Cambridgeshire and Peterborough JPSF

HASLINGFIELD GREENWAY

Outline Business Case

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HASLINGFIELD GREENWAY

Outline Business Case

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1 STRATEGIC CASE

1.1 OVERVIEW

1.1.1. This Strategic Case for Haslingfield Greenway project forms the first of the five cases for the Outline Business Case (OBC). The purpose of the Strategic Case is to set out the strategic and policy context for Haslingfield Greenway, to demonstrate the need for the project and provide an assessment of the project's ability to address transport and wider policy requirements.

1.1.2. The Haslingfield Greenway is one of the twelve sustainable travel corridor schemes proposed as part of the Greenways project by Greater Cambridge Partnership (GCP). A Programme Outline Case (POC) for the Greenways Project was prepared in January 2022. This document focuses on the strategic need for Haslingfield Greenway scheme.

1.2 APPROACH

1.2.1. The Strategic Case has been structured to align with the Department for Transport's (DfT) Transport business case guidance for the strategic dimension which outlines key areas that should be covered as part of the business case documentation.

1.3 BUSINESS STRATEGY

1.3.1. The Greater Cambridge City Deal was signed between Government and local representatives in 2014. GCP was formed following the deal being made and is the local delivery body, responsible for overseeing the delivery of the City Deal and the promotion of local economic growth and development. GCP aims to:

- Deliver up to £1 billion of investment, providing vital improvements to infrastructure, supporting and accelerating the creation of 44,000 new jobs and 33,500 new homes to Greater Cambridge by 2031; and
- Enable a new wave of innovation-led growth in the Greater Cambridge area by investing in infrastructure, housing and skills, thereby addressing housing shortages and transport congestion bottlenecks that will facilitate its continued growth and a continuation of the 'Cambridge Phenomenon'.

1.3.2. To ensure infrastructure investment aligns with the above aims, the Greater Cambridge City Deal Assurance Framework has established key strategic objectives against which projects will be prioritised. The objectives aim to create and retain high-tech businesses of the future, target investments to the needs of the Greater Cambridge economy, improve connectivity between clusters and labour markets, and attract and retain skilled people by investing in transport and housing.

1.3.3. The Haslingfield Greenway effectively meets multiple strategic objectives of the City Deal as it offers a green active travel corridor that enables safe and easy travel to workplaces, local schools, colleges, shops and transport hubs. The scheme is in line with GCP's objective of delivering fast, reliable and affordable ways of travelling between employment and housing hubs as it provides improved links to Cambridge from Haslingfield, Grantchester, and Hauxton. Lastly, the scheme reduces community severance by improving transport links across M11 and provides safe active

travel connections between the places where people live, work and shop, thus encouraging more walking and cycling trips.

1.4 SCHEME BACKGROUND

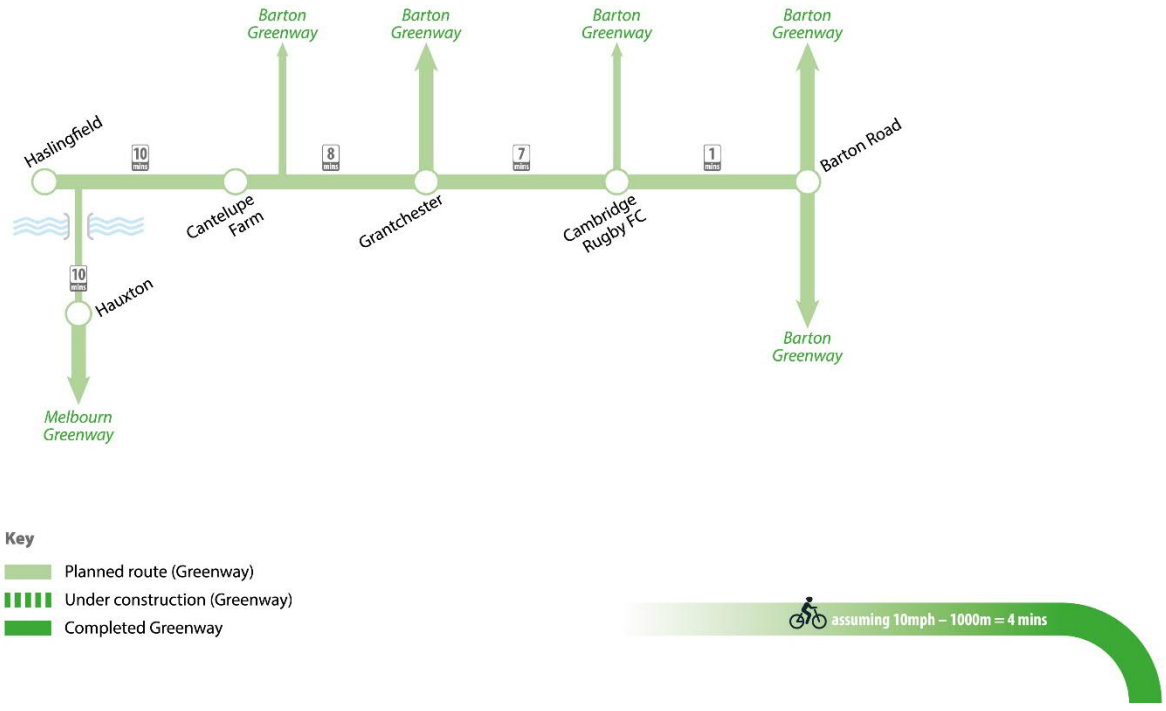
1.4.1. Haslingfield Greenway is one the twelve Greater Cambridge Greenways that aim to make journeys easier, cheaper, healthier, greener and pleasant into and out of Cambridge as well as to enjoy the countryside for leisure purposes. Additionally, the scheme also contributes to making local journeys, such as school and nursery runs safer and easier.

1.4.2. As shown in **Figure 1-1** Haslingfield Greenway provides improvements to walking and cycling facilities between Haslingfield, Grantchester, Hauxton and Cambridge.

1.4.3. In 2016, the Greenways project began with a review of the existing cycling and walking routes into Cambridge. GCP then consulted local communities to understand how the Greenways could best meet their needs and mitigate concerns. Formal consultations were then carried out on each route, before reports were issued for approval at Executive Board meetings throughout 2020.

1.4.4. The Haslingfield Greenway has undergone several consultations with the stakeholders since 2016 and was approved by the GCP Executive Board on 10 December 2020.

Figure 1-1: Haslingfield Greenway



Source: Summer 2021, GCP

1.5 POLICY CONTEXT

1.5.1. This section provides the policy context within which the development of the Haslingfield Greenway has been considered. It demonstrates that the delivery of the cycle scheme aligns with the strategic objectives of policies set at local, regional and national scales.

NATIONAL POLICY

1.5.2. The alignment of the Haslingfield Greenway with national policy is shown in **Table 1-1**. Further detail on national policy for the Greenways programme as a whole is set out in the Greenways POC.

Table 1-1 National Policy Summary

Policy	Key Strategic Objectives	Haslingfield Greenway Scheme alignment
National Policy		
Net Zero Strategy: Build Back Greener (2021)	▪ Decarbonising all sectors of the UK economy to meet net zero target by 2050.	Provision of cycling and walking network encourages active travel, reducing reliance on the car and reduced greenhouse gas emissions. Delivery of Haslingfield Greenway will contribute towards the Net Zero Strategy's goal of making active travel a natural first choice for all who can take them by providing safer cycling and walking infrastructure between Haslingfield and Cambridge.
The Environment Act (2020)	▪ Protection of the natural environment from the effects of human activity ▪ Protection of people from the effects of human activity on the natural environment ▪ Maintenance, restoration or enhancement of the natural environment ▪ Monitoring, assessing, considering, advising or reporting on environmental protection	The Haslingfield Greenway aligns with the goals of the Environment Act, as biodiversity net gain is a key influence along with the general duty to conserve and enhance biodiversity in Cambridge.
Ten Point Plan for a Green Industrial Revolution (2020)	UK to be the world's number one centre for green technology, laying the foundations for economic growth, delivering Net Zero emissions.	Delivery of the Haslingfield Greenway will directly contribute to the strategic goals of The Ten Point Plan by providing better air quality through delivering a sustainable active travel cycling route, and in doing so protect our natural environment. Provision of a cycle network will further encourage active travel, reducing reliance on the car and greenhouse gas emissions.
Gear Change (2020)	▪ Better streets for cycling and people	Delivery of the Haslingfield Greenway closely aligns to the

Policy	Key Strategic Objectives	Haslingfield Greenway Scheme alignment
National Policy		
	▪ Cycling and walking at the heart of decision making ▪ Empowering and encouraging local authorities ▪ Enabling people to cycle and protecting them when they do	vision of Gear Change, creating a safer and more attractive cycling environment in and around Cambridge. Through enabling residents and cycle user groups to use the cycle network as a form of active travel, the strategic goals of Gear Change shall be met.
Cycling and Walking Investment Strategy (CWIS) LTN 1/20 (2020)	Cycling and walking to be the natural choice for short journeys, and to increase cycling and walking levels.	The Haslingfield Greenway will align with the CWIS by providing infrastructure in line with design outlined in the LTN 1/20. Being developed in liaison with local communities and cycling user groups, the routes are designed to be inclusive of different stakeholder groups as outlined in both the CWIS and LTN 1/20. Delivery of the Haslingfield Greenway will provide communities access to a well-connected cycle network for both commuting and recreational purposes.
National Planning Policy Framework (updated 2021)	▪ To provide strong, vibrant, healthy communities ▪ To contribute to protecting and enhancing our natural, built, and historic environment; including making effective use of land	The Haslingfield Greenway will help to further the sustainable development goals of the NPFF and align with its key principles by: ▪ Improving the health of communities by promoting the use of sustainable modes of transport by the provision of an active travel network ▪ Encouraging the use of non-car modes to minimise air quality effects of car travel ▪ Creating a well-designed, beautiful and safe environment for pedestrians and cyclists ▪ Providing Natural Capital benefits and ecosystem services delivered through green infrastructure strategies, which combined offer an effective use of land.

Policy	Key Strategic Objectives	Haslingfield Greenway Scheme alignment
National Policy		
Transport Investment Strategy (2017)	▪ To create a more reliable, less congested and better-connected transport network ▪ To support the creation of new housing	Delivery of the Haslingfield Greenway will help to achieve the objectives of the TIS by providing an alternative way of travelling to the car, minimising the potential for increased congestion. Provision of alternate attractive travel option will enable the network to better cope with increased demand from planned housing and population growth.

REGIONAL POLICY

1.5.4. The alignment of the Haslingfield Greenway with regional policy is shown in **Table 1-2** Further detail on regional policy for the Greenways programme as a whole is set out in the Greenways POC.

Table 1-2 – Regional Policy Summary

Policy	Key Strategic Objectives	Haslingfield Greenway Scheme alignment
Cambridgeshire and Peterborough Independent Commission on Climate (2021)	Better air quality and access to nature, to improve health and wellbeing.	Delivery of the Haslingfield Greenway will contribute to the Commission's recommendations for active travel which includes making cycling more accessible. Reducing the number of journeys made by car will reduce levels of greenhouse gas emissions and improve local air quality. An uptake of active travel will contribute to better health and wellbeing.
England's Economic Heartland Transport Strategy (2020)	Improve local and rural connectivity to support a green recovery from COVID-19 and sustainable growth, whilst reaching Net Zero by 2050.	Delivery of the Haslingfield Greenway will directly contribute to the furthering of this strategic aim to 'improve local and rural connectivity.' The Haslingfield Greenway along with the other Greenway schemes will together provide a network of radial routes from the centre of Cambridge, providing surrounding communities with access to the

Policy	Key Strategic Objectives	Haslingfield Greenway Scheme alignment
		centre. Doing so through active travel will reduce greenhouse gas emissions.
The Cambridgeshire and Peterborough Local Transport Plan (2019)	Aims to connect all new and existing communities sustainably and provide an integrated rural public transport network.	Delivery of the Haslingfield Greenway will further these strategic goals by providing a sustainable and active travel network in Cambridgeshire and Peterborough. Communities will be safer and better connected, whilst air quality levels will be improved. The delivery of Haslingfield Greenway will be key to ensuring a positive uptake of technologies such as affordable e-bikes and cargo bikes, and for new bike sharing schemes that are supported by the policy.
Local Transport and Connectivity Plan (Draft, 2022)	Aims to address four transportation challenges highlighted by the impact of the pandemic: ▪ Connectivity and accessibility ▪ Making systems work ▪ Affordability and flexibility ▪ Environmental impact Aims to provide improvement in six key areas of productivity, connectivity, climate, environment, health and safety.	The Haslingfield Greenway scheme contributes towards delivering elements of an integrated transport system recognised in the LTCP, such as providing safe and attractive walking and cycling infrastructure. The delivery of Haslingfield Greenway scheme will encourage mode shift to sustainable modes of transport by providing active travel infrastructure.

LOCAL POLICY

1.5.5. This section addresses local policies and the alignment of the Haslingfield Greenway with these polices.

Cambridge Local Plan (2018)

1.5.6. The Cambridge Local Plan covers the period of 2018-2031 and identifies the need for 14,000 additional homes and 22,000 jobs. It identifies a series of 'Areas of Major Change' (AOMC), through which a number of the Greenways will run. The Haslingfield Greenway will provide connections for the residents of new homes and provide an opportunity for an active commute to new businesses and for employees in the area.

South Cambridgeshire Local Plan (2018)

1.5.7. Chapter 10 of the Local Plan addresses transport, outlining the aim to 'promote and deliver sustainable transport and infrastructure.' The plan highlights the need for transport provision to be balanced in favour of sustainable modes, to give people a choice as to how they travel.

1.5.8. The Haslingfield Greenway will contribute directly to this strategic aim, providing a sustainable and active travel choice for local communities and commuters alike. By investing in the cycle network, both first and last mile journeys may be made by an active mode, thereby integrating into the wider transport network.

First Proposals: Emerging Greater Cambridge Local Plan (2021)

1.5.9. The Greater Cambridge Local Plan aims to effectively plan and allocate sites over both Cambridge and South Cambridgeshire. The plan aims to make Greater Cambridge a place where a large decrease in climate impacts correlates with a large increase in quality of life for all communities. It outlines that new development must reduce carbon emissions and reliance on the private car and contribute towards creating thriving neighbourhoods.

1.5.10. Delivery of the Haslingfield Greenway furthers the aims of the emerging Joint Local Plan as active travel is proven to improve quality of life through better health and access to greenspace. It will also contribute to a reduction in greenhouse gas emissions through reducing the demand on the road network and thereby levels of car use.

Active Travel Strategy for Cambridgeshire Consultation Draft (2022)

1.5.11. The Active Travel Strategy for Cambridgeshire, currently at consultation stage, builds on achievements in encouraging active travel to date reflected in the high levels of cycling in the city of Cambridge, with the aim of further improving and increasing the proportion of journeys made by active modes across all of Cambridgeshire. The Strategy will enable and encourage more people to switch some of the journeys they once made by private car to active modes, making the use of active modes, travellers preferred mode of travel.

1.5.12. The Strategy will provide a comprehensive set of policies that will enable quality provision of active travel infrastructure and initiatives in Cambridgeshire to contribute to the County Council's target to achieve Net Zero Carbon by 2045.

SUMMARY OF POLICY CONTEXT

Delivery of the Haslingfield Greenway contributes to key strategic policies through delivering an active and sustainable mode of travel via a green infrastructure network which will encourage a modal shift away from the car. In doing so, the programme will deliver multiple environmental, social and economic benefits, and contribute to the reduction in greenhouse gas emissions required to meet Net Zero targets by 2050.

1.6 STRATEGIC PROBLEMS AND ISSUES

1.7 ECONOMIC CONTEXT

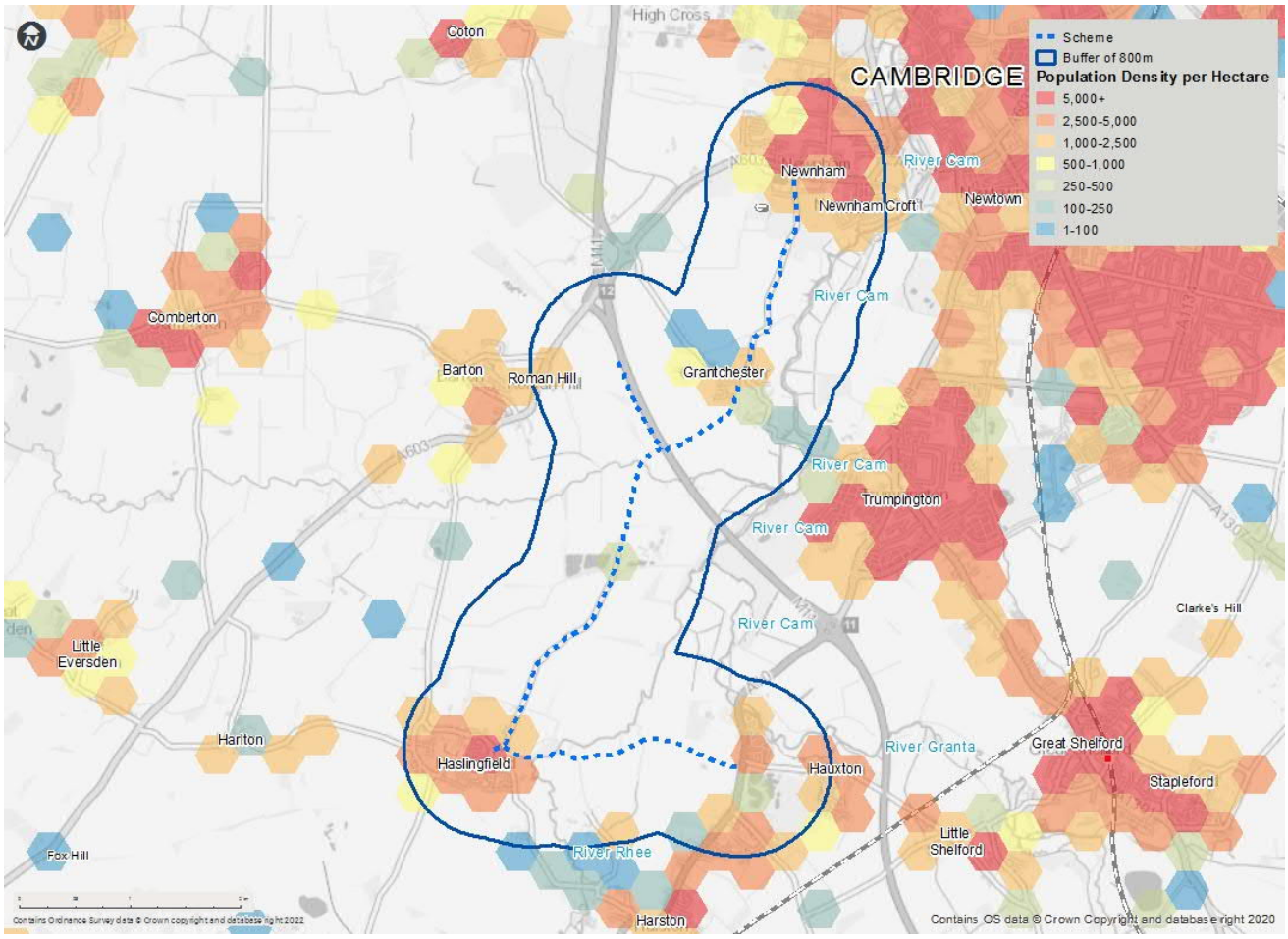
Population Growth

1.7.1. The population of Cambridge is expected to grow in the coming years, and the transport network is required to accommodate that growth. In South Cambridgeshire, the population size has increased by 8.9% from around 148,800 in 2011 to 162,000 in 2021[1]. This figure is higher than the overall increase for England which was 6.6%.

1.7.2. **Figure 1-2** shows the resident population per hex-cell, with each hex-cell representing an area of 5 hectares to enable consistent comparison across the study area. Population concentration at Haslingfield, Hauxton, Grantchester and Newham is highlighted by the figure indicating demand for a sustainable travel link connecting these settlements to Cambridge which is the major employment centre for South Cambridgeshire urban fringe.

[1] https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000012/

Figure 1-2 Resident Population (Census 2021 estimate)



Spatial Development

1.7.3. The 'city fringe' growth in Cambridge has been shown to yield at least 41% active travel mode share and only 33% travel by car.[2] This indicates that there is existing demand and potential new demand for active travel infrastructure from fringe markets such as Hauxton, Haslingfield and Grantchester.

1.7.4. As per the HELAA Published Sites November 2021 and HELAA Site Updates (Amended Land Use or Development Amount) July 2022 sites, an additional 690 residential units are proposed in Haslingfield, Hauxton and southwest Cambridge in order to support future housing demand. [3]

1.7.5. M11, A603 and A10 are main corridors into Cambridge and connect settlements west and south of Cambridge to employment and education centres at southwest Cambridge and in the city centre. Cambridgeshire's third Local Transport Plan (2011-2031)[4] highlighted the challenge of congestion

[2] Draft LTCP. Draft-LTCP.pdf (yourltcp.co.uk)
[3] Site submissions (greatercambridgeplanning.org)
[4] Cambridgeshire Local Transport Plan 2011-2031, Policies and Strategy, Cambridgeshire County Council, July 2015

along main corridors into Cambridge and on the inner radial routes, which it argues is already having detrimental effects on businesses in the area.

1.7.6. The draft LTCP (2022) notes that congestion is an issue on the A10 along with potential challenges ranging from air pollution to safety issues especially since this corridor is associated with slower agricultural traffic and HCVs. Additionally, the A10 connects Cambridge to Royston to the southwest where growth is anticipated by 2031. A10 current experiences traffic queuing through the village of Harston to access M11 junction.[5]

1.7.7. The additional traffic from the proposed Cambridge South West Travel Hub and the proposed allocations for 690 homes in the south west of Cambridge will only worsen the congestion and delay during peak periods on these corridors. This congestion could have an adverse impact on employment and education accessibility for the population immediately west of the M11. Furthermore, the congestion along the corridor creates an environment inconducive to cycling or walking, further discouraging active travel uptake.

Employment and Skills

1.7.8. Cambridge is a key economic centre for research, innovation and technology, and is strategically important for attracting international investors into the UK. This relies heavily on Cambridgeshire continuing to offer strong links between businesses, training campuses and housing developments.

1.7.9. Tackling congestion was identified in the City Deal as a key barrier to growth. GCP aims to reduce traffic by up to 15% on 2011 levels, equivalent to taking one in four cars off the road compared to today's traffic flows. Commuters into Cambridge by car spend on average a quarter of their journey time stuck in traffic, with significant implications for their productivity and wellbeing. Absence of attractive sustainable travel options linking housing, education and employment further adds to reliance on car use.

1.7.10. 23,400 South Cambridgeshire residents (including residents in the Haslingfield Greenway corridor) commute to work in Cambridge, compared to 23,800 who work within the district itself. 47% of the working population in South Cambridgeshire use the car for access to employment which adds considerably to cost of transport and limits employment accessibility. Lack of equitable access to the transport system by the absence of affordable and alternative active travel options curtails job accessibility as well as limiting the potential labour market for employers.

1.7.11. Economic growth in the region will correlate with a greater number of trips made, and therefore a greater demand on the road network if nothing changes. Without new sustainable transport interventions peak hour journey times are forecast to increase by as much as 90%.[6] This traffic congestion will cause delays resulting in a fall in productivity.

1.7.12. As indicated in **Figure 1-3** the workplace zone centroids are concentrated in the northeast of the scheme corridor towards Cambridge city centre. Locally, to the southwest of Cambridge, the workplace zone centroids are located further apart at Grantchester, Haslingfield and Hauxton. The

[5] Transport Strategy for Cambridge (scambs.gov.uk)
[6] Greater Cambridge Greenways Programme Outline Case, January 2022 (Draft)

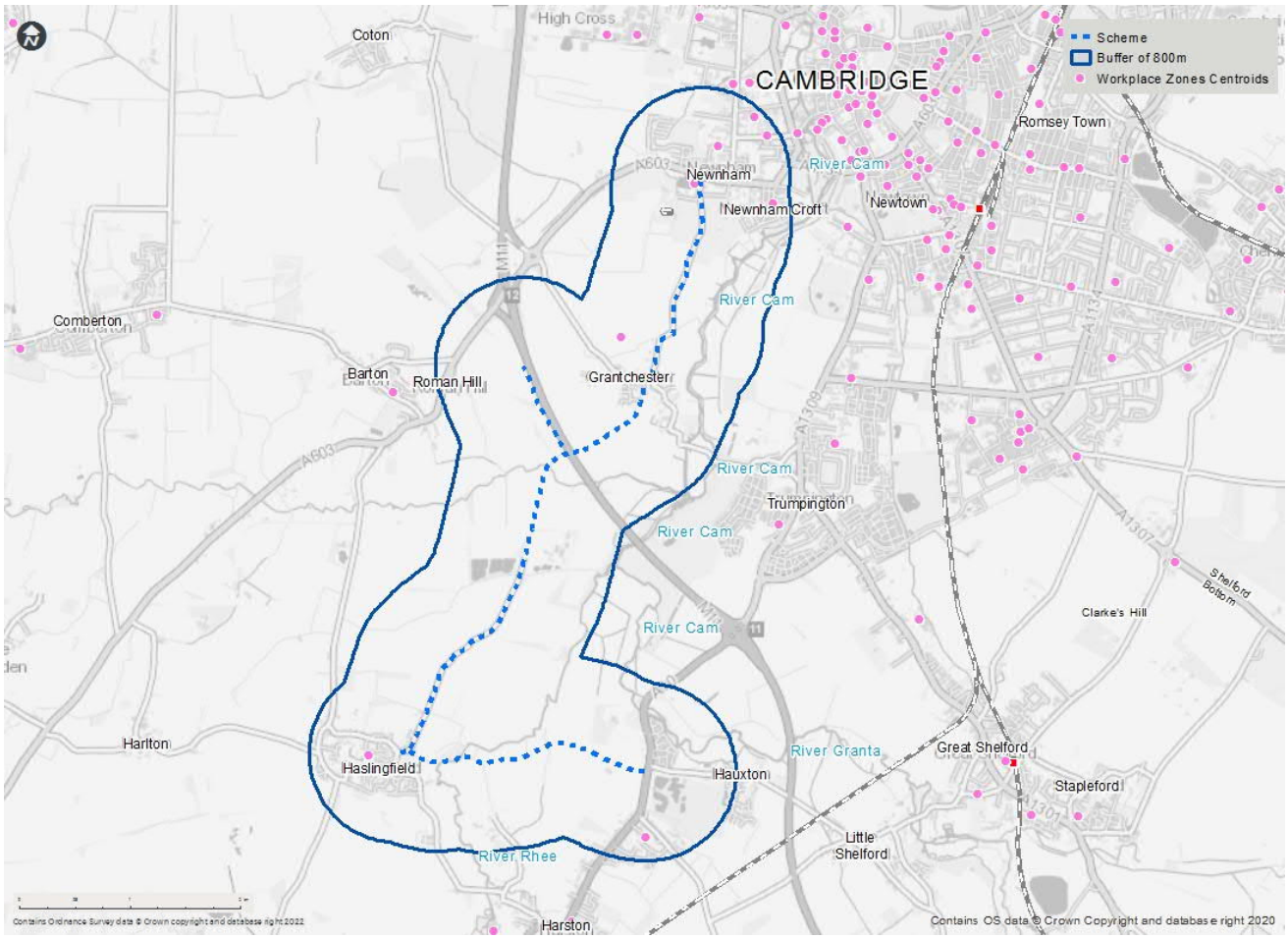
Haslingfield corridor as shown in **Figure 1-3** has limited local employment with out-commuting to Cambridge a requirement for most residents.

1.7.13. Haslingfield is a community 6.5 miles from Cambridge via Barton Road/ A603, but isolated from the city by busy roads. Opportunities for links with Cambridge are limited because of the limited number of crossings of the M11. Approximately 48% of the working population in the Haslingfield and Grantchester corridor commute into Cambridge of which 57% of the commuters use car. Limited public transport and active travel alternatives along the corridors connecting Haslingfield and Grantchester to Cambridge has placed a lead to the heavy reliance on car use.

1.7.14. The other major corridor connecting Haslingfield to Cambridge is A10 / A1309/ A1134. This route passes through the M11 Junction 11. The A10 approach from the south-west at Junction 11 experiences delays of approximately 16 minutes during the morning peak hour.[7] Unreliable journey times along these corridors due to delays impact residents of Haslingfield, Grantchester and Hauxton and affect access to employment, productivity and overall economic growth in the corridor.

[7] 2015 Western Orbital Study Options Report

Figure 1-3 : Workplace Zone Centroids



1.8 SOCIAL CONTEXT

Community Characteristics

1.8.1. Figure 1-4 presents Mosaic data (collected by Experian), a cross-channel consumer classification system which segments the population into 15 groups based on their consumer behaviour.

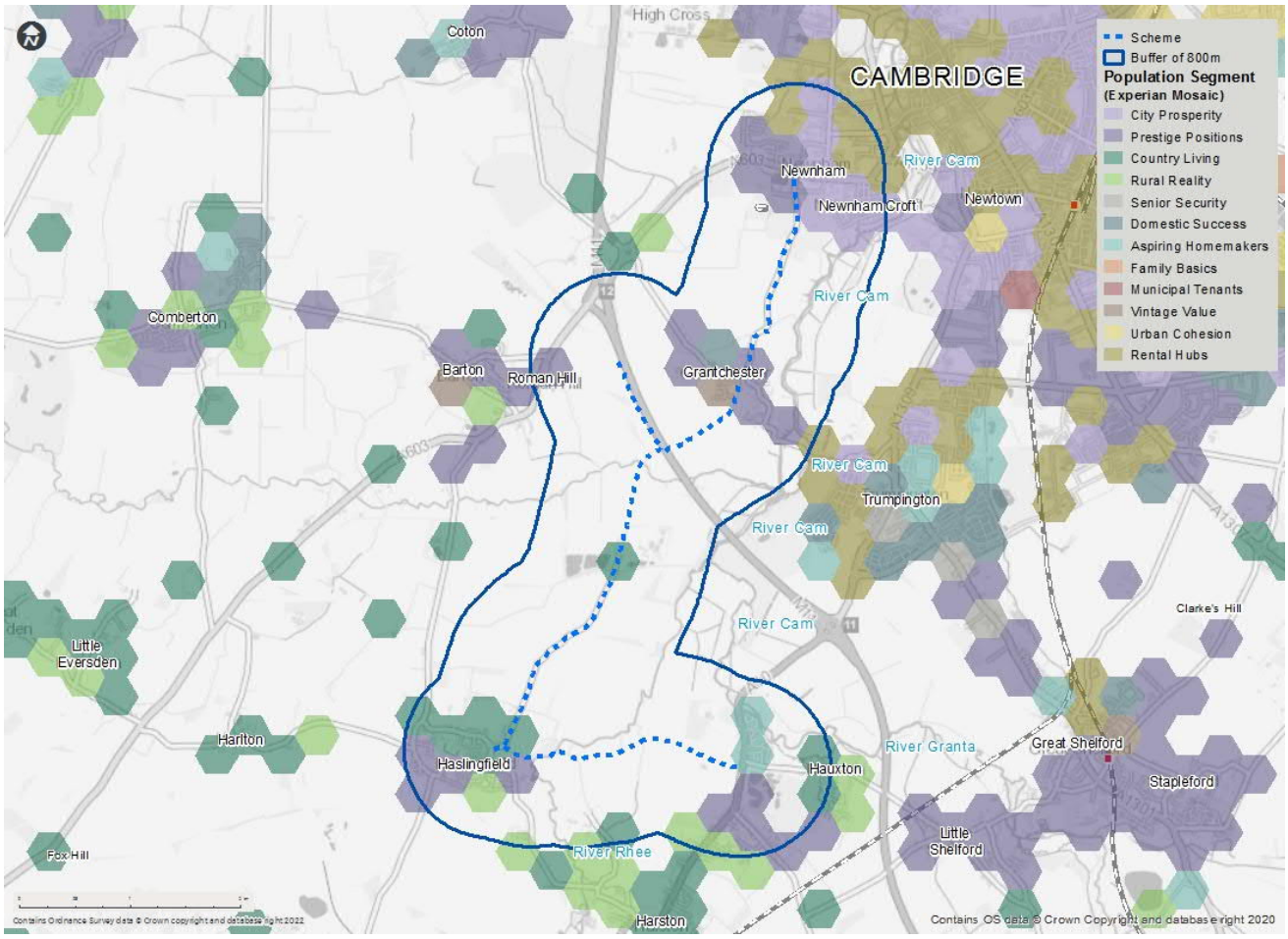
1.8.2. The mosaic presents clusters of ‘Prestige Positions’, ‘County Living’, ‘Rural Reality’, ‘Domestic Success’ and ‘Aspiring Homemakers’ population segments in the scheme area near Haslingfield, Hauxton, and Grantchester. At the northern end of the scheme, at Newham, concentrations of ‘City Prosperity’ and ‘Urban Cohesion’ population are identified.

1.8.3. Both ‘Prestige Positions’ and ‘Domestic Success’ populations have low propensity for using public transport or shared modes and rely majorly on cars. However, families in Domestic Success are headed by couples typically aged in their late 30-40s, with many having school age children. While these populations have affinity to use sustainable travel for school trips, lack of safe active mode travel connection to schools could deter mode shift and increase reliance on cars for shorter trips as well.

1.8.4. ‘Rural Reality’ and ‘Aspiring Homemakers’ consist of low income and middle-income households respectively and have a preference for affordable modes of transport services. ‘Aspiring Homemakers’ particularly require access to school. Limited affordable alternative transport options create challenges such as inequitable access to education and employment for these population segments.

1.8.5. ‘City Prosperity’ are higher income individuals with low levels of car ownership associated with their desire to live in urban centres. This population segment consists of individuals that are highly educated (such as university employees), very ambitious and focused on their careers. Many of this group are single and are less likely than others to have children. Lack of car ownership in this population segment indicates demand and propensity towards active travel, however poor cycling and walking infrastructure might impact uptake of active travel use.

Figure 1-4 Mosaic Groups



Ageing Population

1.8.6. In South Cambridgeshire there has been an increase of 28.7% in people aged 65 years and over and a 11.5% increase in the population of people between 50 and 70 years in the last decade. Figure 1-5 shows the proportion of 50 – 70-year-olds in the scheme area based on Census 2011 data. It is observed that the majority of LSOAs in the scheme area consist of 21- 30% of the population being between 50 to 70 years of age.

1.8.7. In a report prepared by the Centre for Ageing Better and Sustrans[8], it is noted that levels of physical activity and of active travel drop off rapidly with age. Considering physical activity levels make people healthier and help to lead to longer and more independent lives, it is deemed essential that older people should be targeted to address the decline. As indicated in **Figure 1-5** majority of the scheme corridor has 20 – 40% population between 50 – 70 years of age. Therefore, the lack of

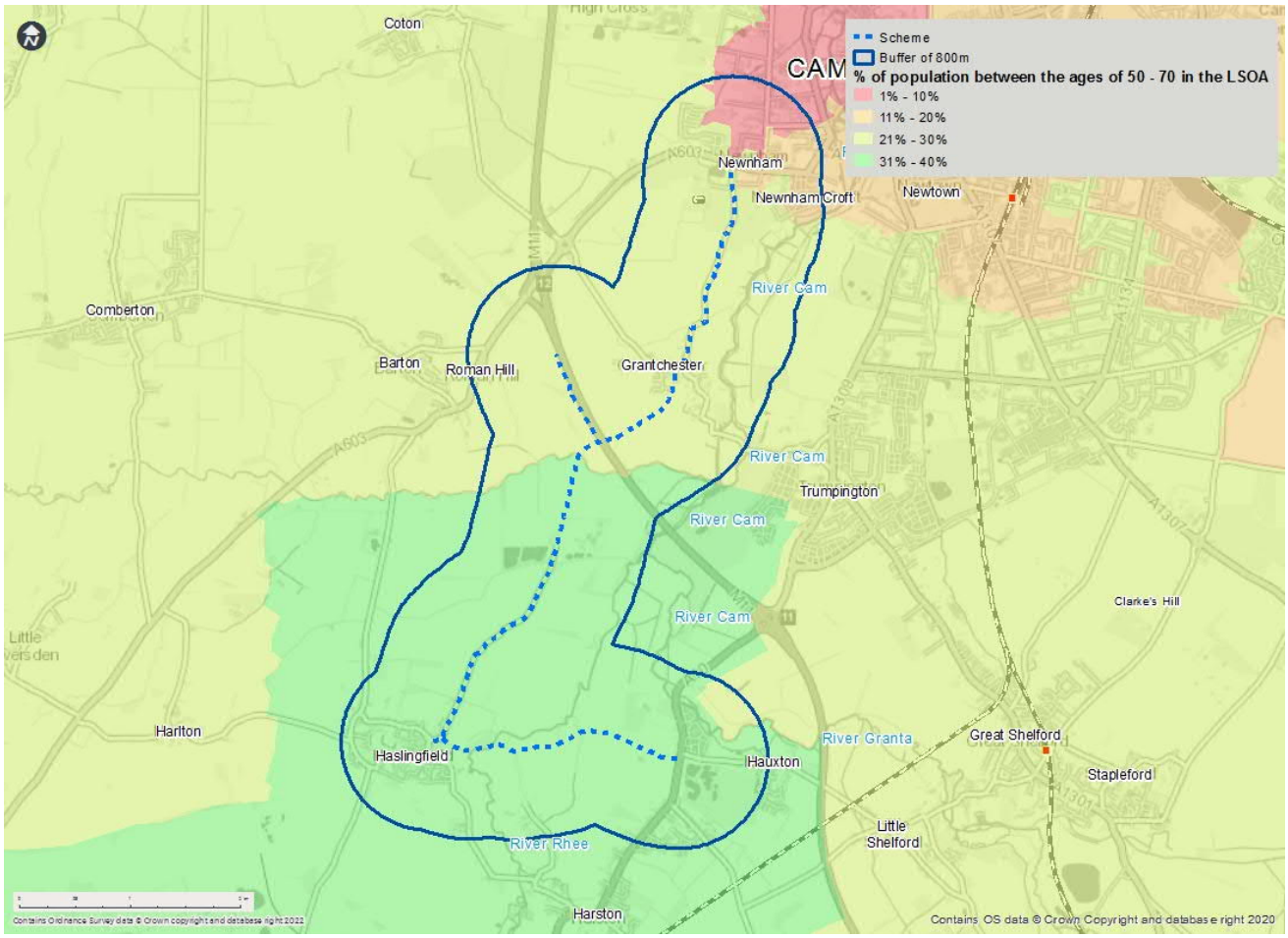
[8] Best foot forward: Exploring the barriers and enablers to active travel among 50-70 year olds | Centre for Ageing Better (ageing-better.org.uk)

continuous and safe active travel infrastructure and options to enjoy the outdoors adversely has a negative impact on overall community health and wellbeing. Enhanced active travel improvements will encourage greater use of active travel and improve physical and mental wellbeing in people within the 50 – 70-year-old age group.

1.8.8. Barriers to cycling are more pronounced for some user groups. Younger age groups cycle more. The percentage of the population that cycles at least once a week declines from 46% of people in the 56-65 age group to 24% in the 66+ age group. Recognising that South Cambridgeshire has seen an increase of 28.7% in more active older age groups, there is need to encourage greater uptake of active mode and healthier lifestyles.

1.8.9. Improving the cycling and pedestrian environment by implementing cycling infrastructure including separate cycle paths or shared paths, cycle path surface improvements, more lighting along cycle and pedestrian routes, and provision of safer road crossings all contribute to in improvement in road safety and personal safety. This improves the cycling and pedestrian environment for all active modes users, and especially for older residents.

Figure 1-5: Percentage of population between 50 and 70 years by LSOA (Census 2011)



1.9 TRANSPORT CONTEXT

Road Network

1.9.1. At present, the A603, A10 and M11 are the major roads linking Cambridge with the settlements within the study area. Haslingfield is connected to the A603 in the north through Barton Road and the M11 and A10 in the south through Barton Road via Haslingfield Road while Grantchester is linked to the A603 at two locations, Haggis Farm Interchange and Wolfson College, and via Coton Road and Grantchester Road.

1.9.2. Data from DfT road statistics shows that traffic levels have increased significantly in all these corridors with 7-8% growth in traffic volume observed along the M11 and A603. Cambridge County Council traffic counts show that daily traffic has increased significantly by 13% (17% for car traffic) along the A10 between 2018 and 2019 from 25,670 vehicles to 28,930. The A10 corridor experiences high congestions levels with peak time flow speeds being less than 60% of normal.[9] Since these corridors serve as primary links for connectivity to Cambridge, high traffic levels would make these corridors difficult to traverse and unsafe for active travel.

1.9.3. This trend in traffic growth is supported by the 2019 Traffic Monitoring Report[10] (Cambridgeshire County Council, CCC), which reported an 8% increase in the number of motor vehicles entering and leaving Cambridge per 12-hour day compared to 2009 with associated increased congestion and journey time delay.

1.9.4. As per the report from the Barton Parish Council[11], the Barton Road - Haslingfield Road corridor connecting Haslingfield to A603 and Barton is a common route among cyclists, walkers (Country Restoration Trust) and farm vehicles, however, there is no dedicated lane active travel route and there are inadequate traffic calming measures. In addition, the junction between this corridor and A603 (Wimpole Road) is busy and difficult to cross during rush hours due to continuous slow-moving traffic between 7:00am - 9:00am. Thus, the corridor is potentially hazardous for active travel.

1.9.5. The planned increase of 30,000 jobs at the Cambridge Biomedical campus by 2031 and 33,500 new homes in Greater Cambridge will increase travel demand on the road network. To accommodate the commuter traffic, the Cambridge South-West Travel Hub is to implemented . Whilst the South-West Travel Hub will encourage reduced car-based travel into Cambridge city centre, there are likely to be localised increases in traffic at Junction 11 of the M11. With an expected rise in traffic flows due to development congestion will increase further acting as a barrier to the aim of enhancing cycling as a mode of transport.

Bus Network

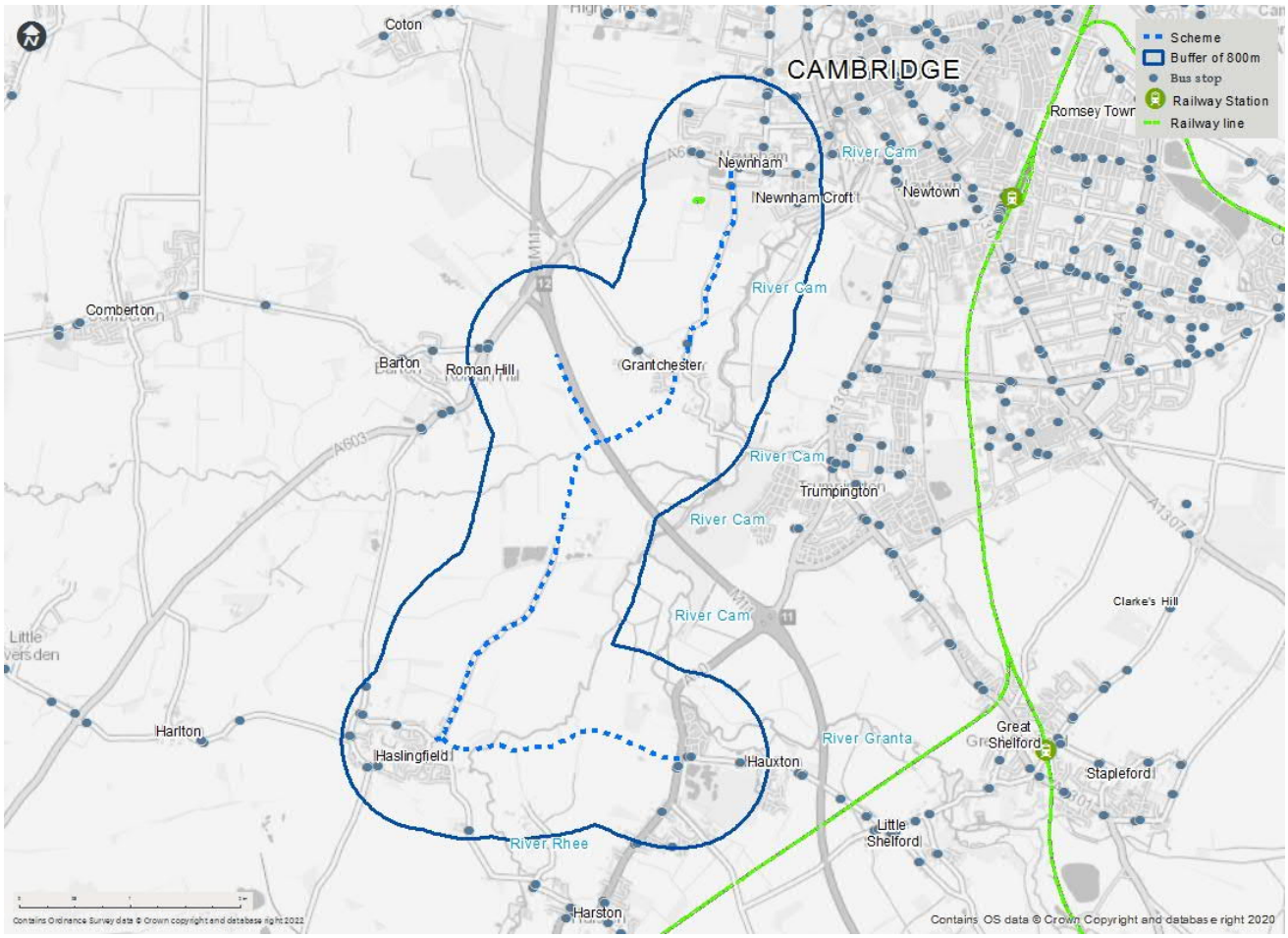
1.9.6. Haslingfield is connected to Cambridge and Wrestlingworth by bus route 75 which currently operates 5 buses per day with a scheduled journey time of approximately 30 minutes between

[9] Draft-LTCP.pdf (yourltcp.co.uk)
[10] https://www.cambridgeshire.gov.uk/asset-library/Traffic-Monitoring-Report-2019.pdf
[11] Haslingfield Road Hazards – Barton Parish Council (bartonvillage.org)

Haslingfield and Cambridge[12]. Grantchester is served by bus route 18 which runs between Cambridge and Longstowe operating 1 bus per hour between 7 am to 7 pm. The scheduled journey time between Haslingfield and Cambridge is15 minutes[13]. However, no bus services operate on Sundays.

1.9.7. Two route 75 buses service Haslingfield to Cambridge and 4 route 18 buses run from Grantchester to Cambridge between 7 am to 11 am. Considering approximately half the commuters from Haslingfield and Grantchester travel to Cambridge for work, the limited bus options during commuting hour results in increased reliance on the car with 57% of commuter trips being undertaken by car. Improved active travel options will enable mode shift to sustainable modes by providing a complementary option to bus services. The Haslingfield Greenway will offer a sustainable travel alternative for residents during commuting hours, weekends and off peak hours eliminating the reliance on car use in absence of bus service.

Figure 1-6 : Bus Stops along Scheme Corridor



[12] Proposed 75 timetable (Sept 20) (portrait) v2 (website-editor.net)
[13] CA - 18 - JUN 22.xlsx (tiscon-maps-stagecoachbus.s3.amazonaws.com)

Cycle Network

1.9.8. Haslingfield is located approximately 10km southwest of Cambridge across relatively flat terrain. Cyclists are currently served by a shared use path via Barton which is relatively narrow in places.. The Haslingfield Greenway will comprise of a total of 9.06 kilometres of greenway of which 4.39 kilometres will be along existing road and 4.67 kilometres will be along existing bridleway or footways.

1.9.9. On average, 14% of commuters travel to work by bicycle to Cambridge from the Haslingfield scheme corridor. Currently, the scheme corridor consists of local cycle routes both on-road and off-road sections connecting Grantchester to Cambridge via Cantelupe Farm as shown in **Figure 1-7**.

1.9.10. Figure 1-8 demonstrates that there is a variable demand level across the greenway corridor, with higher demand levels seen in urban built up areas, and lower demands along sections in more remote rural settings.

1.9.11. Figure 1-9 shows a Strava heatmap, capturing active travel movements by people recording their journey using the app. This plan presents the main existing active travel desire lines connecting Haslingfield to Cambridge further indicating existing demand for active travel along the corridor.

Figure 1-7 - Existing cycle network

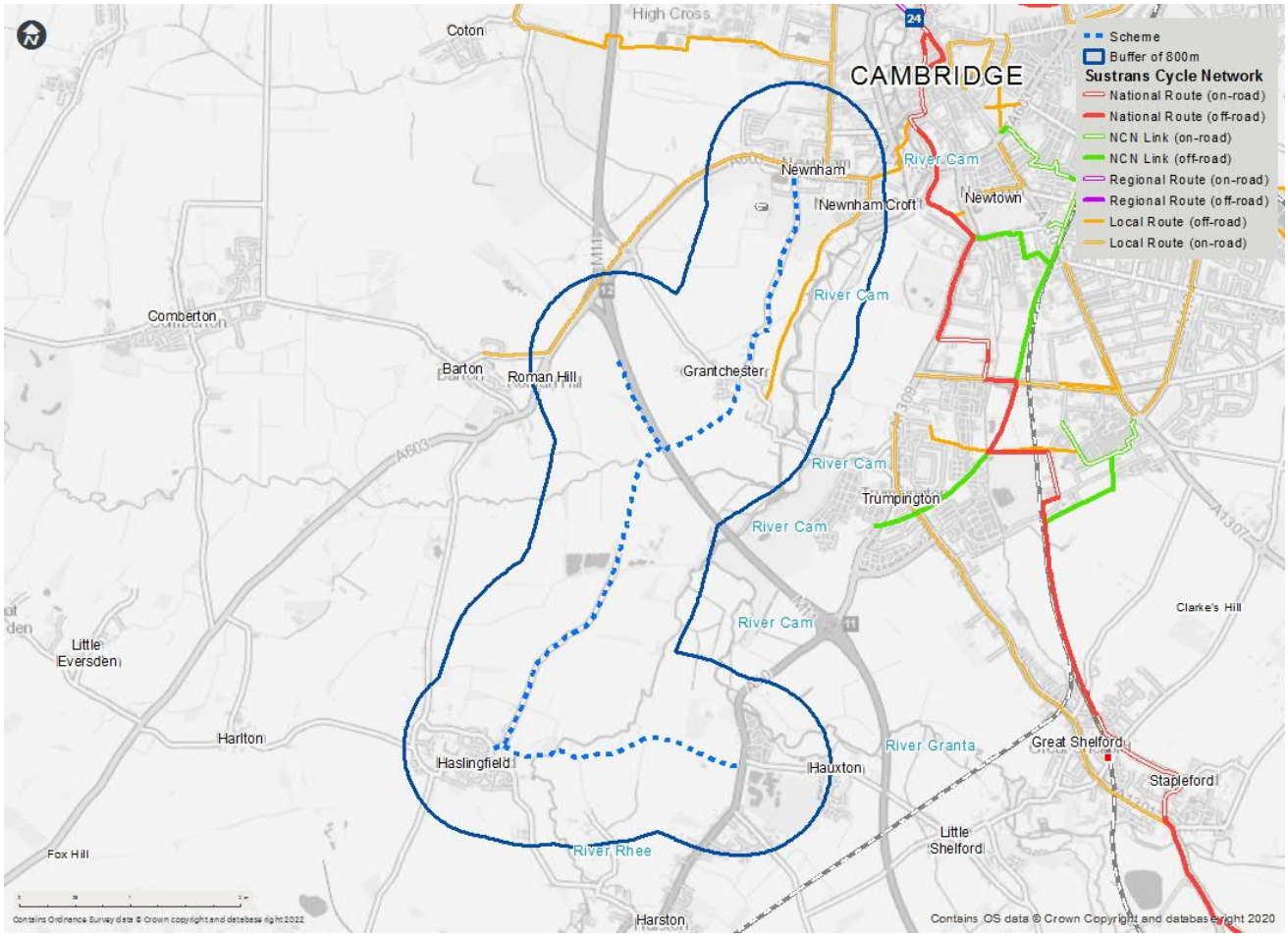


Figure 1-8 - Existing Cycle Trips in the Haslingfield Corridor

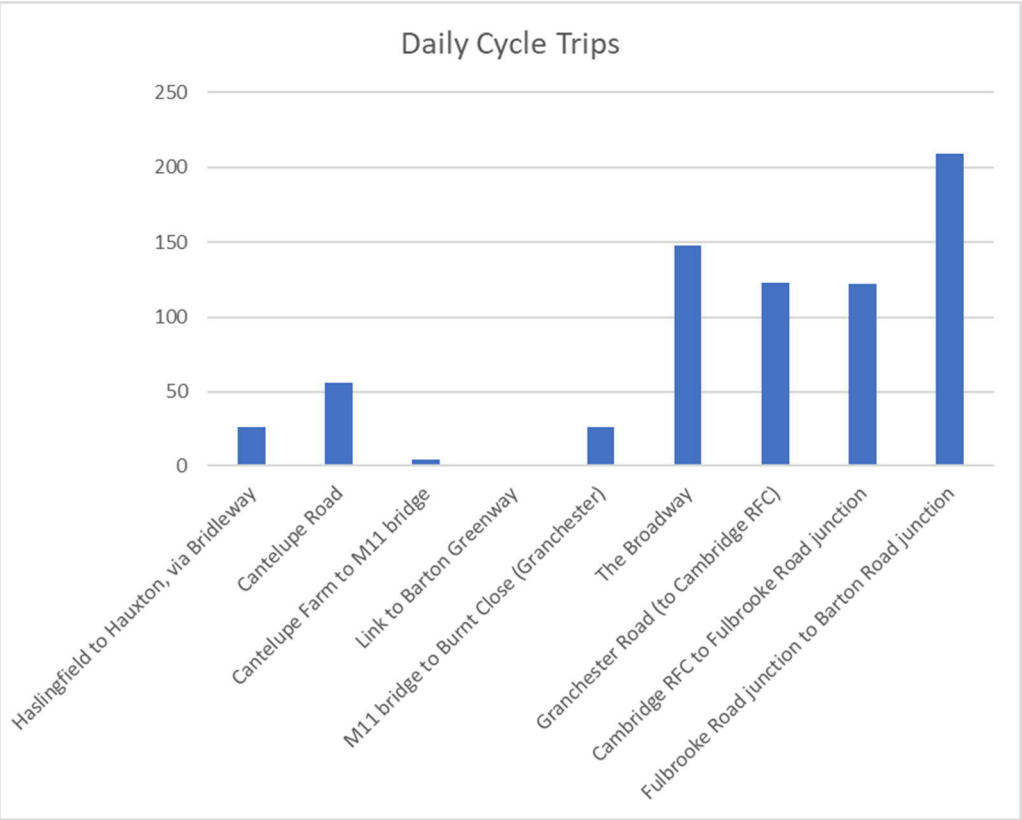
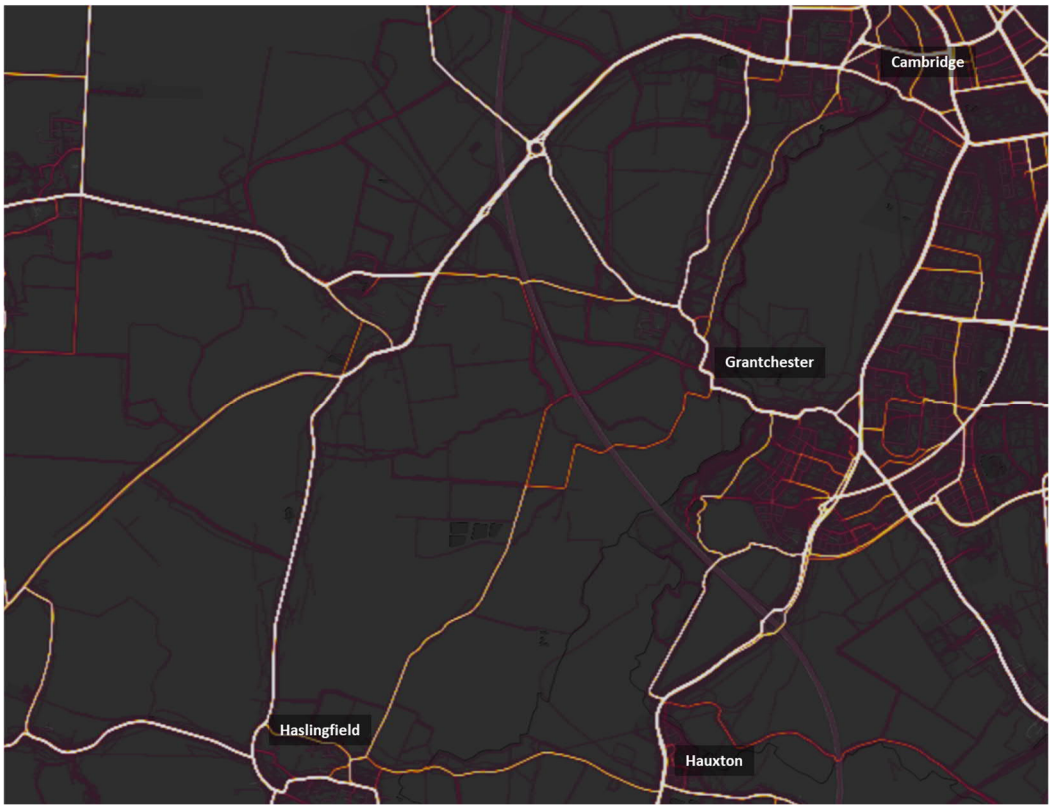


Figure 1-9 – Strava Heat Map



1.9.12. While demand for active travel exists along the corridor, the existing cycle infrastructure provision is of variable quality with many of the cycle lanes being fragmented and with poor surfaces and narrow widths. Many of the existing cycle lanes also coincide with bus lanes, which presents a safety issue for cyclists. There is a lack of safe crossing locations along the existing routes for pedestrians and cyclists. These features are not in line with LTN 1/20 standards for high quality cycling infrastructure.

1.9.13. Although Haslingfield is in an area with some attractive local routes which are already popular with cyclists[14], there are no specific cycle routes connecting Cambridge to Haslingfield and Grantchester. The proposed Haslingfield Greenway will connect Haslingfield and Grantchester to a wider cycle network in Cambridge. The scheme will connect to the Barton Greenway to the north and west and the Melbourn Greenway to the east of Hauxton. Once in the city, Haslingfield Greenways users will have access to the Chisholm Trail, City Access cycle routes.

Road Safety

1.9.14. A study of accidents in the Haslingfield Greenway corridor was undertaken over a five-year period between 2016 and 2021. This study showed that, of a total of eight accidents on the corridor, only three involved cyclists. One of these accidents was categorised as serious and the remaining two were categorised as being of slight severity. Further analysis revealed that of these collisions, the

[14] Haslingfield-Greenway-Review-Nigel-Brigham-2016 (greatercambridge.org.uk)

safety features included in Greenways design including reduced speed limits, safer crossings and removing centre lining will address and mitigate the cause for one serious and one of the two slight collisions.

1.9.15. The impediments to safety for active travel along the existing routes are noted to be uneven path surfaces and inconsistent foot path widths. Additionally, the consultation feedback report produced in May 2018 for Barton + Haslingfield Greenways by 5th Studio noted that safety concerns at the M11 crossing received the most feedback.

Demand and Support for Active Mode Infrastructure

1.9.16. The Walking and Cycling Index[15] is delivered by Sustrans in collaboration with Cambridgeshire County Council and GCP. The results presented in the report for 2021 include local walking and cycling data, modelling and an independent survey of 1,296 residents aged 16 or above in Greater Cambridge.

1.9.17. It is evident from the report that leisure and destination-based trips are approximately equal in the Greater Cambridge region. Of all walking and wheeling[16] trips, 48% were undertaken by adults to a destination (such as work, school, shopping), 46% of trips were for enjoyment or fitness by adults and children and 6% were trips undertaken only by children to school.

1.9.18. 74% of the surveyed residents agree that more cycle tracks along roads, physically separated from traffic and pedestrians will support more liveable neighbourhoods. 68% support the creation of more low-traffic neighbourhoods and 65% agree that increasing space for people socialising, walking and cycling on their local high street would improve their local area.

1.9.19. An increase in the number of people walking and wheeling regularly (at least five days a week) from 2019 is noted. The counts from the River Cam Screenline monitoring showed that there has been an increase in the level of cycling in the city up to 2017, but there are signs of the trend levelling off in 2018.[17] The statistics from the Walking and Cycling Index also note that the number of people cycling in Greater Cambridge has stayed the same from 2019.

1.9.20. Barriers to cycling in Greater Cambridge are identified to be more pronounced for some user groups. Safety including road safety and personal safety is recognised as the single largest barrier to cycling. 50% of men cycle at least once a week as opposed to only 40% of women. While 49% of non-disabled people cycle at least once a week only 29% of disabled people cycle at least once a week.

1.9.21. Wider pavements, more frequent road crossings, with reduced wait times, nicer places along streets to stop and rest, better accessibility, fewer cars parked on pavements and reduced fear of crime and

[15] https://www.sustrans.org.uk/media/10484/greater-cambridge-walking-and-cycling-index-2021.pdf
[16] The Walking and Cycling Index recognises some people, for example wheelchair or mobility scooter users, identify with the term wheeling instead of walking. Therefore, the terms walking and wheeling together and consider walking and wheeling to include the use of mobility aids and pushchairs. All walking survey responses within this report include responses from people who wheel.
[17] https://www.greatercambridgeplanning.org/media/1398/gclp-strategic-spatial-options-assessment-existing-transport-conditions-report-nov2020.pdf

antisocial behaviour in the area have been noted as improvements that would encourage residents to walk more.

1.9.22. Similarly, for cycling improvements such as traffic free routes, cycle tracks with physical segregation, signposted cycle routes along quieter roads, and better links to public transit are noted to encourage cycling.

1.10 ENVIRONMENTAL CONTEXT

1.10.1. Implementation of the Haslingfield Greenway scheme will encourage some mode shift away from motorised forms of transport resulting in a reduction in levels of through-traffic in Haslingfield and Grantchester reducing the impact of greenhouse gases and health-related pollutants such as NOx and PM10. A healthier environment will contribute to meeting strategic aims of reducing greenhouse gas emissions and achieving Net Zero targets.

1.10.2. Construction of the Haslingfield Greenway will also have Green Infrastructure and Natural Capital impacts. The scheme will be designed to provide environmental, cultural and social benefits including wildlife corridors, linking areas of habitat together and creating new areas of habitat. The net impact will be to create well-designed places that deliver on natural capital enhancements and biodiversity gain in line with the Cambridge Local Plan and Environment Bill.

Air Quality

1.10.3. An Air Quality Management Area (AQMA) lies at the northern end of the scheme approximately 280m from the A603 / Grantchester Road junction.

1.10.4. AQMAs are areas declared by the council for monitoring and improvement where it has been found that air quality objectives are not being met. The delivery of the Haslingfield Greenway will improve air quality locally by providing a cycling and walking infrastructure that encourages mode shift away from car travel.

Noise

1.10.5. Noise has a large impact on both the physical and mental health of those living and working near major road links such as the A10 and M11. Traffic noise can be a significant contributor to ambient noise levels; by delivering the Greenways and encouraging modal shift away from the car, noise levels in and around the scheme area can be expected to reduce.

1.10.6. Additionally, it is expected that the impact of the construction noise would be minimal and short lived due to the nature of the interventions proposed.

Historic Environment

1.10.7. There are Conservation Areas[18] in Haslingfield, Hauxton, Grantchester and Newham Croft which the local councils have a duty to protect. The Haslingfield Greenway scheme passes through and connects these Conservation Areas.

[18] https://www.scambs.gov.uk/planning/search-by-map/

1.10.8. It is vital to preserve the setting of the historic buildings and open spaces and ensure that the development of any transport scheme contributes to this preservation. There is a need to manage traffic levels to avoid noise, congestion, and pollution which all have a significant negative impact. This can be partly achieved through the delivery of sustainable active transport networks such as the Haslingfield Greenway.

1.11 IMPACT OF NOT CHANGING

1.11.1. Without delivery of the Haslingfield Greenway scheme, the car will remain the dominant mode of transport for commuting even for shorter trips that could be undertaken by active travel. There is a risk that existing demand for cycling declines due to an increasingly unattractive cycling environment, and reliance on the car will increase. Not only will this have negative consequences for local communities with increased congestion, but the environment will also suffer from high levels of greenhouse gas and carbon emissions, and physical and mental wellbeing will be negatively affected. The Cambridge City Deal objectives of developing active travel modes to support the planned travel needs of new housing developments and employment will also be adversely impacted.

1.11.2. Without the delivery of the Haslingfield Greenway, the opportunity to realise net biodiversity gains will be reduced, resulting in a less attractive environment without an enhanced natural habitat.

Delivery of the Haslingfield Greenway is therefore key in meeting the challenges identified with the current situation and, as described below, in supporting national, regional, and local strategic priorities.

1.12 STRATEGIC NEED

1.12.1. The strategic need for the Haslingfield Greenway is set out in this section. The key objectives are aligned with the Greenways Programme as a whole. **Table** 1-3 focuses on the more specific needs for the Haslingfield Greenway.

Table 1-3 – Strategic Need for the Haslingfield Greenway

Facilitating a growing economy	As the economy and population of Cambridge continues to grow, with the planned delivery of 33,480 new homes and 44,000 new jobs by 2031, there is a strategic need to provide a sustainable transport network to cater for the increased demand. The Emerging Greater Cambridge JLP indicates that an increase in residential units at Haslingfield and Hauxton are proposed, which will result in an increase in the number of people making road-based commuter trips into Cambridge along A10 and A603. Without the provision of a sustainable alternative, current levels of congestion will worsen and journey times will increase on the local road network. As has been shown in Section 3.3 , the majority of local residents work in Cambridge and will use the already congested A603, A10 and/or M11 corridors to access the city centre. Stationary traffic in queues is the leading contributor to levels of NOx. Reducing levels of congestion will contribute to a cleaner air environment. The Haslingfield Greenway will provide residents of Haslingfield a new direct cycle connection between Haslingfield, via Grantchester reducing cycling journey times by as much as 11.88 minutes. This will provide an incentive for both existing and new

	residents to consider switching mode from car to cycling. This will not only lessen the impact of traffic congestion as new residential developments are completed but encourage a shift by current car users to cycling. In the Economic Case an assessment of new to cycle demand as a result of the implementation of the Haslingfield Greenway shows that an uplift to existing cycle demand of 25% and pedestrian demand o 10% is anticipated.
Connecting the city with sustainable transport modes	Economic growth will correlate with a greater number of trips made, and therefore a greater demand on the road network if nothing changes. Without new sustainable transport interventions peak hour journey times are forecast to increase by as much as 90%. This traffic congestion will cause delays resulting in a fall in productivity. Sections of traffic corridors connecting Haslingfield to Cambridge such as A603 and A10 suffer traffic congestion at peak times. There is therefore a strategic need to reduce the number of trips made by car and provide a sustainable and active alternative transport solution. The Haslingfield Greenway will provide a key element of this sustainable transport plan providing cycling and walking corridors connecting the city with rural settlements in south Cambridgeshire. The Greenway will provide significant improved connectivity. By providing a more direct sustainable transport connection between Haslingfield and Cambridge, the Greenway will reduce the journey length travelled by cyclists by 2.97 km. At a strategic level the Haslingfield Greenway will link into the City Access / Making Connections plans prioritising sustainable transport through a new bus network, better cycling and walking routes and high-quality public spaces. The City Access programme will increase the attractiveness of the cycling network, connecting the Greenway programme of active mode corridors with the city centre including the Comberton Greenway. The impact of this wider cycling connectivity will be to encourage significant mode shift to non-car modes. Making Connections will implement a Sustainable Travel Zone (a road-user charging scheme) to funding public transport, cycling and walking improvements, whilst discouraging car use in the city centre. Improved cycling infrastructure and connectivity will, in conjunction with improvements to the bus network, offer attractive active mode and public transport options as an alternative to the car.
Sustainability Agenda	The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries, developed and developing, in a global partnership. They recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth. All while tackling climate change and working to preserve our oceans and forests.

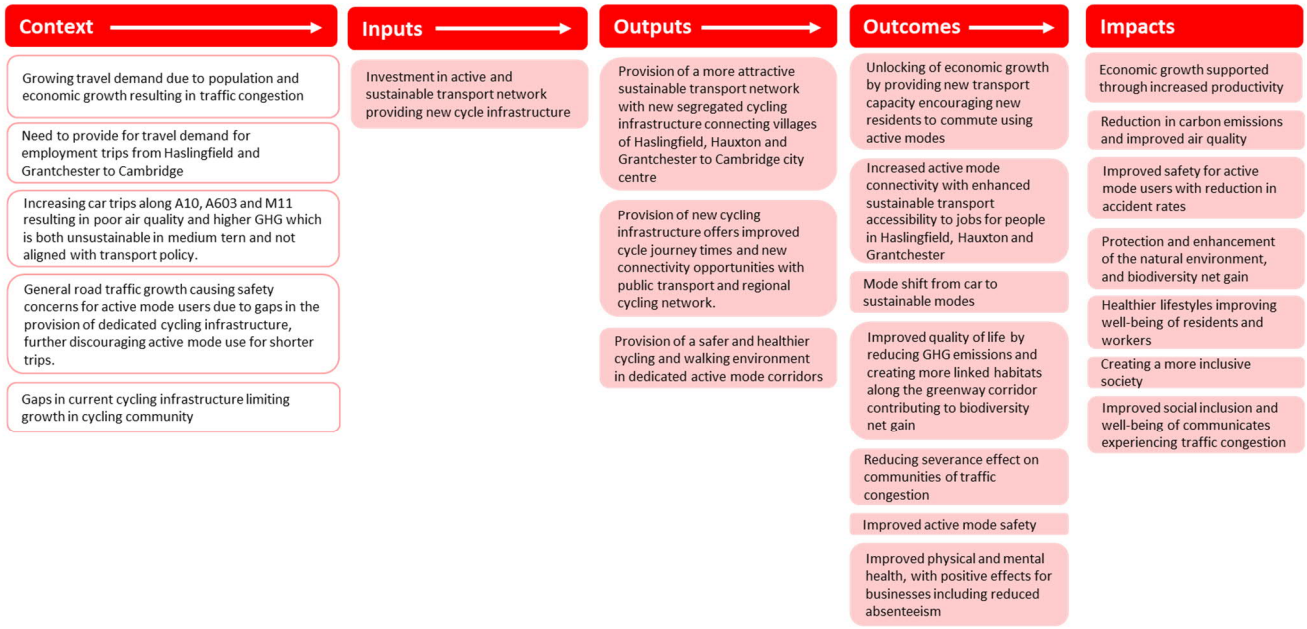
	Haslingfield Greenway supports the sustainability agenda as part of the overall Greenways project which promotes sustainable development of the Greater Cambridgeshire region by making cycling more attractive as a mode of transport. The enhanced active travel connectivity to employment and education provided by the Greenways encourages modal shift to sustainable modes of transport, It further reduces inequitable access to opportunities by providing affordable travel options to education and job centres.
Decarbonisation Agenda	National policies outlined in Section 2.2 detail the strategic need to align with Net Zero targets through the Ten Point Plan for a Green Industrial Revolution, Gear Change, and the Cycling and Walking Investment Strategy. At a regional level, the Cambridgeshire and Peterborough Independent Commission on Climate outline the importance of acting on sustainable opportunities to improve air quality, greenspace, and meet Net Zero targets.The Haslingfield Greenway has the potential to be a Net Zero carbon project by offsetting construction carbon and adhering to the strategic aims of the outlined policies. With 81% of NOx coming from road traffic in Cambridge, there is a strategic need for modal shift away from the private car towards more sustainable modes of cycling and walking. Through the delivery of the Haslingfield Greenway a net reduction in highway-kilometres is expected as a result of modal shift to active modes, which in turn will lead to a net decrease in greenhouse gas emissions.
Delivery of Biodiversity Net Gain	In order to align with Net Zero targets, the principle of Biodiversity Net Gain (BNG) has been developed. Both the National Planning Policy Framework (NPPF) and the Government's 25 Year Environment Plan sets out the strategic need to incorporate net gains for biodiversity. This is detailed through the Environment Bill and the Town and Country Planning Act (TCPA), which present the requirement of a minimum 10% BNG. The Greater Cambridge Partnership takes the commitment to BNG further through its commitment of 20% as outlined in the Cambridge Local Plan. The Local Plan also details the importance of the maintenance of the Green Belt surrounding Cambridge, which will contribute to the biodiversity of the region. The Greenways project as a whole has strong potential to deliver positive gain for biodiversity. There are significant opportunities to achieve this by providing both wildlife corridors adjacent to the road network and prioritising the linking of areas of habitat together and creating new habitats where possible.

1.13 STRATEGIC OBJECTIVES

LOGIC MAPPING

1.13.1. The logic mapping process reflects the current situation, strategic priorities established in the key national, regional, and local policies and the strategic needs. These relationships apply both to the overall Greenways Programme and individual schemes including the Haslingfield Greenway. The exercise to map these factors and the opportunities has resulted in the identification of the objectives and planned impacts of the Haslingfield Greenway project. This logic map is shown in **Figure 1-10**.

Figure 1-10 - Logic Map



1.14 SMART OBJECTIVES AND MEASURES OF SUCCESS

1.14.1. The Greater Cambridge City Deal (2014) outlines strategic objectives aimed at enabling a new wave of innovation-led growth by investing in the infrastructure, housing and skills that will facilitate the continued growth of the Greater Cambridge area. The City Deal will provide £1billion of local and national public sector investment to fund growth in Greater Cambridge, enabling an estimated £4bn of private sector investment in the Greater Cambridge area focussing on areas such as West Cambridge, supported by the implementation of the Haslingfield Greenway.

1.14.2. Delivery of the Haslingfield Greenway will further the strategic goals of the GCP through providing enhanced opportunity for active travel to new residents and commuters. With an increased number of people using active travel modes, levels of congestion will be reduced, and air quality and public health improved.

1.14.3. **Table** 1-4 Presents the Haslingfield Greenway SMART objectives that are aligned with the overall Greenways Programme as well as measures of success.

Table 1-4 – Haslingfield Greenway SMART Objectives

Strategic Objectives	Operational Objectives	Measures of Success
Encourage commuting by sustainable transport modes and reduce traffic congestion	Capacity: Provide the cycle network capacity to accommodate increases in active travel demand due to new housing and employment growth	Increase in cycle network capacity Ability to contribute to a reduction in vehicular road traffic Propensity to reduce congestion/delay
Contribute to improved air quality and better public health	Connectivity: Improve accessibility to jobs and	Reduced journey time for cycling

	opportunities by active modes through a reduction in journey times and increase ease of interchange with public transport modes	Scale of catchment (jobs, housing) Ability to unlock growth Ease of interchange with public transport
	Communities: Contribute to the creation of safe and attractive communities by reducing emissions, severance and the dominance of traffic improving personal security and road safety, further resulting in improved community health and wellbeing through uptake of active travel	Road safety Protection of green spaces; net biodiversity gain (across the Greenways programme) Environment (air quality and carbon reduction) Quality of the public realm Severance Increase in cycling and walking trips Improved public health and wellbeing

1.14.4. To plan for successful delivery of the scheme, the following shall be monitored:

- Planning consents
- Phased programme of construction
- Dependencies to be understood and delivered

1.15 SCOPE

1.15.1. The proposed Haslingfield Greenway links Cambridge to Haslingfield (to the southwest). The route follows existing quiet roads, off-road paths and busier roads, with the aim to provide a high-quality route to improve active travel in the area.

1.15.2. The Haslingfield Greenway proposes to will improve links between Cambridge, Grantchester, Haslingfield and Hauxton. In total, the route covers around 6km, starting at Haslingfield and linking to Hauxton on the Melbourn Greenway and the Cambridge South-W west Travel Hub at Hauxton.

1.15.3. The route proceeds past Cantelupe Farm where it divides. The main route connects links to Grantchester over the M11 Bridge, and then enters Cambridge via the Cambridge Rugby Club and ends at Barton Road opposite the Grange Road junction. The secondary route from Cantelupe Farm follows a northerly direction to join the Barton Greenway not far from Roman Hill.

1.16 COMPLEMENTARY SCHEMES

1.16.1. There are a number of complementary schemes which will support the development of the Haslingfield Greenway by extending the network of cycling infrastructure across Cambridge. These complementary schemes are also described in the Greenways POC.

Cambridge City Access

1.16.2. The City Access project aims to improve access to Greater Cambridge by introducing measures to reduce congestion, encourage active travel and improve air quality. The Comberton Greenway project is aligned with the objectives of the City Access project. The scheme provides improvements to existing cycling and walking infrastructure and proposes to develop additional routes which encourages active travel and improves air quality as well as provides high quality public spaces.

1.16.3. The scheme provides sustainable travel options to people living in Comberton, Hardwick and Coton as an alternative to car travel on A1303 to and from Cambridge.

1.16.4. The City Access Programme comprises of three elements: firstly, the Making Connection Programme improving the environment for active travel modes, transforming the city's bus network and reducing congestion and pollution, secondly, development of an Integrated Parking Strategy, including the delivery if more residents' parking schemes, and thirdly, making the best use of the city's road network including the recent road network classification consultation.

1.16.5. The City Access project is developing a package of measures to deliver a commitment to reduce traffic in Cambridge by 10-15% from 2011 levels by 2030, and is a key complementary scheme for the Greenways programme. To optimise the success of both, it is vital that the Greenways programme is delivered in conjunction with the eight packages comprising the City Access Strategy (illustrated in **Figure 1-11**).

Figure 1-11 - Cambridge City Access Strategy Measures

Source: Greater Cambridge Partnership

1.16.6. Haslingfield Greenway will benefit from the positive impacts on reallocation of road space for public transport and active modes incorporated in the City Access Strategy including:

- Reduced traffic congestion within the city centre;
- Faster, cheaper and more reliable bus journeys, enabling expansion of Park & Ride capacity and facilities;
- Safer, easier, and more attractive walking and cycling journeys;
- Reduced pollution and cleaner air;
- Fewer stationary or slow-moving vehicles;
- More cycling and pedestrian infrastructure;
- Preservation and enhancement of Cambridge's historic environment;
- Improvements to the quality and reliability of public transport; and
- Continued growth in cycling.

1.16.7. The scheme form part of the larger Greenway Program network that provides improvements to existing cycling and walking infrastructure and proposes to develop additional routes which encourages active travel and improves air quality as well as provides high quality public spaces. Haslingfield Greenway enable achievement of Cambridge City Access objectives in Haslingfield and Grantchester and provides an alternative active travel corridor to car travel on the A10 and A603 into Cambridge.

Greenways

1.16.8. Haslingfield Greenway is proposed to be delivered as a part of the larger network consisting of a total of twelve Greenways and Madingley Road active travel scheme that focus on improving existing corridors and development of new corridors to create a more connected active travel network. The complete network provides active travel infrastructure within Cambridge as well as to and from surrounding villages and market towns.

1.16.9. Haslingfield Greenway provides the active travel connections to the southwest of Cambridge in the network and links to both the Barton and Melbourn Greenway routes and Madingley Road active travel scheme.

Barton Greenway

1.16.10. The Greenway connects Barton to Cambridge and includes safer crossings over the M11 and related roundabouts / sliproads as well as off-road routes past Grantchester. The existing path between Haslingfield and Barton Road is used as a route to workplaces, local schools and colleges, shops and transport hubs.

1.16.11. Haslingfield and Barton Greenway schemes and the link in-between will provide a safe and attractive active travel route for workers and students travelling to and from Cambridge.

Melbourn Greenway

1.16.12. The Melbourn Greenway will run for 12 miles, starting at Royston, with an improved path and a new bridge over the A505 near Royston being planned in partnership with Hertfordshire County Council. Heading towards Cambridge from Melbourn and Melbourn Science Park, the Greenway proceeds towards Foxton, with a spur to Shepreth on the way. At Foxton there is a route through the village as well as a direct route over the railway crossing at the new travel hub. The Greenway continues past Harston to Hauxton, where it connects with the Haslingfield Greenway.

Madingley Road

1.16.13. The Madingley Road project focuses on improvements for walking and cycling along the Madingley Road. The preferred option includes a two-way cycleway on the northside of Madingley Road. Cycleways are mostly segregated from general traffic by a landscaping strip between the carriageway and cycleway. New crossings have also been included in this option for pedestrians and cyclists.

1.16.14. The Madingley Road walking and cycling scheme will improve active mode connectivity in the west Cambridge corridor and forms part of a wider network of complementary active mode schemes such as the Haslingfield Greenway providing radial connections between the city centre and surrounding rural villages.

1.17 STRATEGIC IMPACTS

1.17.1. This section discusses the economic, social and environmental strategic impacts of the investment in the Haslingfield Greenway.

1.17.2. The Haslingfield Greenway forms part of a wider policy of developing sustainable transport in the Greater Cambridge area. It contributes to the provision of a sustainable transport network that adds to transport capacity and connectivity essential to maximise the opportunities for housing and economic growth.

1.17.3. Reliance on the road network will increase congestion and delay as traffic growth occurs which will increase in frequency and impact, which investment in additional highway capacity, even if feasible, will not be able to mitigate. Therefore, investment in high quality, safe, attractive and comprehensive infrastructure to support pedestrians, cyclists and public transport users is essential to meeting this need.

Economic Impacts

1.17.4. From an economic standpoint investment in Haslingfield Greenway will help reinforce Cambridge's competitive knowledge-based economy. It will provide employees in surrounding villages accessibility benefits due to the linkage to the city centre. Segregated cycle infrastructure and reduced cycling times will make sustainable travel to work an attractive option for commuting. Associated with this there will be productivity benefits and reduced employee absences due to sickness. Furthermore, an active travel network is an attractive feature for future businesses looking to locate in Cambridge. Provision of the high-quality active travel corridor enables future-proofing behavioural change for sustainable travel use by connecting planned new housing and employment developments.

1.17.5. A secondary economic impact will be benefits to general road traffic in the congested transport corridors as continuing road users benefit from a reduction in road traffic levels and a reduced rate of growth in road traffic as others choose to use the Haslingfield Greenway as an alternative transport corridor.

Social Impacts

1.17.6. Haslingfield Greenway will help in achieving health benefits from encouraging active lifestyles by switching trips towards cycling. Physical activity will also have a positive impact on mental health too. The scheme will encourage modal shift resulting in reduced levels of congestion in Cambridgeshire and hence creating a more pleasant living environment. The Haslingfield Greenway

will also improve the safety of both active travel and road network users through reduced congestion and a reduction in potential accidents involving cyclists.

Environmental Impacts

1.17.7. The Haslingfield Greenway will encourage the mode shift from motorised forms resulting in reduced levels of greenhouse gases and pollutants such as NOx and PM10. This will contribute towards achieving strategic aims of Net Zero targets and improving air quality of surroundings.

1.17.8. There are also Green Infrastructure and Natural Capital impacts. The Haslingfield Greenway will be designed to provide multiple environmental, cultural and social benefits including wildlife corridors, linking areas of habitat together and creating new areas of habitat. The net impact will be to create well-designed and beautiful places that deliver on natural capital enhancements and biodiversity gain in line with the Cambridge Local Plan and Environment Bill.

Table 1-5 – Scheme Benefits

Benefit	Description
Journey time saving	The Haslingfield Greenway will create time saving benefits for cyclists through the provision of more direct and traffic-free routes. Journey time savings translate into improved access to jobs and opportunities.
Increased safety of the cycle network	Segregated travel away from general traffic on the congested road network will decrease the number of accidents.
Reduced road traffic for motorists	Users who continue to use the road network will benefit from a reduction in traffic volume and congestion, translating into journey time savings and improved access to jobs and services.
Environmental benefits	Improvement in air quality and carbon reduction as the Haslingfield Greenway encourages a switch from motorised forms of transport and reduced levels of congestion.
Health benefits	A modal shift towards active travel will bring about numerous health benefits, both physical and mental. Access to an active-travel network will future-proof behavioural change.
Improved connectivity and accessibility	Improved access to a quality sustainable transport mode linking the city centre and villages.

1.18 OPTION DEVELOPMENT

Overview

1.18.1. The Haslingfield Greenways scheme was developed through a process of identification, prioritisation and consultation.

Option Assessment

1.18.2. Schematic/concept design-based work was carried out by 5th Studio. Nigel Brigham & Associates carried out an independent review of the 5th Studio designs. The Haslingfield Greenways' initial designs then went to public consultation between 25th June – 20th August 2018.

2018 Consultation

1.18.3. A 'blank canvas' approach was taken during the Haslingfield Greenway consultation and the public were asked their preferences for route alignment. In summary, the consultation results showed that 76% of the 404 respondents supported surfacing improvements between Haslingfield and Grantchester. Other elements were also well supported, particularly the widening of the bridge over Bourn Brook.

Through a 'bottom up' methodology, the GCP has engaged with local communities to ensure that routes meet the local needs of people and take advantage of local knowledge. Overall, local communities engaged positively and provided valuable as well as constructive feedback to help shape developments of the schemes. The key findings from the initial concept designs consultation are presented in

1.18.4. Table 1-6.

2022 Engagement

1.18.5. The 2018 consultation informed the route alignment and design options further in the process. After pre-public engagement with stakeholders between January 2022 and June 2022, the technical design engagement commenced.

1.18.6. A four-week public engagement period from 11 July 2022 to 5 August 2022 was conducted. The engagement was undertaken to provide an update on design proposals and understand views from the local community, wider stakeholders and other interested parties.

1.18.7. Some concerns were raised for different sections of the scheme, most notably on Section 1 and Section 7. Concerns for Section 1 (Hauxton to Haslingfield, from Cambridge Road to Cantelupe Road), mostly related to the types of surface materials. There were also concerns that the soft grassy paths for the existing bridleway would be lost as part of the proposals and suggestions that tarmac should not be used as a surfacing.

1.18.8. For Section 7 (Burnt Close, Coton Road and Broadway), a total of 59% of responses were favourable of Option A (33% of responses), or Option B (26% of responses). While 26% of responses that did not like either option.

1.18.9. Concerns for Section 7 related to the use of alternative routes, with a significant focus on the existing route via the Baulk Path, which would link up to the Barton Greenway. Others referred to the existing route via Grantchester Meadows. There is also a perception that there is not enough road space for the proposals or that the road is unsuitable/dangerous, particularly along the Broadway.

1.18.10. The key findings from the technical design engagement are presented in Table 1-6.

Table 1-6 – 2018 Consultation and 2022 Engagement

Consultation	Dates	Key findings
Initial concept designs	25th June – 20th August 2018	▪ Concerns raised over the development of one-way systems for Grantchester Road, and the impact on local residents and businesses ▪ Concerns also raised of the environmental impacts of off-road routes versus the increased safety of these routes, particularly around Grantchester Meadows
Public and stakeholder engagement	11th July – 5th August 2022	▪ There was mixed feedback provided for the proposals, which recognised the need for improvements, with a number of suggestions raised to incorporate into the design. ▪ There were recurring suggestions, including lighting, material surfacing and reviewing the route alignment.

Options

1.18.11. Feedback from residents and other local stakeholders have shaped the proposals presented in the technical design engagement document. Indicative plans used as a basis for technical design engagement are presented in Figure 1-12.

1.18.12. The scheme presented in the technical design engagement links Cambridge to Haslingfield following existing quite roads, off-road paths and busier roads, with the aim to provide a high-quality route to improve and enhance walking and cycling.

1.18.13. The proposals include shared use paths along most of the route, and wider footways in some locations. Existing shared use paths are also being enhanced with upgraded drainage facilities to reduce flooding. Traffic calming measures, such as speed humps and raised tables, are proposed on some sections of the route, including on streets outside local schools and colleges to provide a safer environment. Landscaping and ecological enhancements are also proposed for the scheme, which includes plants to make the route attractive and support a wide range of wildlife.

Cambridge to Grantchester Options

1.18.14. The 2018 consultation presented a variety of elements to improve connection from Cambridge City Centre to Grantchester Road, including upgrades to the M11 crossover bridge and priority changes to the Coton Road/Barton junction.

1.18.15. The preferred option for the Haslingfield Greenway is the route between Grantchester and Newnham, as an adaptation of the route behind the hedge parallel to Grantchester Road. Following the route of an existing permissive footpath, the Greenway avoids the narrower section of road on The Broadway in Grantchester. The preferred route continues behind the hedge from Grantchester Road and will connect with the north east end of the Baulk path on the Barton Greenway before going on to pass within the site of Cambridge Rugby Club along its eastern boundary. It will also form a link to Barton Road from Grantchester Road which already has a 20mph speed limit in this location.

1.18.16. The route of the Haslingfield Greenway created considerable discussion during the consultation. Options to make Grantchester Road a one-way road for motor traffic in either direction to create more space for the Greenway were rejected following 60% of opposition from respondents to the consultation. A petition against these options was also received.

1.18.17. Similarly, a further option to route the Greenway behind the hedge parallel to the existing Grantchester Meadows path and through Newnham Croft was also rejected. Whilst it was supported by 53% of respondents, a petition against the option was also received from residents of Newnham Croft.

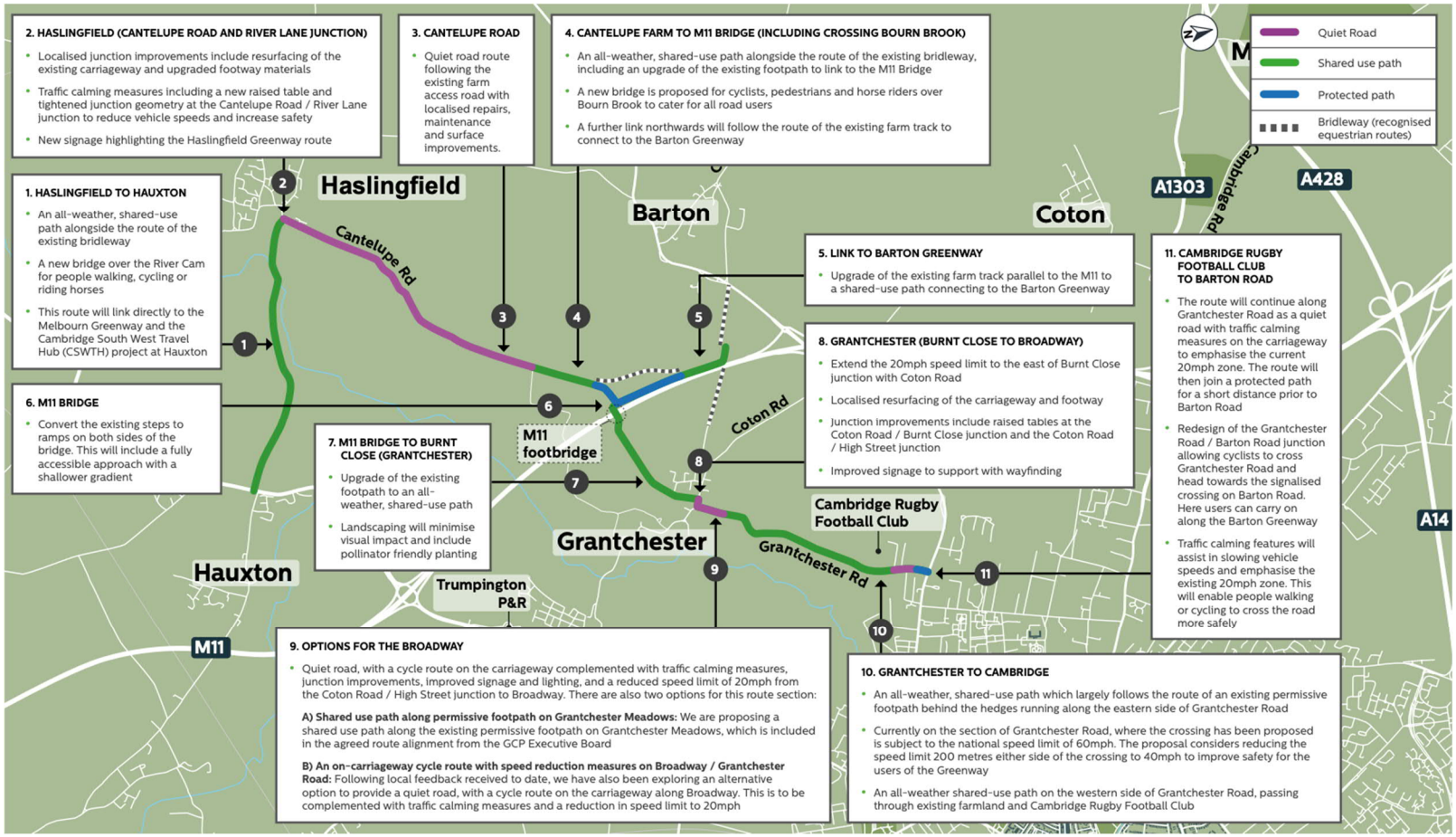
GCP Board Approval

1.18.18. A summary of 2018 Public Consultation findings and final route options were presented to the public and the GCP Executive Board in 2019. The GCP Executive Board then considered the elements of the scheme and selected preferred attributes to be taken forward to the next stage of project development. Approval to proceed to planning and detailed design was granted by the Executive Board of GCP in December 2020.

Next Steps

The 2018 Public Consultation shaped the proposals that were presented in the four-week engagement period that ran between 11 July 2022 and 5 August 2022. A range of key stakeholders along the Haslingfield Greenway were engaged and will continue to be engaged as the project progresses. These include partner authorities, council members, parish councils, representatives of walking, cycling and equestrian groups, and owners of land where access agreements are needed to operate or construct the route. The GCP will review the results of the engagement with respect to the scheme design.

Figure 1-12 – Haslingfield Greenway Preferred Option



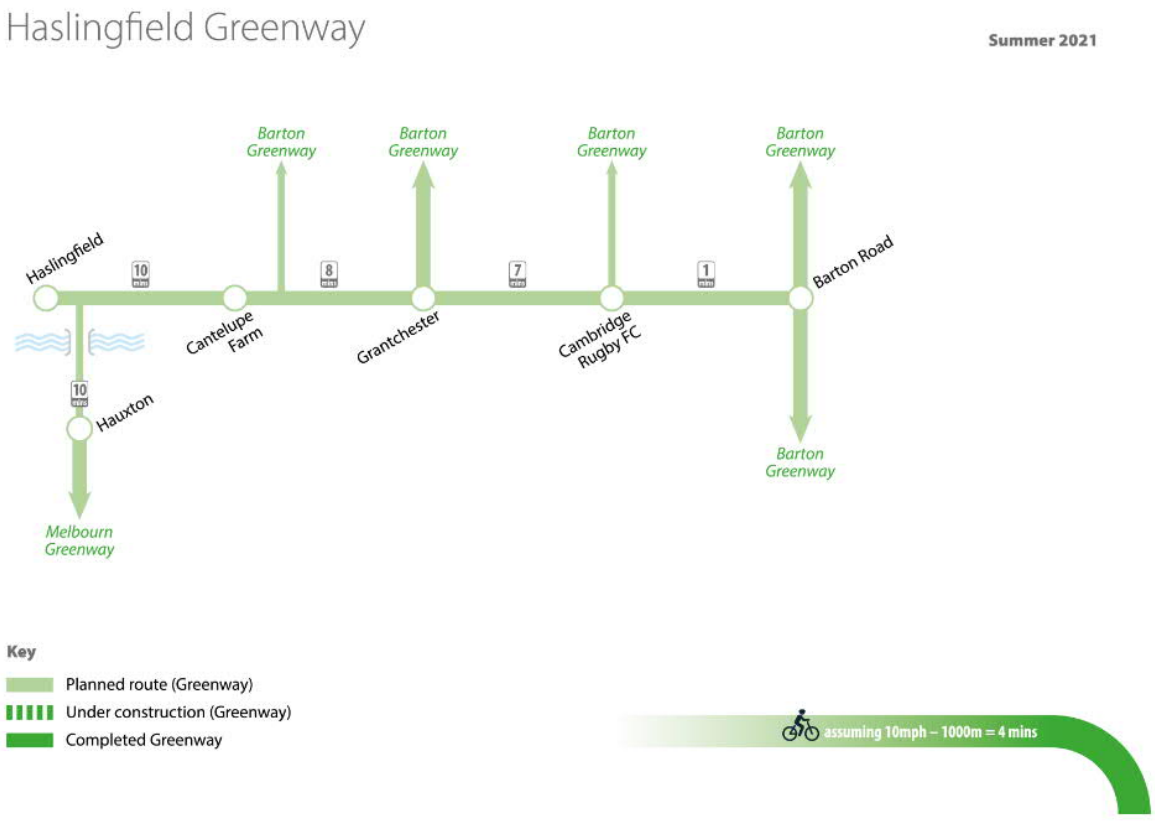
2 ECONOMIC CASE

2.1 INTRODUCTION

2.1.1. The Economic Case identifies the impacts of the scheme to inform the assessment of the Value for Money (VfM). It considers the impacts that can be measured and quantified, and those which can be assessed qualitatively. To assess the VfM, these impacts have been compared to the scheme costs.

2.1.2. The Haslingfield Greenway will be a new or improved walking and cycling route between Haslingfield and Cambridge. The Haslingfield Greenway is one route within a wider and developing sustainable travel network that is being created by the Greater Cambridge Partnership. The Greenways network will run through many different environments. These range from quiet rural settings along field edges or country lanes to busier built-up urban locations that may have more limitations on space. Within each environment the Greenways project aims to deliver a safe, attractive and cost-effective sustainable travel route which users can enjoy all year round.

Figure 2-1 – Haslingfield Greenway Scheme[19]



[19] https://www.greatercambridge.org.uk/sustainable-transport-programme/active-travel-projects/greater-cambridge-greenways/haslingfield-greenway

Table 2-1 – Summary of Scheme Elements

Element	Infrastructure
Walking & Cycling	▪ Quiet Roads – speed limits reduced to 20mph ▪ Traffic calming – raised tables and removal of centre lining ▪ Protected path – A 3-metre-wide path with features that separate cyclists and pedestrians. ▪ Shared use paths – A 3-metre-wide path with a 2-metre grassy strip running parallel. Where the path runs beside the carriageway a green verge will separate the path from the road, this will be as wide as possible. ▪ Signage – Greenway specific wayfinding marker posts could be placed at regular intervals and junctions. ▪ Surfacing – Routes will be made from a hard, smooth surface.
Public Realm	▪ Lighting – solar studs could be used at specific points to aid wayfinding in low light ▪ Maintenance – a maintenance package for the route is being planned

2.1.3. Detailed drawings of the scheme measures are included within the Strategic Case and Appendix A.

2.1.4. The appraisal considers the incremental benefits of the intervention, comparing the benefits (and costs) of the scheme against the without scheme case.

2.2 APPROACH TO ECONOMIC APPRAISAL

2.2.1. The appraisal has been undertaken in alignment with the principles of the HM Treasury Green Book and the Department for Transport (DfT) Transport Analysis Guidance (TAG) for schemes of this nature. As set out in these guidance documents, the appraisal of the scheme will be largely undertaken in line with guidance of, the following:

- TAG Unit A1-1 (May 2018): Cost-Benefit Analysis
- TAG Unit A1-2 (July 2017): Scheme Costs
- TAG Unit A1-3 (March 2017): User and Provider Impacts
- TAG Unit A4-1 (May 2020): Social Impact Appraisal
- TAG Unit A4-2 (May 2020): Distributional Impact Assessment
- TAG Unit A3 (May 2019): Environmental Impact Appraisal
- TAG Unit A5-1 (May 2020): Active Mode Appraisal
- DfT Value for Money Framework

2.2.2. The appraisal of the scheme considers both the impacts that can be quantified, and monetised, as well as those that can only be assessed qualitatively. Considering the range of proposals along the corridor, various appraisal techniques have been used to assess the impacts which can be quantified. All benefits and costs have then been consolidated in a wider economic appraisal model.

2.2.3. In line with TAG, all costs and benefits in the appraisal have been presented in 2010 Present Values (PV), market prices. Costs and benefits have been deflated to 2010 prices using the GDP Deflator forecasts within the May 2022 TAG Data Book and discounted to 2010 values using the social discount rates also within the TAG Data Book. The market price adjustment factor of 1.19 from the TAG Data Book has been used to convert from factor prices to market prices.

2.2.4. It has been assumed that the scheme opening year is 2025. The impacts have been considered over a 20-year appraisal period. TAG Unit A1-1 Cost Benefit Analysis states that the appraisal period should 'cover the period of usefulness of the assets encompassed by the options under consideration'.

2.2.5. The following sections set out the approach employed to appraise the various elements of the scheme.

ACTIVE MODE APPRAISAL TOOLKIT

2.2.6. In line with TAG Unit A5-1, the DfT's Active Mode Appraisal Toolkit (AMAT) (November 2021 update) has been used to estimate the benefits associated with improved cycling infrastructure along the proposed Haslingfield Greenway. The tool considers the benefits in terms of physical activity, absenteeism, journey quality, environmental, indirect tax and congestion.

2.2.7. The current and anticipated scheme demand is input to the AMAT, as well as the change in infrastructure provision. Combining this with a number of assumptions from the National Travel Survey (NTS) regarding journey length, journey speed, purpose split and cycling diversion factors, the tool outputs the benefits associated with the intervention. The scheme costs can also be input to the tool such that the Benefit to Cost Ratio (BCR) can be calculated, however for this submission the benefits and costs have been brought together in the economic appraisal model. A wider appraisal model was used so that a number of benefit streams could be collated and then subtracted with the scheme costs to produce an overall BCR for the scheme.

2.2.8. Two assumptions in the AMAT were refined in order to more accurately represent the local conditions in Cambridge, as outlined below.

Table 2-2 – Refined Assumptions

	Default Assumption	Altered Assumptions	Rationale
Cycling – Average Length of Trip	4.84	5.14	National Travel Survey updated from 2012-14 to 2019 values
Number of days for which intervention data is applicable per year	253 days	305 days	Count data demonstrates that levels of demand in the corridor on Saturdays are broadly equivalent to weekday levels

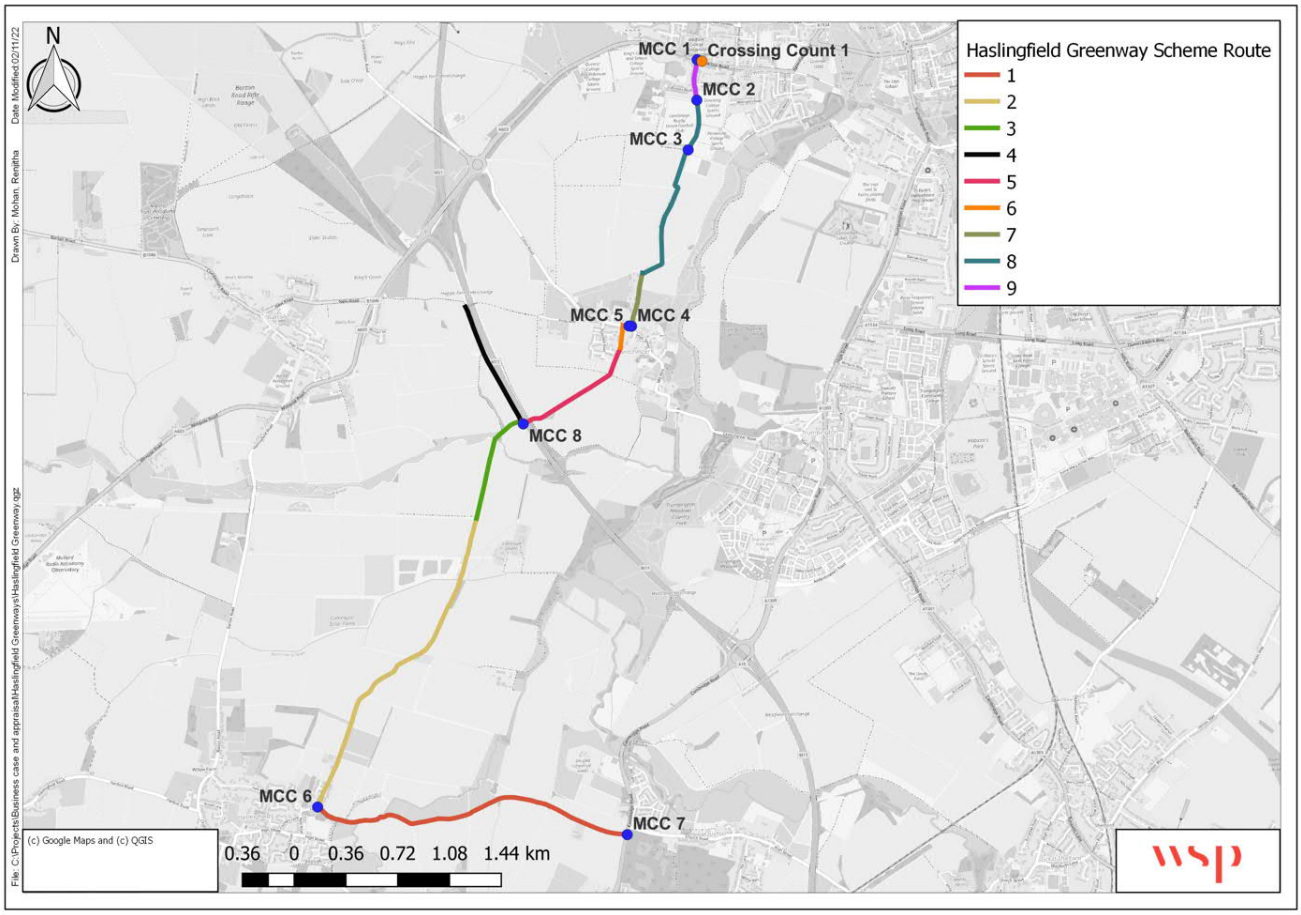
2.2.9. In line with DfT guidance and to ensure the scheme benefits were not double-counted, the AMATs were split into sections depending on the type of existing and proposed infrastructure present along the corridor. For example, the AMAT requires an input of how much of an average cycling trip will use the intervention, where the length of an AMAT section is divided by average trip length (5.14km). This allowed the route to be broken by length, ensuring benefits were not replicated. The sections are set out in Table 2-3.

Table 2-3 – Summary of AMAT Sections

Section	Description	Length of Route	Existing Infrastructure	Proposed Infrastructure
1	Haslingfield to Hauxton, via Bridleway	2.28km	Public Bridleway	3m multi-user path with adjacent grass verge bridleway
2	Cantelupe Road	2.36km	Quiet road, 20mph speed limit	A quiet road, where vehicle speeds are limited to 20mph, with wayfinding and maintenance repairs
3	Cantelupe Farm to M11 bridge	0.77km	Public Bridleway	3m multi-user path with adjacent grass verge bridleway
4	Link to Barton Greenway	0.9km	Public Bridleway	3m multi-user path
5	M11 bridge to Burnt Close (south)	0.93km	Public Footpath	3m multi-user path with adjacent grass verge bridleway
6	Burnt Close	0.15km	Public Footpath/ quiet road	Quiet road, 20mph
7	The Broadway/ Coton Road	0.43km	Quiet Road, 20mph speed limit	A quiet road, where vehicle speeds are limited to 20mph, with wayfinding
8	Grantchester Road (Broadway to Cambridge RFC)	1.30km	Country Road, 60mph speed limit	3m multi-user path with adjacent grass verge bridleway
9	Cambridge RFC to Barton Road junction	0.28km	Quiet Road, 20mph speed limit	A quiet road, with speed humps every 50m and new red asphalt surface

2.2.10. The sections discussed above are also shown in Figure 2-2**Error! Reference source not found.** below.

Figure 2-2 - AMAT Sections



2.2.11. The following sections discuss the approach to using the AMAT toolkit in this submission.

Existing Demand

2.2.12. The AMAT requires the existing and scheme induced demand to be included as an input. To establish the existing cycling demand along the Haslingfield Greenway route, Manual Classified Turning Counts (MCCs) were carried out along the route to gauge walking and cycling demand. MCC 8 also recorded equestrian usage. Figure 2-3 outlines the locations of the MCCs.

- Manual Classified Turning Count Location 1:
- Manual Classified Turning Count Location 2:
- Manual Classified Turning Count Location 3:
- Manual Classified Turning Count Location 4:
- Manual Classified Turning Count Location 5:
- Manual Classified Turning Count Location 6:
- Manual Classified Turning Count Location 7:
- Manual Classified Turning Count Location 8:

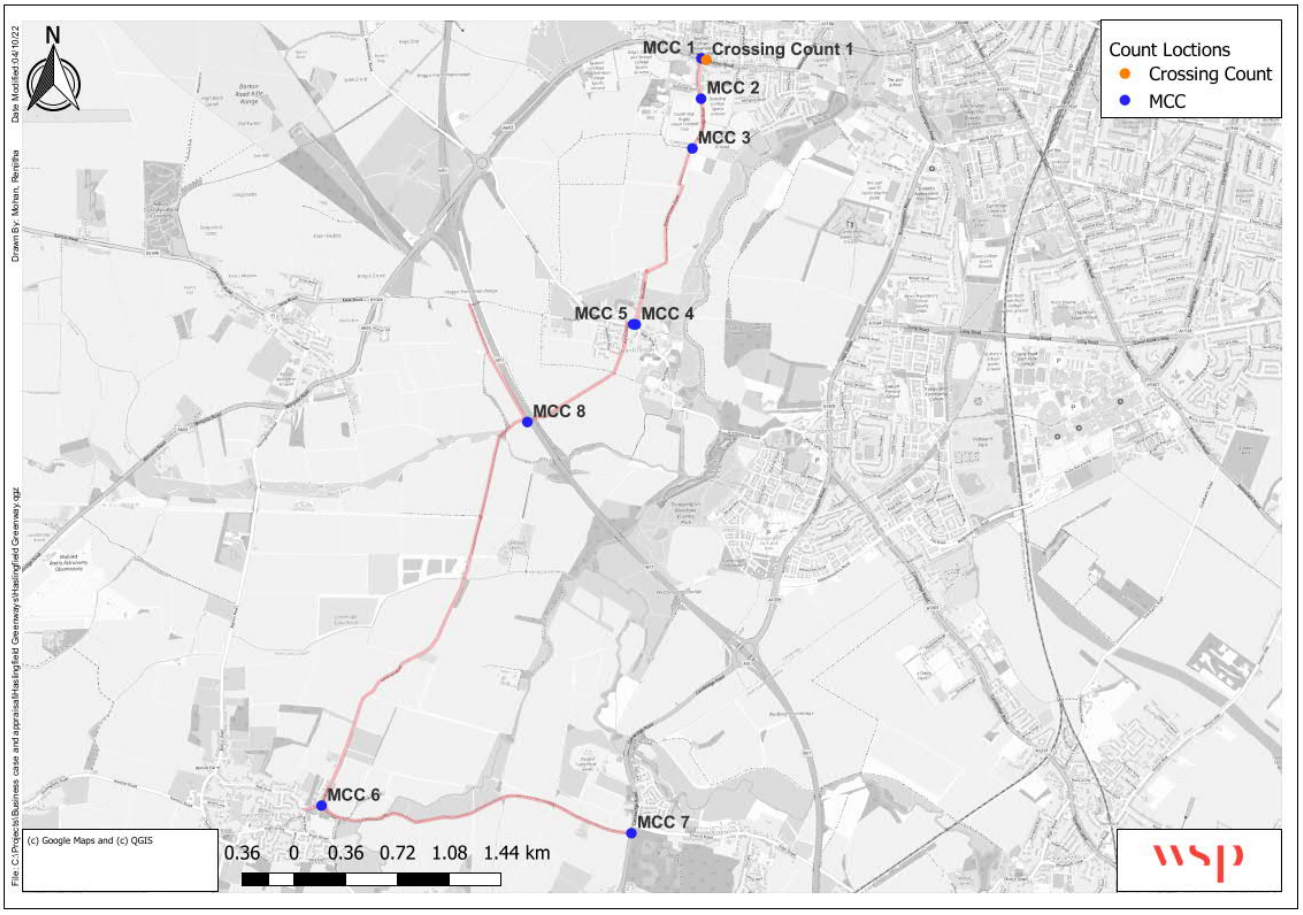


Figure 2-3 - Haslingfield Manual Classified Count Data

2.2.13. The Manual Classified Counts (MCCs) provided existing demand for each of the sections, so no other data datasets were required. The MCC was collected between 0700-2200. As the counts were not completed over a 24 hour period, and AMAT assumes a 24-hour flow as input to calculate benefits, the MCCs were factored up to 24-hour flows. This adjustment used 24-hour count data collected in March 2022 on Vinery Road, Cambridge. The flows have been annualised within the AMAT, using an annualization factor of 305 days. Table 2-4 below outlines the cycling and walking demand used for each AMAT section. It should be noted that one equestrian user was recorded on each of sections 4 and 5.

Table 2-4 – AMAT Demand (Daily Trips – 24 Hours)

Section	Description	Source	Cycling Demand	Walking Demand
1	Haslingfield to Hauxton, via Bridleway	MCC Site 7	26	19
2	Cantelupe Road	MCC Site 6	56	73
3	Cantelupe Farm to M11 bridge	MCC Site 8	4	8
4	Link to Barton Greenway	MCC Site 8	1	4
5	M11 bridge to Burnt Close (south)	MCC Site 6	3	9
6	Burnt Close	MCC Site 5	26	37
7	The Broadway/ Coton Road	MCC Site 3	148	100
8	Grantchester Road (Broadway to Cambridge RFC)	MCC Site 2	123	6
9	Cambridge RFC to Barton Road junction	MCC Site 1	209	145

2.2.14. Table 2-4 demonstrates that there is a variable demand level across the Haslingfield Greenway corridor, with higher demand levels seen in more urban areas, and lower demands along sections in more remote rural settings. For example, demand is higher along Fulbrooke Road as it is close proximity to Cambridge City Centre. However, demand is very low along the existing footway and the bridleway connecting Haslingfield to Grantchester.

Scheme Induced Demand

2.2.15. To estimate the scheme induced cycling demand, an uplift percentage of 25% was used, which was derived from pre- and post-implementation traffic surveys from several comparable schemes outlined in the GCP Impact Evaluation Evidence Paper (2019)[20], Cycle City Ambition Programme (2013-2018)[21], and Outcomes of the Cycling City and Town Programme (2017)[22], including:

[20] GCP Impact Evaluation Evidence Paper (2019)
[21] Cycle City Ambition Programme 2013-18
[22] https://www.sustrans.org.uk/media/2970/2970.pdf

- Arbury Road (Cambridge) – Traffic lanes narrowed to 2.6m with removed centre line and kerb lines moved to accommodate new raised cycleway as well as carriageway / footway resurfacing.
- Links to east Cambridge – shared foot and cycleway, parking restrictions and carriageway resurfacing.
- Filwood Greenway (Bristol) – mixed strategic route including off road cycle track though green space.

2.2.16. A walking demand uplift of 10% was used, which was derived from an average of case studies outlined in Making the Case for Investment in the Walking Environment (2011).[23] Examples from this study include:

- Kensington High Street
- Five Roads Home Zone, Ealing
- Wanstead High Street Walking Improvements

2.2.17. The demand forecasts are show in Table 2-5.

Table 2-5 – Haslingfield Greenway Demand Forecasts (24 hours)

Section	Description	Cycling demand	Pedestrian demand
1	Haslingfield to Hauxton, via Bridleway	33	21
2	Cantelupe Road	70	80
3	Cantelupe Farm to M11 bridge	5	9
4	Link to Barton Greenway	1	5
5	M11 bridge to Burnt Close (south)	4	10
6	Burnt Close	33	41
7	The Broadway/ Coton Road	185	110
8	Grantchester Road (Broadway to Cambridge RFC)	154	7
9	Cambridge RFC to Barton Road junction	261	160

[23] https://www.livingstreets.org.uk/media/1394/2011-making-the-case-full-report.pdf

Intervention

2.2.18. The AMAT allows the existing infrastructure for the route to be selected, and the proposed new infrastructure. Within the tool, the options that can be selected to capture this before and after state include:

- No provision
- Shared bus lane
- Wider lane
- On-road non-segregated cycle lane
- On-road segregated cycle lane
- Off-road segregated cycle track

2.2.19. The AMAT toolkit classifications for existing and proposed infrastructure only capture a certain number of cycle interventions and therefore the most comparable selection was made in the toolkit according to examples outlined in the user guidance. For example, the proposed infrastructure for the route includes several sections of shared use footways, which is not specifically a selection in the AMAT Toolkit and has therefore been categorised as 'off-road segregated cycle track'. This category was selected as AMAT user guidance states that an off-road segregated cycle track is 'a path or track with right of way for pedal cycles that is separate to the road, typically with a level difference (that may or may not also be useable for pedestrians)'. For sections that include light touch on road measures such as sinusoidal speed humps, reduced speed limits and carriageway markings, 'shared bus lane' has been selected in order to differentiate these sections from existing on road sections, which have been classified as 'no provision'. Table 2-6 below outlines the type of existing / proposed infrastructure for each section of the route, alongside the subsequent classification for each section in the AMAT Toolkits.

Table 2-6 – Type of infrastructure / AMAT classification

Section	Type of Infrastructure (Existing / Proposed)	AMAT Classification (Existing / Proposed)
1	Off road bridleway / Shared path	No Provision / Off-road segregated cycle track
2	On road, 20mph street / Quiet road, 20mph street	No Provision / Shared Bus Lane
3	Off road bridleway / Shared path	No Provision / Off-road segregated cycle track
4	Off road bridleway and footpath / Protected path	No Provision / Off-road segregated cycle track
5	Off road footpath / Shared path	No Provision / Off-road segregated cycle track
6	On road, 30mph street / Quiet road, 20mph street	No provision / Shared bus lane
7	On road, 60mph street / Shared path	No Provision / Shared bus lane
8	On road, 20mph street / Quiet road, 20mph street	No Provision / Off-road segregated cycle track
9	On road, 20mph street / Protected path	No Provision / Shared bus lane

2.2.20. The AMAT requires the average proportion of a trip which uses the scheme infrastructure to be input. This has been calculated by comparing the length of each section to the average length of a cycle journey (5.14km).

Outputs

2.2.21. The output of the AMAT tool are the monetised impacts of the infrastructure under the following headings in 2010 PV:

- Congestion benefit
- Infrastructure
- Accident
- Local air quality
- Noise
- Greenhouse gases
- Reduced risk of premature death
- Absenteeism
- Journey ambience
- Indirect Tax

Accident Reduction

2.2.22. Accident data was obtained along the Haslingfield Greenway corridor for the period between 2016 and 2021. During this period, eight accidents occurred along the corridor in total, with six being slight and two serious.

2.2.23. The scheme proposals include improved cycle facilities along the corridor, such as:

- Introducing new off-road cycle paths
- Traffic calming including:
  - Reducing speed limits from 30mph to 20mph
  - Raised tables
  - Removing centre lining

2.2.24. Due to greater separation between cyclists and vehicles and reduced vehicles speeds, the scheme proposals are expected to lead to a reduction in road collisions involving cyclists. However, only three of the eight incidents involved cyclists, so are the only incidents deemed avoidable through introduction of the scheme.

2.2.25. Accident data was then analysed further to determine the accidents involving cyclists over the five-year 2014-19. Of these accidents, two were slight and one serious. Following analysis of these collisions, one serious collision and one slight collision were considered to have been avoidable with the scheme in place. This was then divided to determine a yearly average, and then multiplied against the TAG values for accidents by severity, as shown in Table 2-7.

Table 2-7 – Accident Savings by Severity

	Accident Savings by Severity		
	Fatal	**Serious**	**Slight**
Cost of a casualty (£, 2010, TAG Databook v1.18)	£1,833,608	£210,760	£21,483
Number of collisions involving cyclists	-	1	2
Number of cycle accidents that may have been prevented by the scheme (5 years)	-	1	1
Number of prevented cycle accidents per annum	-	0.2	0.2
Accident savings per annum (£, 2010)	-	£ 42,152.00	£ 4,296.60

2.2.26. This annual value of accident saving was then projected and discounted in the appraisal model for a 20- year period. The results are presented in the appraisal results section below.

Journey Time Saving Reduction

2.2.27. The Haslingfield Greenway route will establish a new direct cycle connection between Haslingfield and Cambridge, via Grantchester. Currently, the most direct way for cyclists to travel between Haslingfield and Granchester is via Barton, which is a distance of 7.57km (measured from High Street/ Fountain Lane junction in Haslingfield to Burnt Close/ Coton Road junction in Grantchester). The proposed greenway will provide a section of quiet road and a new off road shared footway between Cantelupe Road in Haslingfield and Burnt Close in Grantchester – reducing the length of the journey to 4.57km, a saving in travel distance of 2.97km.

2.2.28. Using an average cycling speed of 15 km/h (AMAT default value derived from NTS data), the total travel time saving was calculated comparing the current and proposed situation. This time saving was valued using the Value of Time for commuter and other users, assuming an equal split. This

was multiplied by the daily demand, taking an average from the demand figures across the route and annualised prior to incorporation into the economic appraisal model.

Table 2-8 – Journey Time Assumptions

Criteria	Assumption
Time Saving	11.88 minutes
2022 VOT (£/hr)	Commuter – 9.95 Other – 4.54
Weighting Factor	Commuter – 56.4% Other – 43.4%
Number of people using the route (daily)	2[24]
2010 Monetised Benefit £ (daily)	3.00
2010 Monetised Benefit £ (annual)	915.77

2.2.29. This annual value of journey time saving was then projected and discounted in the appraisal model for a 20-year period. The results are presented in the appraisal results section below.

NON-MONETISED IMPACTS OF THE SCHEME

2.2.30. There are a number of elements of the scheme for which the impacts cannot be quantified and monetised, these include:

- Reduced speed limits – the Haslingfield Greenway includes traffic calming measures reducing 30mph roads to 20mph
- Maintenance – a maintenance package is planned for the Haslingfield Greenway. This will be carried out with reference to the GCP Greenways Maintenance Guidance. However, the maintenance costs rates by type of active mode infrastructure have not yet been assessed by the GCP

2.2.31. Where appropriate, these elements of the scheme are considered within the Environmental and Social Impacts sections of the Economic Case.

SCHEME COSTS

2.2.32. It is estimated that the Haslingfield Greenway scheme will cost in the region of £14.11m, based on direct construction works, design and other fees, risk contingency and inflation. Further detail on the

[24] Demand at MCC Site 8

estimation of the scheme costs is presented in the Financial Case. The cost profile of the scheme used in the economic appraisal is outlined in Table 2-9 below.

Table 2-9 – Cost Profile, £, Q42021 Prices

	2024-25	2025-26	Total
Outturn Cost excluding risk contingency	5,270,000	5,270,000	**10,540,000**

2.2.33. The following investment costs have been considered:

- Construction costs
- Professional Fees
- Land Take

2.3 SUMMARY

2.3.1. The main appraisal assumptions are set out in Table 2-10.

Table 2-10 – Economic Appraisal Assumptions

Criteria	Assumption	Source
Opening year	2025	GCP
Base year	2010	DfT Base Year
Appraisal period	20 years	AMAT default
Discount rate	3.5% 0-20 years	May 2022 TAG Data Book (A1 1.1)
GDP Deflator	-	May 2022 TAG Data Book (Annual Parameters)
Existing path cycle demand	See Table 2-4 for a breakdown of demands used	Count Data
Scheme induced cycle demand	25%	Schemes outlined in GCP Impact Evaluation Evidence Paper Cycle City Ambition Programme 2013-2018
Existing path pedestrian demand	See Table 2-4 for a breakdown of demands used	Count Data
Scheme induced pedestrian demand uplift	10%	Living Street: Making the Case for Investment in the Walking Environment
Journey purpose split	Business: 12% Commuting: 25.5% Other: 62.5%	May 2022 TAG Data Book
Values of time	Commuter – 9.95 Other – 4.54 (£,2010)	May 2022 TAG Databook (A1.3.2)
Market price adjustment factor	1.19	May 2022 TAG Databook (A1.3.1)
Optimism bias on capital costs	23%	TAG Unit A1-2
Cost spend profile	2024/25-2025/26	WSP

2.4 APPRAISAL RESULTS

PRESENT VALUE OF BENEFITS

2.4.1. The tables below show a summary of the results of the appraisal for each element of the scheme by area of interventions.

Cycling and Pedestrian Provision

2.4.2. The table below shows the monetised benefits associated with the improved cycling and walking infrastructure which includes new off-road cycle paths, improvements to existing cycling infrastructure, footway widening and improved pavement evenness.

Table 2-11 – Cycling and Pedestrian Monetised Benefits

Cycling and pedestrian provision	£, 2010 PV over 20-year appraisal period
All Sections Combined	
Congestion	37,995
Infrastructure	323
Accident	6,345
Local air quality	870
Noise	406
Greenhouse gases	4,126
Reduced risk of premature death	1,195,980
Absenteeism	161,639
Journey ambience	380,233
Indirect taxation	-4,868

2.4.3. The largest benefit associated with the increased number of cyclists as a result of the scheme is the health benefit through increased physical activity including reduced risk of premature death. Journey ambience accounts for the second largest benefits impact followed by absenteeism benefits. There are decongestion benefits as a result of modal shift from private car to cycling, and associated impacts – fewer road accidents, improved air quality, reduced noise and reduced greenhouse gase emissions. The scheme benefits are in line with the objectives outlined in the strategic case including encouraging commuting by sustainable modes and reducing traffic congestion as well as contributing to improved air quality and better public health. The reduction in private car use has a negative impact on indirect tax revenues to central government due to the impact of mode shift resulsting in less road traffic and a consequent reduction in fuel duty. However, the reduction of car trips is considered a positive when considering the strategic objectives of the scheme.

Accidents

2.4.4. Table 2-12 below shows the benefits of the scheme induced accident reduction.

Table 2-12 – Accident Benefits

Impact	£, 2010 PV over appraisal period
Accidents (Collision savings)	874,733

2.4.5. The scheme proposals, which include greater separation from general traffic for active modes, is estimated to result in a total saving of £874,733 as a result of fewer collisions involving cyclists over the 20-year appraisal period. This is in addition to the accident benefit estimated in AMAT which results from a reduction in highway-kilometres due to mode shift to active modes.

Cycle journey time savings

2.4.6. Table 2-13 below shows the benefits of the scheme induced journey time saving as a result of more direct routeings, associated with the new cycle facility between Haslingfield and Cambridge.

Table 2-13 – Journey Time Saving

Impact	£, 2010 PV over appraisal period
Journey Time Saving	10,380

2.4.7. The scheme proposals will result in a journey time saving of £10,380 over the 20-year appraisal period.

PRESENT VALUE OF COSTS

2.4.8. The cost assessment included direct construction costs, indirect construction costs, indirect non-construction costs, and inflation. Inflation was assumed of 17% from 4Q 2021 to 3Q 2024, as well as an additional inflation contingency of 6% (3% per annum) over the construction period, due to current economic circumstances.

2.4.9. For the economic appraisal optimism bias has been applied to the scheme costs to reflect the systematic tendency to underestimate scheme costs. In July 2021, DfT adjusted the methodology for how optimism bias should be applied within the economic appraisal. The revised guidance (TAG Unit 1.2) states that the base costs with optimism bias applied should be compared to the risk-adjusted cost. The costs should be similar, but if there is a large disparity, the higher costs should be used. Due to a low variation between the two costs, the base cost with optimism bias has been used as the core scenario for the appraisal. A sensitivity test has been included with risk-adjusted costs.

2.4.10. TAG Unit A1-2 provides guidance for the recommended level of optimism bias to be applied for different types of projects at different stages of the scheme development. For a scheme of this nature, at the OBC stage, a 23% optimism bias has been applied to the base scheme costs within the economic appraisal.

2.4.11. Following the application of optimism bias, the scheme costs have been adjusted to produce costs consistent with the benefits, namely in 2010 prices and values, with the market factor adjustment applied.

2.4.12. The present values of the scheme costs are shown in Table 2-14.

Table 2-14 - Present Value Costs

	£,2010 PV
Present Value of Costs (PVC)	**6,962,473**

2.5 VALUE FOR MONEY STATEMENT

2.5.1. The core scenario benefits and costs described above produce a benefit to cost ratio (BCR) of 0.4:1, as presented in Table 2-15 below.

Table 2-15 – Economic Appraisal, Core Scenario, £2010 PV

Benefit / Cost Type	£ 2010 PV, 20-year appraisal
Noise	406
Local air quality	870
Greenhouse gases	4,126
Journey quality	380,233
Physical activity	1,357,619
Accidents	875,603
Economic efficiency: commuters	12,330
Economic efficiency: other	30,211
Economic efficiency: business users and providers	5,834
Wider public finances (indirect tax)	-4,868
Present Value of Benefits (PVB)	**2,667,840**
Present Value of Costs (PVC)	**6,962,474**
Net Present Value (NPV)	**-4,294,633**
Benefit-Cost Ratio (BCR)	**0.4:1**

2.5.2. Appendix B provides the disaggregation of results in the Transport Economic Efficiency (TEE), Public Accounts (PA) and Analysis of Monetised Costs and Benefits (AMCB) tables. Appendix C provides the Appraisal Summary Table (AST).

2.6 SENSITIVITY TESTS

2.6.1. Sensitivity testing has been undertaken to explore the sensitivity of the expected outcomes of the appraisal to changes in inputs. The following sensitivity tests have been carried out, drawing on the key assumptions made in the core scenario:

- Test 1: New to cycle demand reduced to 12.5%
- Test 2: New to cycle demand increased to 30%
- Test 3: New to cycle demand reduced to 20%
- Test 4: No pedestrian demand uplift
- Test 5: 30-year appraisal
- Test 6: Accidents reduced by 50%
- Test 7: 46% optimism bias
- Test 8: Capital costs including risk / no optimism bias

2.6.2. The table below shows the impact on PVB, PVC, NPV and BCR of each of these tests compared to the BCR for the core scenario.

Table 2-16: Sensitivity Analysis

Test	PVB (£m)	PVC (£m)	NPV (£m)	BCR
Core Scenario	**2.68**	**6.96**	**-4.29**	**0.4**
Test 1: 20% cycle demand uplift	2.40	6.96	-4.57	0.3
Test 2: 12.5% cycle demand uplift	2.02	6.96	-4.94	0.3
Test 3: 30% cycle demand uplift	2.89	6.96	-4.07	0.4
Test 4: No pedestrian demand uplift	2.61	6.96	-4.36	0.4
Test 5: 30-year appraisal period	3.94	6.96	-3.02	0.6
Test 6: 50% adjustment to accidents	2.23	6.96	-4.73	0.3
Test 7: Capital cost inc.risk / no optimism bias	2.68	8.24	-5.57	0.3
Test 8: 46% optimism bias	2.68	7.58	-4.91	0.3

2.6.3. The scheme benefits are most sensitive to the assumption regarding the appraisal period. If the appraisal period is increased to 30 years, the BCR increases to 0.6:1. With regards to cycle demand uplift, the BCR decreases to 0.3:1 when the demand is reduced to 20% and 12.5%. With the demand uplift of 30% and no pedestrian uplift sensitivity scenarios, there is no change in the BCR. The BCR reduces to 0.3:1 for the remaining sensitivity tests, with the lowest NPV in the sensitivity test with 46% Optimism Bias, where it decreases to -£4.91m.

2.6.4. Overall, there is little variation in the BCR as the baseline demand levels are relatively low.

2.7 ENVIRONMENTAL IMPACTS

2.7.1. The section below sets out the appraisal of the active travel elements of the scheme considering the environmental impacts set out in TAG Unit A3.

NOISE

2.7.1. Overall, the scheme is expected to reduce vehicle traffic as people transfer to foot or bicycle. Traffic noise would reduce accordingly. Based on the outputs of the AMAT, the monetised impact on noise of modal shift from private car is estimated to be £406 (2010 PV).

2.7.2. Given the nature of interventions, the impact of construction noise is expected to be minimal and short lived.

AIR QUALITY

2.7.3. Modal shift to cycling and walking, and associated reduced road traffic, will result in locally improved air quality. Based on the outputs of the AMAT, the monetised impact on air quality of modal shift from private car is estimated to be £870 (2010 PV).

GREENHOUSE GASES

2.7.4. The net reduction in highway-kilometres as a result of modal shift to active modes, will lead to a net decrease in greenhouse gas emissions. Based on the outputs of the AMAT, the monetised impact on greenhouse gases of modal shift from private car is estimated to be £4,126 (2010 PV).

LANDSCAPE AND TOWNSCAPE

2.7.5. The landscape along the route is characterised by agricultural land with fragmented hedgerow boundaries and small scattered woodlands. The scheme would have beneficial effects on the landscape pattern and landcover, and neutral effects on the tranquility and cultural elements of the landscape. A strategic focus on landscape enhancement through new planting could result in slight benefits. Overall, impacts will be neutral to slight beneficial.

2.7.6. The route through Cambridge requires a focus on townscape rather than landscape. Townscape is heavily dominated by large period houses mixed with larger college buildings and accommodation blocks for the University of Cambridge. The scheme is anticipated to have a neutral effect on the layout, density and mix, scale, appearance, human interaction, culture and land use of the townscape. Overall, the changes to the townscape due to the scheme are minor and do not impact wider townscape character, with minor changes for local visual amenity. The summary assessment score is neutral.

HISTORIC ENVIRONMENT

2.7.7. Impacts on the form, survival, condition, complexity, context and period of designated heritage assets including the Scheduled settlement complex north-east of Haslingfield, and Grade II listed buildings in Haslingfield and Grantchester will be neutral. Impacts to the context of Grantchester Conservation Area will however be slight adverse. The impact to non-designated heritage assets and buried heritage assets has not been determined at this stage. The summary assessment on the historic environment is slight adverse.

BIODIVERSITY

2.7.8. Impacts on the Eversden and Wimpole Woods Special Area of Conservation (SAC), and on the barbastelle bats that use the woods and are the principal reason for its European designation, will be neutral. Neutral impacts are also expected for birds, barn owl, reptiles, hedgehog and brown hare. Moderate adverse impacts will affect lowland deciduous woodland and lowland meadow, both Habitats of Principal Importance. Slight adverse impacts, as a result of pollution risk from the scheme, will affect the Byron's Pool Local Nature Reserve (LNR) and River Rhee City Wildlife Site, as well as on bats in general, badger, water vole, otter, great created newts, fish and aquatic invertebrates due to the scheme's impact on habitat and uncertainty of species presence. A slight adverse impact will also affect hedgerows Habitat of Principal Importance. Overall, the assessment concludes a moderate adverse impact upon biodiversity.

WATER ENVIRONMENT

2.7.9. The scheme is located within Flood Zone 3, with a high risk of flooding. Its fluvial flood risk comes from the River Rhee, River Cam and Bourn Brook. There are numerous land drains and ditches in the area, as well as the Bourn Brook in the centre of the scheme, which is classified as a main river. In eastern section of the scheme is the River Rhee and River Cam which are also classified as main rivers. With standard mitigation, any risks of chemical contamination of ground or surface waterbodies

is not considered to be significant and therefore overall, the summary assessment score is neutral – slight adverse.

SUMMARY

2.7.10. The table below summarises the environmental impacts of the scheme.

Table 2-17 – Summary of Environmental Impacts

Environmental Impact	Assessment, £
Noise	£406 (2010, PV)
Air Quality	£870 (2010, PV)
Greenhouse Gases	£4,126 (2010, PV)
Landscape	Neutral to slight beneficial
Townscape	Neutral
Historic Environment	Slight adverse
Biodiversity	Moderate adverse
Water Environment	Neutral to slight adverse

2.8 SOCIAL IMPACTS

2.8.1. The following sections summarise the social impacts of the Haslingfield Greenway scheme.

2.8.2. Given the stage of business case development, the assessments are largely qualitative. Some social impacts are monetised using a quantitative assessment based on output from the AMAT tool.

RELIABILITY

2.8.3. Through providing a continuous walking & cycling route from Haslingfield into Cambridge City Centre, the Haslingfield Greenway scheme will improve reliability for those travelling by active modes travelling along this corridor.

2.8.4. The impact of the scheme on reliability is estimated to be **Slight Beneficial**.

PHYSICAL ACTIVITY

2.8.5. The improvement to active mode facilities will encourage more cycling and pedestrian travel. Increased usage of the cycle network will promote more physical activity. Greater levels of cycling will result in health benefits through reduced health problems including diabetes and high blood pressure. TAG uplift in physical activity is also likely to result in a reduction in absenteeism which will give rise to positive benefits for the user and businesses.

2.8.6. AMAT estimates the monetised impact of physical activity to be £1.36m (2010 PV).

2.8.7. In addition, an increase in walking trips along the Haslingfield Greenway route will result in further health benefits. These benefits have not been fully captured within the appraisal (i.e. health impacts

as a result of the increase in pedestrians due to the provision of dedicated crossings and improved lighting).

JOURNEY QUALITY

2.8.8. TAG Unit A4.1 sub-divides journey quality impacts into three groupings:

- traveller care (including cleanliness, level of facilities, information and the general transport environment)
- travellers' views (including the view and pleasantness of external surroundings in the duration of the journey)
- traveller stress (including frustration, fear of accidents and route uncertainty)

2.8.9. The improvements to the cycling and walking infrastructure along the route will improve the pleasantness of surroundings for users.

2.8.10. Based on the outputs of the AMAT tool, the monetised impact on journey quality is estimated to be £380,233.

ACCIDENTS

2.8.11. The scheme is anticipated to result in a reduction in traffic movements as people are encouraged to use active modes. Users of motorised modes who shift mode to active modes will result in fewer vehicles and an overall reduction in highway-kilometres travelled and the number of highway accidents.

2.8.12. Based on the outputs of the AMAT, the monetised impact on accidents is estimated to be £6,689.

SECURITY

2.8.13. The improved lighting provision along the route will increase the perception of safety for pedestrians and cyclists. Lighting improvements such as solar studs will give a sense of security to users of the Greenway, particularly on off-road sections.

2.8.14. The impact of the scheme on security is estimated to be **Moderate Beneficial**.

ACCESS TO SERVICES

2.8.15. The expansion, and improvement, of cycling and pedestrian infrastructure provided by the Haslingfield Greenway scheme will improve accessibility between the rural villages of South Cambridgeshire and Cambridge. In addition, accessibility for both pedestrians and cyclists will be enhanced with respect to improvements in pavement evenness and level access.

2.8.16. The impact of the scheme on access to services is estimated to be **Slight Beneficial**.

AFFORDABILITY

2.8.17. Affordability will increase for previous bus or car users as the cost of travel will decrease as they will no longer pay fares or fuel and non-fuel vehicle operating costs.

2.8.18. The impact of the scheme on affordability is estimated to be **Slight Beneficial**.

SEVERANCE

2.8.19. The introduction of the Haslingfield Greenway will provide a new cycle facility between Haslingfield and Cambridge, reducing the severance currently created due to the lack of a direct route between these settlements.

2.8.20. The impact of the scheme on severance is estimated to be **Slight Beneficial**.

OPTION AND NON-USE VALUES

2.8.21. The proposed scheme does not introduce new travel options and therefore the impact is considered to be **Neutral**.

SUMMARY

2.8.22. The table below summaries the social impacts of the scheme.

Table 2-18 – Summary of Social Impacts

Social Impact	Assessment
Reliability	Slightly Beneficial
Physical Activity	£1.357,619 (2010, PV)
Journey Quality	£380,233 (2010, PV)
Accidents	£6,345 (2010, PV)
Security	Moderate Beneficial
Access to Services	Slight Beneficial
Affordability	Slight Beneficial
Severance	Moderate Beneficial
Option and Non-Use Values	Neutral

2.9 DISTRIBUTIONAL ANALYSIS

2.9.1. Distributional Impacts (DIs) consider the variance of transport intervention impacts across different social groups. The analysis of DIs is a constituent of the AST. Both beneficial and/or adverse DIs of transport interventions need to be considered, along with the identification of social groups likely to be affected.

2.9.2. In terms of distributional analysis, the categories that need to be considered include user benefits, accidents and affordability, together with the effects of the scheme on local noise and air quality. The effect of these impacts is assessed for the following social groups:

- Income distribution
- Children
- Young adults
- Older people
- Disabled
- Black and minority ethnic groups
- Those without access to a car
- Carers

2.9.3. Based on the proportionate approach set out in TAG Unit A4.2, the DI assessment for the active travel elements of the Haslingfield Greenway scheme has identified the likelihood of impacts for

each indicator. Where it is anticipated there will be impacts a qualitative commentary identifying the social groups most likely to be affected has been provided.

2.9.4. The findings from this DI assessment are set out in Table 2-19 below.

Table 2-19 – Distribution Impact Assessment

Indicator	Appraisal output criteria	Potential impact	Qualitative Comments	Assessment
User benefits	The TUBA user benefit analysis software or an equivalent process has been used in the appraisal; and/or the value of user benefits Transport Economic Efficiency (TEE) table is non-zero.	Yes, positive	AMAT has been used to appraise user benefits for the scheme. This analysis does not produce spatial distribution of the benefits, but an overall benefit.	User benefits for walkers and cyclists are forecast providing benefits for those who do not have access to a car including due to age, affordability and physical ability.
Noise	Any change in alignment of transport corridor or any links with significant changes (>25% or <-20%) in vehicle flow as an indicator of significant change.	Yes, positive	There are no significant changes (>25% or <-20%) in vehicle flow, speed, %HGV content expected as a result of the scheme.	No further assessment.
Air quality	Any change in alignment of transport corridor or any links with significant changes in vehicle flow, speed or % HGV content: ▪ Change in 24-hour AADT of 1000 vehicles or more ▪ Change in 24-hour AADT of HGV of 200 HGV vehicles or more ▪ Change in daily average speed of 10kph or more ▪ Change in peak hour speed of 20kph or more ▪ Change in road alignment of 5m or more	Yes, positive	There are no significant changes in vehicle flow, speed, %HGV content expected as a result of the scheme.	No further assessment.
Accidents	Any change in alignment of transport corridor (or road layout) that may have positive or negative safety impacts, or any links with significant changes in vehicle flow, speed, %HGV content or any significant change (>10%) in the number of pedestrians, cyclists or motorcyclists using road network.	Yes, positive	The scheme is expected to reduce the number of collisions that occur along the Greenway corridor as a result of the scheme proposals such as greater separation between active modes and vehicles. It is anticipated that there will also be an overall reduction in highway-kilometres travelled as a result of the scheme, which will reduce the number of highway accidents.	Through benefitting those who walk and cycle the scheme will benefit those who do not have access to a car, including due to age, affordability and physical ability.

Indicator	Appraisal output criteria	Potential impact	Qualitative Comments	Assessment
Security	Any change in public transport waiting/ interchange facilities including pedestrian access expected to affect user perceptions of personal security.	Yes, positive	The installation of lighting suds along off-road sections of the route will improve the security of users along the corridor.	This may provide a particular benefit to socially vulnerable groups such as the disabled, elderly and ethnic minorities.
Severance	Introduction or removal of barriers to pedestrian movement, either through changes to road crossing provision, or through introduction of new public transport or road corridors. Any areas with significant changes (>10%) in vehicle flow, speed, %HGV content.	Yes, positive	The introduction of a new cycle facility between Haslingfield and Cambridge will reduce the severance currently created the lack of a direct route between these settlements.	This may provide a particular benefit to the economically disadvantaged along the greenway corridor who are most reliant on walking and cycling.
Accessibility	Changes in routings or timings of current public transport services, any changes to public transport provision, including routing, frequencies, waiting facilities (bus stops / rail stations) and rolling stock, or any indirect impacts on accessibility to services (e.g. demolition & re-location of a school).	Yes, positive	The expansion, and improvement, of existing cycling and pedestrian infrastructure along the route will improve accessibility between settlements and into Cambridge. In addition, the improved paving infrastructure will improve accessibility for both pedestrians and cyclists in terms of pavement evenness and level access.	No further assessment.
Affordability	In cases where the following charges would occur; Parking charges (including where changes in the allocation of free or reduced fee spaces may occur); Car fuel and non-fuel operating costs (where, for example, rerouting or changes in journey speeds and congestion occur resulting in changes in costs); Road user charges (including discounts and exemptions for different groups of travellers); Public transport fare changes (where, for example premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new ticketing technologies); or Public transport concession availability (where, for example concession arrangements vary as a result	Yes, positive	The scheme will encourage modal shift to active modes, which may reduce the cost of travel for users	No further assessment.

Indicator	Appraisal output criteria	Potential impact	Qualitative Comments	Assessment
	of a move in service provision from bus to light rail or heavy rail, where such concession entitlement is not maintained by the local authority).			

2.10 VALUE FOR MONEY ASSESSMENT

2.10.1. The economic appraisal for the Haslingfield Greenway scheme produces a BCR of 0.4:1, implying poor value for money. This is largely due to the very low existing demand recorded on the route given the poor quality of sections of the route. It is likely that the benefits of the scheme in enhancing rural connectivity are understated as a result as the forecasting approach uses uplifts on the existing demand.

2.10.2. The main benefits are associated with increased physical activity as a result of users switching to active modes. Benefits associated with the scheme's induced accident reduction accrue the second most scheme benefits. Other scheme benefits include improved cycle journey times as a result of the scheme interventions providing more direct routes, as well as decongestion from fewer vehicles being on the highway network as a result of modal shift. Overall, the benefits amount to £2.68m (2010 PV). The cost of the scheme is £6.96 (2010 PV), which includes 23% optimism bias.

2.10.3. Sensitivity tests undertaken demonstrate that if the scheme is appraised over a 30-year period, the benefit cost ratio increases to 0.6. Cycling uplift and the other sensitivity tests carried out had minimal effect on the overall BCR due to the disparity between benefits and costs. Overall, changing the appraisal assumptions has limited impact due to the relatively low level of baseline demand. It would be expected that the opening of the Greenway will encourage new demand, which is not reflected in the current forecasts which are based on an uplift to low levels of baseline demand.

2.10.4. There are also other impacts not captured or monetised in the appraisal that positively impact on the case for the scheme, strengthening the value for money implied by the BCR. These include social benefits in terms of severance, security, affordability and access to services. Furthermore, this appraisal has considered the Haslingfield Greenway as a standalone scheme. There are potential connectivity benefits encouraging additional demand arising from the network effects of integration with neighbouring planned schemes including the Trumpington guided busway scheme (cycling and pedestrian facilities), and Haslingfield Greenway. Proposals for encouraging use of active modes as part of the City Access programme, such as the proposed road-user charging scheme as part of the Making Connections programme, will also increase the attractiveness of cycling from the Haslingfield Greenway corridor into the city centre. Hence there is a strategic fit with GCP's policy ambitions to promote sustainable modes and deliver mode shift from private vehicles in order to ensure the ongoing economic growth of the region. Therefore, this scheme has the potential to amass many more benefits compared to the assessment completed as part of this OBC.

3 FINANCIAL CASE

3.1 INTRODUCTION

3.1.1. This chapter presents the Financial Case for the Haslingfield Greenway scheme and demonstrates its initial affordability. It sets out the currently identified scheme costs and funding cover for the development and the implementation of the Haslingfield Greenway.

3.2 SCHEME COSTS

3.2.1. Scheme costs and a cost profile for the Haslingfield Greenway is provided in Table 3-1. The capital costs have been estimated by WSP. The outturn cost estimate is based on the concept design scheme drawings for the Haslingfield Greenway and assumes scheme opening in 2026, with planned completion of construction by December 2025. It should be recognised that any delay to the scheme opening is likely to result in an increase in costs from those presented here.

3.2.2. It is estimated that the Haslingfield Greenway will cost in the region of £14.11m, including allowances for inflation, as set out in Table 3-1.

Table 3-1 - Haslingfield Greenway Scheme Costs, £000s, Quarter 4, 2021 Prices

Item	2024	2025	Total
Direct Construction Costs	2,152.25	2,152.25	4,665.5
Indirect Construction Costs	1,244	1,244	2,488
Indirect Non-Construction Costs	887	887	1,774
Sub-total	**4,283**	**4,283**	**8,566**
Risk / Contingency	1,452	1,452	2,904
Inflation (Construction Mid-Point 3Q 2024)	975	975	1,950
Inflation Contingency	344	344	668
Scheme Total	**7,055**	**7,055**	**14,110**

3.2.3. The Haslingfield scheme will incur maintenance costs. Greenway Maintenance Guidance has been produced by the GCP. Currently, CCC and the GCP are assessing the costs of maintaining the Greenways network in coordination with the County Council's Highways team in order to apply for maintenance funding to accompany the development funding. This will provide the resources required by the maintenance teams to uphold the quality of the Haslingfield Greenway. It is not expected that the maintenance costs will be excessive. The Haslingfield Greenway will in some locations be an upgrade of existing degraded cycling infrastructure.

3.2.4. Approximately 8km of the Haslingfield Greenway is existing road or path, with only 5.44km of new infrastructure to be created. Gritting, grass verge cutting, and hedge cutting are the only three treatments provided by Highways when maintaining paths. However, it is likely that the Haslingfield

Greenway will require other interventions such as pothole filling, siding out, tree root damage and surface cracks filling, adding to the cost of maintaining the network.

3.3 FUNDING COVER

3.3.1. The development and implementation of the Haslingfield Greenway is funded by the GCP through City Deal funding. The City Deal funding aims to enable the GCP to promote economic growth and development. However, the GCP is looking to secure an appropriate proportion of the costs from local developer contributions through the planning process. Third party funding will be reviewed for the Haslingfield Greenway project. The GCP is also seeking opportunities to bid for other development funds such as the Transforming Cities Fund and National Highways designated funding to consolidate the GCP's overall programme budget.

4 COMMERCIAL CASE

4.1 INTRODUCTION

4.1.1. This chapter presents the Commercial Case for the Haslingfield Greenway scheme, describing the proposed procurement approach, risk allocation and contract management processes which are aligned with the overall approach for the Greenways programme. Specific details are provided for the Haslingfield Greenway.

4.2 PROCUREMENT APPROACH

4.2.1. The Greenways Programme will be implemented using established Cambridgeshire County Council contracts, or Government Procurement Frameworks will be used to procure external support for tasks including Design, Early Contactor Involvement and Communications (where not available internally). For the Haslingfield Greenway scheme WSP has been procured for the design role under the Joint Professional Services Framework (JPSF), as shown in Table 4-1. JFG Comms via WSP is supporting the communications activities, CBRE are acting as Land Agents, Pathfinder Legal are providing legal services, and Milestone (formerly Skanska) has been appointed as ECI contractor for the scheme. This appointment has been made via Cambridgeshire County Council's Highways Framework Contract ECI during 2022 into main construction.

Table 4-1 – Programme Consultants and Contractors

Consultant	Role	Procurement Route
Atkins	Design, Business Case, Planning and main consultant for Waterbeach, St Ives, Sawston and Melbourn Greenways	Joint Professional Services Framework
WSP	Design, Business Case, Planning and main consultant for Comberton, Haslingfield, Barton, Fulbourn, Swaffhams, Horningsea and Bottisham Greenways	Joint Professional Services Framework
JFG Comms	Support the Communications activities required including day to day management of stakeholders and landowners	Joint Professional Services Framework via WSP
CBRE	Land Agents for the scheme, to value, negotiate and organise acquisition of land for the Greenways	Crown Commercial Services Framework
Pathfinder Legal	Legal support for land acquisition and any rights requirements	County Council Legal Services Agreement
Milestone	Early Contractor Involvement	CCC Highways Contract

4.2.2. To date, GCP has commissioned the consultants WSP and Atkins through its JPSF to prepare the Haslingfield Greenway preliminary scheme designs and provide business case support.

4.2.3. Milestone Infrastructure has successfully managed and carried out similar construction works in and around Cambridge, for example the Histon Road project. Milestone Infrastructure has also committed to developing a major projects team to work on larger scale projects demonstrating Milestone's commitment to providing the necessary resources for the implementation of the Greenways network.

4.2.4. GCP is satisfied that Milestone continues to have:

- An appropriate recent history of carrying out highways / pavement works.
- A proven capability to administer and successfully complete works of similar value to the scheme.
- Site Management / Supervision capability with suitable experience of working adjacent to live carriageways and public interfaces.
- Health and Safety Management systems compliant with the type and locations for these works.
- The capability in resources either through direct labour force or subcontractor labour.
- An appropriate supply chain for the procurement of materials and plant to suit the Haslingfield Greenway scheme requirements.

4.2.5. Early contractor involvement is expected to be incorporated with the traditional approach of separate contracts for the design and construction works for the scheme. This will allow close control of the design process by the client, but also enable the delivery contractor to influence the design to reduce risks and cost by using their experience of the buildability and risks of designs.

Construction Procurement

4.2.6. Under the County Council's Highways Term Service Framework (TSF), the project has access to Milestone Infrastructure to deliver the main construction of the scheme. Milestone are well placed as they also deliver the maintenance of the network, are in close liaison with Street Works and have already competitively tendered to win the TSF. They also have smaller teams able to do work that is relatively minimal, for example widening of existing footpaths in a more agile way than other frameworks or a full tender process would allow. However, it may be that other contractors are required to complete the scheme given the overall volume of works to deliver the overall Greenways Programme. In this situation, the primary option would be utilisation of the Eastern Highways Alliance Framework which provides access to multiple major contractors.

4.3 PAYMENT MECHANISM

4.3.1. The main payment option mechanism to be used for Milestone is the NEC contract Target cost Option C. GCP has Option A and Option E available, but Option C is the GCP's preferred option.

4.4 RISK ALLOCATION

4.4.1. An overall risk register has been produced for the Greenways programme. A scheme specific management of risk will be undertaken using the Haslingfield Greenway risk management plan / risk register. The risk register is detailed in the Management Case. Specific factors pertaining to the Haslingfield Greenway scheme, including construction risks, the stage that the project is at in its development and importantly, the level of risk in the project and the appetite to accept or transfer it to a contractor will be considered in making an informed decision on risk allocation. The approach will be to ensure that the contractual arrangements for the delivery of the Haslingfield Greenway scheme places risks with the party best positioned to deal with them.

4.5 CONTRACT MANAGEMENT

4.5.1. Management of the contracts for the design and delivery of the Haslingfield Greenway scheme is undertaken by the Programme Manager, who is employed by GCP and has day to day responsibility for the delivery of the scheme.

5 MANAGEMENT CASE

5.1 INTRODUCTION

5.1.1. The purpose of the Management Case of the business case is to demonstrate that robust arrangements are in place for the delivery, monitoring and evaluation of the scheme.

5.1.2. Demonstrating that the scheme can be successfully delivered requires evidence of successful delivery of similar projects, evidencing that the scheme is being managed in accordance with best practice, and that the necessary arrangements are in place for change and contract management, benefits realisation and risk management.

5.2 EVIDENCE OF SIMILAR PROJECTS

5.2.1. The GCP will deliver the Haslingfield Greenway as part of the Greenways Programme using delegated powers from CCC, although in some areas such as Right of Way restrictions the GCP will rely on the County Council's statutory powers.

5.2.2. As a relatively new delivery body, the GCP has delivered a limited number of schemes within the current City Deal. However, the constituent members of the GCP have a long history of successfully delivering schemes both large and small in scale, to time and budget. Cambridgeshire County Council has successfully delivered large-scale public transport and active mode orientated transport projects in recent years, including those shown in Table 5-1.

Table 5-1 – Evidence of Similar Projects

Scheme Name	Objectives & Scope	Implementation
Chisholm Trail Phase 1 (c.£21m)	The 2.1km long Phase 1 of the Chisholm Trail is a walking and cycling route which aims to provide a mostly traffic-free route between Cambridge North and Cambridge stations and intermediate communities.	Phase 1 opened in December 2021, connecting Cambridge North to Coldham's Lane. Phase 1 of the trail is a joint project between the GCP and Cambridgeshire County Council.
Babraham Road cycleway improvement works (£6m)	The 1.1km long 2.5m wide cycleway connects the Babraham Research Campus and Babraham with surrounding villages.	The cycleway was completed in December 2017 and delivered by Cambridgeshire County Council contractors.
Fendon Road roundabout (£2.1m)	Fendon Road roundabout is the UK's first Dutch-style roundabout which is designed with an outer ring for cyclists, in a contrasting red surface, to give them equal priority with pedestrians over oncoming vehicles to provide a safer environment for cycling and pedestrians.	The scheme was opened in August 2020, and implemented by Cambridgeshire County Council and contractor, Milestone.
Fen Ditton and Stow-cum-Quy. (Five Cross City	Construction of a new foot/cycleway on Ditton Lane and Horningsea Road	The scheme was delivered by the GCP.

Scheme Name	Objectives & Scope	Implementation
Cycling Schemes total of £8m)	which is part of the Cross City Cycling schemes being funded by the GCP.	
The Cambridge Core Traffic Scheme (c.£7m[25])	This scheme delivered improved access for pedestrians, cyclists and public transport through traffic management and priority measures in the area bounded by the inner ring road.	The measures were implemented in phases from 1997, promoting sustainable travel modes to improve the city centre environment. Between 1993 and 2003 the number of private vehicles in the city centre reduced by 15%. Public transport patronage on routes into Cambridge also increased.
Cambridgeshire Guided Busway (c.£150[26])	This busway was designed to provide a high-quality public transport connection between Huntingdon and St Ives, to the north west of Cambridge, and Addenbrooke's Hospital and Trumpington Park & Ride to the south of Cambridge.	The overall route is 42km long with 25km of that being guided busway and 17km of on-street provision including bus priority measures. Access to Cambridge City Centre is provided via on-street running. Construction began in July 2006 with the busway opened in August 2011. Although there were challenges during the delivery of the scheme, learning from this can benefit the delivery of future significant transport measures in the county.
Histon Road (c.£10.6m)[27]	The Histon Road project aims to provide better bus, walking and cycling facilities for those travelling on this busy key route into Cambridge. This is to be achieved through: - A new bus lane from Blackhall Road to Carisbrooke Road, - New bus stop bypasses for cyclists - Improved cycle lanes - 2 new pedestrian crossings - Removal of on-street parking	Ongoing

[25] This is an estimate as the scheme was implemented over several phases since 1996 and includes a range of supporting measures
[26] Total cost of the Cambridgeshire Guided Busway including £109m contribution from Cambridgeshire County Council.
[27] https://www.greatercambridge.org.uk/transport/transport-projects/histon-road/histon-road-background

5.3 COMPLEMENTARY SCHEMES

5.3.1. The Greater Cambridge Greenways Programme forms part of the GCP's wider strategy to create better and greener transport networks. There are several planning and transport proposals which have varying degrees of synergy with the objectives of the Greenways project.

5.3.2. This section details planning and transport proposals across Greater Cambridge which offer potential complementarity with the Greenways Programme and hence with the Haslingfield Greenway. Key complementary schemes include the planned Comberton and Barton Greenways which will offer connectivity to the north and south of the scheme.

5.3.3. The complementary schemes identified in this section offer network opportunities to maximise the benefits to cyclists and pedestrians through an extensive and inter-connected system of routes. This is a continuation of the current linkage which has been developed by delivering both Cross City Cycling and the Chisholm Trail and future projects through schemes such as Cambridge City Access.

Comberton Greenway

5.3.4. Comberton is located approximately 9km west of Cambridge across relatively flat terrain. For cyclists it is currently served by a shared use path via Barton which is relatively narrow in places but is well-used. Some housing growth is taking place in the village and Comberton has a large and very well-regarded village college. In 2018/19 a Greenways 'quick win' scheme provided some improvements to the Comberton to Barton link which has proven popular.

5.3.5. The 6-mile route would provide a further improved link to Barton as well as important connections to the villages of Hardwick and Coton. The onward route would continue via the Cambridge West Campus and into the city via a new link to Grange Road and Sidgewick Avenue. Finally, a new link across to Barton Road would bring useful and safe connections to the proposed future Barton and Haslingfield Greenway routes.

Cambridge South West Travel Hub

5.3.6. The Cambridge South West Travel Hub will intercept thousands of motorists who drive into the city and employment sites from the M11 and A10. The M11 Junction 11 is a vital access point into Cambridge from the south. Currently, Travel Hub provision is located on the city-side of this junction, the Trumpington Travel Hub site. A new Travel Hub site at Junction 11 in addition to the existing site would enable journeys to be faster and more reliable, reducing the increasing number of cars travelling into Cambridge.

5.3.7. The Travel Hub will have up to 2,150 car parking spaces, with 108 blue badge spaces and 108 electric vehicle charging bays, and 326 cycle spaces to encourage more people to get out their cars and cycle, walk, or use public transport. It will also have 12 parking spaces for coaches and an off-road public transport link between the hub and the A10 Hauxton Road/Addenbrooke's Road junction.

5.3.8. Plans for the Travel Hub were provisionally approved in July 2022. Further detailed design work will now be carried out and construction is expected to begin in 2024.

Barton Greenway

5.3.9. Barton is located approximately 6km southwest of Cambridge across flat terrain and for cyclists it is currently served by shared use paths adjacent to the A603. Connectivity will be provided with the Haslingfield Greenway, which will pass through Cantelupe Farm to Grantchester over the M11 Bridge with direct links to the Barton Greenway.

5.3.10. The Barton Greenway route will provide a new underpass to bypass the M11 northbound slip road at the A603 roundabout, a safer crossing over the M11, a new underpass under Grantchester Road from Coton, and will link to the Haslingfield Greenway.

Melbourn Greenway

5.3.11. The Melbourn Greenway would link Royston and Cambridge. At the halfway mark, the Greenway continues past Harston to Hauxton, where it connects with the Haslingfield Greenway. This route will provide connections to the Cambridge South West Travel Hub.

5.3.12. The Melbourn Greenway will run for 12 miles, with an improved path and new bridge over the A505 near Royston being planned in partnership with Hertfordshire County Council. It is conveniently located for the Melbourn Science Park, Meldreth and Shepreth railway stations, the proposed Foxton and Cambridge South West Travel Hubs, and the Haslingfield Greenway.

Chisholm Trail

5.3.13. The Chisholm Trail is a mostly off-road walking and cycling route under construction in Cambridge. Once completed, the full trail will run over 26 kilometres, linking Addenbrooke's Hospital and the Biomedical Campus in the south to Cambridge North railway station and the business and science parks. Phase 1 of the Chisholm Trail between Coldham's Common and Cambridge North railway station is 2.1km in length and opened in December 2021. The route also connects with the Guided Busway and the national Cycle Network, and green spaces in Cambridge including: Coldham's Common, the Leper Chapel Meadows and Barnwell Lake area, Ditton Meadows and Stourbridge Common.

5.3.14. Phase 2 is currently underway, however it requires access to land owned by Network Rail and other private owners in order for the trail to be completed. Phase 2 of the Chisholm Trail includes links to the Melbourn Greenway and the Fulbourn Greenway.

5.3.15. As part of the Greenways network, the Haslingfield Greenway will benefit from the additional connectivity offered by the Chisholm Trail improving accessibility to a range of destinations in the city.

Cross City Cycling Project

5.3.16. In January 2015, the Executive Board agreed that the Cross City Cycling projects should form part of the City Deal programme. The Cross City Cycling projects are a network of five cycling routes linking residents to workplaces and other centres of activity. These projects are as follows:

- Arbury Road
- Cambridge North Railway Station and Science Park
- Ditton Lane & Links to East Cambridge
- Hills Road and Cambridge Biomedical Campus
- Fulbourn/Cherry Hinton Eastern Access

5.3.17. The GCP has worked with partners in the County Council and contractors to deliver these projects which aim to reduce congestion and encourage cycling as a healthier mode of transport. These projects located on radial routes in residential areas improved connectivity with the city centre and are complementary to the Greenways network connecting the city with the surrounding rural villages.

Madingley Road Walking and Cycling Scheme

5.3.18. The Madingley Road walking and cycling scheme will improve active mode connectivity in the west Cambridge corridor and forms part of a wider network of complementary active mode schemes such as the Haslingfield Greenway providing radial connections between the city centre and surrounding rural villages.

Cambridge City Access

5.3.19. The City Access project is promoting ways to improve access by sustainable transport to the city centre and key employment sites, and to reduce congestion by encouraging commuters away from cars. The programme has been conceived and developed to:

- Reduce traffic by 15% from the 2011 baseline, freeing up road space for more public transport services, and other sustainable transport modes
- Ensure public transport is more affordable, accessible and connects to where people want to travel, both now and in the future
- Raise the money needed to fund the delivery of transformational bus network changes, fares reductions and improved walking and cycling routes
- Make it safe and attractive to walk and cycle for everyday journeys
- Support decarbonisation of transport and improvements to air quality
- Make Greater Cambridge a more pleasant place to live, work, travel or just be

5.3.20. A package of eight measures, ranging from the development of an integrated parking strategy to a review of the city's road network classification have been developed to help support sustainable growth in Greater Cambridge (illustrated in Figure 5-1). Central to this is the Making Connections programme.

Making Connections

5.3.21. The Making Connections programme is being developed to provide a transformational change in travel behaviour which will complement the strategy measures set out in Figure 5-1. Making Connections comprises a complete overhaul of the bus network to provide new routes, longer operating hours, more affordable fares and new destinations, funded by a charge for driving that will reduce congestion and free up space for public transport, walking and cycling. Investment in the bus network will reach around £50m a year, making it one of the biggest changes outside London since deregulation of the bus industry in the 1980s.

5.3.22. The programme will rebalance the use of highway space to enable more people to travel, whilst making Greater Cambridge a more attractive place in which to live and work, and to visit. It will reduce congestion, reduce emissions, increase public transport use, and boost walking and cycle use for short journeys in the city.

Figure 5-1 – Cambridge City Access Strategy Measures

Source: Greater Cambridge Partnership

5.3.23. The Greenways Programme as a whole will benefit from the positive impacts on reallocation of road space for public transport and active modes incorporated in the City Access Strategy including:

- Reduced traffic congestion within the city centre
- Faster, cheaper and more reliable bus journeys, enabling expansion of Park & Ride capacity and facilities
- Safer, easier, and more attractive walking and cycling journeys
- Reduced pollution and cleaner air
- Fewer stationary or slow-moving vehicles
- More cycling and pedestrian infrastructure
- Preservation and enhancement of Cambridge's historic environment
- Improvements to the quality and reliability of public transport; and
- Continued growth in cycling

5.4 GOVERNANCE, ORGANISATIONAL STRUCTURES & ROLES

5.4.1. This section describes the programme governance and roles of the entities. The overall structure is shown in Figure 5-2.

Executive Board

5.4.2. The delivery of the Project will involve at least five key stage decisions to be taken by the Executive Board, as follows:

- Decision to proceed with the development of the Project; (Complete)
- Consideration of options and approval to consult on initial options; (Complete)

- Selection of a preferred option following consultation and agreement to take forward preliminary design;
- Approval of preliminary design and Outline Business Case with agreement to enter relevant statutory processes and the preparation of a Full Business Case; and
- Final approval to implement the project and complete a Detailed Design.

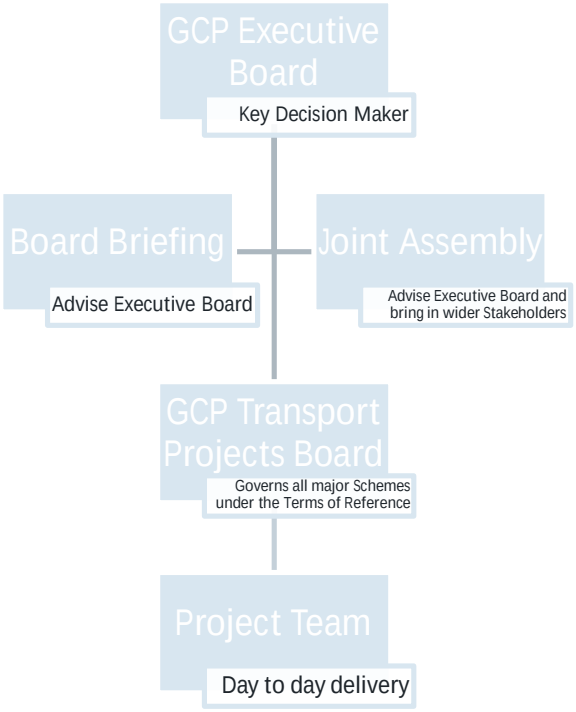
Transport Programme Board

5.4.3. The Transport Programme Board is the regular decision-making body for the Greenways. It takes decisions by exception on matters raised by the Senior Project Managers. It is held on a monthly basis with Highlight reports provided one week in advance of the meetings. It is the responsibility of the Senior Project Managers to attend the Board and ensure they are provided with any issues which are in exception.

5.4.4. A project is in exception if:

- The project will not deliver the objectives agreed with the Executive Board
- The forecast overall cost of the project exceeds what has been reported to the Executive Board
- The forecast completion of the project exceeds the date reported to the Executive Board
- A key decision milestone is forecast to be missed by 3 months (in line with the Executive Board cycle of meetings).
- A project is at risk of causing significant reputational damage to GCP or its partners

Figure 5-2 – Overall Greenways Programme Governance Structure



Cycling Projects Meeting

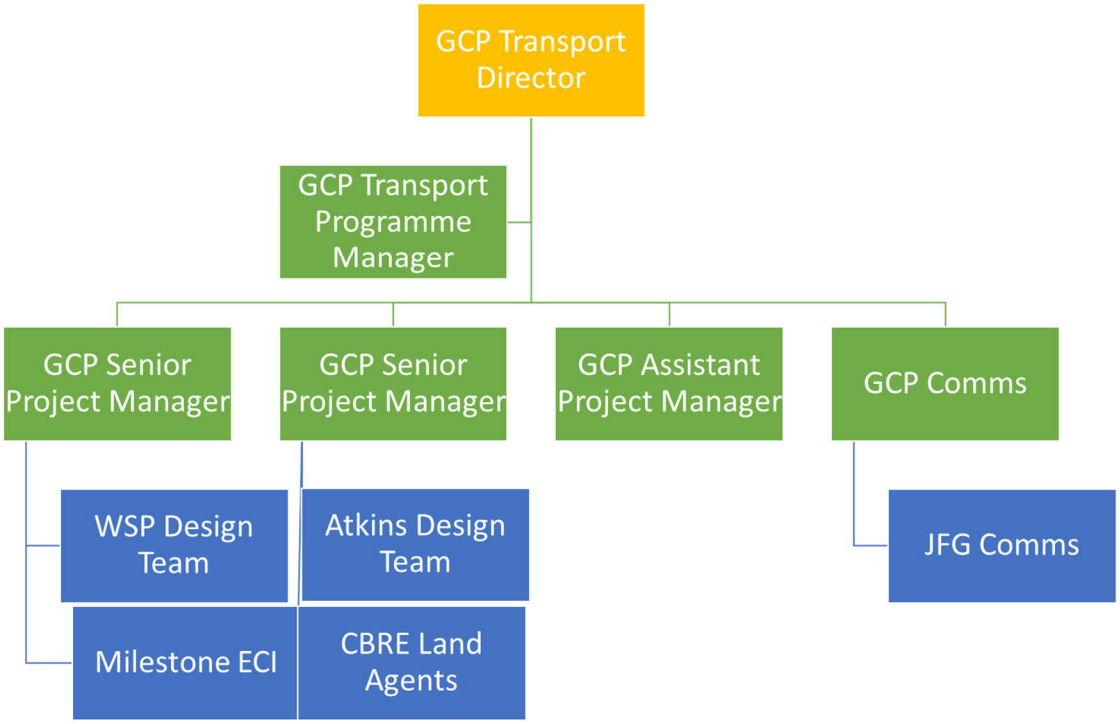
5.4.5. The Cycling Projects Meeting is primarily a coordination meeting between the different Active Travel projects. It includes

- Construction Programming, including prioritisation of routes (before ultimate sign off by Transport Programme Board)
- Decisions on design options (unless controversial at which point they will be escalated)
- Initial review of documents including the overall Business Case for the Greenways and design principles (before going on to appropriate decision-making bodies such as the Transport Programme Board)
- Decisions on timing of communications with the public and stakeholders

Resources

5.4.6. The Greenways is a complex programme of works. The following section sets out how the scheme will be managed. Figure 5-3 sets out the structure of the team.

Figure 5-3 – Structure of the Greenways Management Team



5.4.7. The roles and responsibilities of each of the management team is detailed below.

Internal GCP Resources

5.4.8. The internal GCP resources are set out below.

GCP Transport Director

- Overall accountable for the project, responsible for the structure of the project team and owns the Business Case
- Monitor & control the project tolerance at a strategic level
- Make decisions on escalated issues

GCP Transport Programme Manager

- Responsible for monitoring and reporting on the programme budget to Transport Programme Board (TPB)
- Responsible for ensuring that Project Managers are adhering to the Assurance Framework
- Overall responsibility for producing the Procurement Strategy (i.e., Working with Project Managers to ensure the appropriate options are available)
- Monitors the progress of the programme against agreed key milestones (aligned to the reporting cycle for GCP)
- Resolutions of day-to-day issues (specific to Greenways Programme only)
- Escalates significant issues to GCP Transport Director
- Sign off of all key contract documentation where commercially sensitive (specific to Greenways Programme only)

GCP Senior Project Managers

5.4.9. The Senior Project Manager run the programme on a day-to-day basis in accordance with this document. The main responsibilities of the Project Manager are to:

- Be the face of the project, representing GCP at main stakeholder events to provide updates on the projects
- Be responsible for the relationship with key stakeholders including County, District and Parish Councils as well as bodies such as National Highways and Network Rail;
- Deliver the project to a required specification and quality within budget and according to plan
- Direct and motivate project support resources
- Project manage and plan all stages of the project
- Prepare project, stage and exception plans
- Manage project risks (includes contingency planning)
- Monitor progress, expenditure, and resources, initiating corrective action as required
- Keep the Transport Programme Board informed of deviations in plans and seek endorsement for associated action
- Prepare stage reports for the Joint Assembly and Executive Board
- Identify, commission and oversee external resources necessary for the assessment, evaluation, design, management and planning of the project
- Be responsible for project administration
- Facilitate a post construction review of the project; and
- Ensure that all new highway assets created/network amended is recorded. This includes the legal category of any new highway e.g., cycle track, together with details of extent, boundaries, and infrastructure

GCP Assistant Project Manager

- Organise Project meetings and taking minutes as appropriate
- Coordinate communications with stakeholders when required
- Update finance, programme and risk registers etc. as required
- Provide support to Senior Project and Programme Manager when required

GCP Communications Team

- Responsible for producing the overall Communications Plan for the Greenways Programme
- Responsibility for stakeholder management that is not specific to design, i.e., Councillors and Parishes
- Responsible for coordinating responses to enquiries (this is partly delegated to JFG Comms)
- Ensure the overall story of the Greenways is understood and communicated positively
- Produce regular updates for the public and key stakeholders

Consultant and Contractor Support

5.4.10. External support resources are procured through established County Council contracts or Government Procurement Frameworks for various tasks including Design, Early Contactor Involvement, Communications (where not available internally). For theHaslingfield Greenways scheme the consultants and contractors have been procured, namely Atkins and WSP, as shown in Table 5-1. Milestone will be the proposed contractor responsible for construction under the Cambridge County Council Highways Contract. The consultant / contractor responsibilities are set out below.

Atkins and WSP

5.4.11. Atkins and WSP have been appointed to deliver the following aspects of the Greenways programme:

- Concept and Preliminary Design
- Transport modelling (as required)
- Transport assessment (as required)
- Environmental Impact Assessment and other relevant surveys and assessments (as required)
- Initial Cost estimating
- CDM Principal Designer
- Preparation of a proportionate TAG compliant Outline Business Case
- Preparation of Planning Application, submission, and determination support (as required)
- Wayfinding Strategy (Atkins only)
- Land referencing (WSP only)
- Engagement event materials

5.4.12. They will also be procured at the suitable time for:

- Detailed Design
- Full Business Case
- Procurement support
- Construction Supervision

Milestone

5.4.13. Milestone have been appointed in Early Contractor Involvement for the Greenways Programme. This work consists of:

- Producing budget estimates for the GCP schemes / projects
- Managing and co-ordinating the GCP programme of works, including co-ordination with highways contract to achieve efficiencies where possible linking planned GCP and CCC schemes / projects
- Producing and reviewing risk and opportunity registers for the schemes / projects
- Design maturity and buildability assessments

- Value engineering opportunities
- Review of utility diversions
- Assist where required for land take assessments, with particular focus on temporary land take requirements for construction period
- Construction programme development
- Planning and execution of design surveys including but not limited to; Ground Penetrating Radar ("GPR"), trial holes, ground investigation, TOPO and drainage surveys
- Developing traffic management solutions and co-ordinate with the CCC streetworks team to confirm road space availability

5.4.14. Subject to performance and capacity this will lead to Milestone constructing the Greenways projects.

CBRE and Pathfinder Legal

5.4.15. CBRE have been appointed as the land agents responsible for the Greenways Programme. They are procured to:

- Complete land acquisition strategies for each Greenway
- Complete land valuation for each Greenway
- Advise on the process of CPO as required
- Negotiate land on behalf of the GCP

5.4.16. They are supported by Pathfinder Legal who are responsible for

- Preparation of CPO documentation as required
- Legal advice on the process for CPO
- Completion of acquisition paperwork
- Advice on legal process to designate, or change designation of PRoWs

5.5 PROJECT ASSURANCE, APPROVALS PLAN AND PROGRAMME

Programme Assurance

5.5.1. Responsibility for assuring the delivery of the project rests with the Programme Board and Cycling Projects Meeting and includes:

- Ensuring good liaison and collaboration throughout the project to achieve good governance
- Assuring that user needs and expectations are being met or managed
- Ensuring that risks are being controlled
- Monitoring project expenditure versus benefits
- Informing the project of any changes caused by external events
- Ensuring adherence to relevant procedures, standards and specifications; and
- Ensuring highway aspects designed in accordance with Manual for Streets 2 and the Design Manual for Roads and Bridges, LTN1/20, as appropriate

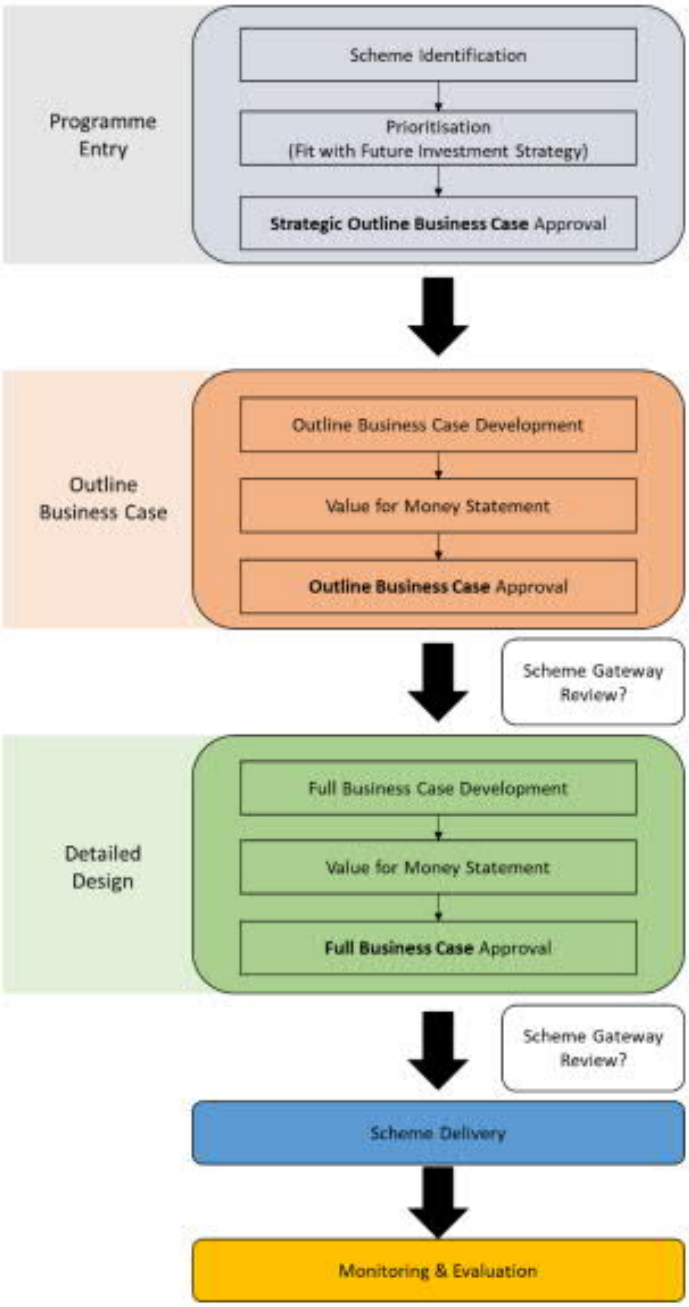
GCP Work Stages

5.5.2. The programme for the overall Greenways project is aligned with the GCP work stages process set out in the GCP Local Assurance Framework (LAF). This LAF sets out, "membership, responsibilities, and principles that are in place for agreeing and overseeing investments to deliver the overarching City Deal objectives". The LAF process is shown in Figure 5-4. commencing with programme entry through to full business case development. The Haslingfield Greenway scheme, as with the other

individual schemes, is developed at Outline Business Case stage as an addendum to the Programme Outline Case.

5.5.3. The Framework ensures compliance with DfT's minimum requirements for Assurance Frameworks.

Figure 5-4 - GCP Indicative Process for Business Case Development



Source: Greater Cambridge City Deal Assurance Framework

Approvals to Date

5.5.4. The programme entry work stage has been completed with the development of the programme outline case and approval by the Executive Board.

High Level Programme

5.5.5. This section provides an overview of the staged process through which the project will be delivered.

5.5.6. The high-level programme for the delivery of the Greenways is based on an approximately four-year programme. The Project will consist of a number of stages in line with the Major Infrastructure Project Delivery Stage, Key Decision Matrix and GCP Assurance Framework. This is shown in Table 5-2. This has been slightly adapted to allow for an additional stage for sign-off for the first versions of technical design.

5.5.7. Individual greenway scheme's outline business case development takes place in Delivery Stage 2a Approved Option and Delivery Stage 3 Preliminary Design.

Table 5-2 – Greenways Programme Project Stages

Stage	Description	Approval
Strategy Stage 0: Policy and Strategy	Preparation of Project Initiation Document (PID)	Complete
Delivery Stage 1: Project Set Up / Initial Options	Project resource planning, development of stakeholder engagement strategy and preparation of project development briefs	Complete
Delivery Stage 2: Feasibility Study	Identification of options, conceptual design work, strategic business case and assessments to facilitate initial stakeholder engagement to allow selection of a Preferred Option	GCP Executive Board (Complete)
Delivery Stage 2a: Approved option	Feasibility Design of Preferred Option	GCP Transport Programme Board
Delivery Stage 3: Preliminary Design	Preliminary Design of Preferred Option and agreement of Outline Business Case	GCP Executive Board
Delivery Stage 4: Detailed Design	Final business case and detailed design to facilitate project approval Processes for planning permission, traffic regulation orders, compulsory purchase orders and Government statutory approvals as required	GCP Executive Board
Delivery Stage 5: Construction (Mobilisation and Construction)	Procurement of a provider(s) to construct the project Construction of the project	GCP Executive Board

	Post-project review to assess how well the project objectives and outputs have been met	

Haslingfield Outline Delivery Plan

5.5.8. The technical concept design for the Haslingfield Greenway route has now been completed. This has given greater clarity on what the key delivery risks and opportunities are. This has enabled the project team to develop a more accurate programme for the subsequent preliminary and detailed design stages, as well as an indicative construction programme. As requested by the Executive Board, officers are now in a position to demonstrate how the programme can be achieved. The Outline Delivery Plan, shown in Table 5-3, sets out an indication of when the Haslingfield Greenway route will be constructed, and what early works can be expected in 2023. The Outline Delivery Plan for the Haslingfield Greenway provides milestones and scheduled dates for completion.

Table 5-3 – Haslingfield Greenway Outline Delivery Plan 2022-2025

Year	Delivery Plan
2022	▪ Development of preliminary designs ▪ Public Engagement and preceding Stakeholder Engagement completed – Summer 2022 ▪ Topographical Surveys ▪ Environmental Surveys ▪ Planning and Consents Strategies ▪ Traffic Surveys ▪ Land Owner Discussions
2023	▪ Land Owner Negotiations ▪ Public consultation in summer 2023 (Grantchester section only) ▪ Detailed design and technical approvals ▪ Planning Applications ▪ Traffic Regulation Orders (TRO) ▪ Compulsory Purchase Orders (CPO) / PRoW orders ▪ Full Business Case ▪ Early Physical Works: - Junction with Barton Road to Cambridge Rugby Club Section
2024	▪ Compulsory Purchase Orders (CPO) / PRoW order work to continue as in 2023 ▪ Finalisation of land agreements ▪ Construction (subject to approvals)
2025	▪ Construction to be completed of all remaining sections of the Haslingfield Greenway

5.6 STAKEHOLDER ENGAGEMENT AND COMMUNICATIONS

5.6.1. This section sets out the strategy for developing communications and stakeholder management on the project. Effective communication is critical to the success of the Haslingfield Greenway project. The key priorities for communications during the development of the design of the project are to:

- Provide all relevant stakeholders with clear, well-structured details of the GCP vision, project objectives and possible options, as well as being clear about what this project does and does not cover
- Create opportunities for stakeholders to express their opinions and encourage the opportunity to share their views on the options freely and openly
- Use an appropriate methodology for collecting stakeholder responses and analyse them
- Build upon the feedback received during the public consultation period
- Create a consistent message to convey that the Haslingfield Greenway is part of the greenways programme to ensure stakeholders are aware that the Haslingfield Greenway is not only part of the Greenways Programme, but also a part of a wider vision set forward by the GCP
- Ensure the benefits and impacts of the scheme are clearly presented to all stakeholders
- Identify advocates for the scheme
- Manage any reputational risks associated with the scheme
- Raise the profile of the GCP and its work
- Ensure all engagement and communication is recorded and reported where necessary

5.6.2. The Haslingfield Greenway is now proceeding with development of the agreed alignments and initial design work. This involves environmental surveys, key structure design, more detailed costing, and land negotiation. Stakeholder engagement at this point has involved discussions with pivotal Non-Motorised User (NMU) groups to understand and incorporate needs and concerns within principal design standards across all routes. The route of the Haslingfield Greenway created considerable discussion during the initial consultation event in 2018. Options to make Grantchester Road a one-way road for motor traffic in either direction to create more space for the Greenway were rejected following 60% of opposition from respondents to the consultation. Accordingly, this information was then fed into the designs for initial proposals for the Haslingfield route.

5.6.3. Responses from the initial public consultation undertaken in 2018 shaped the proposals that were presented in the four-week engagement period that ran between 11 July 2022 and 5 August 2022. A range of key stakeholders along the Haslingfield Greenway were engaged and continue to be engaged as the project progresses. These include partner authorities, council members, parish councils, representatives of walking, cycling and equestrian groups, and owners of land where access agreements are needed to operate or construct the route.

5.6.4. The consultation strategy for this stage of the Haslingfield Greenway proposal was designed by the GCP communications team with input from the County Council's Research Team. The strategy involved the identification of the audience, the design of consultation materials and design, and the analysis of the results.

Scheme Communications Plan

5.6.5. In addition to the strategic programme-wide communication messages and objectives set out above, an individual route engagement and communications plan has been developed and implemented for the Haslingfield Greenway.

5.6.6. There are two key channels for proactive communications that the GCP will use to tell the story of the Haslingfield Greenway as it is developed in the context of the Greenways Programme:

- The Website - The Greater Cambridge Partnership website is the key communications platform where information regarding the Greenways project is provided
- Quarterly GovDelivery Updates – Communication updates are issued quarterly to outline the progress made on the Greenways project

Designed by the GCP communications team with input from the County Council's research team, project communication is governed through the Communications Plan, as outlined below. The purpose of the strategy is to ensure that accurate and timely messages about the scheme are disseminated to a range of identified stakeholder groups.

Table 5-4 – Communications Method for Haslingfield

Audience	Type of Communication	Frequency	Responsibility
General Public	Formal consultation – online survey and paper return survey Regular website updates provided on GCP Greenways webpages (i.e., Greenway specific updates and preliminary design) GovDelivery Updates	Initial Haslingfield consultation Summer 2018 Haslingfield engagement Summer 2022 Quarterly	GCP Communications Team
Other Key Stakeholders	Meetings Emails	As Required	Project Manager
Members	Reports Briefing Sessions	As per Scheme Updates / Progress	Project Manager
Technical Officers **CCC / GCP**	Project Team Meetings	As Required	Project Manager
General Correspondence	Letters, Emails, GCP social media	As Required	Project Manager / Communications Team

5.7 RISK AND ISSUES MANAGEMENT

5.7.1. The Haslingfield Greenways scheme risk management is documented in the Issues and Risks Log produced by WSP.

5.7.2. Key Risks for the Greenways Programme as a whole are, as follows:

- Resourcing – staffing of the project team and the Communications team
- Procurement process – the risk of time and cost extensions to procurement
- Consents – obtaining planning consents, and Network Rail and Highways England approvals
- Acquisition of land - potential delays in obtaining land access consents with possible associated delays to the completion of the elements of the preliminary design
- Cost escalation – effectiveness of project controls to manage costs
- Environmental impacts affecting the route of the scheme
- Other infrastructure schemes/developments taking precedence over the Greenway

5.7.3. Mitigation measures identified include the following:

- The Issues and Risks Log for the overall Greenways programme forms the basis for developing the individual Risk Issues and Logs for each of the Greenways schemes
- An overarching Stakeholder Engagement & Comms Plan and Tracker has been produced to plan and log all engagement across the Greenways project including undertaking re-engagement and wider stakeholder engagement. The GCP Comms team issue quarterly progress and communications updates via its website and Gov-delivery.
- Costings for the scheme to be reviewed by designers at every design stage
- Development of a land access strategy / prioritising land acquisition critical to the scheme development.
- Identification of alternative routes to minimise environmental impacts

5.7.4. A risk register has been produced for the Haslingfield Greenway scheme for the current stage of scheme development, namely preliminary design. Risk mitigation will be assessed from a strategic perspective and will be reviewed monthly.

5.7.5. The key risks to the scheme are as follows:

- Obtaining co-operation from landowners for survey access and acquisition/right of way agreements e.g. the section of the Haslingfield Greenway between Baulk Path and the Grantchester Road crossing
- Completion of the preliminary design to programme - if there is significant discussion with stakeholders at GCP/CCC or significant changes to the scheme required following results from the stakeholder engagement
- All the environmental features to be considered in the design may not be identified until environmental surveys are completed.
- In the event that the scheme is an EIA development or if the scheme is considered to impact on International or European designated sites (HRA implication), these would negate the use of Permitted Development rights and would have programme/cost implications related to any application for express planning permission noting requirements for surveys and the preparation of an Environment Statement

- Landscape and urban design non-compliance in a number policy and guidelines areas and landscape needs to be properly considered and integrated into the design thinking

5.7.6. Mitigation measures identified are as follows:

- Land access strategy / prioritising landowners in terms of criticality to the scheme. Due diligence scope of works to be proceeded in order to continue chasing responses. Meetings to be organised with specific landowners who are more critical (MoD, Caravan Park, corner of Long Road land parcel)
- Key issues which may change the preliminary design are to be analysed in advance of engagement outcomes
- Design workshops, as required, to identify potential environmental constraints in a holistic way.
- Commission appropriate landscape assessment and design work to inform
- EIA and HRA screenings are advised for the Haslingfield scheme.

5.8 MONITORING AND EVALUATION

5.8.1. On completion of the construction of the Haslingfield Greenway, a review of the delivery process will be undertaken in accordance with the Greater Cambridge City Deal Project Review Protocol.

5.8.2. The Project Manager will facilitate the review to produce a review report for consideration by the Project Board, ahead of scrutiny by the Joint Assembly and sign off by the Executive Board.

5.8.3. A monitoring and evaluation plan and benefits realisation plan have been produced for the Haslingfield Greenway scheme.

5.8.4. The DfT's 'Monitoring and Evaluation Framework for Local Authority Major Schemes' guidance document forms the basis of the monitoring strategy alongside the GCP's Assurance Framework.

5.8.5. The DfT guidance sets out the requirements for the monitoring of schemes and outlines three tiers of monitoring and evaluation, these are:

- Standard monitoring;
- Enhanced monitoring; and
- Fuller evaluation.

5.8.6. It is proposed that the Greenways programme follows enhanced monitoring practice as the scheme is likely to be more than £50m in value.

Monitoring and Evaluation Plan

5.8.7. The Monitoring and Evaluation Plan is set out below in Table 5-5. Monitoring of the key outcomes including cycle and pedestrian usage of the scheme will be implemented at key locations on the route. The monitoring will be undertaken through targeted counts, as a minimum on an annual basis, preferably more regularly to assess seasonal effects, assessing the new active mode usage with baseline demand. The Monitoring and Evaluation Plan will also monitor actual scheme expenditure compared to budget, and project delivery compared with key scheme programme milestones.

Benefits Realisation Plan

5.8.8. The Benefits Realisation Plan is shown in Table 5-6.

Table 5-5 – Monitoring and Evaluation Plan

Objective	Enabling objective / outcome	Performance indicator	Methodology	Timescale	Owner of Monitoring Task
Encourage commuting by sustainable transport modes and reduce traffic congestion	Capacity: Provide the cycle network capacity to accommodate increases in active travel demand due to new housing and employment growth	Increase in cycle network capacity Ability to contribute to a reduction in vehicular road traffic Propensity to reduce congestion/delay	Active travel surveys Non-motorised user counts Traffic counts Before and after implementation queue length survey	Pre or during delivery / post opening (up to 5 years)	GCP
Contribute to improved air quality and better public health	Connectivity: Improve accessibility to jobs and opportunities by active modes through a reduction in journey times and increase ease of interchange with public transport modes	Reduced journey time for cycling Scale of catchment (jobs, housing) Ability to unlock growth Ease of interchange with public transport	Before and after air quality monitoring using air quality measurement facilities Active travel surveys Land use surveys and land value change assessments	Pre or during delivery / post opening (up to 5 years)	GCP
	Communities: Contribute to the creation of safe and attractive communities by reducing emissions, severance and the dominance of traffic improving personal security and road safety	Road safety Protection of green spaces; net biodiversity gain Environment (air quality and carbon reduction) Quality of the public realm Severance	Assessment of road traffic collisions Before and after air quality monitoring using air quality measurement facilities	Pre or during delivery / post opening (up to 5 years)	GCP
Efficient project delivery	Cost during construction and outturn costs against budget	Cost expenditure compared to milestones	Cost monitoring by area of spend compared with programme	During and post opening	GCP

Table 5-6 – Benefits Realisation Plan

Objective Supported	Enabling changes	Benefits experienced	Who will benefit	Benefit Owner
Capacity: Provide the cycle network capacity to accommodate increases in active travel demand due to new housing and employment growth	Provision of segregated cycling infrastructure: attract new active mode users on the Haslingfield / Grantchester / Barton areas	Unlocking economic growth by providing new transport capacity / encouraging new residents to commute using active modes into Cambridge	Residents / employees / wider community	GCP / South Cambridgeshire District Council / Cambridge City Council
Connectivity: Improve accessibility to jobs and opportunities by active modes through a reduction in journey times and increase ease of interchange with public transport modes	Provision of new cycling infrastructure offering more direct routes/links to other active mode networks (Barton Greenway / Madingley Road Cycling and Walking Improvements Project	Increased active mode transport accessibility to jobs in the city centre Mode shift from car to active modes	Residents / employees / wider community	GCP / South Cambridgeshire District Council / Cambridge City Council
Communities: Contribute to the creation of safe and attractive communities by reducing emissions, severance and the dominance of traffic improving personal security and road safety	Provision of new cycling infrastructure - dedicated active mode corridor leading to safer and healthier cycling & walking environment	Greater active mode travel safety Reduced GHG emissions, more linked habitats along the Haslingfield Greenway contributing to Bio-diversity Net Gain Reduced severance effect on residential communities due to traffic congestion relief Improved well-being of travellers, with positive effects for businesses through higher productivity	Residents / employees / wider community	GCP / South Cambridgeshire District Council / Cambridge City Council

Appendix A

SCHEME DESIGN DRAWINGS

Appendix B

TEE - PA - AMCB TABLES

Economic Efficiency of the Transport System (TEE) - Haslingfield Greenway

Non-business: Commuting

	MODES		ROAD	COACH	RAIL	OTHER
User benefits	**TOTAL**		**Private Cars and LGVs**	**Passengers**	**Passengers**	
Travel time	15,539		9,684			5,854
Vehicle operating costs	0					
User charges	0					
During Construction & Maintenance	0					
NET NON-BUSINESS BENEFITS: COMMUTING	15,539	*(1a)*		0	0	5,854

Non-business: Other

	MODES		ROAD	COACH	RAIL	OTHER
User benefits	**TOTAL**		**Private Cars and LGVs**	**Passengers**	**Passengers**	
Travel time	28,254		23,728			4,526
Vehicle operating costs	0					
User charges	0					
During Construction & Maintenance	0					
NET NON-BUSINESS BENEFITS: OTHER	28,254	*(1b)*	23,728	0	0	4,526

Business

			Goods Vehicles	Business Cars & LGVs	Passengers	Freight	Passengers	
User benefits								
Travel time	4,582			4,582				
Vehicle operating costs	0							
User charges	0							
During Construction & Maintenance	0							
Subtotal	4,582	*(2)*	0	4,582	0	0	0	0

			Freight	Passengers	
Private sector provider impacts					
Revenue	0				
Operating costs	0				
Investment costs	0				
Grant/subsidy	0				
Subtotal	0	*(3)*	0	0	0	0
Other business impacts					
Developer contributions		*(4)*			
NET BUSINESS IMPACT	4,582	*(5) = (2) + (3) + (4)*			

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	48,375	*(6) = (1a) + (1b) + (5)*

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Public Accounts (PA) Table - Haslingfield Greenway

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0					
Operating Costs	-324		-324			
Investment Costs	0					
Contributions	0					
Grant/Subsidy Payments	0					
NET IMPACT	-324	*(7)*				
Central Government Funding: Transport						
Revenue	0					
Operating costs	0					
Investment Costs	6,962,797					6,962,797
Contributions	0					
Grant/Subsidy Payments	0					
NET IMPACT	6,962,797	*(8)*				
Central Government Funding: Non-Transport						
Indirect Tax Revenues	4,868	*(9)*				4,868
TOTALS						
Broad Transport Budget	6,962,474	*(10) = (7) + (8)*				
Wider Public Finances	4,868	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and ‘Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Analysis of Monetised Costs and Benefits

Noise	406	*(12)*
Local Air Quality	871	*(13)*
Greenhouse Gases	4,126	*(14)*
Journey Quality	380,233	*(15)*
Physical Activity	1,357,619	*(16)*
Accidents	881,079	*(17)*
Economic Efficiency: Consumer Users (Commuting)	12,330	*(1a)*
Economic Efficiency: Consumer Users (Other)	6,483	*(1b)*
Economic Efficiency: Business Users and Providers	5,834	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	- 4,868	*- (11) - sign changed from PA*
Present Value of Benefits (see notes) (PVB)	2,644,112	*(16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	6,962,474	*(10)*
Present Value of Costs (see notes) (PVC)	6,962,474	*(PVC) = (10)*

OVERALL IMPACTS

Net Present Value (NPV)	-4,318,362	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	0.4	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Appendix C

APPRAISAL SUMMARY TABLE

Appraisal Summary Table

Date produced:	3	11	2022

Contact:	
Name	Thomas Fitzpatrick
Organisation	GCP
Role	Promoter/Official

Name of scheme:	Haslingfield Greenways
Description of scheme:	The Haslingfield Greenway is one route within a wider and developing sustainable travel network that is being created by the Greater Cambridge Partnership. The Greenways network will run through many different environments. These range from quiet rural settings along field edges or country lanes to busier urban locations that may have more limitations on space. Within each environment the Greenways project aims to deliver a safe, attractive and cost-effective sustainable travel route which users can enjoy all year round.

Impacts		Summary of key impacts	Assessment				
			Quantitative			Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The scheme will result in decongestion benefits to road users as a result of modal shift to active modes. This impact has been estimated using the DfT's AMAT and applying the journey purpose split from the November 2021 TAG Databook to assign these impacts to business, commuting and other users.	Value of journey time changes(£)			-	4,582	
			Net journey time changes (£)					
			0 to 2min	2 to 5min	> 5min			
	Reliability impact on Business users	Through providing continuity of cycling and walking infrastructure, the scheme will improve reliability for those travelling by active modes. For example, segregated and off road cycle facilities will provide more relaible journey times.	-			Slight Beneficial		
	Regeneration	Not assessed	-			Not Assessed		
	Wider Impacts	Not assessed	-			Not Assessed		
Environmental	Noise	Overall, the scheme is expected to reduce vehicle traffic as people transfer to foot or bicycle. Traffic noise would reduce accordingly.	-			-	406	
	Air Quality	Modal shift to cycling and walking, and associated reduced road traffic, will result in locally improved air quality.	-			-	871	
	Greenhouse gases		Change in non-traded carbon over 60y (CO2e)			-	4,126	
			Change in traded carbon over 60y (CO2e)					
	Landscape	The landscape along the route is characterised by agricultural land with fragmented hedgerow boundaries and small scattered woodlands. The scheme	-			Neutral to Slight Beneficial		
	Townscape	Not assessed	-			Not assessed		
	Historic Environment	Impacts on the form, survival, condition, complexity, context and period of designated heritage assets including the Scheduled settlement complex north-east of Haslingfield, and Grade II listed buildings in Haslingfield and Grantchester will be neutral. Impacts to the context of Grantchester Conservation Area will however be slight adverse. The impact to non-designated heritage assets and buried heritage assets has not been determined at this stage.	-			Slight adverse		
	Biodiversity	Neutral impacts are also expected for birds, barn owl, reptiles, hedgehog, bat and brown hare. Moderate adverse impacts will affect lowland deciduous woodland and lowland meadow, both Habitats of Principal Importance. Slight adverse impacts, as a result of pollution risk from the scheme, will affect the Byron's Pool Local Nature Reserve (LNR) and River Rhee City Wildlife Site, as well as on bats in general, badger, water vole, otter, great created newts, fish and aquatic invertebrates.	-			Moderate adverse		
	Water Environment	The scheme is located within Flood Zone 3, with a high risk of flooding. Its fluvial flood risk comes from the River Rhee, River Cam and Bourn Brook. There are numerous land drains and ditches in the area, as well as the Bourn Brook in the centre of the scheme, which is classified as a main river. In eastern section of the scheme is the River Rhee and River Cam which are also classified as main rivers.	-			Neutral - slight adverse		
Social	Commuting and Other users	Journey time savings to commuting and other users through mode shift from private car to using active modes, and journey time savings for pedestrians and cyclist using the new facilities	Value of journey time changes(£)			-	43,793	
			Net journey time changes (£)					
			0 to 2min	2 to 5min	> 5min			

	Reliability impact on Commuting and Other users	Through providing continuity of cycling and walking infrastructure, the scheme will improve reliability for those travelling by active modes. For example, the Greenways scheme includes a new cycle path between Haslingfield and Grantchester, which is more direct than the existing route option for cyclists.	-	Slight Beneficial		
	Physical activity	The improvement to cycle facilities will encourage active travel and therefore physical activity. Greater levels of cycling will result in health benefits through reduced health problems including diabetes and high blood pressure. In addition, an increase in walking trips along the greenway route will result in further health benefits which have not been fully quantified within the appraisal (i.e. health impacts as a result of the increase in pedestrians due to the dedicated crossing and improved lighting).	-	-	1,357,619	
	Journey quality	The improvements to the cycling and walking infrastructure along the route will improve the pleasantness of surroundings for users.	-	-	380,233	
	Accidents	As set out for the environmental impacts, the scheme is anticipated to result in a reduction in traffic movements as more people access the station by active modes. The overall reduction in highway-kilometres travelled as a result of the scheme will reduce the number of highway accidents. The scheme interventions such as greater separation between active modes and cars is anticipated to reduce the amount of accidents that occur along the route.	-	-	881,079	
	Security	The improved lighting provision along the route will increase the feeling of safety for pedestrians and cyclists. Solar studs will be used at specific points such as off-road sections where there is currently no lighting provision provided.	-	Moderate Beneficial		
	Access to services	The expansion, and improvement, of existing cycling and pedestrian infrastructure along the route will improve accessibility between settlements and into Cambridge. In addition, the improved paving infrastructure will improve accessibility for both pedestrians and cyclists in terms of pavement evenness and level access.	-	Slight Beneficial		
	Affordability	Those switching to cycling or walking from bus or car will have a lower cost of transport where they no longer pay fares or fuel and non-fuel vehicle operating costs.	-	Slight Beneficial		
	Severance	The introduction of the Haslingfield Greenway will provide a new cycle facility between Haslingfield and Cambridge, reducing the severance currently created due to the lack of a direct route between these settlements.	-	Slight Beneficial		
	Option and non-use values	Not assessed	-	Neutral		
Public Accounts	Cost to Broad Transport Budget	The scheme requires funding from the Greater Cambridge Partnership.	-	-	6,962,474	
	Indirect Tax Revenues	The scheme will have a negative impact indirect tax revenues	-	-	-4,868	

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