Cambridge South East Transport Phase 2

Environmental Statement

Appendix 16.1 Carbon Management Plan

31st July 2023

Introduction

16.1.1 This is the Carbon Management Plan (CMP) for the proposed Cambridge South East Transport Phase 2 (the Proposed Development). The Greater Cambridgeshire Partnership require a CMP to be in place for the Proposed Development as best practice and to aide meeting their own carbon reduction targets.

16.1.2 The CMP has been developed following PAS 2080:2023 Carbon Management in Buildings and Infrastructure.

16.1.3 This CMP summarises the carbon footprint for the Proposed Development and sets carbon reduction targets. It also outlines the process to enable the carbon reduction targets to be achieved.

16.1.4 The is a live document and will be updated through the project life cycle to report on the implemented opportunities and any associated carbon reductions achieved.

16.1.5 This document should be read in conjunction with other project specific reports, including the Environment Statement.

Proposed Development

16.1.6 The Proposed Development is a mostly segregated, guided bus route, travel hub, and service track located to the south east of Cambridge. Starting at the Cambridge Biomedical Campus, where it ties in to the existing Francis Crick Avenue, the segregated busway and service track then crosses open countryside towards the proposed new travel hub at the A11 / A1307 road junction at Babraham. Volume 2, Chapter 2 provides a detailed description of the Proposed Development.

Legislation and policy drivers for carbon management

United Nations Framework Convention on Climate Change (1992)

16.1.7 The UK is a signatory to the United Nations Framework Convention on Climate Change, which aims to prevent dangerous human interference with the climate system, and has ratified the Kyoto Protocol (1997) and Paris Agreement (2015) that build on it. The Paris Agreement provides for the international community to keep the increase in global average temperature to well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C. Under the Paris Agreement the UK is required to communicate to the UN its 'Nationally Defined Contribution' (NDC) which is the UK's pledge to help to meet the global goals set out in the Agreement. The UK's NDC is to reduce economy-wide greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels.

Climate Change Act 2008 (as amended)

16.1.8 Domestically, the UK has made commitments to tackle the root cause of climate change by reducing greenhouse gas (GHG) – also termed 'carbon' – emissions as well as to increase the resilience of development and infrastructure to the changing climate. The Climate Change Act 2008 (as amended in 2019) sets a target to reduce net GHG emissions by at least 100% from 1990 levels by the year 2050 (Net Zero). Successive five year carbon budgets are required to be set by government to ensure that the UK can work towards meeting the 2050 Net Zero target by 2050.

16.1.9 Table A16.1.1 contains the UK's defined 'carbon budgets' as required by the Climate Change Act, from 2008-2037. The carbon budgets are set by the UK government and quantify the maximum level of emissions that may be released in the UK in million tonnes whilst still meeting its obligatory climate change targets. The UK governments has met all its carbon budget targets to date, but it should be noted that to meet future carbon budgets and the Net Zero target by 2050 will require more challenging measures.

Table A16.1.1 UK carbon reduction targets

UK Carbon budget period	UK Carbon budget level
1st carbon budget (2008 to 2012)	3,018 $MtCO_2e$
2nd carbon budget (2013 to 2017)	2,782 $MtCO_2e$
3rd carbon budget (2018 to 2022)	2,544 $MtCO_2e$
4th carbon budget (2023 to 2027)	1,950 $MtCO_2e$
5th carbon budget (2028 to 2032)	1,725 $MtCO_2e$
6th carbon budget (2033 to 2037)	965 $MtCO_2e$

Transport Decarbonisation Plan (TDP) 2021

16.1.10 In response to the UK's Net Zero emissions target, the Department for Transport (DfT) published "Decarbonising Transport: A Better, Greener Britain" referred to as the Transport Decarbonisation Plan (TDP) in 2021. The TDP outlines a number of commitments by the Government to remove all emissions from road transport to achieve Net Zero by 2050. Commitments that will have a direct impact on road user emissions from the Proposed Development include:

- An end to the sale of new petrol and diesel cars and vans by 2030
- All new cars and vans must by 100% zero emission at the tailpipe by 2035
- An end to the sale of all non-zero emission road vehicles including HGVs by 2040

Net Zero Strategy – Build Back Greener 2021

16.1.11 This strategy sets out policies and proposals for decarbonising all sectors of the UK economy to meet the Net Zero target by 2050. For the transport sector this includes increasing the share of journeys taken by public transport, cycling and walking, in addition to the commitments to zero emission vehicles, as noted in the TDP.

Cambridgeshire County Council Local Transport Plan

16.1.12 Cambridgeshire is developing its draft Local Transport and Connectivity Plan (LTCP), the long-term strategy to improve transport in Cambridgeshire and Peterborough. The draft LTCP went through consultation in 2022 and is being finalised. The LTCP aims to reduce carbon emissions from transport through a reduction in car miles driven.

Cambridgeshire Climate Change and Environment Strategy

16.1.13 In May 2019, Cambridgeshire County Council declared a Climate and Environment Emergency and published their Climate Change and Environment Strategy in 2022. The Strategy includes a target to make Cambridgeshire County Net Zero by 2045. They also have an additional target to operate as a Net Zero Council by 2030 (including all Scope 3 emissions)[1].

16.1.14 Cambridge City Council's Climate Change Strategy and Action Plan[2]

16.1.15 Cambridge City Council's Climate Change Strategy 2021 to 2026 includes six key objectives to address the causes and consequences of climate change, including carbon emissions from transport. The City Council has a target to reduce the Council's direct emissions to net zero by 2030. The Action Plan includes the measures to be implemented and target dates for achievements.

16.1.16 South Cambridgeshire District Council's Zero Carbon Strategy[3]

16.1.17 South Cambridgeshire District Council adopted a Zero Carbon Strategy in 2020, to deliver a reduction in the council's carbon footprint of at least 45% by 2025 from a 2019 baseline, and at least 75% by 2030. The targets for the South Cambridgeshire area are a 50% reduction by 2030 compared to a 2018 baseline, reducing to net zero by 2050. Annual reports track progress made.

Carbon reduction hierarchy

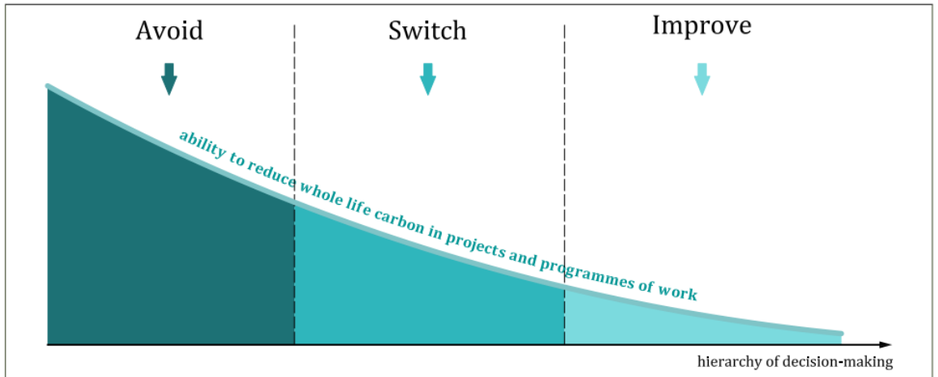
16.1.18 When identifying potential opportunities to reduce carbon emissions, the following carbon reduction hierarchy, as provided in PAS 2080, specifies:

16.1.19 Avoid: align the outcomes of the project and/or programme of work with the net zero transition at the system level and evaluate the basic need at the asset and/or network level

16.1.20 Switch: assess alternative solutions and then adopt one that reduces whole life emissions through alternative scope, design approach, materials, technologies for operational carbon reduction, among others, while satisfying the whole life performance requirements

16.1.21 Improve: identify and adopt solutions and techniques that improve the use of resources and design life of an asset/network, including applying circular economy principles to assess materials/products in terms of their potential for reuse or recycling after end of life

16.1.22 An example of the potential reductions that can be saved is shown in Figure A16.1.1.



***NOTE** This figure represents a simplified and streamlined version of the carbon reduction hierarchy presented in PAS 2080:2016 and the* Infrastructure carbon review *[1]. It has been updated to clarify its applicability and relevance to a wider range of projects and programmes within the built environment (i.e. to clarify that the carbon reduction hierarchy is not solely about new builds).*

Figure A16.1.1 Carbon reduction hierarchy

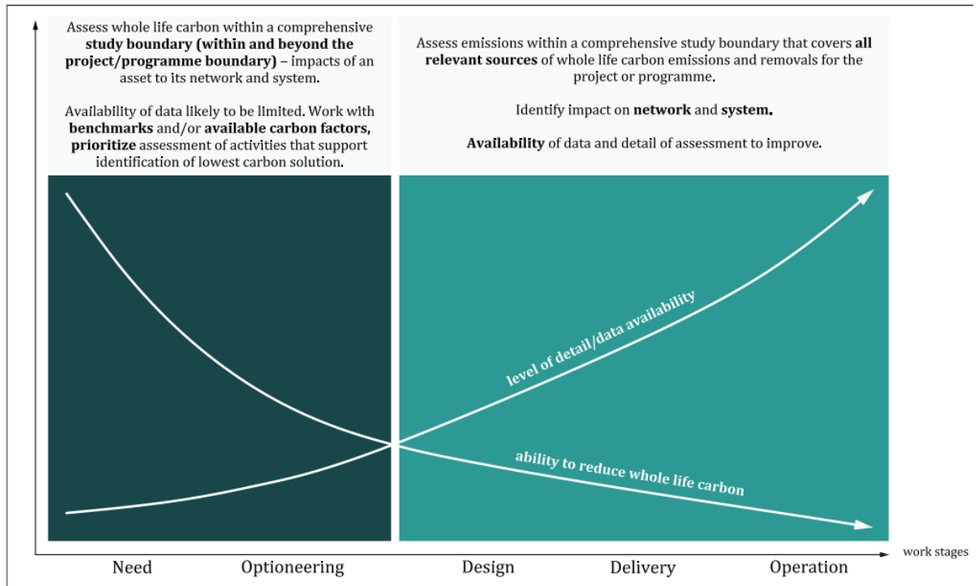
16.1.23 The greatest ability to influence whole life is early on in the project, when objectives and outcomes are still being developed. For example, 'avoid' could include exploring alternative approaches which do not require construction of a new asset. 'Switch' could include lower-carbon design approaches, such as the use of lowest-carbon materials, for example, reducing the quantity of concrete used in a project or replacing the steel with a lower carbon variety. Finally, 'improve' relates to the clever use of technology, construction techniques and management of resources to improve the efficiency of the construction and operation of the project or to extend the design life of the project.

16.1.24 Although the scope for reducing carbon emissions is greater during the initial work stages (stages Need and Optioneering) than in the later work stages (stages Design to Operation), as shown in Figure A16.1.2, the degree of knowledge of the types of assets required to deliver the desired outcomes is smaller at these initial work stages, as is the availability of the data to quantify baseline emissions. The degree of accuracy is important when it affects decisions in each work stage.

[1] https://www.cambridgeshire.gov.uk/asset-library/part-1-climate-change-and-environment-strategy-2022.pdf

[2] https://www.cambridge.gov.uk/climate-change-strategy

[3] scdc-zero-carbon-strategy-web.pdf (scambs.gov.uk)



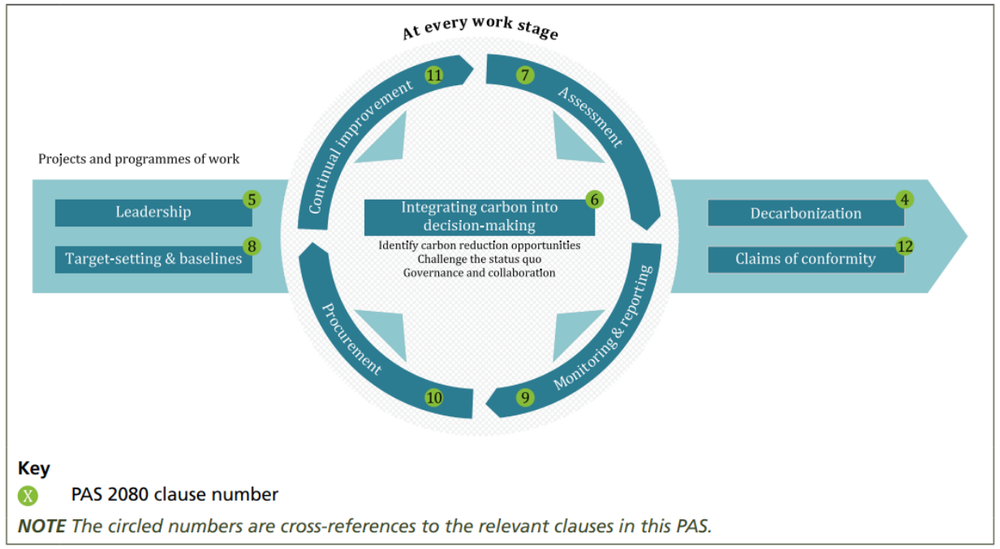
NOTE *This figure illustrates how the assessment approach changes across project stages to support the decision-making process most effectively.*

Figure A16.1.2 Degree of accuracy and data availability in whole life cycle assessments across work stages

Scope of the carbon management process

16.1.25 The various components of the carbon management process, in accordance with PAS 2080, are shown in Figure A16.1.3. The carbon management process includes the following:

- Decarbonization (opportunity to reduce whole life carbon)
- Leadership
- Integration into decision-making
- Assessment
- Baselines and targets
- Monitoring and reporting
- Procurement



NOTE *The circled numbers are cross-references to the relevant clauses in this PAS.*

Figure A16.1.3 PAS 2080 Carbon management process

16.1.26 The carbon management process integrated into project delivery processes drives the value chain[4], as described in section 6, to collaborate and create a culture of innovation. This supports reductions in carbon and cost during project delivery by driving the use of low carbon solutions.

16.1.27 PAS 2080 applies a whole life cycle-based approach to assessing GHG emissions, as shown in Figure A16.1.4. The purpose of this is to avoid unintended consequences, helping to ensure a balanced perspective by showing the gross size/scale of emissions and when they occur. In this way, informed decisions can be made supporting optimum low carbon outcomes.

16.1.28 Each life cycle stage includes boundaries, which further identify specific emissions sources applicable within each life cycle stage and are critical to defining the full scale of emissions to be considered.

[4] Organisations and stakeholders involved in creating and managing infrastructure assets. These include asset owners/managers, designers, constructors and product/material suppliers.

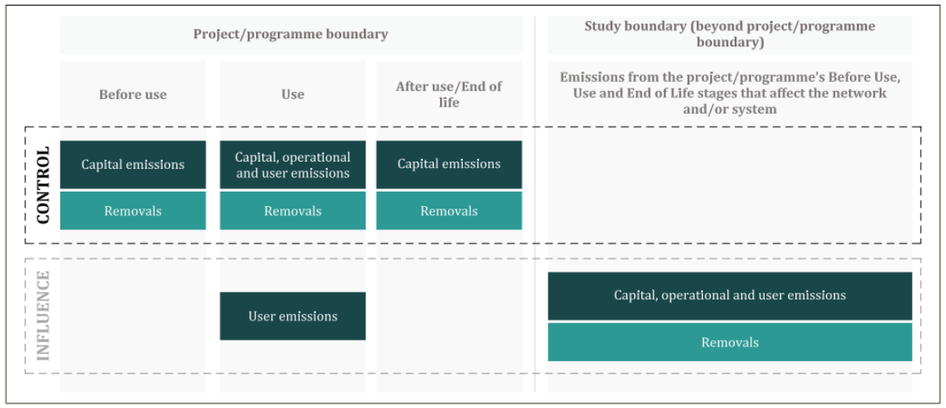


Figure A16.1.4 PAS 2080 whole life carbon framework for decision making

16.1.29 The CMP is a live document which should be updated at each stage of the project, with revisits to the target setting, baselines, monitoring of carbon reduction, GHG emissions assessment, and reporting to allow for continual improvement in carbon management.

Leadership and delivery of the Carbon Management Plan

Value chain members responsible for carbon management

16.1.30 Leadership is recognised as a key enabler of a CMP. While the asset owner (Cambridgeshire County Council) has the primary responsibility for implementing a carbon management process, all value chain members share responsibility for the management of carbon emissions during delivery of the Proposed Development. The asset owner should encourage the value chain to challenge the existing 'business as usual' approach to leadership of infrastructure delivery, clear communication, and collaborative behaviours to reduce whole life carbon.

16.1.31 Figure A16.1.5 presents the value chain members responsible for carbon management for the Proposed Development as identified in PAS 2080. These include the following: Asset Owner/ Manager; Designer; Constructor; and Product/ Material Suppliers.

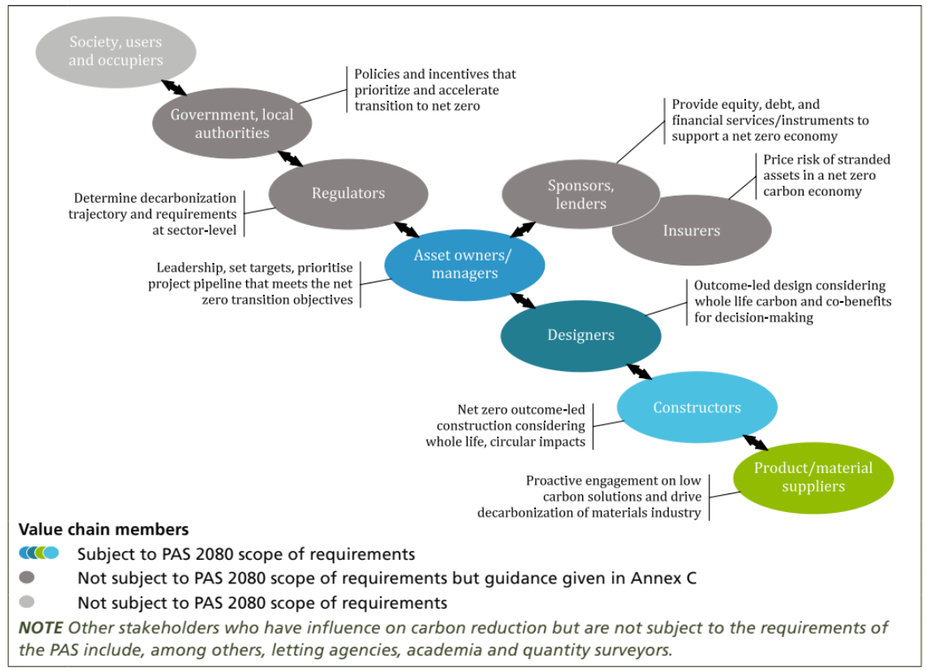


Figure A16.1.5 Value chain members and their roles in carbon management

Value chain members roles and responsibilities

16.1.32 This section sets out the outline roles and responsibilities across the project team. Every project team member is responsible for contributing to improving the carbon performance of a project. As the Proposed Development progresses specific requirements of all value chain members will be included.

16.1.33 Commitment from the whole project team and all stakeholders is a key aspect to successful implementation of a CMP. All members of the value chain have the potential to influence low-carbon outcomes.

16.1.34 Collectively the value chain members are required to:

- Set an organisational policy and strategy for carbon management, with clear roles and responsibilities and align commercial goals with this strategy
- Assign responsibilities to practitioners of all disciplines within the organisation that are relevant for the development and implementation of the carbon management process
- Communicate consistently and regularly to staff at all levels within their own organisation on the importance of caron managements
- Have training programmes in place to fill gaps in knowledge and skills
- Make adequate and competent human resources available for the development and implementation of the carbon management process
- Demonstrate a commitment to continuous improvement through the sharing of current good practice
- Promote a culture that rewards efforts to drive down carbon emissions in their own organisation, as well as other organisations in the value chain
- Make requirements of their carbon management strategy compatible and integrated with other business processes

- Communicate consistently with other value chain members and system stakeholders to develop collaborative relationships with the goal of reducing whole life carbon at the system level
- Proactively collaborate with members of the value chain to promote and implement decarbonisation solutions within their control and influence

16.1.35 However, some roles have key responsibilities in leading the efforts to implement low-carbon solutions during design and delivery. Specific roles and associated responsibilities are detailed below:

- Asset owner / manager:
  - Clearly document and communicate the desired carbon management outcomes, roles, responsibilities and requirements to the value chain
  - Support value chain and stakeholder communication to discourage silos, develop collaborative behaviours and enable system optimisation
  - Encourage value chain members to challenge current practices and solutions by having whole life carbon reduction as a key objective for delivery and applying the carbon reduction hierarchy across work stages
- Designer leadership team:
  - Support asset owners in identifying and implementing whole life carbon reduction opportunities in the control and influence of the asset owner
  - Challenge existing standard, guidance, and requirements to drive low carbon solutions
  - Set clear requirements and guidance for their own suppliers working on projects to help prioritize whole life carbon outcomes
  - Enable cross-discipline coordination to drive low-carbon solutions throughout design development
- Constructor's leadership team:
  - Promote early involvement in the delivery of projects, and put mechanisms in place to enable collaboration with asset owners/ managers, designers and material/ product suppliers
  - Challenge clients, designers and suppliers to provide low-carbon solutions
  - Support supply chain partners that can demonstrate their own carbon reduction commitment
  - Integrate resource efficiency and circular economy principles into construction business models

Integrating carbon management into decision-making

16.1.36 Integrating carbon management into decision-making requires the development and implementation of a carbon management process, which will drive the right behaviours at each work stage leading to the reduction of whole life carbon. Value chain members should identify their level of control and ability to influence whole life carbon reduction, and establish and implement a carbon management process.

Procurement

16.1.37 The procurement process is critical to accelerate whole life carbon reductions in the value chain in the delivery of projects. Including carbon as part of a holistic approach to the integration of sustainability into the procurement process can allow for greater carbon reduction potential. To do this, PCC should support the inclusion of numerical carbon targets in contracts and specify a baseline performance level with reference to the project baseline.

16.1.38 The Project Director and Project Managers should collaborate with other members of the value chain in order to understand the low-carbon solutions they are able to offer and include within the design..

Assessment of carbon emissions

16.1.39 The purpose of assessing of carbon emissions is to ensure that whole life carbon assessment is fit for integrating carbon reduction into decision making, even at the early optioneering stage, and allows the identification of hotspots.

Construction emissions

16.1.40 A quantification of construction phase emissions has been calculated using the Atkins' Carbon Knowledgebase tool, which contains a detailed library of calculation formulae and over 1,000 emissions factors from authoritative sources such as the Inventory of Carbon and Energy (ICE, versions 1.6(a), 2.0 and 3.0)[5], the Defra Greenhouse Gas Reporting Conversion Factors[6], and the EMEP/CORINAIR Emission Inventory Guidebook[7]. The tool calculates the construction phase emissions in accordance with PAS 2080: Carbon Management in Infrastructure, the international standard for assessing of carbon emissions throughout a project's lifecycle. Further details on the method are provided in the Environmental Statement.

16.1.41 Construction phase emissions of Francis Crick Avenue (FCA), Public Transport Route (PTR) and Travel Hub (TH) are provided in detail in Table A16.1.2. The construction of the Proposed Development will lead to the release of an additional 41,280.5 tCO_2e, with the majority, 62.3%, arising from material production and processing (A1-3), 3.4% arising from transportation of materials (A4), and 29.8% arising from construction processes (A5). The remaining 4.5% of emissions are from Land Use Change.

16.1.42 In summary, the majority emissions arise from the proposed works on Public Transport Route (PTR); 27,886.3 tCO_2e (64.4% of total emissions), followed by Francis Crick Avenue (8,290.0 tCO_2e, 19.2%) and then the Travel Hub (5,104.3 tCO_2e, 11.8%). The remaining 4.5% of emissions are from Land Use Change.

Table A16.1.2 Construction phase emissions, tCO_2e

Proposed Development area	Lifecycle stage	Emissions (tCO_2e)
Francis Crick Avenue	Materials (A1-3)	
	Assets	
	Drains And Service Ducts	39.6

[5] Embodied Carbon Footprint Database - Circular Ecology
[6] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021
[7] EMEP/EEA air pollutant emission inventory guidebook — European Environment Agency (europa.eu)

Proposed Development area	Lifecycle stage	Emissions (tCO_2e)
	Fencing	0.1
	Kerbs, Footways and Paved Areas	99.1
	Road Lighting	20.4
	Pavements	266.3
	Traffic Signs and Road Markings	23.8
	Electrical Work For Road Lighting And Traffic Signs	13.0
	Special Structures	6,590.5
	Total	7,052.9
	Transportation (A4)	
	Includes emissions from transportation in life cycle stages: Materials (A1-3) and Construction (A5)	85.8
	Construction (A5)	
	Site Clearance	0.4
	Phase J	261.6
	Phase K	889.3
	Total	1,151.3
Public Transport Route (PTR)	Materials (A1-3)	
	Assets	
	Fencing	893.9
	Road Restraint System	404.5
	Chambers and Gullies	146.6
	Headwalls	9.1
	Pavements	4,255.7
	Kerbs, Footways and Paved Areas	527.1
	Traffic Signs and Road Markings	374.1

Proposed Development area	Lifecycle stage	Emissions (tCO_2e)
	Electrical Work For Road Lighting And Traffic Signs	605.2
	Motorway Communications	58.9
	Bus Shelter	2.5
	Drains And Service Ducts	2,130.2
	Special Structures	7,391.8
	Total	16,799.7
	Transportation (A4)	
	Includes emissions from transportation in life cycle stages: Materials (A1-3), Construction (A5), Demolition and Deconstruction (C1)	833.0
	Construction (A5)	
	Disposal of acceptable material excluding Class 5A	9.1
	Disposal of acceptable material Class 5A	115.1
	Disposal of unacceptable material Class U1A	2.5
	Site Clearance	<0.1
	Phase B to Phase I	4,865.2
	Stapleford Stop	209.3
	Sawston Road Stop	209.3
	Hobson Brook Bridge	1,158.1
	Stapleford Crossing	1,789.8
	Babraham Crossing	1,895.1
	Total	10,253.6
Travel Hub (TH)	Materials (A1-3)	
	Assets	
	Drains And Service Ducts	314.5
	Headwalls	3.2

Proposed Development area	Lifecycle stage	Emissions (tCO_2e)
	Pavements	2,044.4
	Kerbs and Edgings	194.2
	Motorway Communications	26.2
	Traffic Signs and Road Markings	90.0
	Road Lighting	53.1
	Electrical Work For Road Lighting And Traffic Signs	56.0
	Special Structures	290.3
	Total	3,072.0
	Transportation (A4)	
	Includes emissions from transportation in life cycle stages: Materials (A1-3), Construction (A5), Disposal (C4)	560.6
	Construction (A5)	
	Disposal of acceptable material	59.3
	A11 Travel Hub	889.3
	Great Shelford Stop	209.3
	Phase A	313.9
	Total	1,471.6
Land Use Change	Release of carbon from loss of habitats	1,963.3
Construction Phase Total		43,234.8

Operational emissions

16.1.43 Table A16.1.3 provides the net change in carbon emissions for the Proposed Development during operation for the opening year, design year and the 60-year operational appraisal period. Over an operational period of 60 years the Proposed Development would provide 188,789 tCO_2e, with the majority of emissions coming from road users and operational energy. It is important to note that these emissions do not account for the roll-out of electric vehicles which has the potential to drastically cut carbon emissions.

Table A16.1.3 Operational phase emissions, 60 year appraisal period

Category		Emissions (tCO_2e)
Road user carbon (difference between Do Minimum and Do Something scenarios)		196,253
Operation and maintenance	Operational energy and maintenance of road	569
	Operational Energy consumption of Travel hub and Charging points	2,645
	Solar Power (reducing grid energy requirement)	-5,234
Land Use Change and Forestry (addition of new habitats)		-5,444
Total operation		188,789

Emissions calculations summary

16.1.44 Table A16.1.4 provides a summary of emissions considering all life cycle modules for the Proposed Development during construction and operation, including over the 60-year appraisal period.

Table A16.1.4 Summary of Emissions with the Proposed Development

Life cycle module	60-year appraisal period (tCO_2e)
Construction	43,235
Road user carbon	196,253
Operational Energy and Maintenance	3,214
Solar Power	-5,234
Land Use Change and Forestry (addition of new habitats)	-5,444
Total	232,024

Baseline, target setting, monitoring and reporting

Baseline

16.1.45 The baseline for the Proposed Development is presented in Section 7 of the CMP. Further details are provided in the climate chapter of the ES. The baseline GHG emissions should be updated and documented as additional design details are available as the CMP is revisited at each stage.

Target setting

16.1.46 Setting carbon reduction targets provides clear direction and communicates intent for carbon reduction. Targets should be set against clear baselines so that performance against them can be determined. This should be underpinned by robust monitoring at frequent intervals during infrastructure delivery to highlight progress of carbon reductions against set targets. Targets for reducing carbon may also result in a reduction of project costs as a result of using the carbon hierarchy to build nothing or build less.

16.1.47 The carbon reduction target for the Proposed Development will be discussed with Cambridgeshire County Council as the asset owner. Targets could be set separately for capital, operational or road user carbon, or a single whole life carbon target could be set. Suggested targets are included in Section 0.

16.1.48 The Proposed Development should aim to reduce carbon emissions as much as possible throughout the life cycle of the project. Given the need to potentially revisit the baseline at each stage of the Proposed Development, then it is possible that the target may also need revisiting.

Suggested targets

16.1.49 Below are some suggested targets that should be considered as possible carbon reduction targets for the Proposed Development from this stage to the end of the construction phase. The baseline will be used for these targets. This target is adapted from the National Highways' Carbon Reduction Targets and their Net Zero programme[8]. Given that the Proposed Development has many similarities to National Highway Schemes, the target is considered appropriate.

16.1.50 The following target is suggested:

- 35% reduction in Construction Phase Emissions from baseline (in line with the target for RIS2 schemes)

Monitoring and reporting

16.1.51 Monitoring is a key and mandatory element of carbon management. Progress against targets and in relation to the carbon baseline should be monitored in line with PAS 2080 and any other specific requirements and should be compatible with other national policy and regulatory requirements.

16.1.52 Transparent reporting should be provided at frequent intervals during the delivery of projects to inform decision-making in managing whole-life carbon and providing information for continuous improvement.

16.1.53 Data should be reported as tonnes of carbon dioxide equivalent (tCO_2e), with monitoring and reporting carried out at each stage of the Proposed Development, and on an at least annual basis once construction commences.

16.1.54 Appropriate monitoring requires key roles and responsibilities to be established internally – both at operational and strategic levels – to allow effective implementation of actions. GCP should establish a carbon reduction team with responsibility for implementing actions, as discussed under roles and responsibilities in section 6

16.1.55 Key points which should be followed by all value chain members include:

- Adopt the carbon reduction targets set by the asset owner/manager as a minimum
- Communicate and share carbon targets with other value chain members
- Collect data relevant to their activities and roles within the project delivery for asset and/or programmes of works carbon baselines
- Take into account limitations in the accuracy of baselines when making comparisons against their activities during infrastructure delivery and transparently report these against any claims of reductions achieved.

Continual Improvement

16.1.56 Continual improvement allows lessons learned to improve the delivery of current and future projects, and to learn about effective decarbonisation approaches including innovations. To allow continual improvement, the following key points should be followed by all value chain members:

- Establish a process of continual improvement and innovation that targets the development of low-carbon solutions, organisational capability to deliver low-carbon, and improvements in procurement processes and the relevant carbon management process components
- Capture carbon emissions information and share it with other value chain members in order to facilitate continual improvement in future carbon management between organisations within the infrastructure and building sectors
- Capture carbon reduction solutions and share learning with other value chain members to inform good practice
- Maintain ongoing engagement across the value chain to build learning on industry innovations to further drive whole life carbon reductions at the asset, network and system level.

Training and awareness

16.1.57 Training requirements for the key roles will be identified by the management teams and will vary according to role. This section will be updated as the Proposed Development progresses.

Asset owner – Cambridgeshire County Council

16.1.58 The asset owner will have to make sure that the team involved in the development of the Proposed Development will be suitably trained to ensure the carbon agenda could be embedded from the earliest stage of the process.

Designer

16.1.59 Training resources are provided to all staff on the following topics:

- Design for Life: Carbon and energy use
- Whole Life Carbon Management
- Engineering Net Zero – An Introduction (Global training introducing key concepts around climate change and net zero)
- Net Zero Carbon Buildings
- Carbon Knowledgebase

16.1.60 The Principal Contractor will need to implement the Carbon Management Plan and ensure that key personnel are suitably trained to be able to embed and identify further carbon reduction measures.

[8] https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf

Low carbon solutions

16.1.61 Low carbon solutions which have been implemented as part of the design process are provided in Table A16.1.5. This table will be updated throughout the project at the various stages.

Table A16.1.5 Implemented carbon management opportunities

Item No.	Summary details of implemented opportunity	Carbon reduction achieved (tCO_2e – if quantified)	Project stage / action owner
1	Reduction in length of Babraham crossing from 162.5m to 130m	OneClick LCA assessment showed a 14.99% reduction in emissions from A1-5 phases.	Design team – Structures
2	Reduction in length of Stapleford crossing from 150m to 118m	OneClick LCA assessment showed a 6.09% reduction in emissions from A1-5	Design team – Structures
3	Change of Stapleford crossing from steel-composite to precast arrangement	OneClick LCA assessment showed a 31.95% reduction in emissions from A1-5 (this includes the reduction in length in Item 2).	Design team – Structures