space and Recreation Topic Paper[54] and the Typologies Study and Development Capacity Assessment[55] set out the aspirations for open space and play spaces. These set out that, in order to meet the demands of the high-density nature of development in NEC, open spaces and play areas should be provided in close

[54] North East Cambridge Area Action Plan Proposed Submission Topic Paper: Open Space & Recreation, GCSPS, 2021, available at: Topic Paper: Open Space & Recreation

[55] North East Cambridge Typologies Study and Development Capacity Assessment, GCSPS, 2021, available at: Typologies Study and Development Capacity Document December 2021

proximity to homes and be designed and built to be used throughout the year, i.e. resilient to, and suitable for, use in wet weather.

The open space standards are based on evidence that was prepared a number of years ago. They are considered to be in need of updating and it is understood that work is currently progressing in relation to this. Furthermore, since the preparation and adoption of the standards, the Natural England Green Infrastructure Framework[56] (NEGIF) has been published. This sets out standards for the amount of accessible greenspace which should be provided in local authority areas, accessibility distances to a range of different scale open spaces and provides guidance on how these open spaces should be designed, maintained and delivered. The NEGIF forms key advisory policy which should be taken into account in the provision, design and delivery of open spaces in the NEC area.

Standard S2 of the NEGIF sets out a series of size–proximity criteria, which set out how close residential units should be to accessible green spaces of different sizes.

A fundamental purpose of defining these standards is the recognition that people will travel from home to use open spaces outside of their immediate vicinity. It is considered reasonable that this assumption would also apply to new homes and commercial developments in the NEC area. This IDP has therefore been prepared in the context that it is likely that there will be additional users of publicly accessible open spaces outside of the NEC AAP boundary.

[56] Natural England, Green Infrastructure Framework, available at: Green Infrastructure Home

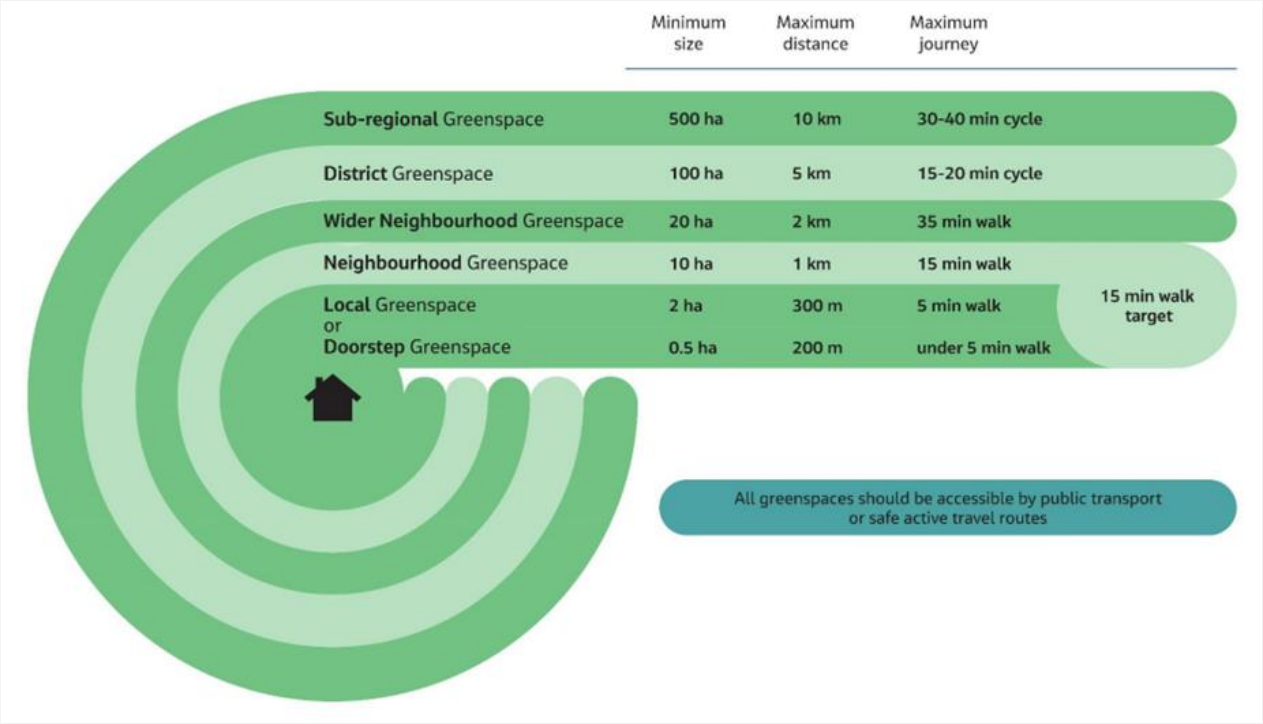

Figure 5-3 - Natural England Accessible Greenspace size proximity standards

Source: Natural England

Standard S2 of the NEGIF also sets out that local authorities should have at least 3 ha of accessible greenspace per 1,000 population, with no net reduction in capacity of accessible greenspace per 1,000 head of population at an areawide scale. According to the evidence bases referred to above, Cambridge City has approximately 2.2 ha per 1,000 population – significantly below the target level. furthermore, it is important to note that the informal open space / green space standards relate only to the residential population of the homes within a specified area. Cambridge City is a significant economic hub and provides for 116,000 jobs[57]. It is also an attractive place to visit and benefits from 7.6 million visitors per year[58]. The people coming into Cambridge for work or to visit will also add further pressure to the publicly accessible open spaces within the city boundary, which cannot be met solely by providing open space according to the local plan standards, as these consider residents only.

Green infrastructure and open space within the NEC AAP boundary

Within the NEC AAP boundary there are several existing informal open spaces (i.e. open spaces excluding formal sports pitches), all of which provide green infrastructure benefits. These are located in:

[57] NOMIS data, available at: Labour Market Profile - Nomis - Official Census and Labour Market Statistics
[58] Cambridge State of the City report, 2022, available at: 220628 State of the City Report Committee Final

- Cambridge Science Park (12.55 ha);
- St John's Innovation Park (1.46 ha);
- Cambridge Regional College (0.29 ha).

In total, therefore, there are 14.3 ha of existing informal open space currently within the NEC AAP boundary. These open spaces comprise grassland, lakes, ponds, running water and primarily provide amenity space for persons employed or in education in the area. None of these spaces include dedicated provision for children or teenagers, such as play equipment. These spaces should be enhanced to accommodate additional users which will arise from the development proposed in the NEC AAP.

In addition to the open space, there are numerous green infrastructure assets within the NEC area, including the Cowley Road Hedgerow (recorded as Milton Road Hedgerow) which is a designated City Wildlife Site and the First Public Drain. As set out in planning policy, these should be safeguarded and enhanced by developments coming forward in the NEC area.

The Brookgate site received planning consent in 2022. This has not been built out yet, but the approved plans provide for a total of 1.35 ha of informal open space and 0.475 ha of provision for children and teenagers. This provision meets the requirements of the SCDC standards for open space provision (which were used as the site lies in South Cambridgeshire). Key open spaces include a Wild Park and public square called Chesterton Gardens[59].

Green infrastructure and open space outside the NEC

There are several informal open spaces and green infrastructure assets in the areas close to the NEC area. Kings Hedges Hedgerow (a designated City Wildlife Site) immediately south-west of the site, on the other side of the guided busway;

- Milton Country Park – located immediately to the north of the NEC AAP boundary but segregated from it by the A14. Access is possible from the NEC area via Jane Coston Bridge, the entrance to the country park is approximately 460 m from the northern end of Cowley Road using the public highway network. The site is approximately 18.4 hectares in size, and would fall into the 'neighbourhood' categorisation of accessible greenspace according to the NEGIF;
- Nun's Way Recreation Ground – located approximately 300 m south-west of the NEC area (from the crossing of the guided busway opposite Kingswood Road). The site is approximately 4.65 hectares in size, and would fall into the 'Local' categorisation of accessible greenspace according to the NEGIF;
- Bramblefields Local Nature Reserve – located immediately to the south of the NEC area near the south-easternmost corner. The entrance is approximately 800

[59] According to the Public Open Space Provision Plan dated June 2022 submitted in support of the Brookgate application (22/02771/OUT).

m from the NEC area (specifically Cambridge North Station) using the public highway / rights of way network. This site is designated as a Local Nature Reserve. The site is approximately 2.2 hectares in size, and would fall into the 'Local' categorisation of accessible greenspace according to the NEGIF;

- Ditton Meadows – located south of the NEC area, on the other side of the River Cam. Approximately 720 m from Cambridge North Station using the public highway / rights of way network. Ditton Meadows is privately owned (by Gonville & Caius College) and is crossed by public rights of way. It is also designated as a City Wildlife Site, Protected Open Space, and is part of the Cambridge Greenbelt. Ditton Meadows is immediately east of Stourbridge Common (although separated by the railway line – there are two paths which cross the railway line connecting the two accessible open spaces). The site is approximately 15.9 hectares in size, and would fall into the 'neighbourhood' categorisation of accessible greenspace according to the NEGIF;
- Stourbridge Common – located south of the NEC area, on the other side of the River Cam. Approximately 780 m from Cambridge North Station using the public highway / rights of way network. This site is designated as a City Wildlife Site, a Local Nature Reserve, Protected Open Space, and is part of the Cambridge Greenbelt. As described above this is closely linked to Ditton Meadows. The site is approximately 17.8 hectares in size, and would fall into the 'neighbourhood' categorisation of accessible greenspace according to the NEGIF;
- Barnwell Meadows – located south of the NEC area between Ditton Meadows and Coldhams Common. Approximately 1.14km m from Cambridge North Station using the public highway / rights of way network. Barnwell Meadows is owned and managed by Cambridge Past Present & Future. It includes the Chisholm Trail, which gives public access across the meadows, which are designated a City Wildlife Site, Protected Open Space, and is part of the Cambridge Greenbelt. The site is approximately 3 hectares in size, and would fall into the 'Local' categorisation of accessible greenspace according to the NEGIF;
- Coldham's Common – located south of the NEC area, on the other side of the River Cam. Approximately 1.6km from the NEC area (specifically Cambridge North Station) using the public highway / rights of way network. Coldhams Common is a designated County Wildlife Site and is part of the Cambridge Greenbelt. The site is approximately 41.5 hectares in size, and would fall into the 'Wider Neighbourhood' categorisation of accessible greenspace according to the NEGIF;
- Chesterton Fen – located almost immediately to the east of the NEC area and within the Cambridge Greenbelt but, segregated from the NEC by the railway. This is approximately 1.7km from the NEC area (specifically Cambridge North Station) using the public highway / rights of way network, however, is not a publicly accessible space.

The River Cam corridor also provides an important linear open space, allowing people to travel a significant distance along the towpaths. The closest access to the

River Cam is approximately 500m from the NEC AAP (specifically Cambridge North Station) using the public highway / rights of way network. The River Cam provides important habitat for aquatic and terrestrial species and extends via tributaries to some of the key green infrastructure spaces referred to above including Ditton Meadows, Barnwell Meadows and Coldham's Common.

The development proposed within the NEC AAP will result in additional people living and working in the vicinity of these open spaces and linear route. In accordance with the principle of the accessible greenspace standards of the NEGIF (see **Figure 5-3**), people will travel from home to access greenspace and therefore development at the NEC is likely to increase the demand on them (aside from the Kings Hedges Hedgerow nor Chesterton Fen, as these are not publicly accessible). There are other open spaces within the wider Cambridge and South Cambridgeshire area. Occupants of the new homes and commercial developments within the NEC area will be able to access these; however, it is considered that the majority of use will fall on those spaces within and nearest to the NEC AAP area.

As set out in the Draft Greater Cambridge Planning Obligations SPD (2024), large commercial developments are expected to consider how the needs of their workers will be met for social and leisure facilities, including open space. The provision from commercial developments, therefore is not subject to the standards of the local plan and should be determined on a case-by-case basis.

Opportunities for green infrastructure and open space outside the NEC AAP boundary

The Greater Cambridge Green Infrastructure Mapping project[60] was undertaken by LUC for the GCSPS. This reviewed green infrastructure and open space assets within Greater Cambridge (the area incorporating Cambridge City and South Cambridgeshire), and defined opportunities for providing green infrastructure, including publicly accessible open space. The review focussed on finding opportunities where new/enhanced green infrastructure or open space assets could realise the greatest potential benefits; for example, by promoting connectivity between existing areas of high biodiversity value or providing new areas of strategic open space to reduce pressure on existing areas. The mapping project was informed by engagement with key stakeholders involved in the management of existing assets in the area. The Green Infrastructure Mapping project identified several 'Strategic Initiatives', which are high level focussed initiatives to improve the green infrastructure network in Greater Cambridge. The following strategic initiatives are close to, and therefore considered relevant to NEC:

- The River Cam Corridor, which covers the River Cam through Greater Cambridge (Strategic Initiative 2); and

[60] South Cambridgeshire District Council and Cambridge City Council Greater Cambridge Green Infrastructure Opportunity Mapping Part 2 Recommendations Report, September 2021, available at: Greater Cambridge Green Infrastructure Opportunity Mapping

- The need to provide a new strategic-scale green space to the north of Cambridge (Strategic Initiative 6) (whilst the location of this initiative has not been identified, a broad area has been defined, which is north of the A14 and extends to Longstanton, Northstowe, Cottenham and Waterbeach).

It is likely, due to the proximity of the NEC to these strategic initiatives, that development at NEC will result in additional demand for these initiatives to come forward.

Biodiversity Net Gain

The NPPF and the Environment Act (2021) set out a requirement for 10% Biodiversity Net Gain (BNG). The way this gain should be provided is subject to detailed assessment of the site-specific conditions when bringing a development project forward in accordance with the Biodiversity Metric. As part of Greater Cambridge's ambitious plans for nature recovery, the Regulation 19 version of the NEC AAP seeks to secure 20% net gain. The AAP acknowledges that this may require off-site provision to achieve. However, until such time as site specific biodiversity net gain assessments are available, it is not possible to interpret how biodiversity net gain provision will be aligned with open space or green infrastructure proposals. As such this IDP does not consider biodiversity net gain any further than to acknowledge it may also contribute towards green infrastructure provision.

5.6.2 Stakeholders

As there is no national-level organisation responsible for open spaces or green infrastructure management, the majority of open spaces are owned and managed by either City Council or SCDC according to which local authority they fall into (in SCDC open spaces are predominantly managed by parish councils). Furthermore, Greater Cambridge has a wealth of interested local organisations which are actively involved in managing green infrastructure and open spaces, focussing on providing spaces for people and for biodiversity improvement. There are three particularly key organisations working in this sector in Greater Cambridge. In alphabetical order these include:

- Bedfordshire, Cambridgeshire & Northamptonshire (BCN) Wildlife Trust, which manages a number of open spaces and has brought forward some new green infrastructure / open spaces including Trumpington Meadows to the southwest of Cambridge and an extension to Fulbourn Fen to the east of Cambridge using developer contributions;
- Cambridge Past, Present and Future (CPPF), which manages a number of large green infrastructure / open space sites including Barnwell Meadows, Coton Countryside Reserve and Wandlebury Country Park amongst others;
- Cambridge Sports Lake Trust, which manages Milton Country Park.

All of these organisations are actively involved in managing key green infrastructure assets in Greater Cambridge. The Sports Lake Trust has ambitions to provide a new area of accessible open space associated with a proposed rowing lake facility to the

north of Milton Country Park[61]. The area of this proposal falls within Strategic Initiative 6 (a new strategic-scale green space in northern Cambridge).

The GCSPS, BCN Wildlife Trust, CPPF and Cambridge Sports Lake Trust have all been consulted in the preparation of this IDP report.

As there is no national organisation responsible for the provision or management of open space or green infrastructure, the responsibility for securing new assets to serve new development falls to the local planning authority (LPA). When planning applications are submitted, the LPA will determine whether the approach to the provision of new green infrastructure and open space proposed by the developers is appropriate (unless a planning appeal is submitted, in which case it is the Secretary of State for Housing, Communities and Local Government). The LPA also sets the standards for provision through the preparation of the Development Plan. Representatives of SCDC and the City Council have been consulted during the preparation of this IDP report.

Due to the number of open spaces in Cambridge and surrounding area there are also a number of additional landowners and land managers which will also be relevant stakeholders. These should be consulted as applications for development within the NEC AAP boundary come forward.

5.6.3 Gap and Future Needs

Green infrastructure

There is no specific green infrastructure standard for new development. However, in accordance with the draft NEC AAP, existing green infrastructure features should be retained and enhanced. More detail on how this can be achieved is set out under ‘strategy and projects’.

Informal open space and children and teenager provision

As set out above, it is anticipated that developments within the NEC area will provide informal open space and provision for children and teenagers on-site. It is expected that these will comply with the locally defined standards for provision, as set out in the Cambridge Local Plan 2018, and informed by the Draft Greater Cambridge Planning Obligations SPD (2024). In addition, it is expected that the informal open spaces on-site will be designed to accommodate year-round use.

Applying the City Council standards for informal open space and children and teenager provision, on the basis of there being 7,835 new homes, the new resident population within the NEC area (at 15,346) will create a total need for 33.76 ha of informal open space. It is important to note that as there is already 14.3 ha of informal open space in the NEC AAP, the amount of new provision required within

[61] Cambridge Country Park and Sport Lakes data, available at: Cambridge Sport Lakes Trust

the NEC AAP is therefore 19.46 ha. There is no existing provision for children and teenagers on-site and the requirement is 4.6 ha.

This information has been used to calculate the amount of informal open space, and provision for children and teenagers (play space) which will be required within each development plot. This is set out in **Table 5-16** below, which assesses the AAP + consented scenario (scenario 1).

Table 5-16 – Informal Open Space and Provision for Children and Teenager (Play Space) Requirements

Land parcel	No. of units	Forecast population	Informal open space requirement (ha)	Play space requirement (ha)	Total requirement (ha)
Cambridge Business Park	500	1,026	1.34	0.31	1.65
Cambridge Regional College	-	0	0.00	0.00	0.00
Cambridge Science Park	-	0	0.00	0.00	0.00
Chesterton Sidings: Brookgate*	860	1,765	2.31	0.53	2.84
Core Site: AW/City Council	5,500	11,286	14.79	3.39	18.18
Cowley Rd Ind Estate	450	923	1.21	0.28	1.49
Merlin Place	-	0	0.00	0.00	0.00
Milton Road Car Garages	75	154	0.20	0.05	0.25
Nuffield Road	450	923	1.21	0.28	1.49
St Johns Innovation Park	-	0	0.00	0.00	0.00
Trinity Hall Farm Ind Estate	-	0	0.00	0.00	0.00
Total	**7,835**	**16,078**	**21.07**	**4.82**	**25.90**

Source: LUC analysis

* The Chesterton Sidings: Brookgate development parcel has received planning consent for 425 homes, however potential for more homes is anticipated as additional land within this area comes forward. This table sets out the requirement for the total number of residential units expected to come forward within this development parcel (including those with planning consent), according to Cambridge Local Plan standards.

It is important to note that the figures in the **Table 5-16** vary from those in Policy 8 of the Regulation 19 NEC AAP as this IDP assesses a more up to date housing and population projection for the NEC AAP.

As set out above, it is acknowledged that, regardless of meeting the local plan open space standards within the NEC area as a whole, the resident population of the new development at NEC is likely to make use of surrounding areas of informal open space, which in turn are likely to need enhancement and investment in order to absorb this additional recreational pressure. Proportionate financial contributions are therefore expected to be provided by developments within NEC to surrounding green infrastructure and open space assets. This is particularly the case for Milton Country Park, which is a neighbourhood scale facility (in accordance with the NEGIF) and which is within the 1km accessibility distance of a significant portion of the NEC area. It also offers a different typology of open space (a predominantly woodland site with significant open water areas) from that which is being proposed within the NEC site (multifunctional open spaces with a focus on play and social interaction), which is likely to make it an attractive place to visit for NEC residents.

The Cambridge Sports Lake Trust (which manages Milton Country Park) reports that the site is very well used and has limited capacity to absorb new users. In addition, other surrounding spaces which are likely to receive additional pressure as a result of the development set out in the NEC AAP include the River Cam (in relation to the recreational routes alongside this), Ditton Meadows, Stourbridge Common and Coldham's Common. Contributions should be provided by development to these areas to help address the increased recreational pressure. The level of contribution will need to be determined on a proportionate, case by case basis in accordance with planning regulations.

Commercial developments within the NEC AAP area will also result in additional demand on open space provision as employees may undertake leisure activities around working times. A review of major commercial developments in Cambridge identified that some large employment developments have provided new open space and green infrastructure assets, in recognition of the additional pressure employees can create on open spaces and in support of Placemaking objectives. Key examples include the Biomedical campus, where a new large scale open space has been provided, and Land South of Coldham's Lane (23/04590/OUT), which includes a new 'country park'. It is therefore considered appropriate that where commercial development plots within the NEC contain existing open space, that this is upgraded with additional facilities, such as seating, shelters, paths and planting in order to provide for the local workforce. Proportionate contributions towards offsite open space provision may also be appropriate (in addition to the improvement of on-site open spaces); however, there is no locally specific standard relating to commercial contributions towards open space and this will need to be determined on a case-by-case basis.

Scenario testing

In preparing this IDP, several development scenarios for the AAP have been provided for review. These are set out in Section 4.2 and **Table 5-17** with high level

commentary on how the scenarios are likely to influence the requirement for open space and children and teenager provision.

Table 5-17 – Total Jobs and Residential Population arising under NEC Development Scenarios

Scenario	Total Jobs	Proposed Residential (units)	Residential Population
1 - Draft NEC AAP + Consented	29,167	7,835	16,078
2 - Developer Aspirations	71,642	7,395	15,175
3 - With CWWTP in situ	70,239	90	185

Source: GCSPS

It is important to view the proposed growth in the context of the current provision, as the total number of jobs on-site at present is approximately 15,000 and there are only three homes (as set out in the Draft AAP 2021 (Regulation 19).

Under scenario 1, the number of jobs on site will approximately double, and there will be significantly more residential units. In order to accommodate this level of growth the following requirements will need to be provided for:

- All developments should enhance existing green infrastructure on-site;
- All development parcels including residential use should provide the full requirement of open space and children and teenagers provision on-site in accordance with the City Council standards against anticipated population using the latest available population projects (specifically dwelling occupancy figures). Residential development should also contribute towards off-site provision in a proportionate manner;
- Commercial sites should contribute towards enhancing open spaces on-site and if appropriate, provide proportionate contributions towards off-site provision.

Under scenarios 2 and 3, the above requirements will also apply however it should be recognised that the total employee population of the NEC area would be significantly increased (by approximately a factor of four). If these scenarios are pursued (particularly scenario 2), the following requirements should be provided for:

- Planning applications will need to need to review and potentially significantly enhance the on-site open spaces in order to meet Placemaking objectives;
- More substantial proportionate off-site contributions should be made compared to scenario 1.

5.6.4 Strategy and Projects

Green infrastructure

As set out above, the Milton Road Hedgerow on Cowley Road is an important on-site green infrastructure asset and designated City Wildlife Site. This should be protected and enhanced as part of developments coming forward. The First Public Drain is also a key green infrastructure asset which should be protected and enhanced. The proposed layout of development plots and strategic green spaces within the Regulation 19 NEC AAP show this Drain would be integrated into the Linear Park proposals, providing scope for suitable management and provision of complimentary planting to support biodiversity gains. The NEC AAP also sets out aspirations to diversify and enhance tree cover across the site.

The River Cam is within close proximity to the NEC AAP area and can be accessed by quiet roads and off-road paths by walking and cycling. The development proposed within the NEC AAP is likely to result in additional people using the recreational routes along the river. This will be even more likely if the proposed pedestrian/cycle bridge crossing over the railway is provided. As such, it is considered that proportionate contributions to improve and maintain this key green infrastructure asset should be provided by developments within NEC.

The detail of green infrastructure matters is difficult to quantify without site specific survey to establish the existing condition and inform enhancement opportunities. Therefore, the costs for these elements have not been included within this IDP. Monitoring of the use of the River Cam (including paths) as the development within the NEC AAP boundary builds out is recommended to help inform consideration of proportionate contributions.

Informal open space and provision for children and teenagers

As set out in the Regulation 19 NEC AAP, it is proposed to enhance existing open spaces and provide new informal open spaces, as well as provision for children and teenagers, to ensure that local plan standards are met across the NEC AAP area. The Draft AAP 2021 (Regulation 19) indicates that the identified informal open space needs will be met through the provision of:

- New linear park spaces;
- Pocket parks in residential areas with children's play space;
- New civic, meeting and amenity green spaces; and
- Additional space provided in podium/rooftop locations.

It will be essential that new and existing spaces be integrated with the area's urban form and connected with footpaths, running trails and cycle routes – in order to form a green network and support active and healthy lifestyles.

In accordance with the existing local plan open space policies, developers will be solely responsible for the delivery of informal open space and provision for children

and teenagers within their development sites. Given the size and range of open spaces to be provided at NEC, and the number of landowners involved, if the City Council or relevant Parish Council choose not to adopt strategic open spaces and play areas, it is likely that the developers will need to appoint a management company or trust to manage these assets. In accordance with the open space local plan policies a maintenance contribution is expected to be collected as part of the developer contributions, to secure the maintenance of the open space in the future.

As set out above, it is considered that, regardless of meeting the local plan open space standards across the NEC as a whole, the residents and employees within the new development at NEC are likely to make use of surrounding areas of informal open space, which in turn are likely to require enhancement and investment in order to absorb this additional recreational pressure. Proportionate financial contributions to improve and maintain publicly accessible open spaces outside the NEC AAP boundary should be provided by development within the NEC to mitigate these recreational impacts. Monitoring of the use of publicly accessible open spaces as the development within the NEC AAP boundary builds out is recommended to help inform consideration of proportionate contributions.

5.6.5 Phasing, Costs and Funding

The phasing for the green infrastructure, informal open space and provision for children and teenagers reflects the trajectory for NEC development provided by the GCSPS. For the purposes of this IDP, the new provision is expected to come forward by the completion of the development in each phase, however in reality these spaces should be delivered within an early phase of the development to ensure that occupants have opportunities for leisure and recreation activities, helping to build a sense of local community and reducing the need to travel off-site.

As set out above, each development parcel has been allocated an amount of informal open space. This has been calculated based on the total amount of informal open space that will be required to meet the anticipated population of 16,078 persons (35.37 ha) minus the informal open space which already exists in the NEC AAP (14.3 ha) – leaving 21.07 ha to be provided.

The Draft AAP 2021 (Regulation 19) defines a spatial framework for the NEC area which identifies specific development plots and their housing provision. It also sets out where the open spaces exist and are expected to be provided, for example this includes a new linear park. Where open spaces are existing or proposed as identified by the spatial framework within sites proposed for either residential or commercial development, it is expected that these will be provided or enhanced as part of development proposals within those sites.

High level costs have been calculated for improvements to the proposed / existing open spaces within the development parcels within the NEC area. Where informal open spaces already exist within a proposed development parcel these have been assessed using aerial photography and assumptions made about the necessary improvements required to make these suitable for the more intensive use which is envisaged.

Costs are set out below and are based on industry standard rates relevant to Q3 2024 which have been used by LUC in designing and costing open space and green infrastructure projects. These costs were compared against current contractor rates gathered through the procurement of similar scale of works. Rates are inclusive of preliminaries, contingencies and professional fees. There is no adjustment for inflation. The cost of purchasing land has not been included, nor have the costs of remediation / site investigation works. VAT is excluded.

The costs have been derived on the basis of providing high quality open space that can be used all year round, including well-draining amenity grassland, tree and hedgerow planting, paths, entrance features, cycle parking, seats, directional signage, litter bins, lighting and for the larger open spaces, event spaces.

Maintenance has been included in the costings at 15% of capital cost. In accordance with the consultation document for the Draft Greater Cambridge Planning Obligations SPD (2024), contributions to 15 years' worth of maintenance have been assumed.

A summary of the costing for the informal open space in each development parcel is provided in the table below; this considers the AAP + consented scenario (scenario 1).

Table 5-18 – Informal Open Space Requirement and Costs by Development Parcel

Land parcel	Area (Ha)	Cost (£m)	Maintenance (15-year) (£m)	Total cost (£m)
Chesterton Sidings Brookgate*	2.31	3.92	8.82	12.73
Cowley Road Industrial Estate	1.21	1.15	2.59	3.74
Core Site AW / City Council	14.79	11.54	26.26	37.80
St Johns Innovation Park	0.00	-	-	-
Merlin Place	0.00	-	-	-
Cambridge Business Park	1.34	2.70	6.08	8.78
Nuffield Road	1.21	2.53	5.70	8.23
Trinity Hall Farm Industrial Estate	0.00	-	-	-
Milton Road Car Garage site	0.20	0.24	0.53	0.77

Land parcel	Area (Ha)	Cost (£m)	Maintenance (15-year) (£m)	Total cost (£m)
Cambridge Science Park^	12.30	6.66	24.67	31.33
Cambridge Regional College^	0.29	0.21	0.47	0.67
Total	**39.51**	**28.95**	**75.12**	**104.06**

Source: LUC analysis

* The Chesterton Sidings: Brookgate development parcel has received planning consent for 425 homes, however potential for more homes is anticipated as additional land within this area comes forward. This table sets out the requirement for the total number of residential units expected to come forward within this development parcel (including those with planning consent), according to Cambridge Local Plan standards.

The open space at St John's Innovation Park is already laid out – further significant improvements would be difficult to achieve as this site already includes paths, trees and lighting. This area is also currently being maintained by the site manager. Therefore, no further on-site capital or maintenance costs have been assumed. Proportionate contributions towards offsite provision should be explored instead.

^ New open space is not required in these locations by existing standards however costs have been created on the basis of improving existing open spaces to accommodate increased workforce population.

No external funding is anticipated. Accordingly, the full costs, including land provision, capital costs and maintenance costs for the informal open space provision within the NEC AAP area will need to be funded entirely through developer contributions. Additional proportionate contributions should be provided towards open spaces and green infrastructure assets outside the NEC AAP area, to locations including Milton Country Park, Ditton Meadows, Stourbridge Common, Coldham's Common (in addition to the River Cam which is referred in the green infrastructure section above). These should be calculated on a case-by-case basis. Biodiversity net gain contributions could contribute to biodiversity improvements at Chesterton Fen or other locations, if the requisite biodiversity net gain cannot be provided on site in accordance with the Biodiversity Gain Hierarchy.

There are clear requirements in existing policy and guidance for residential development to contribute to the provision of informal open space. However, for commercial development there is only the expectation that developments of 5,000 square metres floorspace and over to contribute towards social and leisure facilities, including open space provision. It is considered appropriate for Placemaking reasons that commercial sites in the NEC AAP should provide for informal open space and green infrastructure.

Costs for children and teenager provision have been derived reflecting the trajectory for NEC development provided by the GCSPS, which set out an average household

occupancy of approximately 2.05 persons per home. The population derived from the number of homes proposed on each development parcel has been multiplied by the capital cost per person of £434.98 as well as the 15-year maintenance cost per person of £456.73, in accordance with evidence prepared to inform Draft Greater Cambridge Planning Obligations SPD (2024). Costs exclude indexation, land and VAT. It is important to note that these costs do not take account of the fact that single bed units are not required to fund children and teenager provision – this detail will depend on the residential unit mix approved.

A summary of the costing for the children and teenager provision in each development parcel is provided in **Table 5-19**. This considers the AAP + Consented scenario (scenario 1).

Table 5-19 – Provision for Children and Teenager (Play Space) Space Requirements and Costs by Development Parcel

Land parcel	Area (ha)	Capital cost (£m)	Maintenance (£m)	Total cost (£m)
AW / City Council site	3.39	4.91	5.2	10.06
Cambridge Business Park	0.31	0.45	0.5	0.91
Cambridge Regional College	0.00	0.00	0.0	0.00
Cambridge Science Park	0.00	0.00	0.0	0.00
Chesterton Sidings *	0.53	0.77	0.8	1.57
Cowley Road Industrial Estate	0.28	0.40	0.4	0.82
Merlin Place	0.00	0.00	0.0	0.00
Milton Road Car Garage Site	0.05	0.07	0.1	0.14
Nuffield Road Industrial Estate	0.28	0.40	0.4	0.82
St Johns Innovation Park	0.00	0.00	0.0	0.00
Trinity Hall Farm Industrial Estate	0.00	0.00	0.0	0.00
Well's Triangle	0.00	0.00	0.0	0.00
Total	4.82	6.99	7.3	14.34

Source: LUC analysis

* The Chesterton Sidings: Brookgate development parcel has received planning consent for 425 homes, however potential for more homes is anticipated as additional land within this area comes forward. This table sets out the requirement for the total number of residential units expected to come forward within this development parcel (including those with planning consent), according to Cambridge Local Plan standards.

No external funding is anticipated. Accordingly, the full costs, including land provision, capital costs and maintenance costs for the children and teenager provision (play space) within the NEC AAP area will need to be funded entirely through development contributions.

5.6.6 Prioritisation

The retention and enhancement of the key green infrastructure assets on the site, including the Milton Road Hedgerow and First Public Drain, are considered essential mitigation as these will support the contribution to biodiversity protection and enhancement, which is a requirement of local plan policy.

The provision/enhancement of informal open space and facilities for children and teenagers within residential-led developments within the NEC AAP area is

considered to be necessary to mitigate the impact of additional recreational use arising from development (for both physical and mental wellbeing). Provision of these spaces on-site accords with local plan policy. These elements are therefore considered to be 'essential mitigation'. The provision and enhancement of open spaces in the commercial-only development parcels is considered to be important for placemaking and wellbeing and is therefore considered to be 'placemaking infrastructure'. The prioritisation reflects the current policy approach which requires contributions from residential developments only. If new open space policy standards are adopted that set out that commercial sites should provide open space contributions, the priority of these would increase to essential mitigation.

Proportionate contributions to publicly accessible open space outside the NEC AAP area from residential-led and commercial only plots are considered to be 'important placemaking' contributions as they will help to offset recreational pressure which is likely to increase as a result of the NEC development. Under development scenarios 2 and 3 provided by the Greater Cambridge Shared Planning Service it is possible that the prioritisation of this element would increase to essential mitigation.

5.6.7 Summary

The informal open space and provision for children and teenagers required to meet the existing Cambridge Local Plan standards across the NEC AAP area as a whole will be met through on-site provision. This will take the form of a range of types of spaces, including a linear park – to be delivered through development and the planning process without reliance on external funding. Proportionate contributions for improvements to and maintenance of publicly accessible open spaces and green infrastructure assets outside of the NEC AAP boundary should also be provided. The total funding required for the informal open space and provision for children and teenagers is £118.4m. These facilities should be delivered in phases alongside development.

This IDP identifies the costs for informal open space and children and teenager provision to be provided within the NEC AAP boundary. It also shows available funding - both committed and potential and then calculates the residual funding gap. **Table 5-20** shows the requirements for the AAP + consented scenario (scenario 1).

Table 5-20 – Summary of Informal Open Space and Children and Teenager Provision

Project	Description	Cost (£ million)	Delivery partner(s)	Prioritisation	Phasing
On-site informal open space	Provision of informal open space across the NEC	104.06	Developers	Essential mitigation	2031-2041 and beyond plan period
On-site children and teenager provision	Provision of on-site provision for children and teenagers across the NEC	14.34	Unfunded	Essential mitigation	2031-2041 and beyond plan period

Source: LUC analysis

5.7 Allotments

5.7.1 Baseline

The National Allotment Society defines allotments as: “an area of land, leased either from a private or local authority landlord, for the use of growing fruit and vegetables”[62]. However, it is important to note that rather than providing allotments in their traditional form, focus has recently shifted to integrating food growing opportunities into public realm and open spaces and as part of the amenity space provided within developments, as set out in the National Design Guide[63]. Allotments and other community food growing opportunities also provide green infrastructure benefits such as habitat and connectivity.

Standards of provision

There are no mandated national standards for the provision of allotments / community food growing areas. Accordingly, local evidence bases related to open space provision have been produced by the City Council and SCDC. For Cambridge City, this includes the Open Space and Recreation Strategy (2011). This evidence base informed the open space standards included in the adopted Cambridge Local Plan (2018), the current Cambridge Planning Obligations Strategy SPD (2014) and the draft Greater Cambridge Planning Obligations SPD (2024) (the replacement of the 2014 SPD). For South Cambridgeshire, the open space evidence is set out in the Recreation and Open Space Study (2013). This informs the open space standards in the adopted South Cambridgeshire Local Plan (2018) the draft Greater Cambridge Planning Obligations SPD (2024). In both local authorities, planning policies set out that new residential development should provide for allotments / community food growing spaces on-site. The standard for both authorities is 0.4 ha of space per 1,000 population.

The NEC AAP straddles the boundary of Cambridge and South Cambridgeshire. However, once fully built out the NEC area will function as an extension of Cambridge City and therefore the use of standards relevant for Cambridge City for the whole NEC area is considered appropriate. As such this IDP follows the approach of the Regulation 19 AAP which is to apply City Council allotment standards to the entirety of the NEC area. In reality, using Cambridge standards only will not make any difference as the standards for allotments are the same for both authorities.

The Draft Greater Cambridge Planning Obligations SPD (2024) sets out that developments of greater than 200 homes are expected to provide allotments on-site. As such, where development parcels within the NEC exceed this threshold, the allotment / community food growing provision should be provided within the

[62] National Society of Allotment & Leisure Gardeners, available at: The National Allotment Society
[63] National Design Guide published by the UK government, published on October 2019, and later updated on January 2021, available at: National_design_guide.pdf

development parcel. Whilst provision within the development parcel is not expected from sites of fewer than 200 homes, financial contributions towards allotment provision are expected and as such, the costings in this IDP include such parcels.

Context of allotment provision within and outside the NEC area

There are no allotments currently located within the NEC area. There are a number of allotments within a 10-minute cycle; however, it is understood that the waiting list for these is very long[64] and therefore it is not considered that there is any spare capacity in the current provision.

The Chesterton Sidings: Brookgate site received planning consent in 2022. This has not been built out yet, but the approved plans provide for a total of 0.386 ha of allotment space (noting that 0.054 ha of this is 'meanwhile' space and will therefore ultimately be used for something else – making the final total 0.332)[65].

5.7.2 Gap and Future Needs

As set out above, it is anticipated that developments within the NEC area will provide allotments / community food growing spaces in accordance with the locally defined standards for provision, as set out in the Cambridge Local Plan, and informed by the Draft Greater Cambridge Planning Obligations SPD (2024).

Applying the City Council standards for allotments (0.4 ha per 1,000 population), on the basis of there being 7,835 new homes, the new resident population within the NEC area (at 16,078 persons) will create a total demand for 6.43 ha of allotment / community food growing space. The table below Table 5-21 sets out the provision per development parcel. This is based on the AAP + consented scenario (Scenario 1).

[64] Find allotments in & around Cambridge, England, available at: Apply for an allotment plot - Cambridge City Council

[65] According to the Public Open Space Provision Plan dated June 2022 submitted in support of the Brookgate application (22/02771/OUT).

Table 5-21 – Allotment / community growing space requirements (ha) at NEC across different phases

Land Parcel	2020-2024	2025-2030	2031-2041	Beyond Plan Period	Total
AW / City Council site	-	-	0.37	0.37	4.51
Cambridge Business Park	-	-	0.29	0.29	0.41
Cambridge Regional College	-	-	-	-	-
Cambridge Science Park	-	-	-	-	-
Chesterton Sidings	-	-	0.58	0.58	0.71
Cowley Road Industrial Estate	-	-	0.08	0.08	0.37
Merlin Place	-	-	-	-	-
Milton Road Car Garage Site	-	-	0.06	0.06	0.06
Nuffield Road Industrial Estate	-	-	0.16	0.16	0.37
St Johns Innovation Park	-	-	-	-	-
AW / City Council site	-	-	-	-	-
Cambridge Business Park	-	-	-	-	-
Milton Road Car Garage Site	-	-	0.06	0.06	0.06
Nuffield Road Industrial Estate	-	-	0.16	0.16	0.37
St Johns Innovation Park	-	-	-	-	-
Trinity Hall Farm Industrial Estate	-	-	-	-	-
Well's Triangle	-	-	-	-	-
Total	-	-	**2.78**	**2.78**	**6.43**

Source: LUC analysis

Scenario testing

In preparing this IDP, several development scenarios for the AAP have been provided for review. The implications of these scenarios in terms of the total area needed for allotments / community food growing space are set out in **Table 5-22**.

Table 5-22 – Comparison of Different Development Scenarios at NEC

Development scenario		Timescales / land provision (ha)					Total (ha)
		2020-2024	2025-2030	2031-2041	Plan Period	Beyond Plan Period	
1	Draft NEC AAP + Consented	-	-	2.78	2.78	3.65	6.43
2	Developer Aspirations	-	0.46	3.86	4.33	1.74	6.07
3	WWTP remains in situ	-	0.07	-	0.07	-	0.07

Source: LUC analysis

5.7.3 Strategy and Projects

As set out in the Regulation 19 NEC AAP, and the supporting Open Space and Recreation Topic paper, allotment / community food growing space provision in the NEC area is to be designed to allow a high level of public access, and thus the traditional provision of plots of land behind gates is not being sought. Instead, communal food growing spaces at podium level or on roof spaces are expected to come forward. These are still expected to be secured but be accessible for the residents of the buildings / development area in which they are located, rather than for just 'allotment holders' as per the traditional model.

5.7.4 Phasing, Costs and Funding

Allotments / community food growing areas should be phased alongside development, given they are anticipated to be provided as part of each development plot.

The Draft Greater Cambridge Planning Obligations SPD (2024) (the replacement of the 2014 SPD) sets out the cost of providing allotments per person, which is £51.29. The document also sets out that maintenance costs are expected to be provided by development to ensure that the facility provided has a suitable lifespan. The expectation is that 15 years of maintenance funding will be provided for, which is £27.20 per person. Using this approach, the combined capital and maintenance costs for allotment provision in each development parcel are set out in the table below Table 5-23. This table considers the AAP + consented scenario (scenario 1). Indexation, land costs and VAT are excluded.

Table 5-23 – Costs of Allotment / Community Food Growing Space Provision

Land parcel	Timescales / cost of provision (£ million)					Total cost (£ million)
	2020-2024	2025-2030	2031-2041	Plan Period	Beyond Plan Period	
AW / City Council site	0	0	0.31	0.31	0.57	0.89
Cambridge Business Park	0	0	0.06	0.06	0.02	0.08
Cambridge Regional College	0	0	0.00	0.00	0.00	0.00
Cambridge Science Park	0	0	0.00	0.00	0.00	0.00
Chesterton Sidings	0	0	0.11	0.11	0.02	0.14
Cowley Road Industrial Estate	0	0	0.02	0.02	0.06	0.07
Merlin Place	0	0	0.00	0.00	0.00	0.00
Milton Road Car Garage Site	0	0	0.01	0.01	0.00	0.01
Nuffield Road Industrial Estate	0	0	0.03	0.03	0.04	0.07
St Johns Innovation Park	0	0	0.00	0.00	0.00	0.00
Trinity Hall Farm Industrial Estate	0	0	0.00	0.00	0.00	0.00
Well's Triangle	0	0	0.00	0.00	0.00	0.00
Total	**0**	**0**	0.55	0.55	0.72	1.26

Source: LUC analysis

No external funding is anticipated. Accordingly, the full costs, including land provision, capital costs and maintenance costs for the provision of allotments / community food growing spaces will need to be funded entirely through development contributions.

5.7.5 Prioritisation

The provision of informal allotments / community food growing spaces within NEC is essential mitigation i.e. necessary to reduce pressure on existing allotments, which are already very highly subscribed. Community food growing also helps to create a sense of community. Provision of these spaces on-site accords with local plan policy.

5.7.6 Summary

The allotments or community food growing spaces required to meet the existing Cambridge Local Plan standards across the NEC area as a whole will be met through on-site provision, in line with the Regulation 19 AAP. This will be provided within developments, for example on roof spaces or at podium level. The total funding required for the allotment / community food growing provision is £1.26 million, to be fully funded by development within the NEC AAP area.

This IDP report identifies the total costs of providing the allotment/community food growing space, including capital and maintenance contributions for each of the NEC

development parcels. Land costs are excluded. Table 5-24 shows the requirements for the AAP + consented scenario (scenario 1) provided by the GCSPS.

Table 5-24 – Summary of Allotment / Community Food Growing Space in NEC

Project title	Sub-Type	Cost Estimate (£ million)	Lead Delivery Partner	Prioritisation	Phasing
Allotments /community food growing at AW / City Council site	Allotments /community food growing	1.26	Developers	Essential mitigation	2031-2041 and beyond plan period

Source: LUC analysis

5.7.7 Stakeholders

Cambridge City Council is responsible for securing allotment provision within new developments and therefore they are the key stakeholder for allotment provision in the NEC. There are other allotment stakeholders in the locality such as the National Allotment Society and local allotment operators, which can be found on the Cambridge Allotments Network website[66]; however their involvement with the food growing spaces at NEC is not assumed to be likely given the intention is to provide allotments within built spaces rather than as separate plots, and these will therefore be managed as part of the developments themselves.

[66] Cambridge allotments – Information, news, list and map of local sites

5.8 Formal open space - outdoor sport

This section of the IDP assesses the need for formal open space, which constitutes open spaces designed and laid out to provide for specific sports and leisure activities. Indoor sports are assessed in the Section 5.5.4 ‘Indoors Sport and Leisure’.

The population at NEC is expected to generate significant demand for sport and leisure facilities. In addition to the residential demand, the development of employment sites within the NEC AAP boundary is likely to contribute to demand.

5.8.1 Baseline

Formal outdoor sports context within the NEC AAP boundary

Existing outdoor sport and recreation provision within the NEC AAP boundary includes:

- Cambridge Golf Driving Range (which will not be retained and shall be replaced off-site or an equivalent alternative sports facility provided as part of a planning application).
- Cambridge Regional College (which includes a 3G pitch).

Opportunities to make the existing facilities which are expected to remain within the NEC AAP boundary publicly available at certain times should be explored.

Formal outdoor sports context outside the NEC AAP boundary

The Open Space and Recreation Topic Paper identify a number of sports pitches within proximity of the NEC AAP boundary. With planned access improvements to connect NEC with communities both within other quarters of the city and areas of South Cambridgeshire, NEC residents and employees would be able to access a number of existing outdoor sports pitches. These are, however, understood to be well used and not to have capacity to accommodate the demands of the development proposed in the Regulation 19 NEC AAP.

Standards

The NEC AAP area straddles the boundary of Cambridge and South Cambridgeshire. However, once fully built out the NEC area will function as an extension of Cambridge City and therefore the use of standards relevant for Cambridge City for the whole NEC area is considered appropriate. As such this IDP follows the approach of the Regulation 19 NEC AAP which is to apply City Council standards to the entirety of the NEC area.

The Cambridge City standard for formal sport provision is set out in the table below:

Table 5-25 – Cambridge City Council Formal Outdoor Sport Standard

Typology	Definition	Standard
Outdoor sports facilities	Playing pitches, courts and greens	1.2 ha per 1,000 population

Source: Cambridge Local Plan 2018

The standards set out in the table above apply to the residential population within a development. It is important to note that the draft Greater Cambridge Planning Obligations SPD (2024) expects commercial developments of 5,000 square metres floorspace and above to consider how they can contribute towards social and leisure facilities, including formal sport provision.

The strategy set out in the Open Space & Recreation Topic Paper is to incorporate as much formal sport provision as possible on-site by using innovative types of spaces which encourage active and healthy lifestyles and are available throughout the year. However, due to the high-density nature of development within the NEC AAP, it is recognised that there is insufficient space within the boundary to provide for large pitch provision, and the expectation is that the majority of formal outdoor sport pitches will be secured in locations outside the NEC AAP boundary via financial contributions.

The Chesterton Sidings: Brookgate development, which received consent in 2022, took a similar approach. This development provided a contribution towards social and leisure facilities, which will be used for off-site sports provision. Whilst formal pitches are not likely to be provided within the NEC AAP boundary, the expectation is that courts and multi-use games areas will be provided within the NEC AAP Boundary in an innovative way in locations which are easily accessible and a short distance from homes. The requirement for courts and multi-use games areas is 0.1 ha per 1,000 population, as set out in the Open Space & Recreation Topic Paper (this is part of the 1.2 ha provision per 1,000 population for all formal sport pitches).

The standards are based on evidence that was prepared a number of years ago. They are considered to be in need of updating, and it is understood that work is currently progressing in relation to this. Sport England provides a Playing Pitch Calculator[67] tool which can be used to determine the requirements of developments in relation to pitches. The approach taken within this IDP is to use the playing pitch calculator to determine the outputs for grass and artificial pitches, and the City Council standards for courts and multi-use games areas.[68] The approach taken

[67] Sport England calculator, available at: Playing Pitch Calculator | Sport England
[68] The Sport England calculator does include an outdoor tennis court calculator however this has not been used because the CCC courts and multi-use standard refers to a mixture of courts, some of which may be for dedicated tennis use, some of which may be used for multiple sports. To use only the Sport England outdoor

within this IDP is to use the playing pitch calculator to determine the outputs for grass and artificial pitches, and the City Council standards for courts and multi-use games areas.

Opportunities for formal sports pitch provision

A playing pitch strategy is being prepared for the Greater Cambridge area by Strategic Leisure Limited. This will set out the strategy for the provision of new sports facilities including formal pitches. This will determine the opportunities for where new sports facilities could be located.

5.8.2 Stakeholders

Responsibility for the delivery and management of sports and leisure provision varies depending on the type and location of facility in question. Pitch facilities are run by several different stakeholders including the relevant local authorities, sports clubs, private sport management companies and the colleges. Sport England also provides advice to local authorities in relation to sport provision.

5.8.3 Gap and Future Needs

It is important to note that a playing pitch strategy is currently being prepared for Greater Cambridge by Strategic Leisure Limited. This will provide more information in relation to the demand and appropriate provision of formal outdoor open space, in terms of typology of provision and location. As the strategy was not available to inform this IDP, the existing Local Plan standards (for courts and multi-use games areas) and the Sport England Playing Pitch Calculator have been used to assess the requirement for grass and artificial pitch provision. The Sport England calculator provides an indicative measure of what should be provided for various sport typologies and is appropriate for use in high-level master-planning. The playing pitch calculator outputs have been informed by baseline analysis for team sport demand undertaken by Strategic Leisure Limited as part of their work to prepare the playing pitch strategy. Once the new Playing Pitch Strategy is published, it is expected that this will be used as the updated basis of assessment for formal sport provision for development within the NEC AAP boundary.

Sports pitches

Strategic Leisure Limited supplied the current team demand for the 2024/25 Season. This data was input to the Sport England Playing Pitch Calculator for the different development scenarios. The pitch requirements resulting from the residential development at NEC are shown below. This considers the AAP + Consented scenario (scenario 1).

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tennis court calculator would omit the multi-use element of the courts and give an underestimate of the total need,

Table 5-26 – Sports pitch requirements arising from the residential development

Typology	0-5 years		6-10 years		11-15 years		16-20 years		Plan period		Beyond Plan period		Total	
	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms	No. of Pitches	No. of Changing Rooms
Artificial grass pitches - sand-based	0	0	0	0	0.2	0.4	0.2	0.5	0.4	0.8	0.6	1.1	1.0	2.0
Artificial grass pitches - 3G	0	0	0	0	0.2	0.4	0.2	0.5	0.4	0.9	0.6	1.1	1.0	2.0
Natural grass pitches - Cricket	0	0	0	0	0.1	0.3	0.2	0.4	0.3	0.7	0.4	0.9	0.8	1.6
Natural grass pitches - Football	0	0	0	0	2.4	3.4	3.4	4.8	5.8	8.2	7.6	10.7	13.4	18.9
Natural grass pitches - Rugby union	0	0	0	0	0.2	0.4	0.3	0.6	0.5	1.0	0.7	1.4	1.2	2.4

Source: LUC analysis

Additional needs are likely to arise from commercial development within the NEC AAP; however, this should be considered on a case-by-case basis.

Courts and multi-use games areas

Using the 0.1 ha of artificial outdoor provision (tennis courts/multi-use games areas/bowling greens) per 1,000 people standard, the population of 15,346 persons at the NEC results in a requirement for NEC of 1.71 ha of tennis courts/multi-use games areas. These are to be delivered on-site, the breakdown per development parcel is shown in Table 5-27. This considers the AAP + Consented scenario.

Table 5-27 – Area requirements for Courts and Multi-Use Games Areas in NEC

Development parcel	Time period / land area requirement (ha)					Total (ha)
	2020-2024	2025-2030	2031-2041	Plan Period	Beyond Plan Period	
AW / City Council site	-	-	0.40	0.40	0.73	1.13
Cambridge Business Park	-	-	0.07	0.07	0.03	0.10
Cambridge Regional College	-	-	-	-	-	-
Cambridge Science Park	-	-	-	-	-	-
Chesterton Sidings	-	-	0.15	0.15	0.03	0.18
Cowley Road Industrial Estate	-	-	0.02	0.02	0.07	0.09
Merlin Place	-	-	-	-	-	-
Milton Road Car Garage Site	-	-	0.02	0.02	-	0.02
Nuffield Road Industrial Estate	-	-	0.04	0.04	0.05	0.09
St Johns Innovation Park	-	-	-	-	-	-
Trinity Hall Farm Industrial Estate	-	-	-	-	-	-
Well's Triangle	-	-	-	-	-	-
Total	**-**	**-**	**0.69**	**0.69**	**0.91**	**1.61**

Source: LUC analysis

5.8.4 Strategy and Projects

The strategy set out in the Open Space & Recreation Topic Paper is to incorporate as much formal sport provision as possible on-site by using innovative multi-use spaces which encourage active and healthy lifestyles and are available throughout the year. Large outdoor sports facilities are expected to be delivered off-site, but smaller outdoor sports areas including courts and multi-use games areas are expected to be provided on-site.

It is important that all sport facilities are designed to be multi-functional and to cater for a range of different activities, or a mix of sports and community/cultural activities. As such, the smaller, on-site facilities may need to include artificial surfaces to support a wider range of activities than normal or be covered yet open on three sides.

Artificial courts can also be located at ground floor subject to ceiling heights and in podium locations, as part of a residential block. Further land-use efficiency can be achieved by installing smaller artificial pitches (such as 5-a-side football) on a roof-top location such as on top of a community hub or indoor sports facility.

The off-site contributions may be used for a mixture of artificial and natural grass pitches, to be determined as development sites come forward in accordance with the Sport England calculator and consultation with relevant stakeholders. The provision is also likely to be informed by the forthcoming playing pitch strategy.

5.8.5 Phasing, Costs and Funding

Formal outdoor sports facilities are expected to be delivered in phase with development.

Artificial and grass pitch costs

Estimated costs for provision of artificial and grass pitches were arrived at by using the Sport England Sport Facilities Calculator (SFC), which was based on the following evidence:

- Sport England Facility Capital Cost Guidance Q3 2024
- Sport England Life Cycle Costs natural turf pitches Q2 2023 – these annual figures have been multiplied by 15 in order to provide 15 years of costs
- Sport England Life Cycle Costs artificial surfaces Q2 2023 – these annual figures have been multiplied by 15 in order to provide 15 years of costs
- The building costs of facilities used in the sources above are for average facilities endorsed by Sport England. The costs exclude site abnormal costs such as poor ground, difficult access and long service connections; VAT; and land costs.

Costs are set out in Table 5.28 below. This considers the AAP + Consented scenario (scenario 1).

Table 5-28 – Costs of formal sports pitch provision

Typology	Capital Cost (£ million)	15-year lifecycle cost (£ million)	Changing rooms cost (£ million)	Capital Cost (£ million)	15-year lifecycle cost (£ million)	Changing rooms cost (£ million)	Capital Cost (£ million)	15-year lifecycle cost (£ million)	Changing rooms cost (£ million)
	Plan period			Beyond Plan period			Total		
Artificial grass pitches - sand based	0.41	0.16	0.17	0.54	0.21	0.22	0.95	0.37	0.39
Artificial grass pitches - 3G	0.49	0.22	0.17	0.65	0.30	0.22	1.14	0.52	0.39
Natural grass pitches - Cricket	0.12	0.33	0.14	0.16	0.43	0.18	0.27	0.76	0.31
Natural grass pitches - Football	0.51	1.53	1.64	0.67	2.01	2.15	1.19	3.53	3.79
Natural grass pitches - Rugby union	0.09	0.24	0.21	0.11	0.32	0.27	0.20	0.56	0.48
Total	**1.62**	**2.48**	**2.32**	**2.13**	**3.26**	**3.05**	**3.75**	**5.73**	**5.36**

Source: LUC analysis

The total cost of formal sports pitch provision capital funding and maintenance funding (including changing rooms) is £14.85 million.

On-site courts and multi-use sports areas

On-site courts and multi-use sports areas have been costed on the basis that these are tennis courts, constructed of macadam with lining and signing. Whilst it is recognised that they will be multi-use areas and not just for tennis, this type of construction was felt to provide for multiple uses and therefore deemed appropriate. The capital cost of this was taken from the Sport England Facility Cost Guidance Q3 2024 and the maintenance costs were taken from the Sport England Life Cycle Costs artificial surfaces Q2 2023, and multiplied by 15 years in accordance with the draft Greater Cambridge Planning Obligations SPD (2024).

The capital costs are £207.32 per square metre and annual maintenance cost £3.32 per square metre. The costs exclude site abnormal costs such as poor ground conditions, difficult access and long service connections; VAT; and land costs. No changing provision is included in these costs. Costs are set out in **Table 5-29**. This considers the AAP + consented scenario.

Table 5-29 – Courts and Multi-Use Sports Areas

Development parcel	Time period / cost (£ million)					Total cost (£ million)
	2020-2024	2025-2030	2031-2041	Plan Period	Beyond Plan Period	
AW / City Council site	0.00	0.00	1.03	1.03	1.87	2.90
Cambridge Business Park	0.00	0.00	0.18	0.18	0.08	0.26
Cambridge Regional College	0.00	0.00	0.00	0.00	0.00	0.00
Cambridge Science Park	0.00	0.00	0.00	0.00	0.00	0.00
Chesterton Sidings	0.00	0.00	0.37	0.37	0.08	0.45
Cowley Road Industrial Estate	0.00	0.00	0.05	0.05	0.18	0.24
Merlin Place	0.00	0.00	0.00	0.00	0.00	0.00
Milton Road Car Garage Site	0.00	0.00	0.04	0.04	0.00	0.04
Nuffield Road Industrial Estate	0.00	0.00	0.11	0.11	0.13	0.24
St Johns Innovation Park	0.00	0.00	0.00	0.00	0.00	0.00
Trinity Hall Farm Industrial Estate	0.00	0.00	0.00	0.00	0.00	0.00
Well's Triangle	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**1.79**	**1.79**	**2.35**	**4.13**

Source: LUC analysis

It should be noted that the strategy being implemented at NEC of making efficient use of facilities (by accommodating multifunctional uses) is likely to have an impact on costs. Higher specification facilities may be required to withstand multifunctional use including satisfactory floor surfaces, sound proofing and downward facing ceiling lights to avoid conflict with neighbouring amenity uses. This is also likely to raise associated maintenance costs – this cannot be costed until designs are known.

The costs for all formal outdoor sport facilities are anticipated to be provided by development within the NEC AAP.

5.8.6 Prioritisation

Sport and leisure provision within NEC is considered as essential mitigation i.e. necessary to mitigate the impact of additional sport and recreational demand, arising from development, on existing facilities. This provision will play an important role in enabling active and healthy lifestyles.

5.8.7 Summary

Given the high-density nature of NEC, it is expected that the majority of formal sports pitch provision will be located outside of the NEC AAP boundary. This should consist of a mixture of grass and artificial pitches as appropriate to meet the demands of the sports teams in Greater Cambridge as development comes forward. In accordance with the approach of the Open Space and Recreation topic paper, Courts and multi-use games areas should be provided on site, using innovative approaches to achieve the vision and objectives of NEC and to enable healthy and active lifestyles.

The NEC AAP seeks that on-site provision includes multi-functional spaces which can also accommodate other community needs. However, it should be recognised that this strategy is likely to imply higher costs – both capital costs and ongoing maintenance, to withstand these multiple uses. As set out above the playing pitch strategy is currently being updated. It is possible that, as a result of these assessments, the detailed requirements for formal sports pitches may change. These assessments are expected to be finalised in 2025.

Table 5-30 – Summary for Formal Open Space - Outdoor Sport

Project title	Sub-Type	Cost Estimate (£ million)	Lead Delivery Partner	Prioritisation	Phasing
Formal open space – outdoor sport	Formal outdoor sport pitches	14.85	Developers	Essential mitigation	2031-2041 and beyond plan period
Formal open space – outdoor sport	Formal outdoor sports courts and multi-use areas	4.13	Developers	Essential mitigation	2031-2041 and beyond plan period

Source: LUC Analysis

6. Infrastructure Delivery Plan

The investment in infrastructure will help to unlock the development potential across the NEC area. Currently the land ownership is fragmented and while the constituent local authorities and Network Rail own land across the area, a large proportion of the land is currently privately owned including academic institutions and industrial estates.

There are a range of sources of finance to pay for local infrastructure, including public grants, revenues from taxes and business rates, public services, publicly owned assets and enterprises, and private capital.

Provision of local infrastructure requires upfront resources to plan and delivery, with long lead-times until the economic and financial benefits begin. Councils could raise capital finance through central government grants, S106 agreements, business rates retention, city deals such as GCP, new homes bonus payments, congestion charges, and loans. This section considers funding options for the projects identified in Chapter 5. Nonetheless, some other options should be explored further with stakeholders.

The scale of transformation anticipated at NEC means that a significant amount of the infrastructure identified in this report and summarised below will be delivered within NEC rather than outside the boundary. In many cases, it is likely that particular infrastructure projects will be delivered on site by developers as an integral part of their developments rather than via a s106 payment for another body to deliver. As such, where a residual funding gap has been identified and it is expected that developers will need to individually or collectively provide funding, this will be through a combination of ‘in kind’ delivery and s106 contributions, with this dynamic best considered via Development Management.

6.1 Infrastructure Cost Summary

Costing information focuses on the construction and delivery of the identified schemes and is based on current day costs. Costs associated with infrastructure delivery in later phases will be subject to inflation and market changes and would need to be suitably index linked to ensure they are reflective of the future costs of delivery. All costs exclude land acquisition or abnormal costs, such as remediation costs. Such matters are best dealt with on a site-by-site basis rather than via a desktop review at this strategic scale.

Further, all costs should be considered best estimates made relative to prevailing strategies, service delivery plans and/or outline specifications that have been provided at this point in time. Detailed costings should be refined as infrastructure projects are worked up in more detail in response to the increased certainty provided by the AAP, masterplans and/or the submission of planning applications.

Table 6-1 below presents the summary cost estimates, total funding commitment and residual gap for each infrastructure typology. Total funding includes

consideration of the s106 funding secured to date for consented developments in NEC, as confirmed by GCSPS. This includes developments at Cambridge Science Park and Cambridge North Station (Brookgate). This table also provides the residual cost apportionment for residential and commercial development.

The total cost for infrastructure provision at NEC area is £465.5 million. Approximately £13 million has been secured towards funding of strategic projects. It is anticipated that the power substation will be funded by UKPN (once more details are provided) and other transport strategic measures will be funded by GCP. The resultant residual funding gap of £452.8 million will need to be financed by the developer contributions or other sources that have yet to be identified. On a per dwelling basis the full build-out contribution is £41,280 and £193 for the commercial element.

The identified infrastructure is required to deliver the residential and commercial development; but it is necessary to apportion the cost between the land uses. The apportionment has been carried out by considering the relationship between land use and infrastructure typologies, for example, healthcare requirements are generated by the additional population residing in new homes and so healthcare infrastructure costs are totally apportioned to residential development. Other typologies, such as transport, have been apportioned to residential and commercial development since new jobs and new houses demand for transport infrastructure.

At this time, it has been assumed that residual funding gap is apportioned to residential and commercial development in full. Should additional capital funding be secured, for example for transportation, digital or power infrastructure, then the costs anticipated to be met via development (subject to viability) would reduce.

Table 6-1 – Cost Summary for Identified Infrastructure

Typology	Total Cost Estimate (£ million)	Total Funding (£ million)	Total Residual Gap (£ million)
Transport	**211.20**	**4.92**	**206.28**
Local	90.00	0.44	89.56
Strategic	121.20	4.48	116.72
Utilities	**25.31**	**6.89**	**18.42**
Power	14.00	-	14.00
Waste & Recycling	6.41	4.89	1.52
Digital Network	4.90	2.00	2.90
Social Infrastructure	**90.66**	**1.11**	**89.55**
Community facilities	12.36	0.04	12.32
Education	62.30	0.48	61.82
Healthcare	9.20	0.30	8.90

Typology	Total Cost Estimate (£ million)	Total Funding (£ million)	Total Residual Gap (£ million)
Indoor Sports and Leisure	6.80	0.30	6.50
Informal open space and provision for children and teenagers	**118.39**	**0.01**	**118.38**
Green infrastructure and open space	14.34	-	14.34
Children and teenager provision	104.05	-	104.05
Allotments/community food growing	1.26	0.00	1.26
Outdoor Sports Infrastructure	18.98	0.00	18.98
Outdoor sports pitches	14.85	-	14.85
Courts and multi-use games areas	4.13	-	4.13
Total	**465.49**	**12.93**	**452.87**
Apportionment			
Total Residential Costs (£m)			323.43
Total Commercial Cost (£m)			129.44
Cost per dwelling (£)			**41,279**
Cost per sqm (residential)			656
Cost per sqm (commercial)			193

Source: AtkinsRéalis analysis

Table 6-2 indicates that approx. £400 million should be invested in infrastructure during the plan period, with an additional £53 million identified to serve continued growth beyond 2041. This is because most of the infrastructure is needed to enable the development in NEC area and is required before all the residential units are fully occupied.

It is worth noting that about half of the total cost are related to transport projects equivalent to £211.25 million, of which £121 million are required for strategic and £90 million for local and internal schemes. Green infrastructure and open spaces, play spaces, allotments and formal sports pitches are estimated at a combined £139 million, while educational provision is costed at £62 million as the highest estimate from the social infrastructure typologies.

Table 6-2 – Residual Cost Schedule

Infrastructure Typology	2025-2029	2030-2035	2036-2041	Plan Period	After 2041	Total
Transport	**57.16**	**128.48**	**13.13**	**198.78**	**7.50**	**206.28**
Local	14.31	60.25	7.50	82.06	7.50	89.56
Strategic	42.85	68.23	5.63	116.72	-	116.72
Utilities	**4.80**	**1.81**	**11.81**	**18.42**	**-**	**18.42**
Power	4.00	-	10.00	14.00	-	14.00
Waste & Recycling	-	0.76	0.76	1.52	-	1.52
Digital Network	0.80	1.05	1.05	2.90	-	2.90
Social Infrastructure	**12.37**	**47.29**	**29.89**	**89.55**	**-**	**89.55**
Community facilities	-	12.32	-	12.32	-	12.32
Education	12.37	22.81	26.64	61.82	-	61.82
Healthcare	-	8.90	-	8.90	-	8.90
Indoor Sports and Leisure	-	3.25	3.25	6.50	-	6.50
Open space, green Infrastructure, children and teenager provision	**10.20**	**36.67**	**32.57**	**79.43**	**38.95**	**118.38**
Children and teenager provision	-	4.77	4.39	9.16	5.18	14.34
Informal open space	10.20	31.90	28.18	70.27	33.77	104.05
Allotments / community food growing	-	0.42	0.39	0.81	0.45	1.26
Outdoor Sports Infrastructure	-	6.31	6.24	12.55	6.43	18.98
Outdoor sports pitches	-	4.95	4.95	9.90	4.95	14.85
Courts and multi-use games areas	-	1.36	1.29	2.65	1.48	4.13
Total Residual Gap (£ million)	**84.53**	**220.97**	**94.04**	**399.54**	**53.33**	**452.87**

Source: AtkinsRéalis analysis

6.2 Infrastructure Schedule

Table 6-3 shows the list of infrastructure projects identified for the NEC area. This table includes, for each of the identified projects, the cost estimate, if the project is funded or not, the potential source of funding, the residual gap, the main delivery partner(s), the prioritisation and the anticipated phasing of delivery over the plan period.

Table 6-3 – Infrastructure Schedule for Identified Infrastructure

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
Transportation (Local Measures)													
1	Active Travel	Bridge over Milton Road to Cambridge Science Park	18	Unfunded	Developer s106 Agreements	18	CCC	Essential					
2	Active Travel	Underpass between St Johns Innovation Centre and Cambridge Science Park	13	Unfunded	Developer s106 Agreements	13	CCC	Essential					
3	Active Travel	Busway Crossings	0.6	Unfunded	Developer s106 Agreements	0.6	CCC	Essential					
4	Active Travel	Pedestrian and cycle bridge over the railway line	15.3	Unfunded	Developer s106 Agreements	15.3	CCC	Placemaking					
5	Public Transport	Intra-NEC area shuttle bus system	22.5	Unfunded	Developer s106 Agreements (worst-case cost for driven vehicle over 20yrs)	22.5	CCC	Placemaking					
6	Active Travel	Upgrade to Milton Road underpass under Busway	1	Unfunded	Developer s106 Agreements	1	CCC	Essential					
7	Active Travel	Filling in of Milton Road underpass under Busway, and extend existing surface-level footway/cycleway	2	Unfunded	Developer s106 Agreements	2	CCC	Placemaking					
8	Active Travel	Improvements to Cowley Road as an access route	4.3	Partially Funded	Developer s106 Agreements. £100k of s106 funding secured.	4.2	CCC	Essential					
9	Active Travel	Provision for cycling on the Cambridge Science Park loop road	1.8	Unfunded	Developer s106 Agreements	1.8	CCC	Essential					
10	Active Travel	Improved crossing at Milton Road with the busway junction	1.3	Unfunded	Developer s106 Agreements	1.3	CCC	Essential					
11	Active Travel	Improved cycle and walking route to North	2.2	Unfunded	Developer s106 Agreements	2.2	CCC	Essential					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
		Cambridge Academy Secondary School											
12	Active Travel	Park and Cycle opportunities at P&R locations	1.1	Unfunded	Developer s106 Agreements	1.1	CCC	Essential					
13	Traffic management	Consolidation Hubs at 2no. Locations	6.9	Unfunded	Developer s106 Agreement	6.9	CCC	Essential					
Transport (Strategic measures)													
14	Public Transport	Waterbeach to Cambridge Bus Corridor	21.1	Unfunded	GCP City Deal/Developer s106 Agreements (£109.4m total cost of scheme, £87m anticipated to be from s106)	21.1	GCP/CCC to submit TWAO to SoS (on behalf of GCP)	Essential					
15	Public Transport	Bus improvements for Cambridge - contribution based on number of additional buses required to cater for the additional trips generated by the proposed level of development in the NEC area	16.9	Unfunded	GCP/Developer s106 Agreements	16.9	GCP	Essential					
16	Active Travel	Chisholm Trail Phases 1 & 2	17.7	Partially Funded	GCP City Deal/Developer s106 Agreements - £147k of s106 funding already secured	17.5	GCP	Placemaking					
17	Active Travel	Waterbeach Greenway	7.9	Partially Funded	GCP City Deal/Developer s106 Agreements - Cowley Rd improvement works currently	6.72	GCP	Placemaking					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
					under construction								
18	Public Transport	Milton Road Corridor	9.3	Partially Funded	GCP City Deal/Developer s106 Agreements. £1.29m of s106 already secured	8.0	GCP	Placemaking					
19	Public Transport	Cambourne to Cambridge Bus Corridor	36.7	Unfunded	GCP/City Deal/Developer s106 Agreements (£181m total cost of scheme, £37.7m from s106 contributions)	36.7	GCP/CCC to submit TWAO to SoS (on behalf of GCP)	Placemaking					
20	Active Travel	10 other Greenways excl. Waterbeach	1.5	Unfunded	GCP/City Deal/Developer s106 Agreements - £90m total cost of 10 schemes	1.5	GCP	Placemaking					
21	Active Travel	St Ives Greenway	3.3	Unfunded	GCP/City deal/Developer s106 Agreements - £6.8m total cost of scheme.	3.3	GCP	Placemaking					
22	Active Travel	Additional 1000 P&R spaces in Cambridge	1.5	Unfunded	GCP/City Deal/Developer s106 Agreements	1.5	GCP	Placemaking					
23	Traffic management	New Controlled Parking Zones in the surrounding area	0.5	Partially Funded	Developer s106 Agreements - £100k of funding already secured	0.4	GCP	Essential					
24	Public Transport	Cambridge South East Transport Phase 2	4.8	Unfunded	GCP/City Deal/Developer s106 Agreements (£161m total cost of scheme).	4.8	GCP/CCC to submit TWAO to SoS (on behalf of GCP)	Placemaking					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
Utilities Infrastructure													
25	Power	Upgrade of Substation at Milton Road	4	Unfunded	OFGEM	4	UKPN	Critical					
26	Power	Delivery of new substation	10	Unfunded	OFGEM	10	UKPN	Critical					
27	Waste & Recycling	Expansion of Milton HRC	4.81	Funded	Councils / S106	0	CCC / Developers	Critical					
28	Waste & Recycling	Additional Residential Collection Vehicles	1.3	Unfunded	S106	1.3	Developers	Essential					
29	Digital Network	Expansion of Super-Fast Broadband	2	Funded	OpenReach, CityFibre, Virgin	0	Private operators	Critical					
30	Digital Network	Camb WiFi expansion	TBC	Funded	Connecting Cambridgeshire	0	Developers	Placemaking					
31	Digital Network	Mobile Network reinforcements	TBC	Funded	Mobile Network Operators	0	Mobile Network Operators	Critical					
32	Digital Network	Smart totems	0.12	Funded	GCP	0	GCP Smart Team	Placemaking					
32	Digital Network	Smart Tech & Environmental Monitoring	2.4	Unfunded	Local Councils / s106	2.4	CCC / City Council / SCDC	Placemaking					
33	Digital Network	CCTV network	0.5	Unfunded	Build costs / s106	0.5	CCC / City Council / SCDC	Placemaking					
Social Infrastructure													
34	Healthcare	Health hub	9.2	Partially Funded	S106 (£298,003 already secured through 22/02771/OUT)	8.9	Integrated Care Board / Developers	Essential					
35	Indoor Sports and Leisure	Sports hall	3.3	Partially Funded	S106 (£149,485 already secured through 22/02771/OUT)	3.15	Local Councils / Developers	Essential					
36	Indoor Sports and Leisure	Swimming pool contribution	3.5	Partially Funded	S106 (£150,277 already secured through 22/02771/OUT)	3.35	Local Councils / Developers	Essential					
37	Education	3FE Primary school	25	Partially Funded	S106 (£261,615 already secured through 22/02771/OUT)	24.7	CCC / Developers	Essential					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
38	Education	2FE Primary school	16.2	Unfunded	S106	16.2	CCC / Developers	Essential					
39	Education	Secondary school expansion	17.3	Partially Funded	S106 (£118,864 already secured through Brookgate Appeal 22/02771/OUT)	17.2	CCC / Developers	Essential					
40	Education	Expansion of SEND provision	3.8	Partially Funded	S106 (£95,932 already secured through Brookgate Appeal 22/02771/OUT)	3.7	CCC / Developers	Essential					
41	Community facilities	Community & cultural centre	9.46	Unfunded	S106	9.46	Local Councils / Developers	Essential					
42	Community facilities	Public library	2.9	Partially Funded	S106 (£37,642 already secured through Brookgate Appeal 22/02771/OUT)	2.86	CCC / Developers	Essential					
Green Infrastructure and open space													
43	Allotments / community food growing	Allotments and community food growing at AW / City Council site	0.89	Unfunded	S106	0.89	Developers	Essential					
44	Allotments / community food growing	Allotments / community food growing at Cambridge Business Park	0.08	Unfunded	S106	0.08	Developers	Essential					
45	Allotments / community food growing	Allotments / community food growing at Chesterton Sidings	0.14	Unfunded	S106	0.14	Developers	Essential					
46	Allotments / community food growing	Allotments / community food growing at Cowley Road Industrial Estate	0.07	Unfunded	S106	0.07	Developers	Essential					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
47	Allotments / community food growing	Allotments / community food growing contribution from Milton Road Garage site	0.01	Unfunded	S106	0.01	Developers	Essential					
48	Allotments / community food growing	Allotments / community food growing at Nuffield Road Industrial Estate	0.07	Unfunded	S106	0.07	Developers	Essential					
49	Courts and multi use games areas	Courts and multi use games areas within the AW / City Council site	2.90	Unfunded	S106	2.90	Developers	Essential					
50	Courts and multi use games areas	Courts and multi use games areas within Cambridge Business Park	0.26	Unfunded	S106	0.26	Developers	Essential					
51	Courts and multi use games areas	Courts and multi use games areas within Chesterton Sidings	0.45	Unfunded	S106	0.45	Developers	Essential					
52	Courts and multi use games areas	Courts and multi use games areas within Cowley Road Industrial Estate	0.24	Unfunded	S106	0.24	Developers	Essential					
53	Courts and multi use games areas	Courts and multi use games areas within Milton Road Garage site	0.04	Unfunded	S106	0.04	Developers	Essential					
54	Courts and multi use games areas	Courts and multi use games areas within the Nuffield Road Industrial Estate	0.24	Unfunded	S106	0.24	Developers	Essential					
55	Outdoor sports pitches	Artificial grass pitches	3.77	Unfunded	S106	3.77	Developers	Essential					
56	Outdoor sports pitches	Natural grass pitches	11.08	Unfunded	S106	11.08	Developers	Essential					
57	Informal open space	Informal open space provision within Chesterton Sidings Brookgate	12.73	Unfunded	S106	12.73	Developers	Essential					
58	Informal open space	Informal open space provision within Cowley Road Industrial Estate	3.74	Unfunded	S106	3.74	Developers	Essential					

Ref#	Typology	Project title	Cost (in £ million)	Funding	Source of Funding	Residual Gap (in £ million)	Lead Delivery Partner	Prioritisation	Phasing				
									2020-2024	2025-2029	2030-2035	2036-2041	After 2041
59	Informal open space	Informal open space provision within Core AW / City Council Site	37.8	Unfunded	S106	37.8	Developers	Essential					
60	Informal open space	Informal open space provision within Cambridge Business Park	8.78	Unfunded	S106	8.78	Developers	Essential					
61	Informal open space	Informal open space provision within Nuffield Road	8.23	Unfunded	S106	8.23	Developers	Essential					
62	Informal open space	Informal open space provision within Milton Road Car Garage Site	0.77	Unfunded	S106	0.77	Developers	Essential					
63	Informal open space	Informal open space provision within Cambridge Science Park	31.33	Unfunded	S106	31.33	Developers	Placemaking					
64	Informal open space	Informal open space provision within Cambridge Regional College	0.67	Unfunded	S106	0.67	Developers	Placemaking					
65	Children and teenager provision	Children and teenager provision within the AW / City Council site	10.06	Unfunded	S106	10.06	Developers	Essential					
66	Children and teenager provision	Children and teenager provision within Cambridge Business Park	0.91	Unfunded	S106	0.91	Developers	Essential					
67	Children and teenager provision	Children and teenager provision within Chesterton Sidings	1.57	Unfunded	S106	1.57	Developers	Essential					
68	Children and teenager provision	Children and teenager provision within Cowley Road Industrial Estate	0.82	Unfunded	S106	0.82	Developers	Essential					
69	Children and teenager provision	Children and teenager provision within Milton Road Car Garage Site	0.14	Unfunded	S106	0.14	Developers	Essential					
70	Children and teenager provision	Children and teenager provision within Nuffield Road Industrial Estate	0.82	Unfunded	S106	0.82	Developers	Essential					

Source: AtkinsRéalis analysis

APPENDICES

Appendix A. List of inclusions and exclusions

This IDP prioritises the primary infrastructure needed to support a new mixed-use community at NEC. It excludes site-specific infrastructure required for individual plots, sites, or developments, which are typically covered as development costs. The included infrastructure typologies are:

Transport:
- Local measures, including active travel,
- Strategic measures comprising public transport, highways, and bridges.

Utilities:
- Power (Electrical supply),
- Waste management and collection,
- Digital networks, including smart-tech and environmental monitoring networks.

Social infrastructure:

- Education: Early years provision, primary and secondary education, 16+ education and special education needs and adult (SEND)
- Primary healthcare, including general practitioners,
- Community facilities, comprising community centres, libraries and cultural provision,
- Indoor sport and leisure facilities including swimming pools.

Open space, green infrastructure and children and teenager provision:

- Open space (comprising informal open space and play provision)
- Allotments and other food growing opportunities
- Formal outdoor provision including grass pitches (expressed as football, rugby or cricket provision)
- Multi-use games areas (tennis, bowls, etc)
- Artificial outdoor pitches.

The Infrastructure Delivery Plan is a supporting evidence-based study for the NEC AAP that identifies:

- Infrastructure needed to support the proposed development
- Capital cost of the infrastructure
- Public funding is available to support infrastructure development.
- Residual gap, between the cost of the infrastructure and public funding that needs to be covered by other funding sources.
- Cost schedule for the infrastructure delivery aligned with the proposed growth trajectory.

A variety of other infrastructure types and facilities have been considered but not included in the IDP, as their inclusion in an infrastructure schedule is not warranted. The reasons for excluding these infrastructure types range from their delivery being primarily a planning policy or development management issue, to costs being recognised as core build costs rather than infrastructure, to NEC not being the appropriate spatial scale at which to consider infrastructure provision, or instances where delivery is market-led in response to prevailing market conditions.

Further details are provided below:

Policy issues

Affordable housing has been excluded from the IDP on the basis that it is typically provided on site as a key policy requirement and an integral part of development proposals. It is typically included in viability appraisals as a core part of the build costs and development values rather than as infrastructure. The same principle applies to **Affordable Workspace**.

Similarly, while the provision of **Public Art** is an important part of delivering the placemaking ambitions of the AAP, it is very difficult to define, quantify, and cost art projects at the plan-making stage. The delivery of public art is best considered on a site-by-site basis at the development management stage, where the opportunities to incorporate public art provision within buildings and the public realm will be much clearer.

Development / Build costs

A range of infrastructure will be provided within development plots as part of the build costs. These include, for example, **communal gardens, landscaping and internal circulations/access**, **waste storage and on-site management facilities,** and **energy efficiency/water efficiency measures** that will be incorporated into the building fabric and systems. This would also include abnormal costs that affect the development potential of individual sites, such as the undergrounding of existing utility infrastructure.

Scale of planning and delivery

Some infrastructure typologies are planned and delivered at a strategic scale to the extent that development at NEC is unlikely to generate specific needs to serve that community alone. Such infrastructure would be best considered through the Local Plan process and via the emerging Supplementary Planning Document on Section 106 Planning Obligations.

This includes, for example, infrastructure associated with **water supply**, which is considered across broader catchments and normally funded and delivered by Water Companies directly, and **wastewater**, for which the most significant intervention is the relocation of the WWTP to unlock the opportunity for transformation across NEC. This is funded via central government funding secured through the Housing Investment Fund. Similarly, **Blue Lights/Emergency Services** are planned and delivered at the County Level/Regional level and the provision of a range of

infrastructure to deliver these services should be considered via the Local Plan rather than the NECAAP in isolation. The provision of burial space (and potentially crematoria) is another matter best explored across Greater Cambridge rather than through an IDP that underpins an Area Action Plan.

Market-led provision

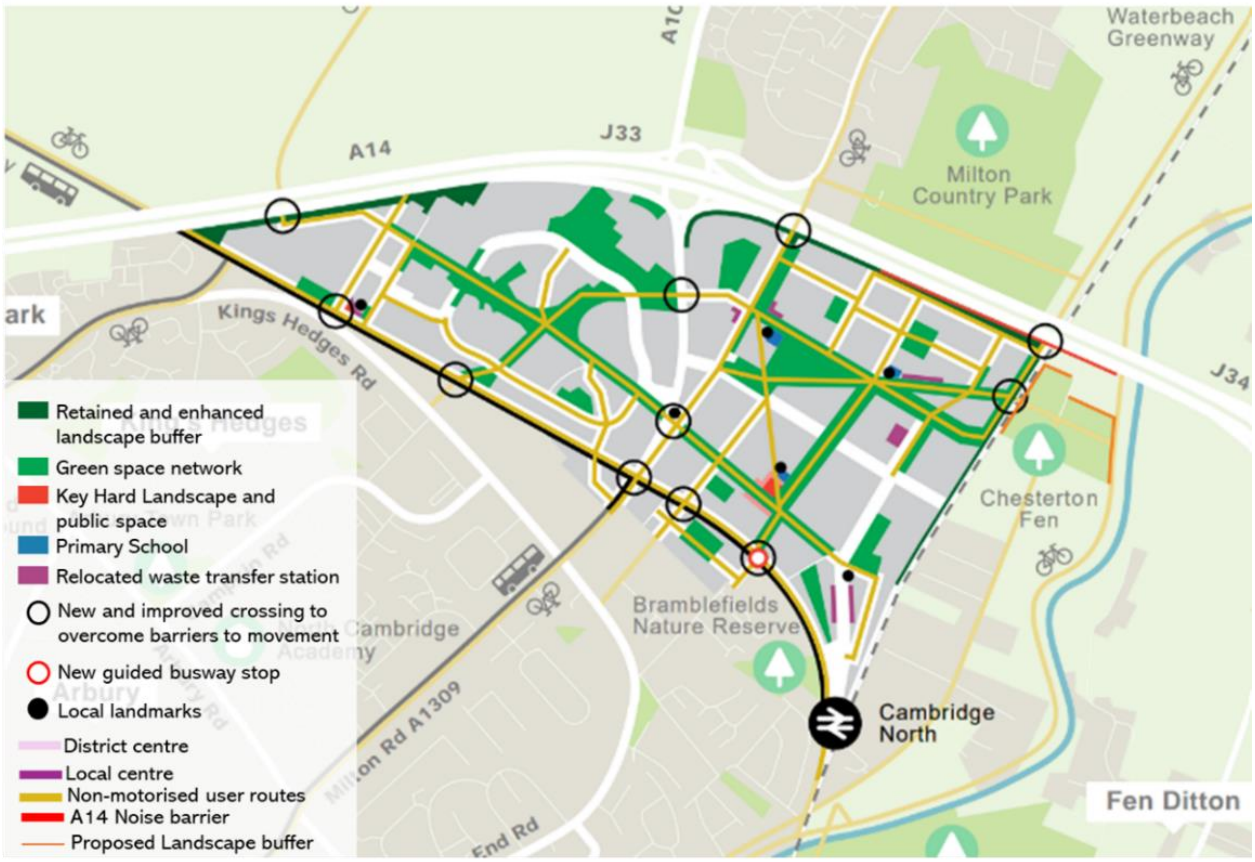
Where infrastructure is typically delivered by the market, we have not sought to quantify or cost provision, given that this will be subject to market conditions over the plan period. Where there is an expectation that the market will support public sector-led delivery, we have referenced this in our assessment. Examples of this include **early years provision, built leisure facilities and some elements of healthcare, including dentists and opticians**.

Matters to be negotiated via Development Management

There is a range of matters routinely negotiated through the development management process and embedded within s106 planning agreements that are critical in ensuring conformity with planning policy and otherwise making development acceptable in planning terms, but that don't necessarily need to be identified and costed in an SPD. Such matters include contributions towards **employment, skills and training, or community development workers**.

Appendix B. Emerging Local Plan

Figure B-1 - Proposed Spatial framework for the NEC AAP



Source: GCSPS, Regulation 19, NEC IDP

Figure B-2 - Proposed Land Use within NEC AAP

Source: GCSPS, Regulation 19, NEC IDP

Appendix C. Development Growth Scenarios

Scenario 1: Draft NEC AAP and consented trajectory

This scenario outlined the development capacities proposed in the pre-submission Draft AAP 2021. The mix and quantum of development at the plot level were derived from the NEC Typologies Study and Development Capacity Assessment[69]. In addition, it incorporated existing floorspace and includes assumptions regarding the retention of this floorspace based on proposals for individual development plots. Scenario 1 updated the development mix and quantum for plots that have received planning permission since the Draft AAP was prepared and factored in those planning permissions that have commenced but remain incomplete.

The scenario includes a total of 7,835 residential dwellings proposed for phasing across various sites within NEC. Within the plan period (2020 to 2041), this includes 3,385 dwellings, summarised in the table below.

Table C-1- Scenario 1: Phasing of Residential development across the sites

Table	0-5 years	6-10 years	11-15 years	16-20 years	Beyond the Plan period	Total
AW WWTP	-	-	450	1,500	3,550	5,500
Cambridge Business Park	-	-	150	200	150	500
Cambridge Regional College	-	-	-	-	-	-
Cambridge Science Park	-	-	-	-	-	-
Chesterton Sidings	-	-	710	-	150	860
Cowley Road Industrial Estate	-	-	-	100	350	450
Land Adjacent to Station	-	-	-	-	-	-
Merlin Place	-	-	-	-	-	-
Milton Road Car Garage Site	-	-	-	75	-	75
Nuffield Road Industrial Estate	-	-	100	100	250	450
St Johns Innovation Park	-	-	-	-	-	-
Trinity Hall Farm Industrial Estate	-	-	-	-	-	-
Well's Triangle	-	-	-	-	-	-

[69] Topic paper NEC Typologies Study and Development Capacity Assessment, 2021

Table	0-5 years	6-10 years	11-15 years	16-20 years	Beyond the Plan period	Total
Total	**-**	**-**	**1,410**	**1,975**	**4,450**	**7,835**

Source: GCSPS

The growth scenario includes a total of 671,536 sqm of floorspace for commercial use, an uplift of 385,897 sqm from 2021, providing an estimated 33,218 total jobs across NEC, summarised in the table below.

Table C-2- Scenario 1: Commercial floorspace across sites

Land parcels	Office floorspace (sqm)	Industrial and Storage/ Distribution floorspace (sqm)	Retail floorspace (sqm)	Hotel and others (sqm)	Total
AW WWTP	23,500	-	8,500	-	32,000
Cambridge Business Park	50,000	-	1,500	-	51,500
Cambridge Regional College	-	-	-	-	-
Cambridge Science Park	342,121	5,075	1,764	7,500	356,460
Chesterton Sidings	68,000	3,150	-	-	71,150
Cowley Road Industrial Estate	9,580	46,817	-	-	56,397
Land Adjacent to Station	9,723	-	360	9,940	20,023
Merlin Place	6,306	-	-	-	6,306
Milton Road Car Garage Site	7,000	-	-	-	7,000
St John's Innovation Park	62,247	-	200	-	62,447
Trinity Hall Farm Industrial Estate	6,457	1,796	-	-	8,253
Well's Triangle	-	-	-	-	-
Total floorspace	**584,934**	**56,838**	**12,324**	**17,440**	**671,536**
Estimated Jobs	**27,348**	**1,053**	**582**	**185**	**29,167**

Source: GCSPS

Scenario 2: Draft NEC AAP and developer aspiration trajectory

This scenario updated Scenario 1 by incorporating individual landowner proposals for floorspace and development mix, and factoring in the unimplemented planning permissions and the retained floorspace. It made assumptions for specific plots lacking retained floorspace in the returns, noting adjustments from Brocken Everlast for the Cambridge Science Park and densification. For land with multiple ownership (i.e. the industrial estates), the development mix and quantum from the pre-submission Draft AAP 2021 were preserved.

The scenario includes a total of 7,395 residential dwellings proposed for phasing across various sites within NEC. Within the plan period (2020 to 2041), this includes 5,273 dwellings, summarised in the table below.

Table C-3- Scenario 2: Phasing of Residential development across the sites

Land parcels	0-5 years	6-10 years	11-15 years	16-20 years	Beyond Plan period	Total
AW WWTP	-	350	1,879	1,879	1,522	5,630
Cambridge Business Park	-	125	125	-	-	250
Cambridge Regional College	-	-	-	-	-	-
Cambridge Science Park	-	-	-	-	-	-
Chesterton Sidings	-	-	425	100	-	525
Cowley Road Industrial Estate	-	-	-	100	350	450
Land Adjacent to Station	-	-	-	-	-	-
Merlin Place	-	-	-	-	-	-
Milton Road Car Garage Site	-	90	-	-	-	90
Nuffield Road Industrial Estate	-	-	100	100	250	450
St Johns Innovation Park	-	-	-	-	-	-
Trinity Hall Farm Industrial Estate	-	-	-	-	-	-
Well's Triangle	-	-	-	-	-	-
Total	**-**	**565**	**2,529**	**2,179**	**2,122**	**7,395**

Source: GCSPS

This scenario comprises 1,396,614 sqm of floorspace for commercial use and an estimated 71,642 total jobs, summarised in the table below. There is a strong

demand for life science and ICT companies and labs in Cambridge, driving the need of commercial floorspace within NEC and beyond[70].

Table C-4- Scenario 2: Commercial floorspace across sites

Land parcels	Office Floorspace (sqm)	Industrial and Storage/ Distribution floorspace (sqm)	Retail floorspace (sqm)	Hotel and others (sqm)	Total
AW WWTP	90,000	-	12,500	-	102,500
Cambridge Business Park	106,000	1,000	600	-	107,600
Cambridge Regional College	-	-	-	-	-
Cambridge Science Park	770,000	5,075	564	7,500	783,139
Chesterton Sidings	148,000	15,000	-	-	163,000
Cowley Road Industrial Estate	9,580	46,817	-	-	56,397
Land Adjacent to Station	9,723	-	360	9,940	20,023
Merlin Place	6,306	-	-	-	6,306
Milton Road Car Garage Site	40,000	-	-	-	40,000
Nuffield Road Industrial Estate	-	-	-	-	-
St Johns Innovation Park	88,399	-	250	-	88,649
Trinity Hall Farm Industrial Estate	29,000	-	-	-	29,000
Well's Triangle	-	-	-	-	-
Total floorspace	**1,297,008**	**67,892**	**14,274**	**17,440**	**1,396,614**
Estimated Jobs	**69,413**	**1,370**	**674**	**185**	**71,642**

[70] Iceni Projects Limited on behalf of Greater Cambridge Shared Planning, (2024). Greater Cambridge Growth Sectors Study: Life science and ICT locational, land and accommodation needs, available at: https://consultations.greatercambridgeplanning.org/sites/gcp/files/2024-09/EBGCLPGSSSep24v1Sep24.pdf

Source: GCSPS

Scenario 3: WWTP to remain in situ

This scenario, modelled on the Draft NEC AAP and developer aspirations, maintained the WWTP in situ with proposed commercial floorspace around the existing WWTP. It eliminated residential development from mixed-use sites like Cambridge Business Park and Brookgate based on the assumption that landowners would be unlikely to promote mixed-use development next to the WWTP due to general amenity concerns. Instead, the residential floorspace proposed or consented on these sites is anticipated to be converted to commercial use (with a proxy of 1 residential unit equating to 100 sqm of commercial space). The only housing retained is the garage site on Milton Road, which remained mixed-use as per existing Local Plan allocations.

The two industrial estates remained unchanged due to a lack of incentive to relocate problematic uses. Although the WWTP remains in situ, there would still be some, although limited, redevelopment potential at the Hartree site. Hartree's proposed Phase 1 proposal was considered to still be deliverable under the assumption that the WWTP stayed. The golf driving range was also expected to be retained, as there were no acceptable alternatives for its re-provision.

This scenario includes a total of 90 residential dwellings and the proposed phasing is summarised in the table below:

Table C-5- Scenario 3: Phasing of Residential development across the sites

Land parcels	0-5 years	6-10 years	11-15 years	16-20 years	Beyond Plan period	Total
AW WWTP	-	-	-	-	-	-
Cambridge Business Park	-	-	-	-	-	-
Cambridge Regional College	-	-	-	-	-	-
Cambridge Science Park	-	-	-	-	-	-
Chesterton Sidings	-	-	-	-	-	-
Cowley Road Industrial Estate	-	-	-	-	-	-
Land Adjacent to Station	-	-	-	-	-	-
Merlin Place	-	-	-	-	-	-
Milton Road Car Garage Site	-	90	-	-	-	90
Nuffield Road Industrial Estate	-	-	-	-	-	-
St Johns Innovation Park	-	-	-	-	-	-
Trinity Hall Farm Industrial Estate	-	-	-	-	-	-
Well's Triangle	-	-	-	-	-	-

Land parcels	0-5 years	6-10 years	11-15 years	16-20 years	Beyond Plan period	Total
Total	**-**	**90**	**-**	**-**	**-**	**90**

Source: GCSPS

This scenario consists of 1,365,339 sqm of floorspace for commercial use and an estimated 70,239 total jobs summarised in the table below:

Table C-6- Scenario 3: Commercial floorspace across sites

Land parcels	Office floorspace (sqm)	Industrial and Storage/ distribution floorspace (sqm)	Retail floorspace (sqm)	Hotel and others (sqm)	Total
AW WWTP	74,300	-	1,850	-	76,150
Cambridge Business Park	106,000	1,000	600	-	107,600
Cambridge Regional College	-	-	-	-	-
Cambridge Science Park	770,000	5,075	564	7,500	783,139
Chesterton Sidings	140,500	6,000	500	-	147,000
Cowley Road Industrial Estate	11,080	34,717	-	-	45,797
Land Adjacent to Station	9,723	-	360	9,940	20,023
Merlin Place	6,306	-	-	-	6,306
Milton Road Car Garage Site	40,000	-	-	-	40,000
Nuffield Road Industrial Estate	6,143	15,902	-	-	22,045
St Johns Innovation Park	88,399	-	250	-	88,649
Trinity Hall Farm Industrial Estate	29,000	-	-	-	29,000
Well's Triangle	-	-	-	-	-
Total	**1,281,451**	**62,694**	**4,124**	**17,440**	**1,365,709**
Estimated Jobs	**68,581**	**1,278**	**195**	**185**	**70,239**

Source: GCSPS

Appendix D. Transport infrastructure reviewed

D.1 Transport infrastructure affecting NEC proposed in the 2021

Table D-1- Transport infrastructure affecting NEC proposed in the IDP 2021

Proposed project	Update since 2021
Internal measures	
Wayfinding, high-quality public realm and permeability.	-
Segregated East-West crossing (both pedestrian and cyclist) points on Milton Road Northern crossing: An underpass where Milton Road rises up towards the A14 junction. Provides a connection to the Science Park from the Jane Coston Bridge Central crossing: At the existing Science Park junction. A bridge over Milton Road is proposed Southern crossing: At the Cambridgeshire Guided Busway.	The Science Park (central) and Cambridgeshire Guided Busway (southern) crossings already exist however they will likely need upgrading to accommodate higher predicted pedestrian and cyclist flows. Further work is required to understand the impacts on traffic flows on Milton Road and to derive optimum design solutions. At the Cambridgeshire Guided Busway and Milton Road crossing, between the Car garage site and Cambridge science park, consideration of the optimal design solution to match desire lines will be required, and amendment to the existing underpass to an at-grade crossing.
North-South crossing points (both pedestrian and cyclist) on the busway. This would provide access to south of the area from the Eastern portion of the NEC development sites.	No change.
Pedestrian and cyclist crossing points on Cowley Road in combination with traffic management.	New measure to provide north-south connections for active travel modes across Cowley Road. Options identified through observed informal crossing points used between existing east-west roads and Cambridge North Station. The existing vegetation belt south of Cowley Road acts as a barrier to north-south movements.

Proposed project	Update since 2021
Pedestrian/cycle bridge over railway line to access areas East of the NEC area.	Further consideration is required due to the proximity of the Abbey-Chesterton bridge constructed as part of the Chisolm trail and some identified constraints.
Highway site access improvements.	No change.
Intra-site bus shuttle system.	Designed to serve trips to and from Cambridge North Station. It could be integrated with the Milton Par k &Ride shuttle bus – see local measures below.
NEC parking strategy to monitor impacts such as parking displacement in neighbouring residential areas. Introduction of a controlled parking zone.	No change.
Travel plan measures and travel monitoring (including monitoring of e-bikes / e-scooters usage, incentive programmes, transport subsidies, smartphone apps / information messaging, carsharing, home working / hot-desking culture)	No change.
Mobility 'hubs' to facilitate first and last mile travel	No longer proposed.
Consolidation hubs for the delivery of goods	No change.
Provision for cycling on the Cambridge Science Park loop road	Not proposed in 2021 IDP bur would consist of improvements to paths to facilitate a safe cycling loop with multiple entries to allow for safe movement around the Cambridge Science Park.
Improved cycle and walking route to North Cambridge Academy Secondary School	Improvements to active travel routes to allow for safer access to schools to the south of the site.
Improved crossing at Milton Road with the busway junction to make the crossing easier to use for both pedestrians and cyclists	Not included in the 2021 IDP.
Local measures	
New segregated pedestrian and cyclist link from Milton Road P&R to site	No longer proposed

Proposed project	Update since 2021
Additional Park & Ride spaces at Milton P&R	Review the forecasts for demand for parking at Milton Park & Ride site. The proposed new travel hub at Waterbeach is likely to reduce demand at Milton. This means that this option is No longer proposed
Explore Park and Cycle opportunities at Park & Ride locations, particularly Milton but also other locations across Cambridge.	No change.
Milton Park & Ride shuttle bus system	No longer proposed.
Variable Message Signage (VMS) at key locations informing drivers on the availability of spaces at Park & Ride sites across Cambridge.	No longer proposed.
Strategic Measures	
Provision of additional bus services to/from the NEC area. This includes the possibility for introducing Demand Responsive Technology (DRT) in the future.	Cambridgeshire & Peterborough Combined authority recently published its Local Transport and Connectivity Plan. This indicated the promising future of DRT, which is currently being trialled in Huntingdon.
Provision of additional rail services to/from Cambridge North Station	East-West rail is no longer planned to serve Cambridge North station but the connection to Cambridge Station may allow for some connectivity to wider areas.
Delivery of planned cycle improvements including the Waterbeach Greenway and the Chisolm Trail	The route of the Waterbeach greenway has been altered so it now will not directly serve the eastern NEC development as previously thought. Phase 2 of the Chislom Trail is under construction and is already open in the NEC area.
Plugging gaps in the wider cycle network to enhance routes to key residential areas.	This could involve better connections to Kings Hedges, Cambridge North Academy, for secondary school trips, and Nuffield Road. Improvements could include segregated cycle paths to provide direct access to these areas. Additionally, active travel crossings of the guided busway should be provided along key desire lines.

Proposed project	Update since 2021
Milton Road GCP scheme which includes alterations to Milton Road to improve public transport by installing a bus lane and improve walking and cycling links	Works currently ongoing.
Waterbeach to Cambridge Busway and travel hub	This busway will create a link between NEC, Waterbeach and the new Waterbeach development. It provides a public transport link with areas north of the site. It will connect to the current busway and so will also service NEC through the existing stops.
Greenways villages	A network of greenways is being constructed to create active travel links from Villages and towns from wider Cambridgeshire. 5 of the 11 greenways have the potential to act as links to NEC. These are: St Ives Greenway; Waterbeach Greenway; Horningsea Greenway; Swaffhams Greenway; and Bottisham Greenway St Ives Greenway follows the alignment of the Cambridgeshire Guided Busway and so it services South of the NEC area. Details surrounding Waterbeach greenway are listed above. Horningsea, Swaffhams and Bottisham Greenways all provide access to the Chisolm trail which terminates at Cambridge North station.

Source: AtkinsRéalis analysis

D.2 Cost estimates and assumptions per scheme

Table D-2- Cost estimates for transport measures

Item Number	Measures	Description	Assumptions	Cost (£m)
Internal measures				
1	Consolidation hubs at 2 locations	This is a location where parcels can be dropped and then picked up by customers or distributed onwards via a single vehicle.	Each hub assumed to have 1,500m² of gross floor area Estimate excludes allowance for fencing etc	£6.9m
2	Bridge over Milton Road to Cambridge Science Park	A pedestrian and cycle friendly bridge link over Milton Road connecting the Eastern section of the site to Cambridge Science Park.	Width of 12.5m 35m wide span 5.7m clearance height Includes a 7.5m segregated cycleway	£18m
3	Underpass between St Johns Innovation Centre and Cambridge Science Park	The NEC underpass will provide a high-quality pedestrian and cycle access under Milton Road through the delivery of an underbridge type structure.	Underpass bridge Width of 9m 41m wide span 2.7m clearance ATR underpass Width of 7.5m Length of 241m	£13m
4	Busway crossings	The development should include the provision for 3 further	Costings to be separated allowances are made	2 East of Milton Road- £0.26m

Item Number	Measures	Description	Assumptions	Cost (£m)
		pedestrian/cycle crossings of the busway 2 East of Milton Road (1 - Nuffield Road-Green End Road, and potentially 2 - Green Park) – in form of at grade crossing, and 1 West of Milton Road (to link towards Garry Drive and on to the North Cambridge Academy), in form of at-grade 'burst-throughs'.	(crossings for both East and West of Milton Road) for pedestrian guardrail for 5m on either side, traffic signs, one lighting column per crossing and road marking.	West of Milton Road-£0.35m
5	Pedestrian and cycle bridge over the railway line	A bridge to connect the NEC site with the Fen Edge to the east of the site. The bridge will facilitate connections into the wider footpath and cycle path network associated with the River Cam corridor.	width of 5.5m 50m span 6.5m clearance height The bridge cross-section is assumed to include a 5.5m segregated cycleway and footway (ATR) that includes 0.5m buffer on either side.	£15m
6	Intra NEC area bus shuttle system	Either specialist autonomous vehicles or driven vehicles that serve a 3-mile-long route which would	Provide options for costing for a normal bus (with a driver) and	Over 20-year period £22.5m for a bus with a driver

Item Number	Measures	Description	Assumptions	Cost (£m)
		take 15 minutes to run.	autonomous vehicles.	£16.2m autonomous bus
7a*	Upgrade to Milton Road underpass under busway	Improvements to the appearance and security of the underpass including improved lighting, surfacing, and wall tiles.	Includes: Resurfacing of the ramps. Cleaning of the existing drainage network. Provision of drainage pump in the underpass. Supply and installation of wall tiles for the ramps and underpass. Area lighting for the underpass using wall mounted lighting. Installation of CCTV for security.	£1m
7b*	Filling in of Milton Road underpass under busway, and extend existing surface level footway/cycleway	Long term ambition to fill in the ramps and underpass and replace with surface provision.	Removal of the existing pedestrian guardrails, lighting columns, traffic signs and tipping them off the site. Demolition of the ramps Filling of the underpass with class 6 material.	£2m

Item Number	Measures	Description	Assumptions	Cost (£m)
			Allowances are made for relocating the street lighting (with new), road markings and traffic signs	
8	Improvements to Cowley Road as an access route to the area;	A comprehensive and high-quality pedestrian focused public realm and landscape scheme implemented to upgrade the character and design quality of the street and designed to integrate and complement the new development coming forward to either side. This involves the addition of a footway provision to the north side of the carriage way and improvements to surfacing.	2m wide footway on north side of Cowley Road 2 bridge structures across ditch for approx.. £200,000 each Upgrade of street lighting Vegetation clearance on either side of Cowley Road (providing improvement to the ditch on the south side).	£4.3m
9	Provision for cycling on the Cambridge Science Park loop road	This involves the widening the footway to 3m or 3.5m for 0.6 miles with 15 entry treatments over side roads to create a	Fifteen entry treatments over side roads are to be transformed into continuous priority	£1.8m

Item Number	Measures	Description	Assumptions	Cost (£m)
		continuous route and two tiger crossings.	crossing (Copenhagen crossings) routes Relocation of lighting columns	
10	Improved crossing at Milton Road with the busway junction	Reconfiguration of this junction to improve the north south movement for pedestrians and cyclists.	Extension of path widths on northwest side of the Junction. Reconfiguring traffic signal infrastructure by including a new parallel crossing.	£1.3m
11	Improved cycle and walking route to North Cambridge Academy Secondary School	An improved route to the North Cambridge Academy Secondary School which could involve the widening of footpaths and the installation of tiger crossings on quiet streets.	footway widened to 3.5m from 2m over a length of 1600m to accommodate cyclists. Ten entry treatments over side roads are assumed to be transformed into continuous priority crossing (Copenhagen crossings) routes	£2.2m
Local measures				
1	Park and Cycle opportunities at P&R locations	Provision of 300 cycle lockers to allow people to store commuter cycles that they	300 cycle lockers shall be installed on a 200mm thick concrete	£1.1m

Item Number	Measures	Description	Assumptions	Cost (£m)
		can leave at the park and ride overnight.	bed foundation at the P&R facility to provide secure overnight storage	

Source: AtkinsRéalis analysis

Appendix E. Estimate of Open Space Costs

The costs for each landholding have been developed on the assumptions around the type and quality of landscape features to be provided within each open space. The costs should be reviewed in conjunction with the methodology used to inform the estimations as set out in the main report.

Table E-1- Cost assumptions for Open space

Land cover feature	Assumptions
Amenity grassland	Resilient high quality amenity grassland able to withstand anticipated usage levels. Allowance minor grading and for soil amelioration to promote good growth and unimpeded drainage.
Meadow	Allowance for minor grading and seeding with suitable mix to maximise biodiversity interest.
Shrub	Ornamental planting of high-horticultural standards and offering biodiversity interest (e.g. pollinators). Planting to be of sufficient size to be robust and to promote successful establishment. Allowance of soil amelioration.
Scattered trees/ copse/ scrub	Mix native planting of local provenance offering good biodiversity interest and resilient to anticipated changes of climate change and prevalence of pest and diseases. Assume planting stock to be of different sizes planted at suitable distance to favour establishment with structural diversity.
Hedgerows	Assumed native hedgerow using locally source nursery stock.
Trees	Tall specimen trees of local provenance or similar ornamental species offering good biodiversity interest and resilient to anticipated changes of climate change and prevalence of pest and diseases.
Paths	Construction of asphalt path with edging and suitable subbase material. Small allowance for localised grading of soil.
Entrances	High quality ‘apron’ paving with allowance improving access to open space with welcome signage or similar intervention to mark entrance point.
Cycle parking	Sheffield cycle stand or similar installed into proposed asphalt surface.

Land cover feature	Assumptions
Seating and bins set	Robust high-quality furniture installed into proposed asphalt surface.
Lighting	Bollards installed along main paths at regular intervals (c. 2m – 3m) to encourage use of green space through all seasons.
Trim trails	Timber equipment installed within amenity grassland areas
Signage	Robust, high-quality wayfinding, interpretive and/ or instructive signage.
Events space	Gathering space designed to support local events and activities e.g. markets. Inclusive of installation of services (e.g. water, electric) seating and high-quality paving.

Source: LUC Analysis

Figure E-1 - Proposed Spatial structure of Open spaces for the NEC AAP

Source: GCSPS.

Note: Area calculations were made based on the size of the spaces identified.

Terminology:
SG – Strategic Greenspace
LG – Local Greenspace (note there are two LG13 spaces labelled in error, however, both spaces are ponds in Cambridge Science Park)
CF – Chesterton Fen

E.1 Chesterton Sidings: Brookgate

Table E-2- Quantity of open space located within Chesterton Sidings

Chesterton Sidings: Brookgate	Open Space (sq. m)
LG1	5,823
LG2	5,230
SG4	12,078
Total	**23,131**
Total (HA)	**2.31**

Source: LUC analysis

Table E-3- Estimated capital costs for each open space at Chesterton Sidings

LG1	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	3494	m2	20	£69,870
Meadow	20%	1165	m2	8	£9,316
Tarmac path	10%	233	m	225	£52,403
Shrub	5%	291	m2	12	£3,494
Hedgerow	5%	291	m2	34	£9,898
Trees	-	100	nr	340	£34,000
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	64	nr	2100	£134,400
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£372,381**
Professional fees @ 15%	-	-	-	-	£55,857
Subtotal	-	-	-	-	£428,238
Preliminaries @ 15%	-	-	-	-	£64,236
Subtotal	-	-	-	-	£492,473
Contingencies @ 15%	-	-	-	-	£73,871
Total Cost	**-**	**-**	**-**	**-**	**£566,344**
LG2	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	60%	3138	m2	20	£62,759
Meadow	20%	1046	m2	8	£8,368
Path	10%	209	lm	225	£47,069

Shelter belt	5%	261	m2	12	£3,138
Hedgerow	5%	261	m2	34	£8,891
Trees	-	100	nr	340	£34,000
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	52	nr	2100	£109,200
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£332,425**
Professional fees @ 15%	-	-	-	-	£49,864
Subtotal	-	-	-	-	£382,288
Preliminaries @ 15%	-	-	-	-	£57,343
Subtotal	-	-	-	-	£439,632
Contingencies @ 15%	-	-	-	-	£65,945
Total Cost	**-**	**-**	**-**	**-**	**£505,576**
SG4	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	45%	5435	m2	20	£108,705
Meadow	15%	1812	m2	8	£14,494
Scattered trees/ copse/ scrub	20%	2416	m2	12	£28,988
Hedgerows	5%	604	m2	34	£20,533
Individual trees	-	100	nr	340	£34,000
Paths	10%	483	lm	225	£108,705
Entrances	-	8	nr	10000	£80,000
Cycle parking	-	15	nr	600	£9,000
Seating and bins set	-	8	nr	2000	£16,000
Lighting	-	60	nr	2100	£126,000
Trim trail/ gym	-	1	nr	305000	£305,000
Signage	-	10	nr	2000	£20,000
Events space	-	-	-	-	£1,000,000
Sub-Total	**-**	**-**	**-**	**-**	**£1,871,425**
Professional fees @ 15%	-	-	-	-	£280,714
Subtotal	-	-	-	-	£2,152,139
Preliminaries @ 15%	-	-	-	-	£322,821

Subtotal	-	-	-	-	£2,474,960
Contingencies @ 15%	-	-	-	-	£371,244
Total Cost	**-**	**-**	**-**	**-**	**£2,846,204**

Source: LUC analysis

Table E-4- Estimated revenue costs for each open space at Chesterton Sidings

Chesterton Sidings: Brookgate	Annual	15 years
LG1	£84,951.64	£1,274,274.62
LG2	£75,836.46	£1,137,546.88
SG4	£426,930.61	£6,403,959.19
Total revenue cost for 15 years	**-**	**£8,815,780.69**

Source: LUC. Revenue costs for the maintenance of 15 years after construction. Assumed 15% of capital costs.

E.2 Cowley Road Industrial Estate

Table E-5- Quantity of open space located within Cowley Road Industrial Estate

Cowley Rd Ind Estate	Open Space (sq. m)
SG1	6,103
Neighbourhood Spaces[71]	6,000
Total	**12,103**
Total (Ha)	**1.21**

Source: LUC analysis

Table E-6- Estimated capital costs for each open space at Cowley Road Industrial Estate

SG1	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	45%	2746.373	m2	20	£54,927
Meadow	15%	915.4575	m2	8	£7,324

[71] Neighbourhood spaces are included to reconcile the difference between the LG and SG spaces provided on site and the overall provision of open space required on a landowner parcel to meet the open space standards. In reality the provision of these neighbourhood spaces may involve smaller, separate areas of open space, or expansion of the one of the SG or LG spaces identified within the same landowner parcel. This will be determined at design stage.

Scattered trees/ copse/ scrub	20%	1220.61	m2	12	£14,647
Hedgerow	5%	305.1525	m2	34	£10,375
Trees	-	100	nr	340	£34,000
Paths	10%	244.122	lm	225	£54,927
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	30	nr	600	£18,000
Seating and bins set	-	4	nr	2000	£8,000
Signage	-	10	nr	2000	£20,000
Lighting	-	60	nr	2100	£126,000
Sub-Total	**-**	**-**	**-**	**-**	**£388,201**
Professional fees @ 15%	-	-	-	-	£58,230
Subtotal	-	-	-	-	£446,431
Preliminaries @ 15%	-	-	-	-	£66,965
Subtotal	-	-	-	-	£513,396
Contingencies @ 15%	-	-	-	-	£77,009
Total Cost	**-**	**-**	**-**	**-**	**£590,405**
Neighbourhood space	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	70%	4200	m2	20	84,004
Meadow	10%	600	m2	8	4,800
Hedgerow	5%	300	m2	34	10,200
Shrub	5%	300	m2	12	3,600
Trees	-	50	nr	340	17,000
Paths	10%	240	lm	225	54,002
Entrances	-	4	nr	10000	£40,000
Lighting	-	55	nr	2100	£115,500
Seating and bin set	-	4	nr	2000	8,000
Signage	-	10	nr	2000	20,000
Cycle parking	-	20	nr	600	12,000
Sub-Total	**-**	**-**	**-**	**-**	**£369,107**
Professional fees @ 15%	-	-	-	-	£55,366
Subtotal	-	-	-	-	£424,473
Preliminaries @ 15%	-	-	-	-	£63,671
Subtotal	-	-	-	-	£488,144

Contingencies @ 15%	-	-	-	-	£73,222
Total Cost	**-**	**-**	**-**	**-**	**£561,365**

Source: LUC analysis

Table E-7- Estimated revenue costs for each open space at Cowley Road Industrial Estate

Cowley Rd Ind Estate	Annual	15 years
SG1	£88,560.79	£1,328,411.91
Neighbourhood Spaces	£84,204.77	£1,263,071.50
Total revenue cost for 15 years	**-**	**£2,591,483.41**

Source: LUC analysis

E.3 Core Site AWCCC

Table E-8- Quantity of open space located within the Core Site

Core Site: AW/CCC	Open Space (sqm)
LG3	1054.61
LG4	5179.46
LG5	3106.86
LG6	9261.18
LG7	8262.72
LG8	3425.032
SG1	86765.03
SG2	13944.25
Neighbourhood Spaces	16930.17
Total	**147929.29**
Total (Ha)	**14.79**

Source: LUC analysis

Table E-9- Estimated capital costs for each open space within the Core Site

LG3	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	633	m2	20	£12,655
Meadow	20%	211	m2	8	£1,687
Path	10%	42	lm	225	£9,491
Shelter belt	5%	53	m2	12	£633

Hedgerow	5%	53	m2	34	£1,793
Trees	-	25	nr	340	£8,500
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	11	nr	2100	£23,100
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£116,860**
Professional fees @ 15%	-	-	-	-	£17,529
Subtotal	-	-	-	-	£134,389
Preliminaries @ 15%	-	-	-	-	£20,158
Subtotal	-	-	-	-	£154,547
Contingencies @ 15%	-	-	-	-	£23,182
Total Cost	**-**	**-**	**-**	**-**	**£177,729**
LG4	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	60%	3,108	m2	20	£62,153
Meadow	20%	1,036	m2	8	£8,287
Path	10%	207	lm	225	£46,615
Shelter belt	5%	259	m2	12	£3,108
Hedgerow	5%	259	m2	34	£8,805
Trees	-	50	nr	340	£17,000
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	51	nr	2100	£107,100
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£312,068**
Professional fees @ 15%	-	-	-	-	£46,810
Subtotal	-	-	-	-	£358,879
Preliminaries @ 15%	-	-	-	-	£53,832
Subtotal	-	-	-	-	£412,711

Contingencies @ 15%	-	-	-	-	£61,907
Total Cost	**-**	**-**	**-**	**-**	**£474,617**
LG5	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	60%	1,423	m2	20	£28,463
Meadow	20%	474	m2	8	£3,795
Path	10%	95	lm	225	£21,348
Shelter belt	5%	119	m2	12	£1,423
Hedgerow	5%	119	m2	34	£4,032
Trees	-	25	nr	340	£8,500
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	31	nr	2100	£65,100
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£191,662**
Professional fees @ 15%	-	-	-	-	£28,749
Subtotal	-	-	-	-	£220,411
Preliminaries @ 15%	-	-	-	-	£33,062
Subtotal	-	-	-	-	£253,472
Contingencies @ 15%	-	-	-	-	£38,021
Total Cost	**-**	**-**	**-**	**-**	**£291,493**
LG6	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Path	10%	283	lm	225	£63,635
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	8	nr	600	£4,800
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	91	nr	2100	£191,100
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£315,535**
Professional fees @ 15%	-	-	-	-	£47,330

Subtotal	-	-	-	-	£362,865
Preliminaries @ 15%	-	-	-	-	£54,430
Subtotal	-	-	-	-	£417,294
Contingencies @ 15%	-	-	-	-	£62,594
Total Cost	**-**	**-**	**-**	**-**	**£479,889**

LG7	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	3,785	m2	20	£75,699
Meadow	20%	1,262	m2	8	£10,093
Path	10%	252	lm	225	£56,774
Shelter belt	5%	315	m2	12	£3,785
Hedgerow	5%	315	m2	34	£10,724
Trees	-	50	nr	340	£17,000
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	8	nr	600	£4,800
Lighting	-	82	nr	2100	£172,200
Seating and bins set	-	4	nr	2000	£8,000
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£407,075**
Professional fees @ 15%	-	-	-	-	£61,061
Subtotal	-	-	-	-	£468,136
Preliminaries @ 15%	-	-	-	-	£70,220
Subtotal	-	-	-	-	£538,356
Contingencies @ 15%	-	-	-	-	£80,753
Total Cost	**-**	**-**	**-**	**-**	**£619,110**

LG8	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	25%	654	m2	20	£13,074
Meadow	10%	261	m2	8	£2,092
Path	5%	52	lm	225	£11,767
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	17	nr	2100	£35,700

Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£78,633**
Professional fees @ 15%	-	-	-	-	£11,795
Subtotal	-	-	-	-	£90,428
Preliminaries @ 15%	-	-	-	-	£13,564
Subtotal	-	-	-	-	£103,992
Contingencies @ 15%	-	-	-	-	£15,599
Total Cost	**-**	**-**	**-**	**-**	**£119,591**
SG1	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	45%	29,809	m2	20	£596,172
Meadow	15%	9,936	m2	8	£79,490
Scattered trees/ copse/ scrub	20%	13,248	m2	12	£158,979
Hedgerows	5%	3,312	m2	34	£112,610
Trees	-	250	nr	340	£85,000
Community food growing	-	-	-	-	£100,000
Paths	10%	2,650	lm	225	£596,172
Entrances	-	8	nr	10000	£80,000
Cycle parking	-	20	nr	600	£12,000
Seating and bins set	-	8	nr	2000	£16,000
Lighting	-	853	nr	2100	£1,791,300
Trim trails	-	1	nr	305000	£305,000
Signage	-	10	nr	2000	£20,000
Events space	-	1	nr	-	£1,250,000*
Sub-Total	**-**	**-**	**-**	**-**	**£5,202,723**
Professional fees @ 15%	-	-	-	-	£780,408
Subtotal	-	-	-	-	£5,983,131
Preliminaries @ 15%	-	-	-	-	£897,470
Subtotal	-	-	-	-	£6,880,601
Contingencies @ 15%	-	-	-	-	£1,032,090
Total Cost	**-**	**-**	**-**	**-**	**£7,912,691**

*Event space cost slightly higher than other event spaces, given overall open space requirement is larger for this development parcel.

SG2	Percentage	Quantity	Unit	Rate	Total
Paths	3%	106	lm	225	£23,953
Lighting	-	35	nr	2100	£73,500
Signage	-	10	nr	2000	£20,000
Sub-Total	**-**	**-**	**-**	**-**	**£117,453**
Professional fees @ 15%	-	-	-	-	£17,618
Subtotal	-	-	-	-	£135,071
Preliminaries @ 15%	-	-	-	-	£20,261
Subtotal	-	-	-	-	£155,332
Contingencies @ 15%	-	-	-	-	£23,300
Total Cost	**-**	**-**	**-**	**-**	**£178,631**
Neighbourhood space	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	70%	9,048	m2	20	£180,956
Meadow	10%	1,293	m2	8	£10,340
Hedgerow	5%	646	m2	34	£21,973
Shrub	5%	646	m2	12	£7,755
Paths	10%	517	lm	225	£116,329
Trees	-	100	nr	340	£34,000
Lighting	-	214	nr	2100	£448,980
Seating and bin set	-	4	nr	2000	£8,000
Signage	-	2	nr	2000	£4,000
Cycle parking	-	20	nr	600	£12,000
Sub-Total	**-**	**-**	**-**	**-**	**£844,334**
Professional fees @ 15%	-	-	-	-	£126,650
Subtotal	-	-	-	-	£970,984
Preliminaries @ 15%	-	-	-	-	£145,648
Subtotal	-	-	-	-	£1,116,632
Contingencies @ 15%	-	-	-	-	£167,495
Total Cost	**-**	**-**	**-**	**-**	**£1,284,127**

Source: LUC analysis

Table E-10- Estimated revenue costs for each open space within the Core Site

Core Site: AW/CCC	Annual	15 years
LG3	£26,659.35	£399,890.29
LG4	£71,192.56	£1,067,888.42
LG5	£43,724.00	£655,860.00
LG6	£76,983.29	£1,154,749.31
LG7	£92,866.48	£1,392,997.14
LG8	£22,938.66	£344,079.95
SG1	£1,186,903.64	£17,803,554.61
SG2	£36,794.72	£551,920.87
Neighbourhood Space	£192,619.02	£2,889,285.26
Total revenue cost for 15 years	**-**	**£26,260,225.87**

Source: LUC analysis

E.4 Cambridge Business Park

Table E-11- Quantity of open space located within Cambridge Business Park

Cambridge Business Park	Open Space (sqm)
LG9	3,008
SG3	5,156
Neighbourhood Spaces	5,284
Total	**13,448**
Total (HA)	**1.34**

Source: LUC analysis

Table E-12- Estimated capital costs for each open space at Cambridge Business Park

LG9	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	1805.038	m2	20	£36,101
Meadow	20%	601.6794	m2	8	£4,813
Path	10%	120.3359	lm	225	£27,076
Shelter belt	5%	150.4198	m2	12	£1,805
Hedgerow	5%	150.4198	m2	34	£5,114
Trees	-	100	nr	340	£34,000
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	4	nr	600	£2,400
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	30	nr	2100	£63,000
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£230,309**
Professional fees @ 15%	-	-	-	-	£34,546
Subtotal	-	-	-	-	£264,855
Preliminaries @ 15%	-	-	-	-	£39,728
Subtotal	-	-	-	-	£304,584
Contingencies @ 15%	-	-	-	-	£45,688
Total Cost	**-**	**-**	**-**	**-**	**£350,271**
SG3	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	45%	2320.135	m2	20	£46,403
Meadow	15%	773.3785	m2	8	£6,187
Scattered trees/ copse/ scrub	20%	1031.171	m2	12	£12,374
Hedgerows	5%	257.7928	m2	34	£8,765
Trees		100	nr	340	£34,000
Paths	10%	206.2343	m2	225	£46,403
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	16	nr	600	£9,600
Seating and bins set	-	8	nr	2000	£16,000
Lighting	-	51	nr	2100	£107,100
Signage	-	10	nr	2000	£20,000

Events space	-	-	-	-	£800,000*
Sub-Total	**-**	**-**	**-**	**-**	**£1,146,831**
Professional fees @ 15%	-	-	-	-	£172,025
Subtotal	-	-	-	-	£1,318,856
Preliminaries @ 15%	-	-	-	-	£197,828
Subtotal	-	-	-	-	£1,516,685
Contingencies @ 15%	-	-	-	-	£227,503
Total Cost	**-**	**-**	**-**	**-**	**£1,744,187**

*Event space cost slightly lower than other locations as this open space is smaller than others.

Neighbourhood spaces	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	70%	3,699	m2	20	£73,974
Meadow	10%	528	m2	8	£4,227
Hedgerow	5%	264	m2	34	£8,983
Shrub	5%	264	m2	12	£3,170
Paths	10%	211	lm	225	£47,555
Trees	-	250	nr	340	£85,000
Entrances	-	4	nr	10000	£40,000
Lighting	-	57	nr	2100	£119,700
Seating and bin set	-	4	nr	2000	£8,000
Signage	-	2	nr	2000	£4,000
Cycle parking	-	8	nr	600	£4,800
Sub-Total	**-**	**-**	**-**	**-**	**£399,409**
Professional fees @ 15%	-	-	-	-	£59,911
Subtotal	-	-	-	-	£459,320
Preliminaries @ 15%	-	-	-	-	£68,898
Subtotal	-	-	-	-	£528,218
Contingencies @ 15%	-	-	-	-	£79,233
Total Cost	**-**	**-**	**-**	**-**	**£607,451**

Source: LUC analysis

Table E-13- Estimated revenue costs for each open space at Cambridge Business Park

Cambridge Business Park	Annual	15 years
LG9	£52,540.70	£788,110.47
SG3	£261,628.09	£3,924,421.42
Neighbourhood Spaces	£91,117.62	£1,366,764.34
Total revenue cost for 15 years		**£6,079,296.23**

Source: LUC analysis

E.5 Nuffield

Table E-14- Quantity of open space located at the Nuffield site

Nuffield Road	Open Space (sqm)
LG10	8,495
Neighbourhood Spaces	3,608
Total	**12,103**
Total (HA)	**1.2103**

Source: LUC analysis

Table E-15- Estimated capital costs for each open space at the Nuffield site

LG10		Quantity	Unit	Rate	Total
Amenity	60%	5097.26736	m2	20	£101,945
Meadow	20%	1699.08912	m2	8	£13,593
Path	10%	339.817824	lm	225	£76,459
Shelter belt	5%	424.77228	m2	12	£5,097
Hedgerow	5%	424.77228	m2	34	£14,442
Trees		100	nr	340	£34,000
Cycle parking		10	nr	600	£6,000
Seating and bins set		4	nr	2000	£8,000
Lighting		84	nr	2100	£176,400
Signage		4	nr	2000	£8,000
Sub-Total		**-**	**-**	**-**	**£443,937**
Professional fees @ 15%		-	-	-	£66,590
Subtotal		-	-	-	£510,527

Preliminaries @ 15%		-	-	-	£76,579
Subtotal		-	-	-	£587,106
Contingencies @ 15%		-	-	-	£88,066
Total Cost		-	-	-	**£675,172**
Neighbourhood space		**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	70%	2,526	m2	20	£50,510
Meadow	10%	361	m2	8	£2,886
Hedgerow	5%	180	m2	34	£6,133
Shrub	5%	180	m2	12	£2,165
Paths	10%	144	lm	225	£32,471
Trees	-	10	nr	340	£3,400
Entrances	-	4	nr	10000	£40,000
Lighting	-	32	nr	2100	£67,200
Seating and bin set	-	4	nr	2000	£8,000
Signage	-	2	nr	2000	£4,000
Events space	-				£1,000,000
Cycle parking	-	8	nr	600	£4,800
Sub-Total	**-**	**-**	**-**	**-**	**£1,221,565**
Professional fees @ 15%	-	-	-	-	£183,235
Subtotal	-	-	-	-	£1,404,800
Preliminaries @ 15%	-	-	-	-	£210,720
Subtotal	-	-	-	-	£1,615,520
Contingencies @ 15%	-	-	-	-	£242,328
Total Cost	**-**	**-**	**-**	**-**	**£1,857,848**

Source: LUC analysis

Table E-16- Estimated revenue costs for each open space at the Nuffield site

Nuffield Road	Annual	15 years
LG10	£101,275.81	£1,519,137.16
Neighbourhood Spaces	£278,677.18	£4,180,157.76
Total revenue cost for 15 years	**-**	**£5,699,294.92**

Source: LUC analysis

E.6 Milton Road Car Garage Site

Table E-17- Quantity of open space located within the Milton Road Car Garage Site

VW Garages	Open Space (sqm)
Neighbourhood Spaces	2,017
Total	**2,017**
Total (Ha)	**0.20**

Source: LUC analysis

Table E-18- Estimated capital costs for each open space at Milton Road Car Garage Site

Neighbourhood space	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	70%	1,412	m2	20	£28,241
Meadow	10%	202	m2	8	£1,614
Hedgerow	5%	101	m2	34	£3,429
Shrub	5%	101	m2	12	£1,210
Paths	10%	81	lm	225	£18,155
Trees		10	nr	340	£3,400
Entrances		4	nr	10000	£40,000
Lighting		20	nr	2100	£42,000
Seating and bin set		4	nr	2000	£8,000
Signage		2	nr	2000	£4,000
Cycle parking		8	nr	600	£4,800
Sub-Total	**-**	**-**	**-**	**-**	**£154,849**
Professional fees @ 15%	-	-	-	-	£23,227
Subtotal	-	-	-	-	£178,076
Preliminaries @ 15%	-	-	-	-	£26,711
Subtotal	-	-	-	-	£204,788
Contingencies @ 15%	-	-	-	-	£30,718
Total Cost	**-**	**-**	**-**	**-**	**£235,506**

Source: LUC analysis

Table E-19- Estimated revenue costs for each open space at Milton Road Car Garage Site

Milton Road Car Garage Site	Annual	15 years
Neighbourhood Spaces	£35,325.93	£529,888.88
Total revenue cost for 15 years		£529,888.88

Source: LUC analysis

E.7 Cambridge Science Park

Table E-20- Quantity of open space located within Cambridge Science Park

Cambridge Science Park	Open Space (sqm)
LG12	1,361
LG13 north	4,718
LG13 south	6,337
LG14	5,548
LG15	1,028
LG16	1,218
SG5	66,752
SG6	40,738
Total	**127,700**
Total (Ha)	**12.77**

Source: LUC analysis

Table E-21- Estimated capital costs for each open space at Cambridge Science Park

LG12	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	817	m2	20	£16,332
Meadow	20%	272	m2	8	£2,178
Path	10%	54	lm	225	£12,249
Shelter belt	5%	68	m2	12	£817
Hedgerow	5%	68	m2	34	£2,314
Trees		25	nr	340	£8,500
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	5	nr	600	£3,000
Seating and bins set	-	4	nr	2000	£8,000

Lighting	-	11	nr	2100	£23,100
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£124,489**
Professional fees @ 15%	-	-	-	-	£18,673
Subtotal	-	-	-	-	£143,162
Preliminaries @ 15%	-	-	-	-	£21,474
Subtotal	-	-	-	-	£164,637
Contingencies @ 15%	-	-	-	-	£24,695
Total Cost	**-**	**-**	**-**	**-**	**£189,332**

(LG13 north and south sites not costed for improvements / maintenance as both are ponds.)

LG14	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	3329	m2	20	£66,576
Meadow	20%	1110	m2	8	£8,877
Path	10%	222	lm	225	£49,932
Shelter belt	5%	277	m2	12	£3,329
Hedgerow	5%	277	m2	34	£9,432
Trees	-	25	nr	340	£8,500
Entrances	-	4	nr	10000	£40,000
Cycle parking	-	10	nr	600	£6,000
Seating and bins set	-	4	nr	2000	£8,000
Lighting	-	45	nr	2100	£94,500
Signage	-	4	nr	2000	£8,000
Sub-Total	**-**	**-**	**-**	**-**	**£303,145**
Professional fees @ 15%	-	-	-	-	£45,472
Subtotal	-	-	-	-	£348,617
Preliminaries @ 15%	-	-	-	-	£52,293
Subtotal	-	-	-	-	£400,910
Contingencies @ 15%	-	-	-	-	£60,136
Total Cost	**-**	**-**	**-**	**-**	**£461,046**

LG16	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	10%	122	m2	20	£2,436
Path	10%	49	lm	225	£10,962
Shelter belt	5%	61	m2	12	£731
Entrances	-	2	nr	10000	£20,000
Lighting	-	10	nr	2100	£21,000
Signage	-	4	nr	2000	£8,000
Sub-Total	-	-	-	-	**£63,129**
Professional fees @ 15%	-	-	-	-	£9,469
Subtotal	-	-	-	-	£72,598
Preliminaries @ 15%	-	-	-	-	£10,890
Subtotal	-	-	-	-	£83,488
Contingencies @ 15%	-	-	-	-	£12,523
Total Cost	**-**	**-**	**-**	**-**	**£96,011**
SG5	**Percentage**	**Quantity**	**Unit**	**Rate**	**Total**
Amenity grassland	45%	30038	m2	20	Not costed – already provided
Meadow	15%	10013	m2	8	Not costed – already provided
Scattered trees/ copse/ scrub	20%	13350	m2	12	Not costed – already provided
Attenuation pond	5%	3338	m2	115	Not costed – already provided
Hedgerows	5%	3338	m2	34	Not costed – already provided
Trees	-	100	nr	340	Not costed – already provided
Paths	10%	2670	lm	225	£600,768

Entrances	-	8	nr	10000	£80,000
Cycle parking	-	20	nr	600	£12,000
Seating and bins set	-	8	nr	2000	£16,000
Lighting	-	534	nr	2100	£1,121,400
Trim trails	-	1	nr	305000	£305,000
Signage	-	10	nr	2000	£20,000
Events space	-	-	-	-	£1,000,000
Sub-Total	-	-	-	-	**£3,155,168**
Professional fees @ 15%	-	-	-	-	£473,275
Subtotal	-	-	-	-	£3,628,443
Preliminaries @ 15%	-	-	-	-	£544,266
Subtotal	-	-	-	-	£4,172,710
Contingencies @ 15%	-	-	-	-	£625,906
Total Cost	-	-	-	-	**£4,798,616**

SG6	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	45%	18332	m2	20	Not costed – already provided
Meadow	15%	6111	m2	8	Not costed – already provided
Scattered trees/ copse/ scrub	20%	8148	m2	12	Not costed – already provided
Attenuation pond	5%	2037	m2	115	Not costed – already provided
Hedgerows	5%	2037	m2	34	Not costed – already provided
Trees		100	nr	340	Not costed – already provided
Paths	10%	1630	lm	225	Not costed – already provided
Entrances	-	8	nr	10000	Not costed – already provided
Cycle parking	-	20	nr	600	£12,000
Seating and bins set	-	8	nr	2000	£16,000

Lighting	-	326	nr	2100	£684,600
Trim trails	-	1	nr	305000	Not costed due to trim trail provision assumption in SG5
Signage	-	10	nr	2000	£20,000
Events space	-	-	-	-	Not costed due to event space provision assumption in SG5
Sub-Total	-	-	-	-	**£732,600**
Professional fees @ 15%	-	-	-	-	£109,890
Subtotal	-	-	-	-	£842,490
Preliminaries @ 15%	-	-	-	-	£126,374
Subtotal	-	-	-	-	£968,864
Contingencies @ 15%	-	-	-	-	£145,330
Total Cost	-	-	-	-	**£1,114,193**

Source: LUC analysis

Table E-22- Estimated revenue costs for each open space at Cambridge Science Park

Cambridge Science Park	Annual	15 years
LG12	£28,399.81	£425,997.13
LG14	£69,156.89	£1,037,353.40
LG15	£30,000.00	£450,000.00
LG16	£14,401.65	£216,024.78
SG5	£1,036,000.00	£15,540,000.00
SG6	£467,000.00	£7,005,000.00
Total revenue cost for 15 years	**-**	**£24,674,375.31**

Source: LUC analysis

E.8 Cambridge Regional College

Table E-23- Quantity of open space located at Cambridge Regional College

Cambridge Regional College	Open Space (sqm)
LG17	2,929
Total	**2,929**
Total (HA)	**0.29**

Source: LUC analysis

Table E-24- Estimated capital costs for each open space at Cambridge Regional College

LG17	Percentage	Quantity	Unit	Rate	Total
Amenity grassland	60%	1757	m2	20	Not costed due to tree loss this would cause
Meadow	20%	586	m2	8	Not costed due to tree loss this would cause
Path	10%	117	lm	225	£26,361
Shelter belt	5%	146	m2	12	Not costed, trees present
Hedgerow	5%	146	m2	34	Not costed, trees present
Trees	-	100	nr	340	Not costed, trees present
Entrances	-	2	nr	10000	£20,000
Cycle parking	-	4	nr	600	£2,400
Seating and bins set	-	2	nr	2000	£4,000
Lighting	-	38	nr	2100	£79,800
Signage	-	2	nr	2000	£4,000
Sub-Total	-	-	-	-	**£136,561**
Professional fees @ 15%	-	-	-	-	£20,484
Subtotal	-	-	-	-	£157,045
Preliminaries @ 15%	-	-	-	-	£23,557
Subtotal	-	-	-	-	£180,602

Contingencies @ 15%	-	-	-	-	£27,090
Total Cost	-	-	-	-	**£207,692**

Source: LUC analysis

Table E-25- Estimated revenue costs for each open space at Cambridge Regional College

Cambridge Regional College	Annual	15 years
LG17	£31,153.83	£467,307.47
Total revenue cost for 15 years	**-**	**£467,307.47**

Source: LUC analysis

AtkinsRéalis

AtkinsRéalis UK Limited
Nova North
11 Bressenden Place
Westminster
London
SW1E 5BY

Tel: +44 (0)20 7121 2000
Fax: +44 (0)20 7121 2111

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