

# Whittlesey Relief Road

Case for Change – Objective Setting

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# Introduction

# Introduction

- This report presents the Case for Change for the Whittlesey Relief Road scheme. This has been developed to show the linkages between:
  - The overarching strategic and policy context for the area;
  - The known issues and opportunities within the area; and
  - How these have influenced the setting of scheme specific objectives.
- The Case for Change is a core component of the Strategic Dimension, one of the five dimensions that make up the Strategic Outline Case, and helps to set out a clear rationale for investment, including the drivers that are underpinning the justification for investment.
- This report concludes with a clear set of SMART (Specific, Measurable, Achievable, Realistic, Timebound) scheme objectives against which any options being considered can be assessed against.



# Introduction

- The stepped process taken in arriving at the scheme objectives is shown to the right. This report is set out to present each step of work undertaken:

- **Section 1 – Strategic context:**

This presents an overview of the strategic context in which the scheme is being considered and developed.

- **Section 2 – Policy and strategy landscape**

This presents a review of agreed key policy and strategy documents at the local, regional and national level. This includes the thematic grouping of the objectives from these documents.

- **Section 3 – Key issues and opportunities**

This presents the key issues and opportunities within the study area. These have then been grouped by the thematic strategy/policy objectives from Section 2.

- **Section 4 – Objective setting**

Using the themes from Section 2 and 3, thematic scheme objectives have been established. For each objective, a series of SMART sub-objectives have then been developed.



# Section 1: Strategic context

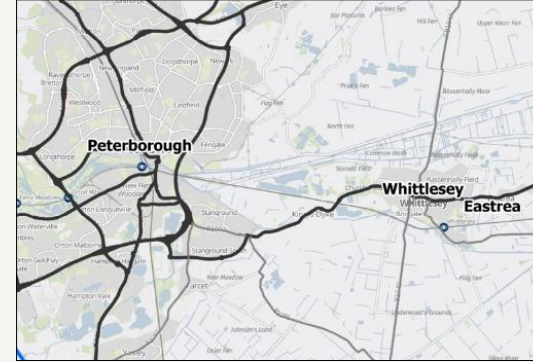
- The strategic context sets out the local context for the town of Whittlesey which underpins the basis that this scheme is being considered and developed.



Whittlesey is a historic market town with an approximate population of 18,000 and is situated in Fenland to the east of Peterborough. The town has a rich heritage and culture, with a long-established history, even being mentioned in Anglo-Saxon documents that precede the Domesday Book. The town has many historical features at its heart, such as the 17th Century Buttercross, and Mud Walls dotted across the town that date back 200 years.



With its historic nature and many historic buildings and narrow streets, the town has a distinctive and attractive offer to those who live there, and those who choose to travel there for work and leisure opportunities. However, these same features that make the town attractive, also create some impacts that are less conducive with modern day living, particularly in relation to access and transport.

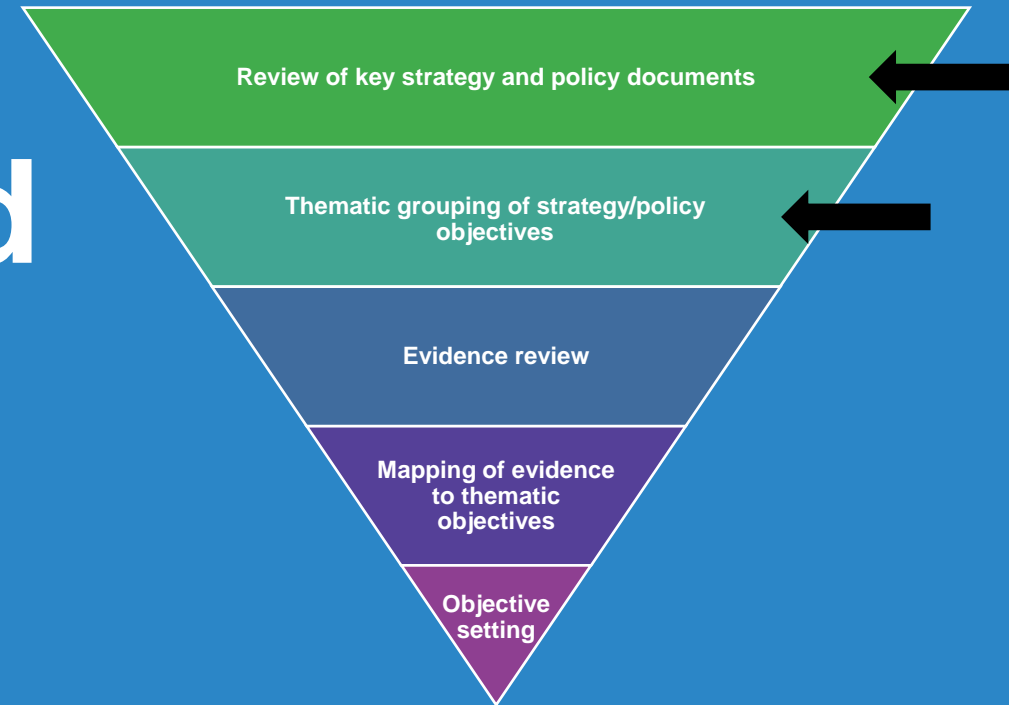


The town benefits from its proximity to Peterborough, which lies approximately 8km to the west. This is reflected in the Cambridgeshire and Peterborough Independent Economic Review (CPIER) 2018. Whittlesey is considered much more a part of the Greater Peterborough economic geography, compared to the rest of Fenland. This creates opportunities for residents to work, study, and shop in Peterborough, whilst still maintaining a proudly independent identity and distinct local culture.



Whittlesey can offer the 'best of both worlds' to current and future residents: the sense of community, calm and proximity to the countryside offered by a market town, alongside the benefits of being situated so close to a bustling and vibrant city, with everything that it has to offer. A key focus for the town is how it can further benefit from that connection, while also offering something distinct as a place to visit and spend time.

# Section 2: Policy and strategy landscape



# Policy and strategy landscape



- A review of policy and strategy documents has been undertaken to provide an understanding of the policy landscape within which any investment in new transport interventions for Whittlesey would be undertaken.
- The review involved pulling out a brief overview of each document, and the objectives set out within. A brief commentary on how this scheme could meet those policy/strategy documents has then been set out. This is presented on the following slides.
- Whilst the background to this scheme is based on the concept that a relief road might be delivered; it is important to note that this still needs to be explored more widely through an options development and assessment process.
- As a result, the strategic and policy documents used to help form the objectives are not specific to any particular transport mode. Any mode-specific strategy and policy documents, such as local cycling and walking plans, bus strategies or highway strategies have been discounted at this stage.

# Policies selected for review



## NATIONAL

- Net Zero: Build Back Greener
- Levelling Up The United Kingdom

## REGIONAL

- CPCA Local Transport and Connectivity Plan (LTCP)
- Cambridgeshire and Peterborough Independent Economic Review - CPIER
- England's Economic Heartland Transport Strategy

## LOCAL

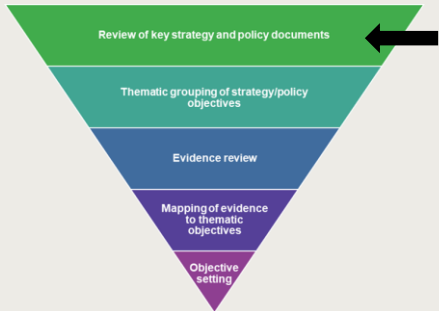
- Growing Fenland: Whittlesey Market Town Strategy
- Fenland Local Plan
- Fenland Transport Strategy
- Peterborough Local Plan
- Whittlesey Neighbourhood Plan

# National strategies



Policy/Strategy	Key objectives	Opportunity to meet objectives
<b>Net Zero Strategy: Build Back Greener (2021)</b>	The UK government’s Net Zero Strategy is a plan to decarbonise all sectors of the UK economy by 2050. The strategy includes proposals for reducing emissions, investing in sustainable energy sources and strengthening energy security. The strategy also targets emission reductions of 68% by 2030 and 77% by 2035 compared to 1990 levels.	Opportunity for transport interventions within Whittlesey to contribute to improved air quality and helping to maintain or enhance the natural environment.
<b>Levelling up the United Kingdom (2022)</b>	The UK government Levelling Up Strategy is a plan to distribute opportunities and prosperity more equally across the country by reducing the economic imbalances between areas and social groups. The strategy consists of 12 national missions to be achieved by 2030. These cover aspects of economic, social and environmental development, such as productivity, skills, transport, health, housing, crime and devolution.	Opportunity for transport intervention in Whittlesey to improve transport connectivity for the market town and surrounding areas, thereby helping to spread opportunities and boost productivity.

# Regional policies and strategies



Policy/Strategy	Key objectives	Opportunity to meet objectives
<b>Cambridgeshire and Peterborough Combined Authority (CPCA) Local Transport and Connectivity Plan (LTCP)</b>	The LTCP outlines the vision and goals for improving transport in Cambridgeshire and Peterborough. The LTCP aims to create a transport network that secures a future in which the region and its people can thrive, bringing together a region of cities, market towns and rural areas. The plan aims to make transport faster, greener, and more accessible for everyone, while addressing challenges such as climate change, pollution, inequality, and public health.	Opportunity for transport intervention in Whittlesey to support a number of the LTCP goals, by improving transport connectivity, thereby helping to spread opportunities and boost productivity whilst also protecting the environment and improving health and safety outcomes.
<b>Cambridgeshire and Peterborough Independent Economic Review - CPIER (2018)</b>	The CPIER sets out a package of 14 recommendations for Cambridgeshire and Peterborough based on improving economic performance, including devolution, housing and skills funding. Recommendation 7 includes ‘a package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term.	Opportunity for transport intervention in Whittlesey to support the goals of the CPIER in relation to continued economic growth and improving quality of life through spatial enhancements. In particular enabling greater connectivity and boosting productivity whilst allowing the centre of Whittlesey to become more visitor friendly.
<b>England's Economic Heartland Transport Strategy</b>	<p>The Transport Strategy sets the policy framework that will deliver England Economic Heartland’s ambition. It is guided by four key principles:</p> <ul style="list-style-type: none"> <li>• Achieving net zero carbon emissions from transport no later than 2050.</li> <li>• Improving quality of life and wellbeing through a safe and inclusive transport system.</li> <li>• Supporting the regional economy by connecting people and businesses.</li> <li>• Enabling the efficient movement of people and goods through the region.</li> </ul>	Opportunity for transport intervention in Whittlesey to contribute to the local improvements that align with the 4 key principles, thereby contributing to the overall improvement of England’s Economic Heartland.



# Local policies and strategies



Policy/Strategy	Key objectives	Opportunity to meet objectives
<b>Growing Fenland: Whittlesey Market Town Strategy</b>	The Strategy sets out how Whittlesey can build upon its strengths to make a ' <i>market town fit for the future</i> ' by bringing new life to the centre, promote its heritage offer, and increasing skills. Eight proposals for Whittlesey are outlined in the Strategy including enhancing the market, improving access to educational opportunities and a transport improvement package. The Strategy includes recommendations around transport in the 'Transport Improvement Package'.	The 'Transport Improvement Package' proposes five interventions for Whittlesey to increase visitors and improve career opportunities. This includes a potential new relief road that could help to reduce congestion in the town.
<b>Fenland Local Plan (2014)</b>	The Fenland Local Plan sets out the vision, objectives, policies and proposals for the future development of the Fenland district until 2031. The current adopted Local Plan aims to support sustainable growth; enhance the quality of life, protect and improve the natural and built environment; promote a low-carbon economy and deliver the necessary infrastructure and services to support development.	Opportunity for transport intervention in Whittlesey to meet several key goals of the Fenland Local Plan, including improvements to accessibility, greater investment in places and the preservation of heritage assets and their settings.
<b>Fenland Transport Strategy (2023)</b>	The purpose of the Fenland Transport Strategy is to address current and future transport issues in the district while being consistent with the vision and policies set out in the CPCA LTCP. The Strategy sets out four overarching objectives: <ul style="list-style-type: none"> <li>• Reduce the impact of rural isolation.</li> <li>• Support the needs of the local economy by developing better connectivity.</li> <li>• Enable residents to live fit and healthy lifestyles.</li> <li>• Meet the challenge of climate change and enhance the natural environment.</li> </ul>	Opportunity for transport intervention in Whittlesey to address all four objectives of the Transport Strategy, especially through developing better connectivity to education and employment as well as ensuring good access to key services.

# Local policies and strategies continued



Policy/Strategy	Key objectives	Opportunity to meet objectives
<b>Peterborough Local Plan (2019)</b>	<p>The Peterborough Local Plan outlines the vision and policies for the development of Peterborough and its surrounding villages until 2036. Key objectives include:</p> <ul style="list-style-type: none"> <li>• Promote a prosperous and diverse economy.</li> <li>• Enhance the vitality and attractiveness of the city centre and the rural villages.</li> <li>• Improve the connectivity and accessibility of the city and the wider region.</li> <li>• Protect and improve quality of life, health and wellbeing</li> </ul>	<p>Opportunity for transport intervention in Whittlesey to address transport connectivity and access to services, as well as the protection and enhancement of townscapes, which are key goals of the Peterborough Local Plan.</p>
<b>Whittlesey Neighbourhood Plan (2019)</b>	<p>This Plan sets out the vision and policies for the development and transport of Whittlesey Parish until 2040. The plan aims to:</p> <ul style="list-style-type: none"> <li>• Protect and enhance the character and identity of Whittlesey and its villages;</li> <li>• Support the local economy and services;</li> <li>• Provide for the housing needs of the population;</li> <li>• Improve the quality of life and well-being of residents and visitors; and</li> <li>• Promote a low-carbon and resilient future.</li> </ul>	<p>Opportunity for transport intervention in Whittlesey to help achieve a number of goals of the Neighbourhood Plan, including the regeneration of the town centre, dealing with issues around traffic, and ensuring Whittlesey maintains a vibrant community.</p>

# Policy and strategy objective grouping

- The individual objectives within the ten strategy and policy documents outlined in the slides above have been grouped based on key recurring themes that were identified. The following slides provide an overview of this exercise, showing where each objective has been grouped under the common theme headings:
  - Sustainable development
  - Economic growth
  - Transport, connectivity and access to services
  - Health, wellbeing and sense of community
  - Environmental outcomes

**Note** – the following slides use colour coding to identify each group of policy and strategy documents, these are:

***National Strategies*** – Green boxes

- NZS - Net Zero Strategy
- LU - Levelling up the United Kingdom

***Regional Policies/Strategies*** - Turquoise boxes

- CPCA LTCP - CPCA Local Transport & Connectivity Plan
- CPIER - Cambridgeshire and Peterborough Independent Economic Review
- EEH TS – England's Economic Heartland Transport Strategy

***Local Policies/Strategies*** – Blue boxes

- WMTS – Growing Fenland: Whittlesey Market Town Strategy
- FTS - Fenland Transport Strategy
- PLP – Peterborough Local Plan
- WNP – Whittlesey Neighbourhood Plan
- FLP – Fenland Local Plan

# Collective policy theme: Sustainable development



NZS: Our businesses are delivering the latest low carbon technologies, services and innovations for the UK and export markets

NZS: Our industrial heartlands are reinvigorated, with innovation and private investment in clean technologies

NZS: Our goods are designed to last longer and be more efficient, while being used, repaired and remanufactured within a circular economy.

NZS: Our homes are warm and comfortable, powered and heated by clean, affordable energy.

NZS: Our journeys are made in zero emission vehicles, with trains, ships and planes running on new low carbon energy sources.

CPCA LTCP: Climate – Successfully and fairly reducing emissions to net zero by 2050.

EEH TS: Ensure that our freight and logistics needs continue to be met whilst lowering the environmental impact of their delivery.

EEH TS: Focus on decarbonisation of the transport system by harnessing innovation and supporting solutions which create green economic opportunities.

WNP: Secure the appropriate regeneration of the town centre, tackling long-standing issues around traffic, parking, and retail offer, to give an improved shopping experience.

WNP: Provide new high-quality homes in appropriate sustainable locations that meet the need of the Neighbourhood Area without compromising the distinctive and attractive setting of the Town and Villages, or their natural environment, securing high-quality development in all new schemes.

WNP: The Neighbourhood Area maintains its vibrant community through proportionate growth, which delivers a range of housing, retains or enhances employment opportunities whilst protecting the rural setting of the settlements within. Local people will have opportunities to live and work in the area they have grown up in and remain essential and thriving within the community.

WNP: Promote new high quality economic and employment opportunities in appropriate locations and encourage the retention of existing employers in the Neighbourhood Area.

FLP: 1.1 Minimise the irreversible loss of undeveloped land

FLP: 3.2 Create places, spaces and buildings that are well designed, contribute to a high-quality public realm and maintain and enhance diversity and local distinctiveness of townscape character.

FLP: 4.1 Increase the use of renewable energy sources whilst minimising waste and the use of other energy resources.

FLP: 6.1 Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities and community activities); and ensure all groups thrive in safe environments and decent, affordable homes

PLP: 5.1 Promote the conservation and wise use of productive land.

PLP: 4.1 Minimise the consumption of non-renewable natural resources and maximise the re-use of materials.

PLP: 10.2 Make suitable housing available for everyone.

FTS: Meet the challenge of climate change and enhance the natural environment by encouraging people to travel more sustainably.

FLP: 3.1 Preserve and where appropriate, enhance buildings, monuments, sites, areas and landscapes that are designated or locally valued for their heritage interest; and protect/enhance their settings.

FLP: 3.3 Retain the distinctive character of Fenland's landscape.

FLP: 4.2 Limit or reduce vulnerability to the effects of climate change

FLP: 7.2 Support investment in people, places, communications and other infrastructure to improve the efficiency, competitiveness, vitality and adaptability of the local economy.

PLP: 1.1 Reduce reliance on fossil fuels, maximise the use of renewables and reduce CO2 / methane emissions.

PLP: 9.2 Diversify the economy and increase economic vitality to aid regeneration and provide economic resilience.

# Collective policy theme: Economic growth



NZS: Our goods are designed to last longer and be more efficient, while being used, repaired and remanufactured within a circular economy.

NZS: Our green economy and its supply chains provide sustainable jobs for highly-skilled workers

NZS: Our industrial heartlands are reinvigorated, with innovation and private investment in clean technologies

CPIER: Key priority 1 - Continued high economic growth.

CPCA LTCP: Productivity - Giving both employers and people the means to achieve more of their potential, making them more efficient and more innovative to create more prosperity.

NZS: Our businesses are delivering the latest low carbon technologies, services and innovations for the UK and export markets

LU: Boost productivity, pay, jobs and living standards by growing the private sector, especially in those places where they are lagging.

CPIER: Key priority 2 - A more inclusive economy.

CPIER: Scheme attribute 4: Business – focusing on businesses where the opportunity for growth is greatest.

EEH TS: Promote investment in digital infrastructure as a means of improving connectivity.

EEH TS: Champion increased investment in active travel and shared transport solutions to improve local connectivity to ensure that everyone has the opportunity to realise their potential.

EEH TS: Focus on decarbonisation of the transport system by harnessing innovation and supporting solutions which create green economic opportunities.

WMTS: New uses for the square.

WMTS: Enhancing the market.

WNP: Secure the appropriate regeneration of the town centre, tackling long-standing issues around traffic, parking, and retail offer, to give an improved shopping experience.

WNP: Promote new high quality economic and employment opportunities in appropriate locations and encourage the retention of existing employers in the Neighbourhood Area.

FTS: Support the needs of the local economy by developing better connectivity to places of education, retail, employment and healthcare.

FLP: 6.1 Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities and community activities); and ensure all groups thrive in safe environments and decent, affordable homes

FLP: 7.2 Support investment in people, places, communications and other infrastructure to improve the efficiency, competitiveness, vitality and adaptability of the local economy.

PLP: 8.1 Promote a more vibrant Peterborough.

PLP: 9.1 Support rural communities in creating a vibrant rural economy.

PLP: 9.2 Diversify the economy and increase economic vitality to aid regeneration and provide economic resilience.

PLP: 9.3 Give everyone access to learning, training, skills and work opportunities.

PLP: 9.4 Reduce poverty and inequality and enable everyone to have a comfortable standard of living.



# Collective policy theme:

## Transport, connectivity and access to services



NZS: Our towns and cities have cleaner air for everyone, and support walking and cycling with benefits for health.

LU: Spread opportunities and improve public services, especially in those places where they are weakest

CPIER: Scheme attribute 3: Place – making the most of Cambridgeshire and Peterborough's physical, environmental and cultural assets and infrastructure.

CPCA LTCP: Connectivity – People and communities are brought closer together, giving more opportunity for work, education, leisure and pleasure.

CPIER: Key priority 3 – A blended spatial strategy.

EEH TS: Use delivery of East West Rail and mass rapid transit systems as the catalyst for the transformation of our strategic public transport networks.

CPCA LTCP: Productivity - Giving both employers and people the means to achieve more of their potential, making them more efficient and more innovative to create more prosperity.

CPIER: Scheme attribute 1: People – ensuring people are equipped with the right skills and access to opportunities.

EEH TS: Promote investment in digital infrastructure as a means of improving connectivity.

EEH TS: Ensure that our freight and logistics needs continue to be met whilst lowering the environmental impact of their delivery.

EEH TS: Champion increased investment in active travel and shared transport solutions to improve local connectivity to ensure that everyone has the opportunity to realise their potential.

WMTS: New town website

WMTS: Local skills partnership

WNP: Seek ongoing improvement to flood defences, utility infrastructure, and digital connectivity, especially mobile phone reception and broadband.

WNP: Seek improvements to public transport (mainly the frequency and span of operation) walking and cycling.

WMTS: Access to educational opportunities.

WMTS: Transport Improvement package

FLP: 6.1 Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities and community activities); and ensure all groups thrive in safe environments and decent, affordable homes

WNP: Seek ongoing improvements to transport, specifically east-west connectivity and access to industrial areas, and to remove the designated HGV route from residential areas. To encourage a southern relief road or bypass, which local people have said that they support.

FTS: Reduce the impact of rural isolation on the day-to-day life and future prospects of Fenland residents by developing better access solutions to key services and facilities.

PLP: 9.3 Give everyone access to learning, training, skills and work opportunities.

PLP: 7.1 Encourage walking, cycling and the use of public transport and reduce the need to travel by car.

PLP: 9.5 Provide easy and affordable access for everyone to basic services and vide easy facilities.

FLP: 6.2 Create and enhance multifunctional open space that is accessible, links with a high quality green infrastructure network and improves opportunities for people to access and appreciate wildlife and wild places.

FLP: 6.3 Redress inequalities related to age, gender, disability, race, faith, location and income.

FLP: 7.1 Help people gain access to a range of employment and training opportunities

FLP: 7.2 Support investment in people, places, communications and other infrastructure to improve the efficiency, competitiveness, vitality and adaptability of the local economy.

FTS: Enable residents to live fit and healthy lifestyles, as they are able, by developing and promoting a connected, safe and viable active travel network and improving wellbeing.

FTS: Support the needs of the local economy by developing better connectivity to places of education, retail, employment and healthcare.

# Collective policy theme:

## Health, wellbeing and sense of community



NZS: Our towns and cities have cleaner air for everyone, and support walking and cycling with benefits for health.

LU: Restore a sense of community, local pride and belonging, especially in those places where they have been lost.

CPCA LTCP: Connectivity – People and communities are brought closer together, giving more opportunity for work, education, leisure and pleasure.

CPCA LTCP: Safety – To prevent all harm by reducing risk and enabling people to use the transport system with confidence.

CPIER: Key priority 3 – A blended spatial strategy.

LU: Empower local leaders and communities, especially in those places lacking local agency.

CPCA LTCP: Health – Improved health and wellbeing enabled through better connectivity, greater access to healthier journeys and lifestyles and delivering stronger, fairer, more resilient communities.

CPIER: Scheme attribute 3: Place – making the most of Cambridgeshire and Peterborough's physical, environmental and cultural assets and infrastructure.

CPIER: Scheme attribute 2: Quality of Life – enhancing the area as an enjoyable place to live and to visit.

PLP: 1.2 Minimise pollution which affects human health.

PLP: 7.1 Encourage walking, cycling and the use of public transport and reduce the need to travel by car.

PLP: 8.1 Promote a more vibrant Peterborough.

PLP: 9.1 Support rural communities in creating a vibrant rural economy.

PLP: 9.4 Reduce poverty and inequality and enable everyone to have a comfortable standard of living.

PLP: 10.1 Provide safe and healthy environments, reduce health inequalities and help everyone to live healthy lifestyles.

PLP: 10.2 Make suitable housing available for everyone.

PLP: 10.3 Reduce crime and fear of crime.

FTS: Reduce the impact of rural isolation on the day-to-day life and future prospects of Fenland residents by developing better access solutions to key services and facilities.

FLP: 3.2 Create places, spaces and buildings that are well designed, contribute to a high-quality public realm and maintain and enhance diversity and local distinctiveness of townscape character.

FLP: 5.1 Reduce emissions of greenhouse gasses and other pollutants (including air, water, soil, noise, vibration and light).

FLP: 7.2 Support investment in people, places, communications and other infrastructure to improve the efficiency, competitiveness, vitality and adaptability of the local economy.

WNP: Promote the health and well-being of residents and visitors, creating a place which supports a high quality of life.

WNP: The Neighbourhood Area maintains its vibrant community through proportionate growth, which delivers a range of housing, retains or enhances employment opportunities whilst protecting the rural setting of the settlements within. Local people will have opportunities to live and work in the area they have grown up in and remain essential and thriving within the community.

FTS: Meet the challenge of climate change and enhance the natural environment by encouraging people to travel more sustainably.

FLP: 6.1 Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities and community activities); and ensure all groups thrive in safe environments and decent, affordable homes

FLP: 6.2 Create and enhance multifunctional open space that is accessible, links with a high quality green infrastructure network and improves opportunities for people to access and appreciate wildlife and wild places.

FLP: 6.3 Redress inequalities related to age, gender, disability, race, faith, location and income.

WNP: Provide new high-quality homes in appropriate sustainable locations that meet the need of the Neighbourhood Area without compromising the distinctive and attractive setting of the Town and Villages, or their natural environment, securing high-quality development in all new schemes.

FTS: Enable residents to live fit and healthy lifestyles, as they are able, by developing and promoting a connected, safe and viable active travel network and improving wellbeing.

# Collective policy theme: Environmental outcomes



NZS: Our natural environment is protected, enhanced, and more diverse, with healthy ecosystems and increased biodiversity, supporting a sustainable rural economy.

CPCA LTCP: Environment – Protecting and improving our green spaces and improving nature with a well-planned and good quality transport network.

CPCA LTCP: Climate – Successfully and fairly reducing emissions to net zero by 2050.

PLP: 1.1 Reduce reliance on fossil fuels, maximise the use of renewables and reduce CO2 / methane emissions.

PLP: 1.2 Minimise pollution which affects human health.

PLP: 2.1 Reduce vulnerability to flooding.

PLP: 2.2 Minimise pollution of water resources.

PLP: 2.3 Minimise water consumption and encourage water re-use.

PLP: 3.1 Protect and enhance landscape, biodiversity and geodiversity and minimise the pollution of natural resources.

PLP: 5.1 Promote the conservation and wise use of productive land.

PLP: 6.1 Reduce waste not put to any use.

FLP: 1.1 Minimise the irreversible loss of undeveloped land

FLP: 1.2 Increase water efficiency and limit water consumption to levels supportable by natural processes and storage systems

FLP: 1.3. Avoid any deterioration of river water quality

FLP: 2.1 Avoid damage to designated sites and protected species

FLP: 2.2 Maintain and enhance the geographical range, amount and viability of habitats and species

FLP: 3.1 Preserve and where appropriate, enhance buildings, monuments, sites, areas and landscapes that are designated or locally valued for their heritage interest; and protect/enhance their settings.

FLP: 3.2 Create places, spaces and buildings that are well designed, contribute to a high-quality public realm and maintain and enhance diversity and local distinctiveness of townscape character.

FLP: 3.3 Retain the distinctive character of Fenland's landscape.

FLP: 4.1 Increase the use of renewable energy sources whilst minimising waste and the use of other energy resources.

FLP: 4.2 Limit or reduce vulnerability to the effects of climate change

FLP: 4.3 Minimise vulnerability of people, places and property to the risk of flooding from all sources.

FLP: 5.1 Reduce emissions of greenhouse gasses and other pollutants (including air, water, soil, noise, vibration and light).

FLP: 5.2. Reduce the risk of pollution to the environment from contaminated land.

FTS: Meet the challenge of climate change and enhance the natural environment by encouraging people to travel more sustainably.

WNP: Seek ongoing improvement to flood defences, utility infrastructure, and digital connectivity, especially mobile phone reception and broadband.



# Consolidation of key themes

➤ SUSTAINABLE DEVELOPMENT

➤ ECONOMIC GROWTH

➤ TRANSPORT, CONNECTIVITY  
AND ACCESS TO SERVICES

➤ HEALTH, WELLBEING AND  
SENSE OF COMMUNITY

➤ ENVIRONMENTAL OUTCOMES

SUSTAINABLE GROWTH



CONNECTIVITY AND ACCESS TO OPPORTUNITY



HEALTH, WELLBEING AND SENSE OF COMMUNITY



ENVIRONMENTAL OUTCOMES



Review of key strategy and policy documents

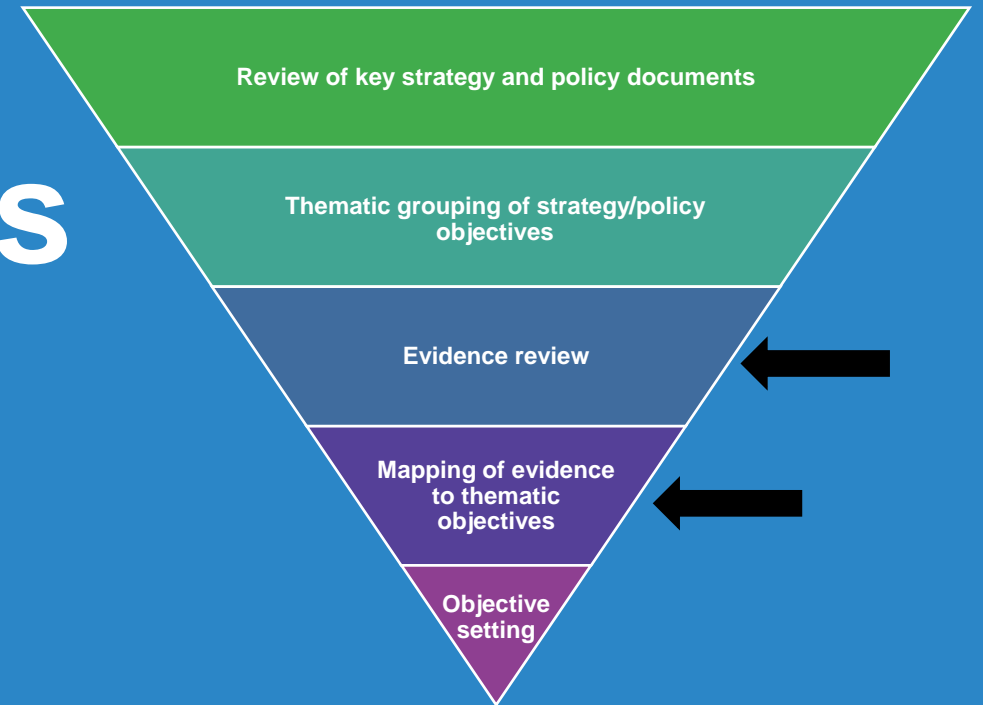
Thematic grouping of strategy/policy objectives

Evidence review

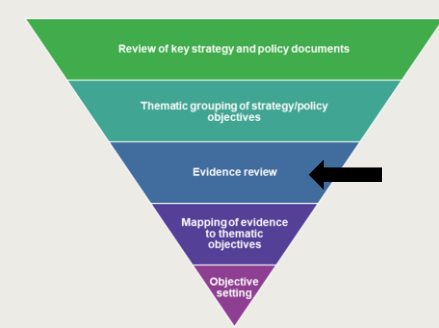
Mapping of evidence to thematic objectives

Objective setting

# Section 3: Key issues and opportunities



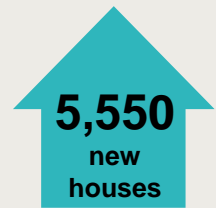
# Evidence review



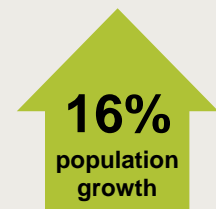
- As part of the development of the Strategic Outline Case and Case for Change, a thorough review of the existing issues and opportunities within Whittlesey and the surrounding area was undertaken. This is captured within a Baseline Evidence Review report.
- This review drew upon multiple sources and presents a review of the evidence collected in relation to:
  - the local context;
  - the socio-economic conditions of the town;
  - current transport and traffic conditions;
  - future housing and employment developments, and
  - the environmental conditions within the town caused by traffic conditions.
- The following slides present the key findings from the evidence review, these have then been mapped to the key themes from the policy and strategy review.



# Land use and growth constraints



Large growth is planned within the region during the next decade. This includes **5,550 new houses** and **212ha of new employment** to the east of Whittlesey, and **875 new houses** and **31ha of new employment** planned for the town itself.



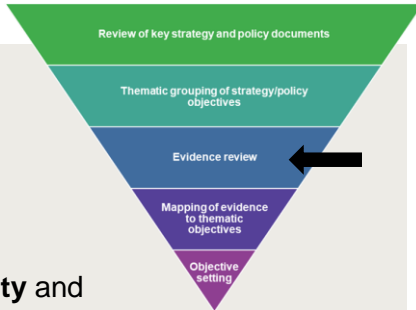
Fenland population to **grow 16% by 2040**. This growth is **likely to exacerbate known issues on the transport network** due to scale and the location of proposed development, which is primarily located to the east of town, furthest from Peterborough which is a key destination for trips.



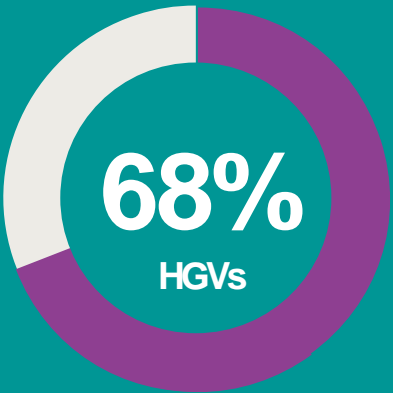
**Key junctions** along the A605 through Whittlesey are currently **reaching capacity** and are unlikely to cope with significant further growth vehicle trips.



High proportion of people aged 65+ however, the growth in **new housing and employment sites offer great opportunities for employment and for younger families to relocated to the town**, resulting in the economic growth of the local area.



# Through traffic movements



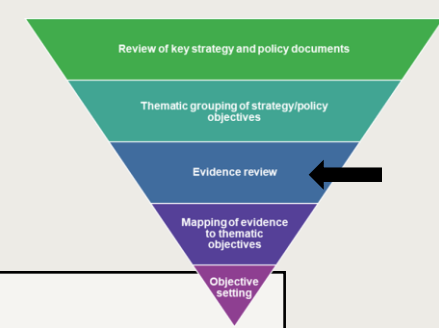
Due to Whittlesey's location on the A605, between Peterborough and other Fenland market towns, as well as the location of a number of large industrial employment sites located around the town, there are **significant related through traffic issues**.

This is more of an issue with HGVs, with a recorded **68% of all HGV movement** through Whittlesey on the A605 not actually stopping within the town itself.

There is less through traffic for other general highway traffic, with **40%** passing through the town and not stopping during AM Peak.



# Location on the network – network issues



## Designated HGV Route

The A605 is one of the key routes for east-west traffic between Peterborough and the Fenland market towns. Whilst the A47 offers an alternative route, it is not always more convenient, and can suffer from congestion. The A605 also forms part of the National Highways diversion route and is a key route for freight, with few restrictions. These aspects lead Whittlesey to experience high levels of traffic within the town centre, especially when the A47 is closed.

## Flooding

Annual flooding events cause issues for traffic travelling to the north, or into the town from the north along the B1040 which may close during flooding events. There are few alternative routes for traffic impacted by these road closure events, with traffic diverting along the A605 through Whittlesey instead.

# Environmental and social issues



## Air quality

Whilst air quality as a result of traffic is not a significant issue at present, **air quality could worsen if future growth in the demand for travel** from / to and through the town increases, and the dependency on private vehicles as the main mode of transport persists.

## Historic environment

The **historical environment of Whittlesey and its heritage is being negatively impacted by high car use**, and in particular HGVs travelling through the town.

## Access to services

**Accessibility to employment, recreational and health facilities is limited** unless via car.

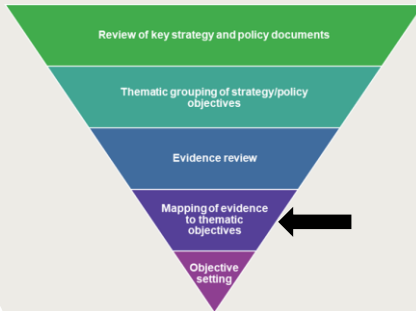
## Segregation

The **A605 and the highway network in Whittlesey, segregates the town**, and does not contribute to the sense of place and market town identity, which is so important for a market town such as Whittlesey.

## Accidents

There are a number of **small clusters of collisions at key junctions** in the town, in particular at the A605/B1040 junction – **1 fatal pedestrian in past 5 years, and 3 serious involving cyclists.**

# Mapping issues to themes



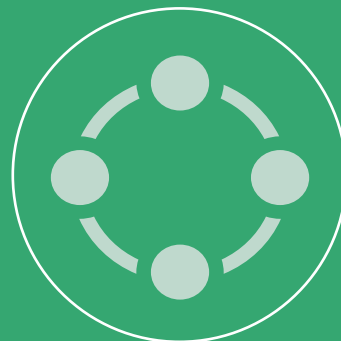
## SUSTAINABLE GROWTH

- Significant projected population growth
- Large proposed developments



## HEALTH, WELLBEING AND SENSE OF COMMUNITY

- Severance created by A605
- Negative impact on local community
- Unsafe environments for vulnerable road users



## CONNECTIVITY AND ACCESS TO OPPORTUNITY

- Poor public transport and active travel network
- Not all education, employment, healthcare and retail needs can be met in Whittlesey



## ENVIRONMENTAL OUTCOMES

- Flooding a significant issue
- High traffic levels add to local air quality and noise impacts
- Historic town negatively impacted by traffic

## TRAFFIC DOMINANCE

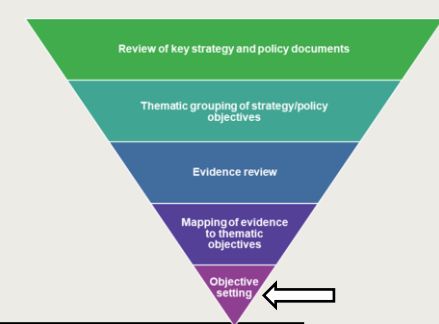
- High car ownership and mode share.
- Around 40% of trips in AM Peak are through traffic
- HGV use of narrow, unsuitable streets.
- Key junctions are operating at, or over, capacity.

# Section 4: Objective setting









# Objective setting



- The following slide sets out the scheme objectives that have been developed for the Whittlesey Relief Road scheme.
- For each of the four core themes a main objective has been drafted. This links it to the policy and strategic objectives that the theme reflects (as set out in Section 2), as well as the identified issues that have been mapped to each theme (as set out in Section 3).
- Below each main objective there are a series of sub-objectives. The purpose of these is to draw out aspects each objective that can be made SMART (Specific, Measurable, Achievable, Realistic, Timebound).
- Each measurable element of the sub-objectives looks to address the core issues and link to the policy and strategic objectives.

# Objectives

Objective theme	Main objective	Sub-objective
<b>Sustainable growth</b> 	<b>1. Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.</b>	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
		1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.
<b>Connectivity and access to opportunity</b> 	<b>2. Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.</b>	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
		2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
		2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.
<b>Health, wellbeing and sense of community</b> 	<b>3. Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.</b>	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
		3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
		3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.
<b>Environment</b> 	<b>1. Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.</b>	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

# Next Steps

- The next phase of work is to establish the long list of options that can meet the scheme objectives, thereby addressing the identified issues, and meeting local, regional and national policy and strategic objectives.
- These options will then undergo an assessment in order to arrive at a short list of options that will be appraised in greater detail for the Strategic Outline Case. This will allow a robust recommendation for a preferred way forward for the scheme to be made.
- The assessment of the options will be done using the scheme objectives as the basis for the assessment framework, with the sub-objectives providing the base for the criteria used in assessing each option.
- The objectives will also feed through to the monitoring and evaluation of the final option that is taken forward for delivery (this will be subject to future phases of development of the scheme, and is dependent on funding), and provide a framework that steers the collection of necessary data for monitoring. This would be required in advance of any construction, and in the years following delivery, normally at 1 year and 5 year post implementation.



# Baseline Evidence Review

Whittlesey Relief Road

February 2024

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# **Baseline Evidence Review**

Whittlesey Relief Road

February 2024

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# Executive summary

This report presents the baseline evidence review for the Whittlesey Relief Road scheme, exploring the local context; socio-economic issues affecting the town; the existing transport network and traffic conditions; future land use; and environmental concerns.

## Local context

Whittlesey is a historic market town in Fenland and an attractive place to live for residents. However, whilst the A605 through Whittlesey provides a good connection to Peterborough and the Fenlands, this results in a notable volume of traffic passing directly through the town centre and creates transport challenges. Alternatives to the car within Whittlesey are less prevalent and less attractive to residents, with low-frequency bus and train services, along with limited cycling infrastructure and a walking network that can present challenges to users.

## Socio-economic

Whittlesey has relatively high car ownership (85%), low levels of deprivation and a higher proportion of retired residents (26%) when compared with neighbouring Peterborough. These factors, along with the limitations of non-car travel within the town, has created a car dependency culture amongst residents, increasing vehicle trips within and around the study area.

Over a quarter of Whittlesey residents (25.8%) have no qualifications, whilst the town also has a lower proportion of economically active people (58%) than Peterborough (64%) and England (61%). Poor accessibility limits the ability of these residents to access education and employment opportunities.

Whittlesey currently has a population of 18,000 and is growing faster than many surrounding settlements. This growth, along with planned developments in the town, has the potential to attract younger people and could result in the profile of journeys around the town changing. The current transport network serving the town will need to evolve to support this growth and this will need to be done in a sustainable manner so as not to negatively impact on people's quality of life.

## Transport network and traffic conditions

Traffic levels within the town are a noted concern, with motorised traffic accounting for 98% of movements. Automatic Number Plate Recognition surveys were undertaken to understand the level of traffic which has a purpose within the town and the level that is simply passing through. The level of through trips by Heavy Goods Vehicles (HGVs) and Light Goods Vehicles (LGVs) within the historic centre is of particular note. Only around 45% of these trips are estimated to have a destination within the town centre, compared to around 60% of general traffic movements.

Whilst goods vehicles must necessarily access key employment sites, the highway network within the town is not built for large vehicles. HGVs often have to use narrow, residential streets, which is of particular concern. The need for HGVs to access industrial sites to the west and south of the town also poses an issue, with limited alternative routing for them.

Congestion along the A605 is also regarded to be a problem in Whittlesey. Whilst free-flow speeds in the town average between 25-30mph, this can drop to 15mph during peak hours, especially at key junctions along the A605. These junctions are already operating close to, or

over, capacity. This therefore limits the ability of Whittlesey to grow sustainably, potentially preventing new developments from being delivered.

Although rail allows for short travel times to Peterborough, the service is infrequent, with the service between Peterborough and Ipswich running once every two hours. Likewise, the bus network in Whittlesey features infrequent services however the bus routes also feature long travel times that limit attractiveness to residents. Improvements to the active travel network could increase sustainable travel within Whittlesey; however, a shift to active travel alone will not resolve the issues that Whittlesey faces.

## Future land use

Local Plans for Fenland and Peterborough, as well as the Whittlesey Neighbourhood Plan, have been examined to determine future growth aspirations. Whittlesey has already exceeded the development of 1,000 dwellings that was set out in the Fenland Local Plan (2014) and there are a further 875 homes allocated in the draft Fenland Local Plan (2022). With the area to the north of Whittlesey prone to flooding, future developments must be located to the east. This, along with development in the rest of Fenland, will place further pressure on the A605 and exacerbate the delays currently faced by road users.

## Environment

Flooding is a major environmental concern in Whittlesey, with the Whittlesey (Nene) Washes Flood Storage Reservoir located to the north of the town. Not only does this restrict areas in which development can occur but when high tides and high river levels coincide, the reservoir can flood, leading to the closure of North Bank Road/B1040 and the displacement of over 5,000 vehicles per day. Other environmental metrics, such as air quality and noise, do not currently show any exceedance of monitoring objectives.

Whittlesey also has rich geoarchaeology, archaeology and built heritage which are a significant resource to the town. However, high traffic levels within the town affect the natural and built environment and Whittlesey would benefit from a reduction in through traffic.

## Summary

Based on the evidence set out in this report, the town of Whittlesey suffers from the impact of high traffic volumes, particularly in terms of HGV traffic through the centre of the town and on roads that are less appropriate for large vehicles.

Car use within the town is high and there are currently few alternatives, with a poor public transport and limited active travel offering. A high proportion car trips either originate or terminate within Whittlesey Town Centre, so whilst the removal of through-trips would improve traffic conditions in the centre of the town, it would not resolve all current and future traffic issues. Furthermore, the options for creating alternative routings to the A605 for through-trips is likely to be constrained by environmental considerations, particularly to the north of the town.

Population growth in the town, alongside planned housing and employment developments, are likely to exacerbate the issue of traffic further, yet will also provide a good opportunity for younger families to relocate to the town. Developing appropriate transport solutions would help Whittlesey to grow sustainably.

# 1 Introduction

As part of the development of the Whittlesey Relief Road scheme, Mott MacDonald have undertaken a comprehensive review of evidence to establish the issues and opportunities that underpin the need for the scheme for the town of Whittlesey situated in the Cambridgeshire district.

The traffic, particularly HGVs, using the roads through Whittlesey is of concern for the local community<sup>1</sup>, road users, Whittlesey Town Council<sup>2</sup>, Fenland District Council (FDC)<sup>3</sup> and the Cambridgeshire and Peterborough Combined Authority (CPCA)<sup>4</sup>. Key issues noted are with regards to the impact of slow traffic speeds and congestion on the A605 within Whittlesey and in the surrounding area, resulting in delayed journeys and poor journey time reliability, as well as road traffic noise and poor air quality as a result of vehicle emissions. Additional concerns regarding safety and severance for the local community, and the impact of vibration and dust upon historic buildings<sup>5</sup> have also been raised, and it is perceived that these issues would pervade and deteriorate with the development of new housing<sup>6</sup> and industry<sup>7</sup>.

Whilst the background to this review is based on the concept that a relief road might be delivered; it is important to note that this still needs to be explored more widely through an options development and assessment process. Therefore, a primary intention of this evidence review is to fully understand the issues currently experienced within the study area established around the town of Whittlesey. It also considers the opportunities that would underpin the need for investment in a scheme such as a relief road or whether, alternatively, other potential solutions could be investigated instead.

Specifically, this report draws on multiple sources and presents a review of the evidence collected in relation to:

- the local context;
- the socio-economic conditions of the town;
- current transport and traffic conditions within the study area;
- future housing and employment developments, and
- the environmental conditions within the town caused by traffic conditions.

This allows a full understanding of the current issues and opportunities that underpin the need for investment, which will enable the scheme's objectives to be set as the scheme progress.

## 1.1 Study area

To provide a focus for the evidence review, a study area has been identified (Figure 1.1). This area covers Whittlesey, along with the main nearby settlements of Peterborough (to the west),

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<sup>1</sup> Cambsnews (2022) 'Residents hope they're parking up the right tree', Accessed; [Residents hope they're parking up the right tree!](https://www.cambsnews.co.uk/news/local-news/whittlesey-residents-hope-theyre-parking-up-the-right-tree/) - CambsNews.co.uk

<sup>2</sup> Whittlesey Town Council (2021) 'Whittlesey DRAFT Neighbourhood Plan Baseline Report', Accessed; [Baseline-Report.pdf \(whittleseytowncouncil.gov.uk\)](https://www.whittleseytowncouncil.gov.uk/wp-content/uploads/2021/05/Baseline-Report.pdf)

<sup>3</sup> Fenland District Council (2023) 'Agenda item – Whittlesey Southern Relief Road SOBC', Accessed; [Agenda item - Whittlesey Southern Relief Road SOBC - Fenland District Council](https://www.fenland.gov.uk/agenda-items/whittlesey-southern-relief-road-sobc/)

<sup>4</sup> Fenland District Council (2020) 'Growing Fenland – Whittlesey – A Market Town fit for the Future', Accessed; [Growing Fenland - Whittlesey Final Report.pdf](https://www.fenland.gov.uk/growing-fenland-whittlesey-a-market-town-fit-for-the-future/)

<sup>5</sup> Whittlesey Town Council (2021) 'Whittlesey DRAFT Neighbourhood Plan Baseline Report', Accessed; [Baseline-Report.pdf \(whittleseytowncouncil.gov.uk\)](https://www.whittleseytowncouncil.gov.uk/wp-content/uploads/2021/05/Baseline-Report.pdf)

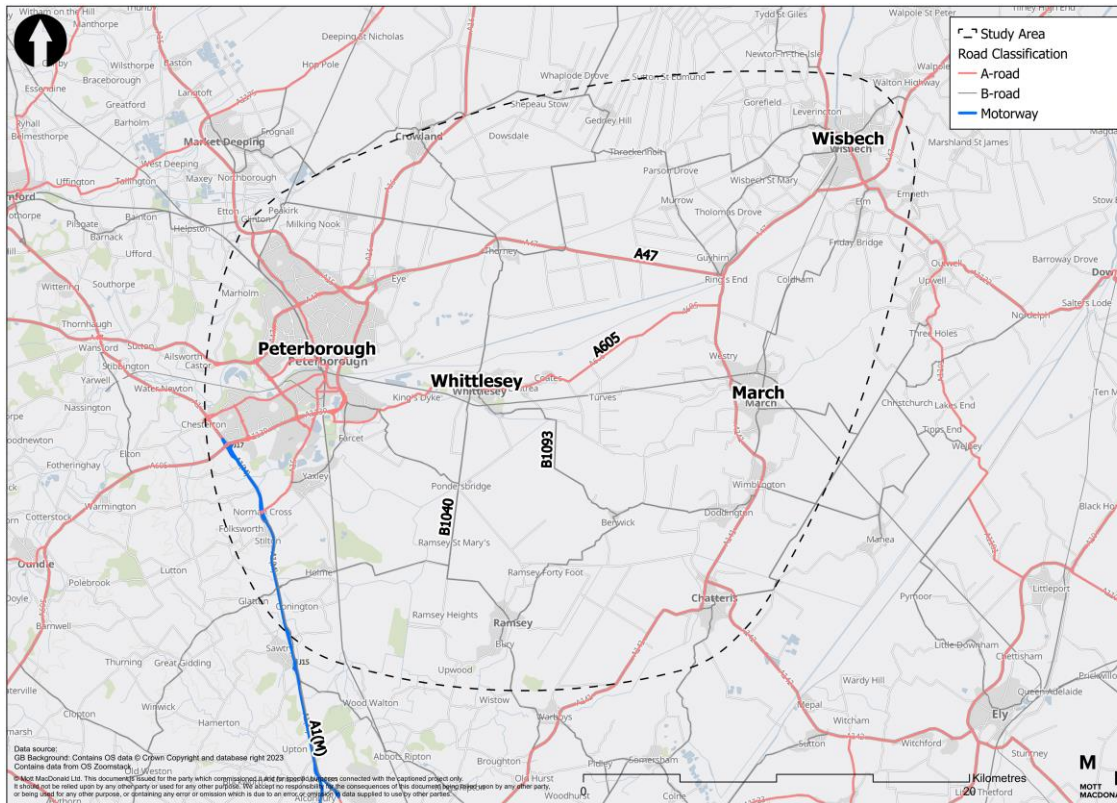
<sup>6</sup> Cambsnews (2023) 'Residents tell council 'halt the madness' of 175 more homes for Whittlesey', Accessed; [Residents tell council 'halt the madness' of 175 more homes for Whittlesey - CambsNews.co.uk](https://www.cambsnews.co.uk/news/local-news/whittlesey-residents-tell-council-halt-the-madness-of-175-more-homes-for-whittlesey/)

<sup>7</sup> CambridgeshireLive (2022) 'Whittlesey incinerator ash recycling centre approved despite hundreds of objections', Accessed; [Whittlesey incinerator ash recycling centre approved despite hundreds of objections - Cambridgeshire Live \(cambridge-news.co.uk\)](https://www.cambridgeshirelive.co.uk/news/local-news/whittlesey-incinerator-ash-recycling-centre-approved-despite-hundreds-of-objections/)

March (to the east), Wisbech (to the northeast), Chatteris (to the southeast), and Ramsey (to the south).

The purpose of including a wider study area is to ensure that the evidence review provides an understanding of the relationship between the key locations that are linked by the A605, with Whittlesey at the heart.

**Figure 1.1: Study area**



Source: Mott MacDonald



## 2 Local context

This section summarises the local context for the scheme within the study area and wider the Fenlands District, and outlines the key features of the town, including large employers, retail sites, and healthcare locations.

### 2.1 The town of Whittlesey

Whittlesey is a historic market town with an approximate population of 18,000<sup>8</sup> and is situated in the Fenlands to the east of Peterborough. The town has a rich heritage and culture, with a long-established history, even being mentioned in Anglo-Saxon documents that precede the Domesday Book. The town has many historical features at its heart, such as the 17th Century Buttercross, and Mud Walls dotted across the town that date back 200 years.

With its historic nature and many historic buildings and narrow streets, the town has a distinctive and attractive offer to those who live there, and those who choose to travel there for work and leisure opportunities. However, these same features that make the town attractive, also create some impacts that are less conducive with modern day living, particularly in relation to access and transport.

**Figure 2.1: Whittlesey Buttercross**



Source: Mott MacDonald

The town benefits from its proximity to Peterborough, which lies approximately 8km to the west. This is reflected in the Cambridgeshire and Peterborough Independent Economic Review (CPIER) (2018). Whittlesey is considered much more a part of the Greater Peterborough economic geography, compared to the rest of Fenland. This creates opportunities for residents

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<sup>8</sup> [Cambridgeshire & Peterborough Insight – Population – Census 2021 – Ward Demography Dashboard \(cambridgeshireinsight.org.uk\)](https://cambridgeshireinsight.org.uk)

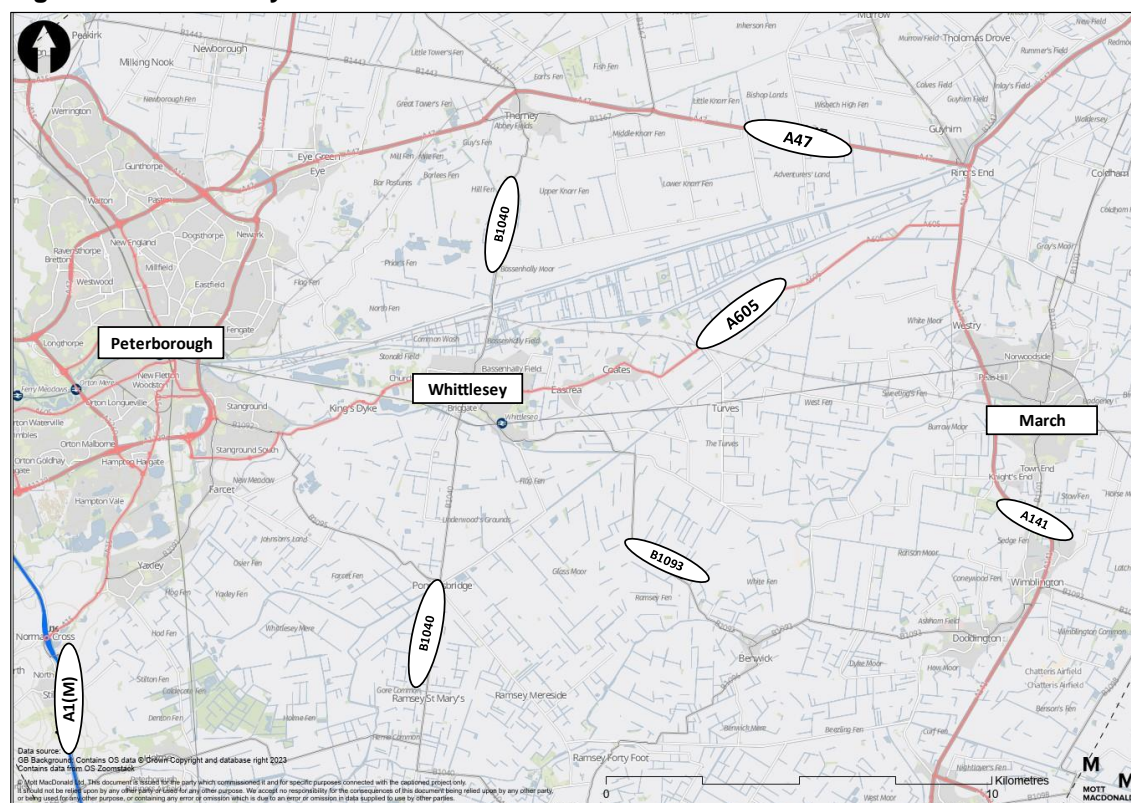


to work, study, and shop in Peterborough, whilst still maintaining a proudly independent identity and distinct local culture. Whittlesey can offer the 'best of both worlds' to current and future residents: the sense of community, the calm and proximity to the countryside offered by a market town, alongside the benefits of proximity to a city, with everything that it has to offer. A key focus for the town is how it can further benefit from that connection, while also offering something distinct as a place to visit and spend time.

To the east there are the Fenland market towns of March and Wisbech, with the smaller villages of Coates, Eastrea, Pondersbridge and Turves situated in the area immediately surrounding Whittlesey. A lot of the surrounding area to the town is farmland, although closer to the edges of the town are substantial industrial areas. To the north lies the Fenland washes, which act as a natural flood water storage area.

The A47 and A605 are the most significant links between Peterborough and the Fenlands area, with the latter passing directly through Whittlesey. The B1040 is the main north-south route through the town, connecting to the A605 at one of the key town centre junctions, whilst the B1093 provides further connections to the southeast.

**Figure 2.2: Whittlesey town location**



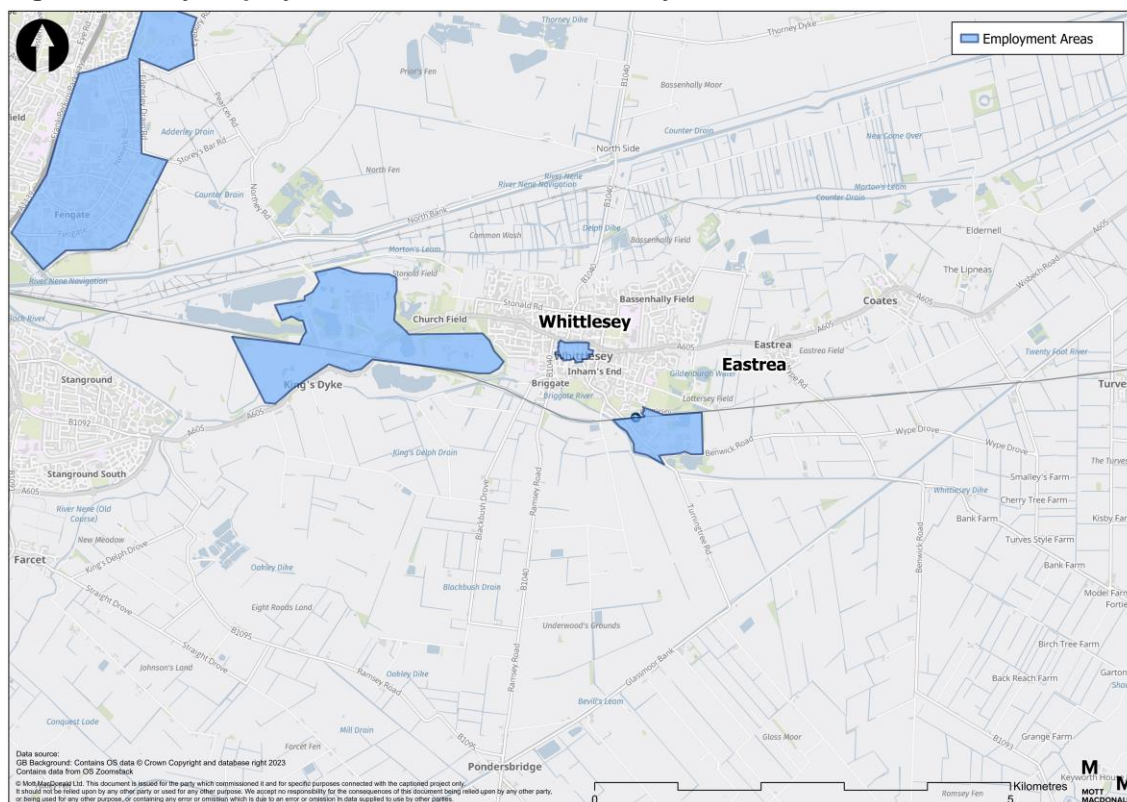
Source: Mott MacDonald

## 2.2 Large employers

Figure 2.3 below shows the key employment sites around Whittlesey. The town centre is one of the primary employment areas and is dominated by retail shops, including a Co-op supermarket and Boots Pharmacy. In addition, there are large industrial areas to the south (with employers such as EDF Energy and RGE Engineering) and to the west (this includes large employers at Forterra brickworks, McCain Foods, and Johnson's aggregates). There is a large industrial site to the east of Peterborough which acts as a major employment area and has the potential to generate a large number of trips.

Major employers rely on vehicles to service their business needs, with this resulting in significant HGV and LGV usage within the town. These movements are necessary to help support the local economy however these businesses are not always located on the main road network (A605), and therefore vehicles must instead drive through residential areas or use narrow, unsuitable and historic streets to reach their destination. For example, HGVs are currently permitted to use the B1040 Church Street which includes a chicane that narrows the road to provide traffic calming, and the B1093 Inhams Road which is a narrow residential street and includes tight turnings from Cemetery Road. Although weight restrictions exist within the centre of the town, there are still regular issues reported with large vehicles trying to access unsuitable locations.

**Figure 2.3: Key employment areas around Whittlesey**



Source: Mott MacDonald

### Large employers – implication for the study?

Large employment areas around the town, including the town centre, not only act as trip generators for those working there, or shopping, but generate HGV and LGV trips that serve these locations. This is particularly the case for the larger industrial sites to the south and west of the town.

Major employment sites rely on HGVs and LGVs to service their business needs, with these movements necessary to help support the local economy. However, these vehicles are often travelling through narrow and historic streets that are unsuitable, or through residential areas.

These journeys have to be made in this way because there are no alternative routes for HGV traffic to go to access the employment sites. Ultimately there is a disconnect between the location of some of the business areas, such as those to the south, and their relationship to the main road network i.e., the A605.

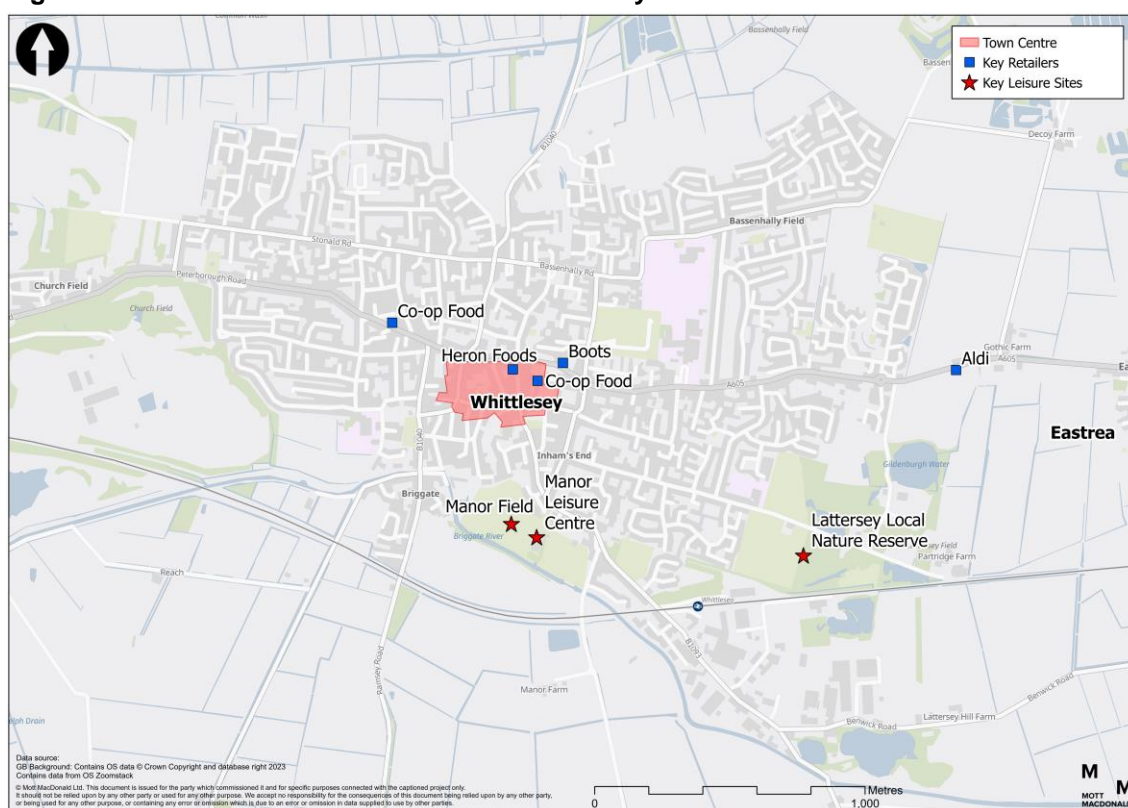
## 2.3 Retail and leisure

Whittlesey offers many retail and leisure opportunities for residents and those visiting the town. This includes large supermarkets, such as Aldi and Co-op, as well as a range of convenience shops, pharmacies and other small businesses.

Leisure sites include Manor Field, the Manor Leisure Centre and Lattersey Local Nature Reserve. The Kings Dyke Nature Reserve and RSPB Nene Washes are located further afield to the east and west respectively, offering further outdoor leisure opportunities for the residents of Whittlesey.

Figure 2.4 shows a selection of these retail and leisure facilities.

**Figure 2.4: Retailers and leisure sites in Whittlesey**



Source: Mott MacDonald

### Retail and leisure – implications for the study?

Many retailers are focused on the town centre which allows residents to visit one place for all their needs. However, the location of Aldi to the east of the town, as well as the leisure sites to the south are less convenient for residents to access unless by car.

Similarly, residents are required to travel to March, Wisbech and Peterborough to access larger supermarkets and other chain retailers. With the car being the most convenient means of travel in the area, trips to these retail locations and leisure facilities are more likely to be carried out by car using the A605, or the B1040.

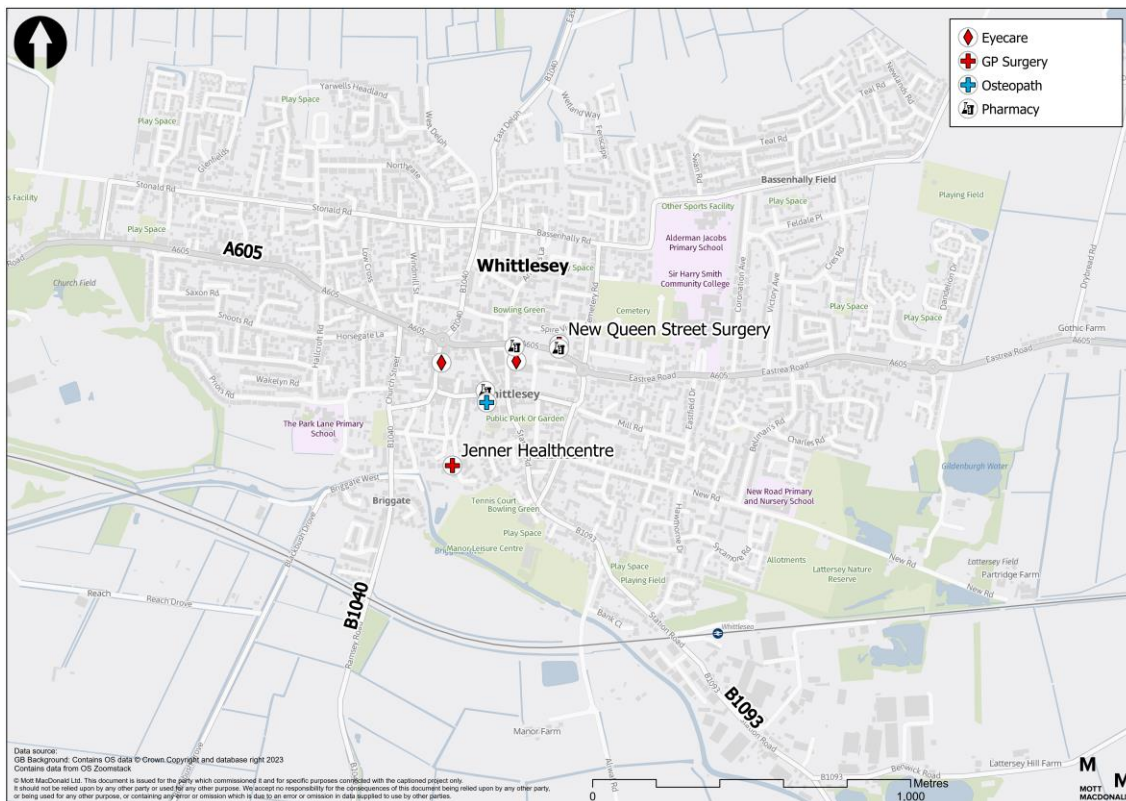


The closest major hospitals to Whittlesey are Peterborough City Hospital, North Cambridgeshire Hospital and Doddington Community Hospital (shown in Figure 2.5). Peterborough City Hospital, located around 17km from the centre of Whittlesey, is the closest of the three and the only one with an emergency department.

This map shows the Peterborough area with the proposed Peterborough City Hospital site highlighted. The map includes surrounding towns like Wisbech, March, and Ely, and major roads like the A15 and A103. A scale bar indicates 0 to 20 Kilometres.

Within Whittlesey itself, there are GP surgeries, pharmacies, opticians, an osteopath, as well as several at-home care services (shown in Figure 2.6). These provide some level of healthcare to residents, with their central location making them relatively accessible for the local community via car and public transport. The New Queen Street Surgery and a Boots pharmacy are the only services located north of the A605, with the rest located to the south. The car dominated environment of central Whittlesey and limited cross points of the A605 mean that residents without a car, especially the elderly or those with restricted mobility, may struggle to access the GP surgeries, despite their central location.

**Figure 2.6: Healthcare facilities within Whittlesey**



Source: Mott MacDonald

### Healthcare facilities – implications for the study?

Although there are a number of smaller healthcare facilities, such as GP surgeries, located within Whittlesey, people with health issues have to travel outside the town to receive hospital treatment or access an Accident & Emergency department. The reported issues of traffic on the A605 may cause delay to those requiring treatment or getting to appointments on time, in particular if the B1040 is closed due to flooding.

There is an opportunity to improve local access to doctors' surgeries, by improving urban realm and reducing car dominance. There is also an opportunity to improve access to the hospitals through improved transport connections as, at present, residents are limited to travelling by car.

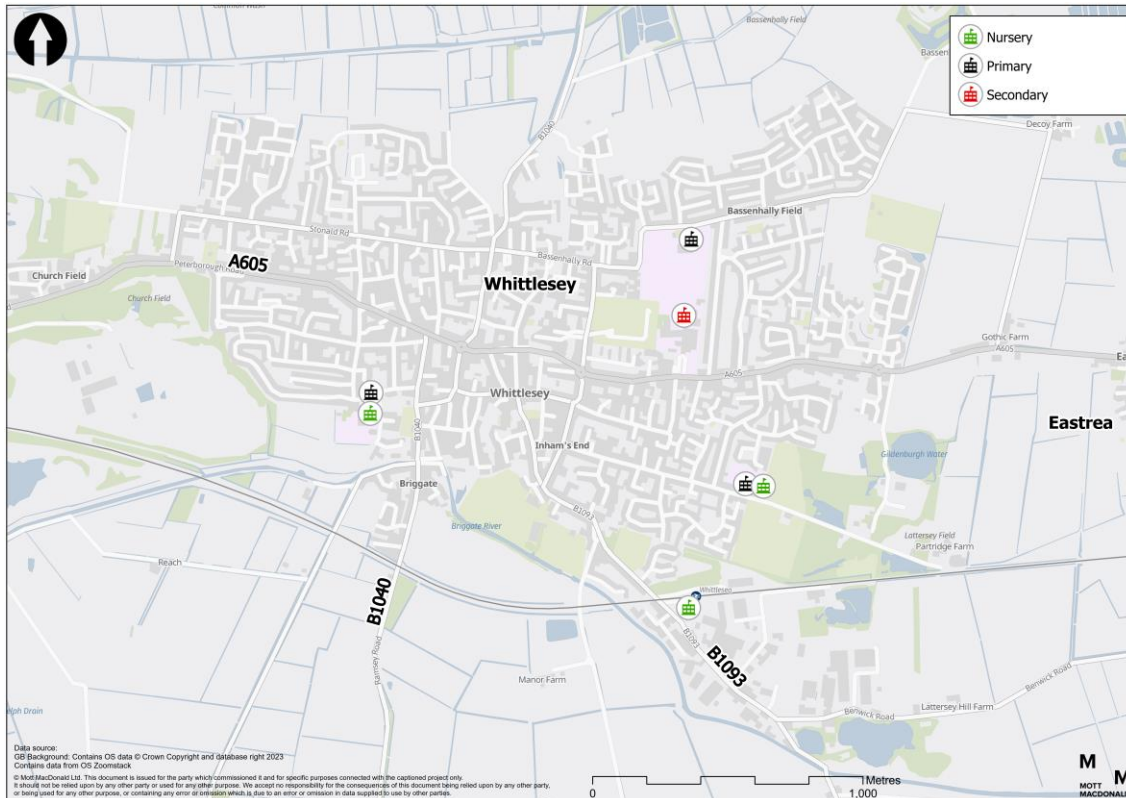
## 2.5 Education

There are three primary schools, three nurseries and one secondary school; Sir Harry Smith Community College, which is attended by 1,210 pupils. The schools within Whittlesey are located to the east and south (shown in Figure 2.7), with residents in the northwest required to travel further and cross the A605 or B1040 to attend school.

The catchment area for the community college includes students at the three primary schools in Whittlesey, as well as those at Coates Primary to the east and Heritage Park Primary to the west, on the outskirts of Peterborough. A particular point to note for the Community College is its location and that the school is primarily accessed via the A605. Pupils are dropped off and picked up along the road and contribute to traffic issues on the wider network.

Sir Harry Smith Community College also provides a sixth form for post-16 education but students wishing to study more vocational qualifications or undertake apprenticeships must travel to Peterborough. Higher education facilities are also provided in Peterborough, at the University College Peterborough and Anglia Ruskin University Peterborough.

**Figure 2.7: Educational facilities in Whittlesey**



Source: Department for Education (DfE)

### Education – implications for the scheme?

At the moment the A605 and B1040, whilst providing access to schools, also create severance in access, especially for those living in the northwest of Whittlesey. By improving connectivity in the area, accessibility to education opportunities could be enhanced, allowing more pupils to reach educational facilities safely and sustainably.

The location of schools within Whittlesey, and in particular the Sir Harry Smith Community College, has a direct impact on traffic conditions on the A605 during the school run periods of the day. Improvements to the flow of people and traffic through Whittlesey could therefore minimise the negative impact of school drop offs, as well as looking at ways the number of trips undertaken to the school using a car can be reduced.

## 3 Socio-economic

This section provides an overview of some of the key demographic information in relation to Whittlesey and the surrounding areas within Fenland and Peterborough. This includes population levels, levels of deprivation and car ownership.

### 3.1 Population

With a total population in the region of 18,000, Whittlesey is one of the larger settlements in the area (see Table 3.1).

**Table 3.1: Population of Whittlesey and surrounding settlements**

Built up area	Total population
Chatteris	13,835
March	24,110
Peterborough	215,662
Ramsey	10,545
Whittlesey	17,667
Wimblington	4,904

Source: Census 2021<sup>9</sup>

Whittlesey's location directly between the main settlement of Peterborough and the second largest settlement, March, on the A605, with limited alternative routes between these centres, increases the likelihood of through traffic within Whittlesey.

With 44% of Fenland aged over 50 years old, the district has a much older population compared to neighbouring Peterborough (31%) (Table 3.2). In addition to this, nearly a quarter of the population in Whittlesey are over the age of 65 years old.

**Table 3.2: Population of Fenland and Peterborough**

Age range	Whittlesey <sup>8</sup>	Fenland	Peterborough
0-15	2,840 (16%)	17,652 (17%)	48,207 (22%)
16-24	1,687 (10%)	9,069 (9%)	21,681 (10%)
25-49	5,251 (30%)	30,816 (30%)	79,029 (37%)
50-64	3,793 (21%)	21,629 (21%)	36,636 (17%)
65+	4,096 (23%)	23,576 (23%)	30,796 (14%)

Source: Nomis – 2021 mid-year estimates<sup>10</sup>

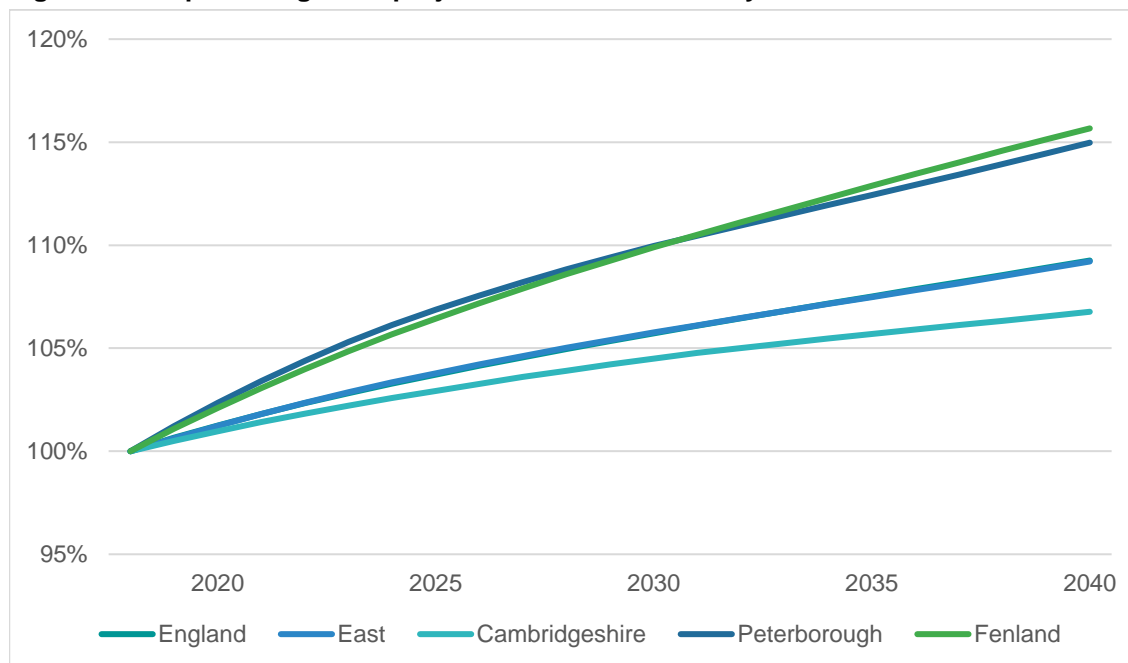
Population projections indicate that Fenland is likely to grow by 16% by 2040. This is greater than predictions for Peterborough (+15%); Cambridgeshire (+7%); East of England (+9%) and England (+9%) (shown in Figure 3.1). Such growth may be linked to the construction of further housing in the region, and with more working age people, there is likely to be more people travelling around Whittlesey for work and other activities.

<sup>9</sup> Cambridgeshire & Peterborough Insight – Population – Census 2021 – Topic Summaries – Demography and Migration ([cambridgeshireinsight.org.uk](https://cambridgeshireinsight.org.uk))

<sup>10</sup> <https://www.nomisweb.co.uk/datasets/pestsyoala>



**Figure 3.1: Population growth projections from 2018 base year**



Source: Office for National Statistics<sup>11</sup>

#### Population – implications for the study?

The projected population growth within Fenland means that the levels of trips in the study area is likely to grow, which could further impact on the transport network within Whittlesey by generating further trips.

The high proportion of people aged 65+ within the district means that there are more retired people who, whilst not undertaking commuter journeys, are more likely to undertake social trips or journeys to access healthcare, shopping and other services<sup>12</sup>. Older people can also have strong reliance on the car, given mobility issues can limit the ability to walk or cycle long distances<sup>13</sup>.

In comparison, the growing population alongside the development of new housing sites (see Section 5) could encourage families and younger people to move to the area which would likely result in more commuting trips and journeys for childcare.

## 3.2 Employment

Comparisons with regional and national employment levels show that Fenland has a lower proportion of people that are either in employment or unemployed but actively looking for work (economically active) compared to Peterborough and England (shown in Table 3.3). The district has a much greater proportion people who are not in employment and not looking for work (economically inactive), with this driven primarily by a large number of retired persons and a slightly higher proportion of people who are long term sick or disabled. Fenland has a lower proportion both economically active and economically inactive students.

<sup>11</sup> Population projections for local authorities: Table 2 - Office for National Statistics

<sup>12</sup> Older people's travel and its relationship to their health and wellbeing. Makett, R. (2017)

<sup>13</sup> The unmet travel needs of the older population. Luiu, C. et al (2016)



**Table 3.3: Economic activity levels (proportion of residents 16+)**

	Fenland	Peterborough	England
<b>Economically active</b>			
<i>In employment</i>	55%	59%	56%
<i>Unemployed</i>	2%	3%	3%
<i>Student</i>	1%	2%	2%
<b>Total</b>	<b>58%</b>	<b>64%</b>	<b>61%</b>
<b>Economically inactive</b>			
<i>Retired</i>	26%	17%	22%
<i>Student</i>	3%	4%	6%
<i>Looking after home or family</i>	5%	6%	5%
<i>Long term sick or disabled</i>	5%	4%	4%
<i>Other</i>	3%	4%	3%
<b>Total</b>	<b>42%</b>	<b>36%</b>	<b>39%</b>

Source: Census 2021

Around 40% of Fenland's population occupy employment in managerial, professional or associate professional occupations, which is lower than the regional and national levels of 52%. Fenland's residents are more likely than those in the wider region to occupy administrative, trade, or service roles than those in the wider region and country<sup>14</sup>.

#### Employment – implications for the study?

Employment levels in Fenland are lower than the levels seen in Peterborough and England, with the district having higher economic inactivity, largely through a significant retired population and a higher proportion of residents long-term sick or disabled. When coupled with the lower proportion of employees in professional occupations, Fenland and Whittlesey are not attaining the same levels of economic success as elsewhere in the region and country.

There is a need to increase access to employment in the area through improving the connectivity between population centres and reducing congestion in Whittlesey town centre. This would provide better opportunities and a better commuting experience for those seeking employment whilst also providing a better quality of life for the economically inactive who travel around Whittlesey for non-commuting purposes.

### 3.3 Education

Examining education levels in Fenland, the proportion of residents who have no qualifications is significantly higher than that seen in Peterborough and England (Table 3.4). The proportion of residents whose highest education level is GCSEs or equivalent (levels 1&2) is greater in Fenland. However, the percentage of the population obtaining a level 4 qualification, such as Higher National Certificate (HNC), Higher National Diploma (HND) or Bachelor's degree is significantly lower in the district, especially when compared to the England and Wales average. This could be a result of residents of Fenland occupying job roles which do not require higher qualifications.

<sup>14</sup> Labour Market Profile - Nomis - Official Census and Labour Market Statistics ([nomisweb.co.uk](https://nomisweb.co.uk))

**Table 3.4: Highest level of education levels of residents 16+ (2021)**

	Fenland	Peterborough	England and Wales
Level 1 (one to four GCSE passes or equivalent)	12.9%	12.3%	9.6%
Level 2 (over five GCSE passes or equivalent)	15.7%	14.4%	13.4%
Level 3 (two or more A-levels or equivalent)	16.3%	15.4%	16.9%
Level 4 (HNC, HND, Bachelor's degree or post-graduate qualifications)	19.0%	26.2%	33.8%
Apprenticeship	6.8%	5.5%	5.3%
Other qualifications	3.4%	3.7%	2.8%
No qualifications	25.8%	22.4%	18.2%

Source: Census 2021<sup>15</sup>

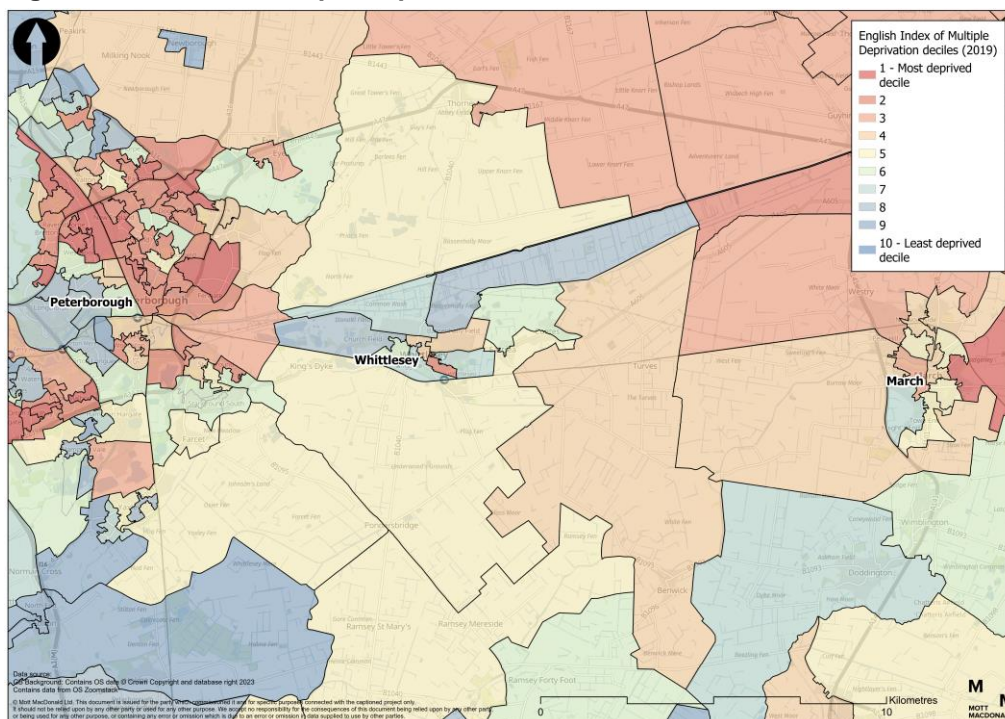
### Education – implications for the study?

By improving connectivity in the area, accessibility to education opportunities could be enhanced, thereby providing a route for more residents of Whittlesey to obtain qualifications and reducing the qualifications gap between the district and Peterborough.

## 3.4 Deprivation

The English Index of Multiple Deprivation (IMD) 2019 is the official measure of deprivation and combines information on income, employment, education, skills and training, health and disability, crime, barriers to housing and services and living environment. Examining the IMD shows that some areas in Whittlesey, March and Peterborough are within the top 10-30% of most deprived LSOAs across England (Figure 3.2). However, there are many areas that show lower levels of deprivation in Whittlesey and the study area.

**Figure 3.2: Index of Multiple Deprivation, 2019**



Source: Ministry of Housing, Communities & Local Government, 2019

<sup>15</sup> Education, England and Wales - Office for National Statistics ([ons.gov.uk](https://ons.gov.uk))

**Deprivation – implications for the study?**

When seeking to reduce the levels of deprivation it is crucial that job opportunities are available for residents and that they are accessible for all.

Whilst overall levels of deprivation in Whittlesey are low, there are some pockets of higher deprivation. Levels of accessibility can contribute to levels of deprivation, therefore improvements in transport provision can have a positive impact by improving access to services including jobs, healthcare and education.

**3.5 Car ownership**

Census 2021 data has been analysed to assess the level of car ownership amongst residents in Fenland and Peterborough, and to provide a comparison to national levels.

Table 3.5 shows that only 16% of households in Fenland do not own a car or van, which is considerably lower than the national average of 24%. This could be due to the lack of provision of alternative modes (see Section 4) which results in greater dependency on cars. The rural nature of Fenland is also better suited to car travel compared to bus, active travel or rail.

**Table 3.5: Car ownership levels**

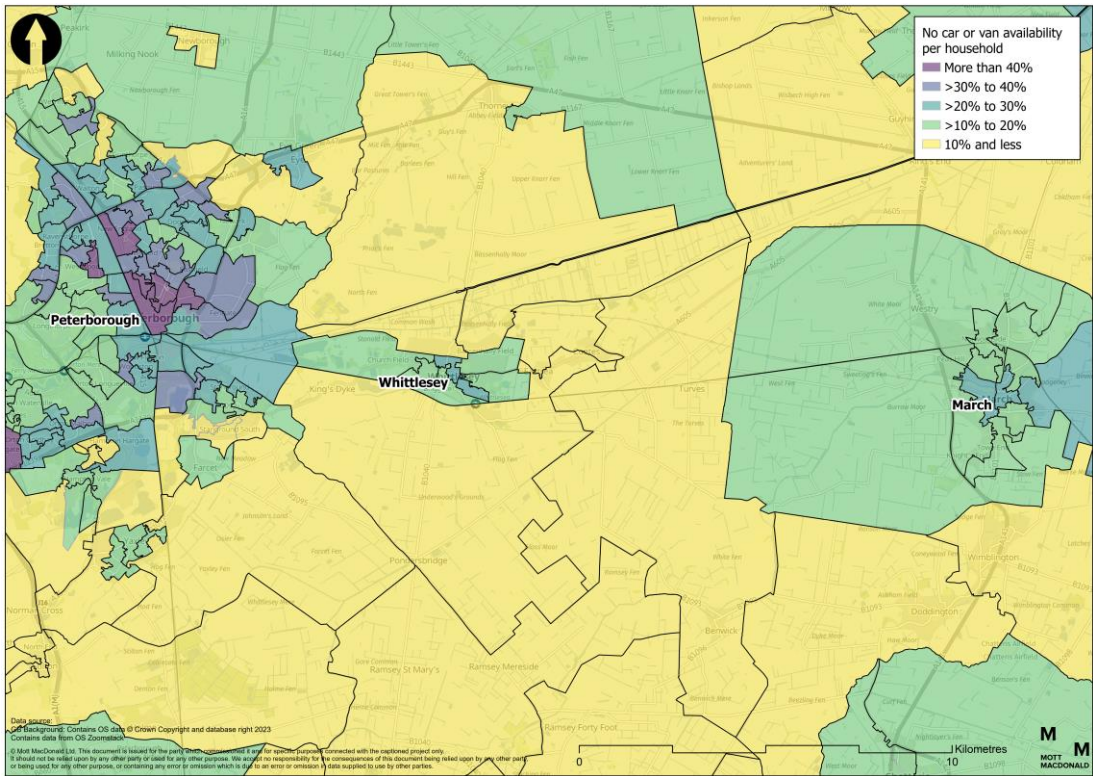
	Fenland	Peterborough	England
No cars or vans in household	16%	23%	24%
1 car or van in household	42%	42%	41%
2 cars or vans in household	30%	26%	26%
3 or more cars or vans in household	13%	8%	9%

Source: Census 2021

Whittlesey itself has a lower level of car ownership than the surrounding areas, although levels are still higher than in Peterborough (shown in Figure 3.3). The lower levels in Whittlesey could be due to the slightly higher levels of deprivation seen in Figure 3.2, with residents of the southeast of Whittlesey owning fewer vehicles.

Despite this, the high levels of car ownership in the areas around Whittlesey is likely to be contributing to higher car trips and high car mode share (see Section 4 where this is discussed further) through the town. These trips are likely to use the A605 as it is one of the main east-west routes available.

Figure 3.3: Car ownership



Car ownership – implications for the study?

High levels of car ownership create a highly car-dependent environment, with people more likely to use their vehicle to undertake short trips that could otherwise be undertaken using other modes. Opportunities to reduce private vehicle usage or provide alternatives to the car will help ease congestion within the town.



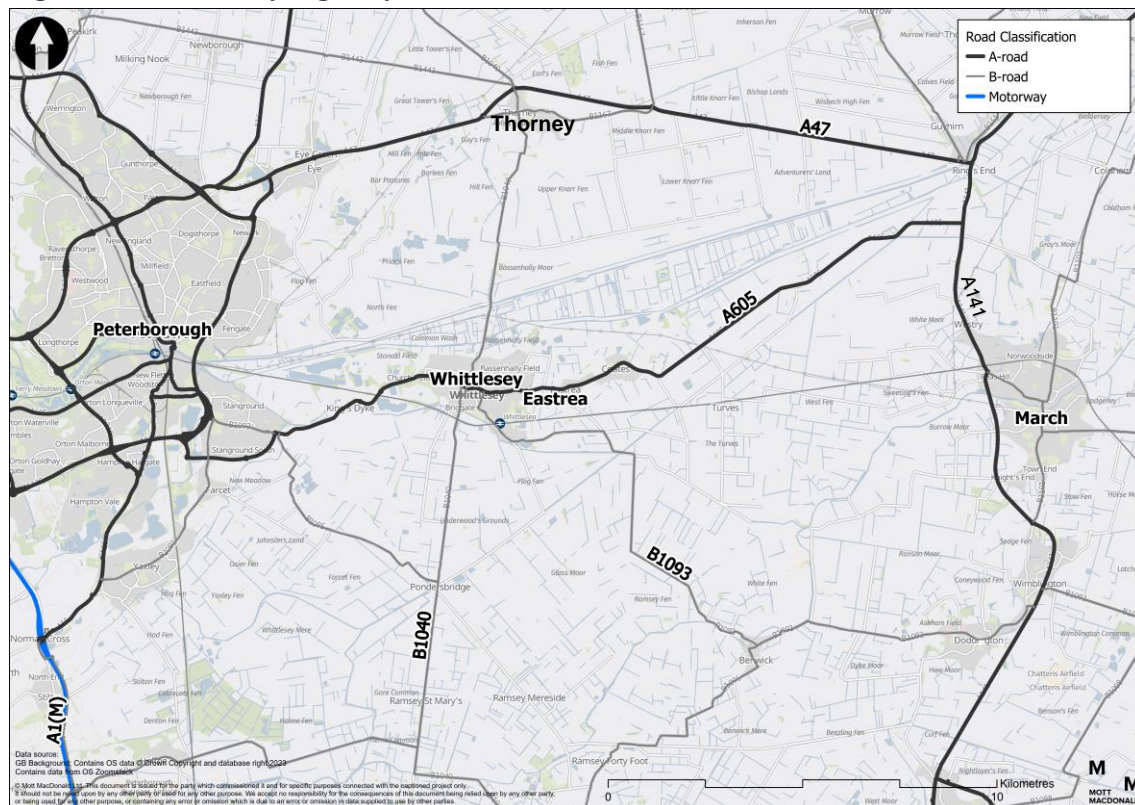
## 4 Transport network and traffic conditions

This section provides an overview of the transport network and traffic conditions of Whittlesey and the surrounding areas within Fenland and Peterborough. This includes the highway network, public transport and active travel provision, as well as traffic flows and congestion.

### 4.1 Road

The primary road through Whittlesey is the A605 (shown in Figure 4.1), running east-west, and linking the town to March and Wisbech (via the A141) in the east, and Peterborough in the west. Within the built-up area of Whittlesey, the A605 has a speed limit of 30mph, rising to 40mph once outside the town. Other notable roads in the town include the B1040 running north south, and the B1093 running to the southeast, both of which are 30mph within the built-up area and national speed limit (60mph) once outside the town. These three primary roads are the only ways into, or out of, Whittlesey by road, and intersect at two roundabouts in the centre of the town. This results in a focus of traffic in the town centre, with the negative impacts of high traffic levels felt by residents.

**Figure 4.1: Whittlesey highway network**



Source: Mott MacDonald

Whittlesey itself is not located on the Strategic Road Network (SRN); several SRN routes can be accessed within the wider region. The A1 and A1(M) are located around 13km to the west, the A141 is 13km to the east, and the A47 is 8km to the north. The A47 provides a parallel east-west route to the A605 and represents an alternative route for traffic travelling between Peterborough, March and Wisbech that avoids the A605 through Whittlesey. This section of the

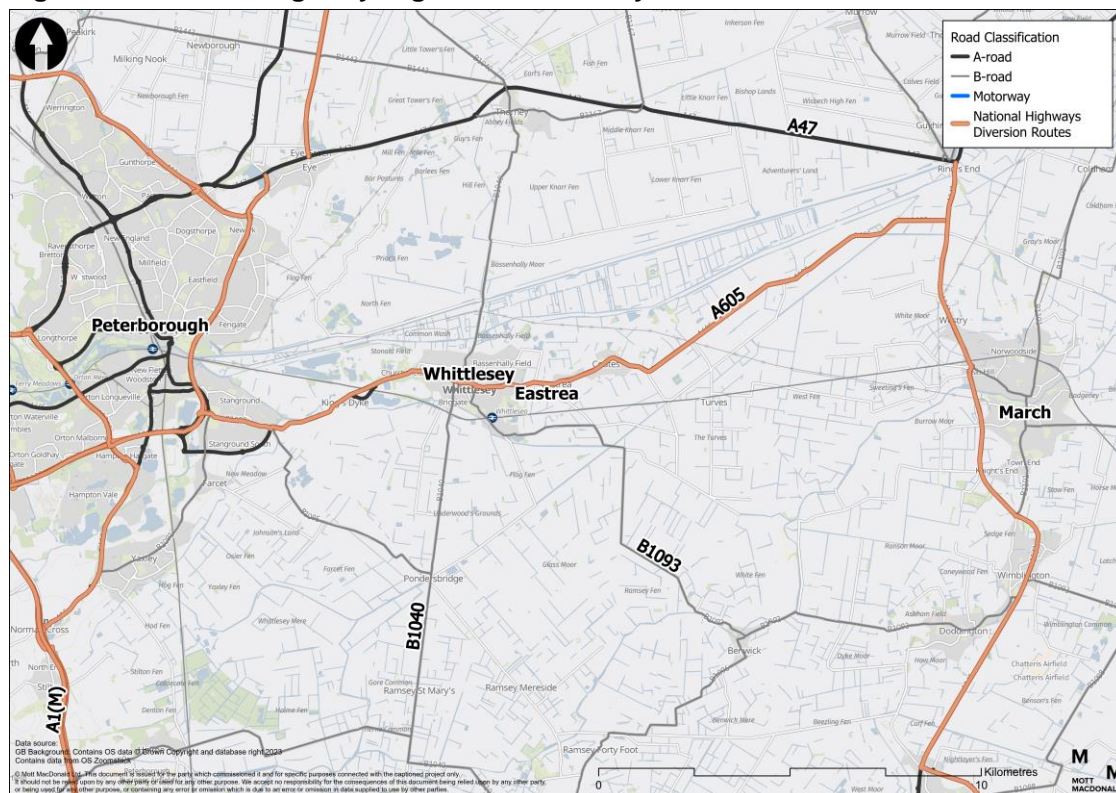
A47 has daily flows exceeding 25,000 vehicles<sup>16</sup>, and is largely single carriageway for the 13 miles it runs between Peterborough and the A141. Only a 3-mile stretch of this is dual carriageway to the north of Thorney. Whilst the CPCA have previously submitted a Strategic Outline Business Case (SOBC) to National Highways (NH), proposing to fully upgrade this section of the A47 to full dual carriageway status in the future<sup>17</sup>, at present no upgrades to the A47 route in this area are included in the NH future Road Infrastructure Plan (RIS3) programme for delivery post 2025. The difficulties in duelling the A47 in full make it difficult to increase the resilience of the A47 in the Fenland area and draw traffic away from the A605.

Whilst the A47 is the main SRN route, the A605 does form part of National Highways' agreed diversionary routes (as shown in Figure 4.2). Therefore, when the A47 is highly congested, closed for maintenance or following road traffic collisions, there is the potential for a significant level of traffic to re-route through Whittlesey.

Other traffic issues can arise due to the low-lying nature of Fenland which mean there can be significant flood risk in the area (discussed further in Section 6.2). This can cause traffic disruption and again significant re-routing of trips, which could be in the region of an additional 5,000 vehicles during flood events that result in the closure of the B1040<sup>18</sup>.

The B1040 East Delph provides a direct link between Whittlesey and the A47 which can also result in traffic travelling into the centre of Whittlesey during times of disruption on the A47, however, this road is susceptible to flooding as it crosses the Whittlesey (Nene) Washes Flood Storage Reservoir and can be closed for extended periods of time.

**Figure 4.2: National Highways agreed diversionary routes**



Source: National Highways

<sup>16</sup> Road traffic statistics - Manual count point: 94204 (dft.gov.uk)

<sup>17</sup> A47 SOBC, CPCA (2019)

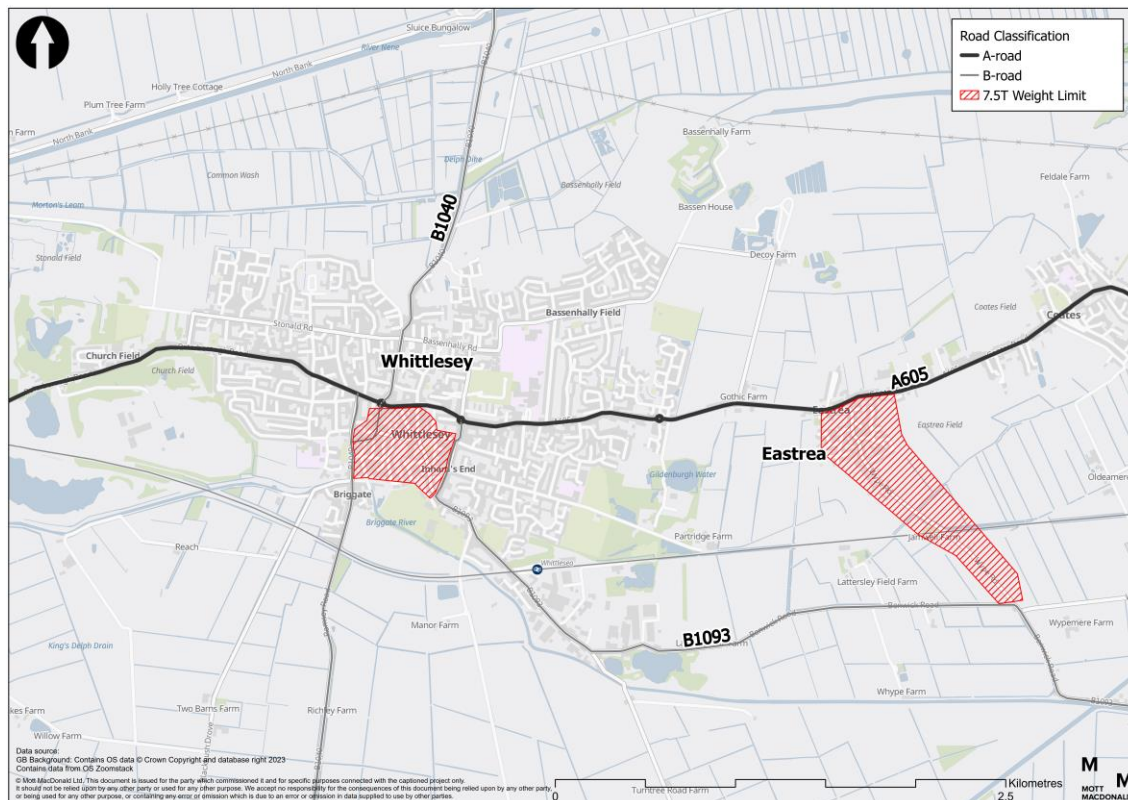
<sup>18</sup> CCC Economy and Environment Committee, 15<sup>th</sup> August 2019



In addition to the A605 forming part of the diversionary network, the road is one of the major routes within the north of the county and is, therefore, also part of the HGV advisory routes. There are 7.5T weight restrictions along the B1040 in the centre of the Whittlesey (as shown in Figure 4.3), however there are no restrictions on the HGV usage of the A605 itself, or routes linking into the town from the north and south.

Although the A47 handles a significant amount of road freight, the industrial areas located in the south and west of Whittlesey, and the large industrial area to the east of Peterborough, mean that non-insignificant amounts of HGV traffic also use the A605 and other roads within Whittlesey. The road network within Whittlesey is not appropriate for high HGV usage with the signed HGV route from the A605 to the industrial site south of Whittlesey utilising the B1093. The B1093 is approximately 4m wide at the narrowest point, and features on-street parking at other locations, as well as junctions that are not well suited to HGV movements. Church Road is also unrestricted to HGV usage, with this route including traffic calming chicane as well as on-street parking. HGV usage on such routes as B1093 and Church Road therefore have potential to bring HGVs into conflict with other road users and result in traffic issues across the town.

**Figure 4.3: Weight limits in Whittlesey**



Source: CCC. Mott MacDonald

### Road – implications for the study?

The A605 is one of the key routes for all east-west traffic between Peterborough and the Fenland market towns, as well as being used for north-south traffic movements within the centre of Whittlesey. Whilst the A47 offers an alternative route, it is not always more convenient, and can suffer from high traffic volumes leading to congestion. As the A47 is largely un-dualed, its capacity to deal with future growth in trips associated with future

housing and employment developments is likely to become a larger issue, potentially resulting in greater traffic levels on the A605 using it as an alternative route.

The A605 also forms part of the National Highways diversion route and is a key route for freight, with few restrictions. These aspects lead Whittlesey to experience high levels of traffic within the town centre, especially when the A47 is closed.

Whilst the A47 is intended to offer the main route across the region, the A605 will still provide a quicker and more direct journey for some depending on their origin and destination. With no restrictions in place on the A605, the potential for trips to use the A605 where they could be using the A47 is likely to continue, and progressively worsen with any future growth in traffic.

## 4.2 Traffic conditions

### 4.2.1 Road traffic statistics

The Department for Transport's (DfT) road traffic statistics have been used to identify the Annual Average Daily Flow (AADF) along the A605 between Peterborough and March, from 2019 to 2022, to identify potential recent trends in traffic movements along the route. These locations are shown in Figure 4.4, with the counts shown in Figure 4.5.

Levels of traffic within Whittlesey appear to be relatively high, with up to 15,000 vehicles passing through the town each day. Counts show that traffic flows are higher in Whittlesey town centre, and to the west of Whittlesey towards Peterborough, compared to Coates in the east. This suggests that journeys to and from Whittlesey are predominantly related with Peterborough, as would be expected.

The trends in annual counts between 2019 and 2022 also show that traffic levels have returned to pre-COVID levels.

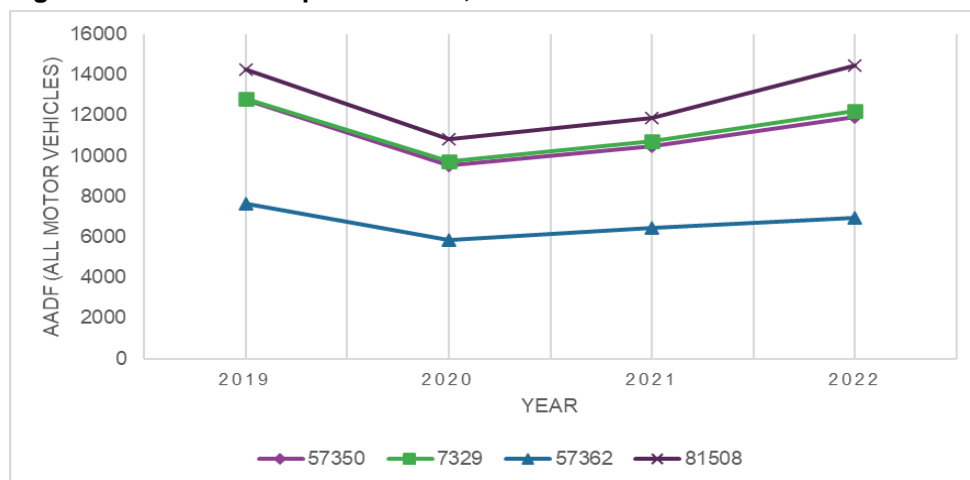
**Figure 4.4: DfT Count sites on the A605**



Source: DfT



**Figure 4.5: A605 count points AADF, all motor vehicles**



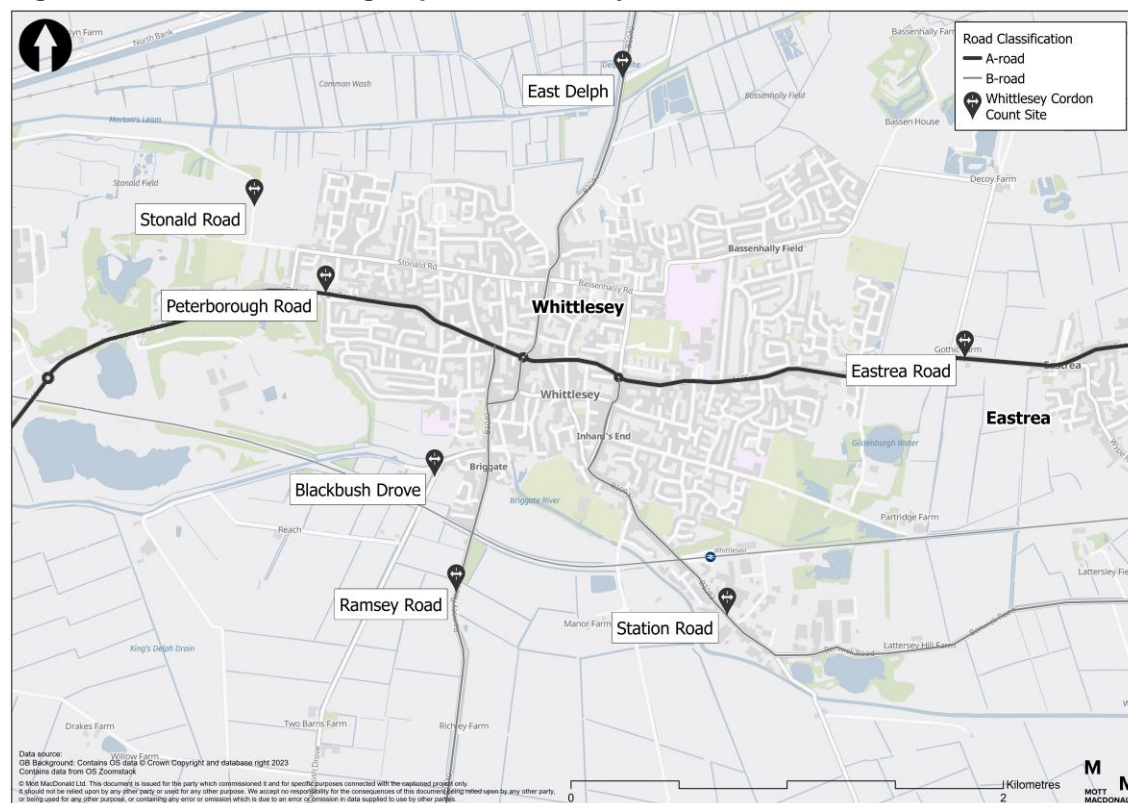
Source: DfT

#### 4.2.2 Mode share

In addition to the counts undertaken by the DfT, Cambridgeshire County Council's (CCC) Traffic Monitoring Report (2021) presents traffic count data across the county, including Whittlesey, for 2017-2021.

In Whittlesey, traffic data was collected in seven locations on the main routes entering and exiting the town (shown in Figure 4.6), allowing town-wide mode splits to be determined (shown in Table 4.1).

**Figure 4.6: Traffic Monitoring Report 2021 survey locations**



Source: CCC, Mott MacDonald

The latest counts show that there is very high car use within Whittlesey, whilst HGV and LGVs also account for notable proportions of traffic. HGVs account for 5-6% of the road traffic through Whittlesey. This aligns with the UK average, with HGVs accounting for 5% of all motor vehicle traffic and 5.5% of all motor vehicle traffic on A-class roads in 2022<sup>19</sup>. Other modes account for only 2% of the total, although the count sites are likely to primarily capture those travelling to destinations outside Whittlesey, and walking and cycling levels may be higher within the town centre itself.

**Table 4.1: Whittlesey mode share (2021)**

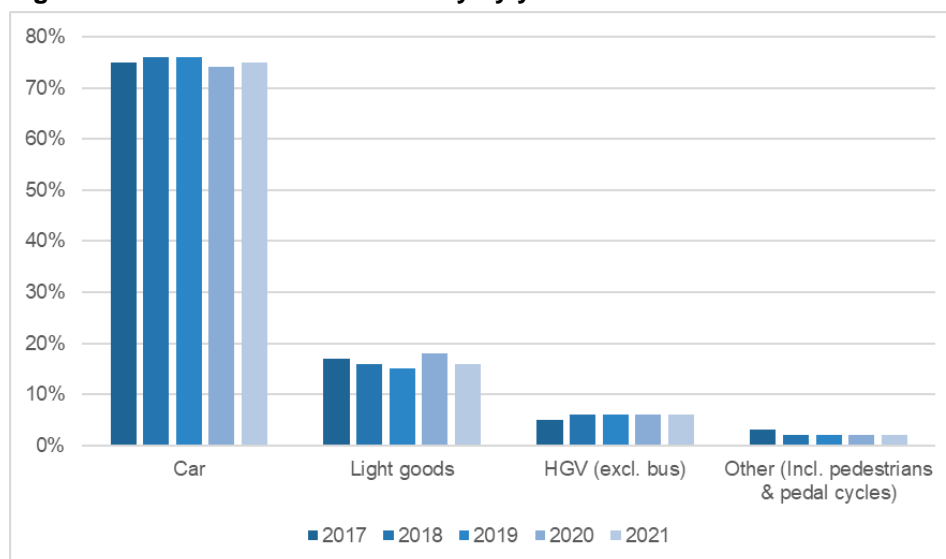
Mode	Count	Percentage
Car	24,310	75%
Light goods	5,107	16%
HGV (excl. bus)	1,932	6%
Pedestrians	405	1%
Pedal cycles	221	1%
Bus	157	0%
Motorcycles	127	0%
Total motor vehicles	31,633	98%
<b>Total</b>	<b>32,259</b>	<b>100%</b>

Source: CCC

When this is considered over time, mode splits have remained consistent, even during the COVID-19 period, when other areas of the country saw an increase in active modes. The number of vehicles passing the count sites increased year on year from 2017-2019, with this primarily being the result of an increase in cars and HGVs (Figure 4.7).

As a result of the COVID-19 pandemic, the number of cars and HGVs did decrease slightly in 2020, although the proportion of LGVs rose. Despite this, the mode share remains relatively consistent throughout the study period, with cars making up 74-76% of mode share.

**Figure 4.7: Mode share in Whittlesey by year**



Source: CCC

<sup>19</sup> Road Traffic Estimates in Great Britain, 2022: Traffic in Great Britain by Vehicle Type - GOV.UK ([www.gov.uk](https://www.gov.uk))

### Traffic conditions – implications for the study?

Whittlesey and the surrounding area are dominated by use of motor vehicles, with cars, LGVs and HGVs accounting for 98% of all traffic. The counts suggest that traffic within Whittlesey is more focused on moving between the town and Peterborough; however, flows to the north, east, and south are not insignificant and through traffic may be an issue.

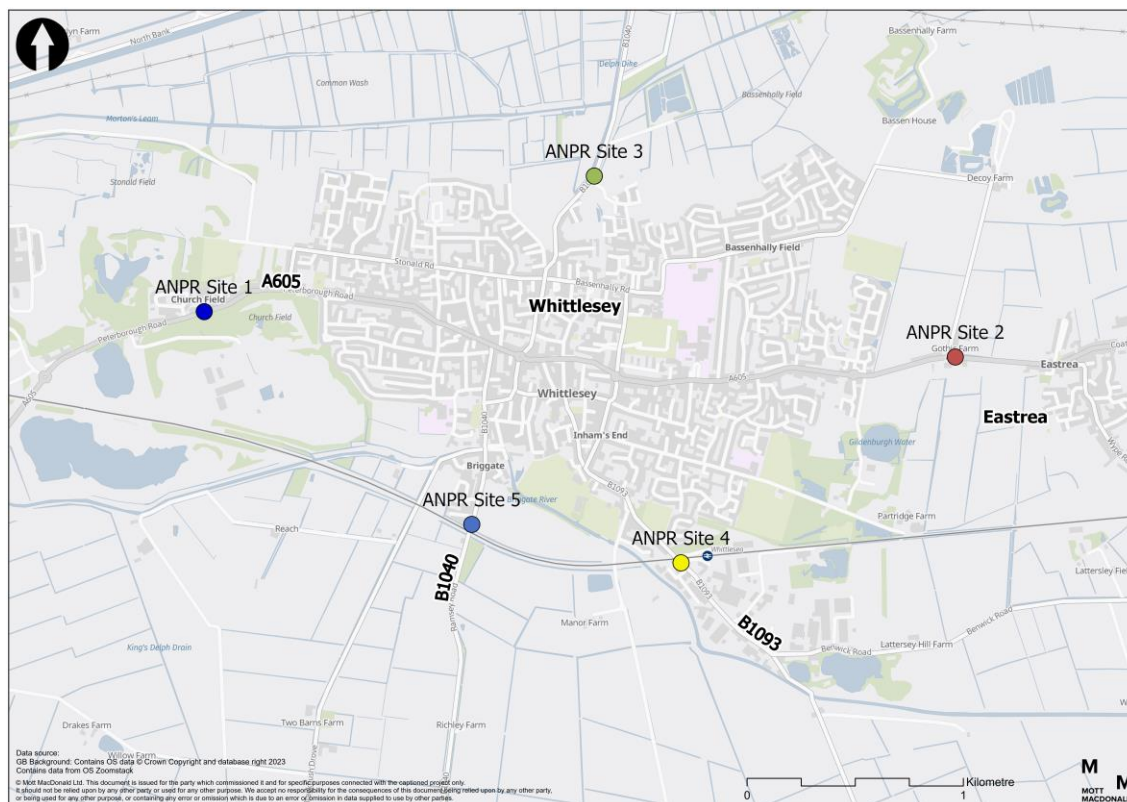
### 4.3 Through traffic

In order to understand the level of traffic passing through Whittlesey, an Automatic Number Plate Recognition (ANPR) survey has been carried out. This uses cameras to record the number plate for each vehicle that passes, allowing for every vehicle to be time and date stamped. By having cameras on each main road in and out of the town, it is possible to match vehicles that enter and then exit the town and measure the level of through traffic.

The ANPR surveys were conducted on two weekdays and one day at the weekend in late November and early December 2023. The cameras were operational from 00:00-23:59 on Tuesday 28<sup>th</sup> and Wednesday 29<sup>th</sup> November and Saturday 2<sup>nd</sup> December at five sites on the outskirts of Whittlesey. The locations of the cameras provided a cordon around to capture of all movements in and out of the town (shown in Figure 4.8).

The ANPR data has been cleaned and analysed, with any anomalies within the data omitted from the final analysis presented within this section<sup>20</sup>.

**Figure 4.8: ANPR site locations**



Source: Mott MacDonald

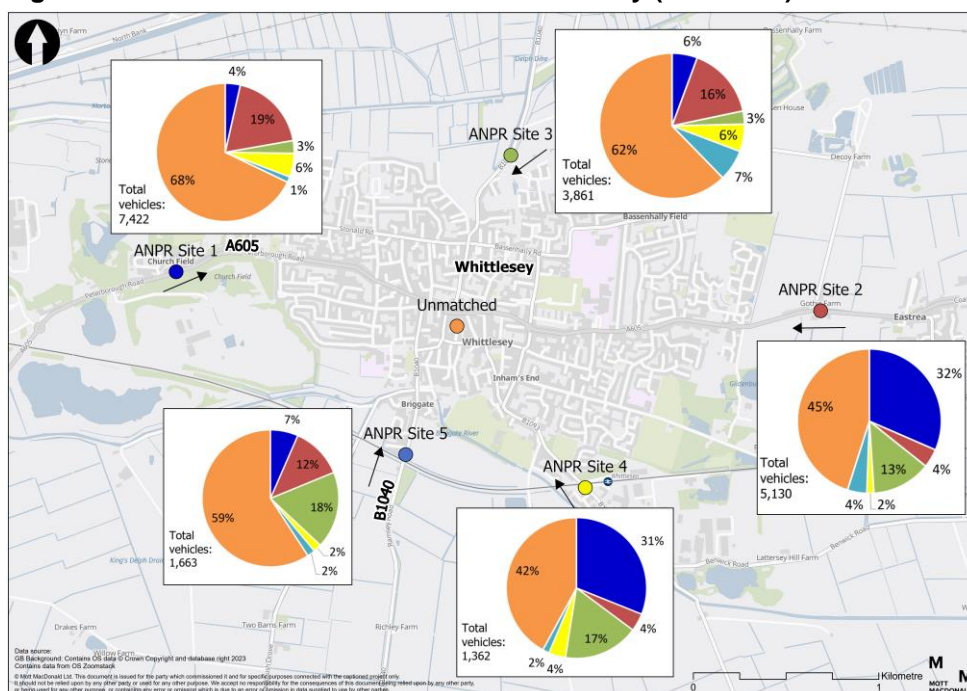
<sup>20</sup> Note: during the data cleaning process it was determined that the counts for Wednesday 29th November were missing for key time periods, therefore could not be used to understand an accurate picture of through traffic.

### 4.3.1 All vehicles

A total of 19,438 inbound vehicle movements were recorded by the ANPR cameras in Whittlesey on Tuesday 28<sup>th</sup> November. The breakdown of these journeys can be seen in Figure 4.9 and Table 4.3. The key findings from the Tuesday survey were as follows:

- 11,316 (56%) were not recorded leaving the town (designated “unmatched”) and therefore can be assumed to not be through traffic.
- Largest through movements are from the east along the A605 (Site 2), with 32% of vehicles (1,616) travelling through the town to the west along the A650, and 13% of vehicles (682) travelling through to the north onto the B1040.
- Similar levels of through movements are seen from west to east (1,390 vehicles) along the A605 as east to west (1,616). As a percentage of the traffic from the west, through traffic is low (19%), as a large proportion of these journeys (5,039 vehicles, 68%) finish in Whittlesey.
- Through movements from the southeast along Station Road (Site 4) also show a high proportion of through traffic with 31% of vehicles (423) passing through to the west and along the A605, and 17% of vehicles (236) passing through to the north along the B1040.

**Figure 4.9: Inbound vehicle movements - Weekday (all modes)**



Source: Mott MacDonald

**Table 4.2: Movement matrices – Weekday (all modes)**

		Outbound ANPR Site					Whittlesey Destination*	Total
		1	2	3	4	5		
Inbound ANPR Site	1	261	1,390	221	412	88	5,039	7,422
	2	1,616	215	682	81	223	2,313	5,130
	3	218	620	113	235	268	2,406	3,860
	4	423	56	236	53	21	573	1,362
	5	109	204	302	32	31	985	1,663
Whittlesey Origin*		7,690	4,829	4,050	1,466	1,582		
Total		10,317	7,314	5,604	2,279	2,213		

Source: Mott MacDonald

\* Trips that were recorded by only one ANPR camera are classified as unmatched. It is assumed that for inbound unmatched trips, the destination was Whittlesey and for outbound unmatched trips, the origin was Whittlesey.



- Vehicle traffic was lower overall when compared to the weekday however a higher proportion (9,853 vehicles, 64%) were not recorded leaving the town (unmatched). Lower levels of through traffic may be due to fewer commuters and more people shopping in Whittlesey.
- The largest through movements are from the east (Site 2), with 31% (1,253) travelling to the west along the A605 (Site 1) and 10% (417) to the north (Site 3).
- Similar levels of through movements are seen from west to east (1,121 vehicles) along the A605 as west to east (1,253). As a percentage of the traffic from the west, through traffic is low, as a large proportion of these journeys (4,409 vehicles, 71%) finish in Whittlesey.
- Traffic from the south (Site 5) and southeast (Site 4) saw significant proportions (15% and 17% respectively) travelling out of Whittlesey to the north (Site 3) although a majority of traffic from both sides remained within the town.

**ANPR Site 1 A605**  
 Church Field  
 Total vehicles: 6,169

Vehicle Type	Percentage
Orange	71%
Red	18%
Blue	5%
Green	2%
Yellow	2%
Purple	1%

**ANPR Site 2**  
 Eastrea  
 Total vehicles: 2,655

Vehicle Type	Percentage
Orange	68%
Red	14%
Blue	4%
Green	7%
Yellow	3%
Purple	4%

**ANPR Site 3**  
 Whittlesey  
 Total vehicles: 4,039

Vehicle Type	Percentage
Orange	50%
Blue	31%
Red	5%
Green	10%
Yellow	3%
Purple	1%

**ANPR Site 4**  
 B1040  
 Total vehicles: 1,204

Vehicle Type	Percentage
Orange	63%
Red	11%
Blue	5%
Green	15%
Yellow	2%
Purple	4%

**ANPR Site 5**  
 B1040  
 Total vehicles: 1,434

Vehicle Type	Percentage
Orange	61%
Red	12%
Blue	6%
Green	17%
Yellow	2%
Purple	3%

**Unmatched**  
 Whittlesey

Scale: 0 to 1 Kilometre

Data source: OS Mapbox. Contains OS data © Crown Copyright and database right 2023. Contains data from OS Zoomstack. It is to be understood that this document is issued for the purpose of providing information only and should not be relied upon by any other party or used for any other purpose. The accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to a error or omission in data supplied to us by other parties.

Source: Mott MacDonald

		Outbound ANPR Site					Whittlesey Destination*	Total
		1	2	3	4	5		
Inbound ANPR Site	1	317	1,121	113	141	68	4,409	6,169
	2	1,253	190	417	35	132	2,012	4,039
	3	114	380	95	85	173	1,808	2,655
	4	66	131	182	22	49	754	1,204
	5	88	168	242	27	40	870	1,435
Whittlesey Origin*		6,291	3,898	2,798	1,153	1,368		
Total		1,979	2,039	1,075	326	500		

Source: Mott MacDonald

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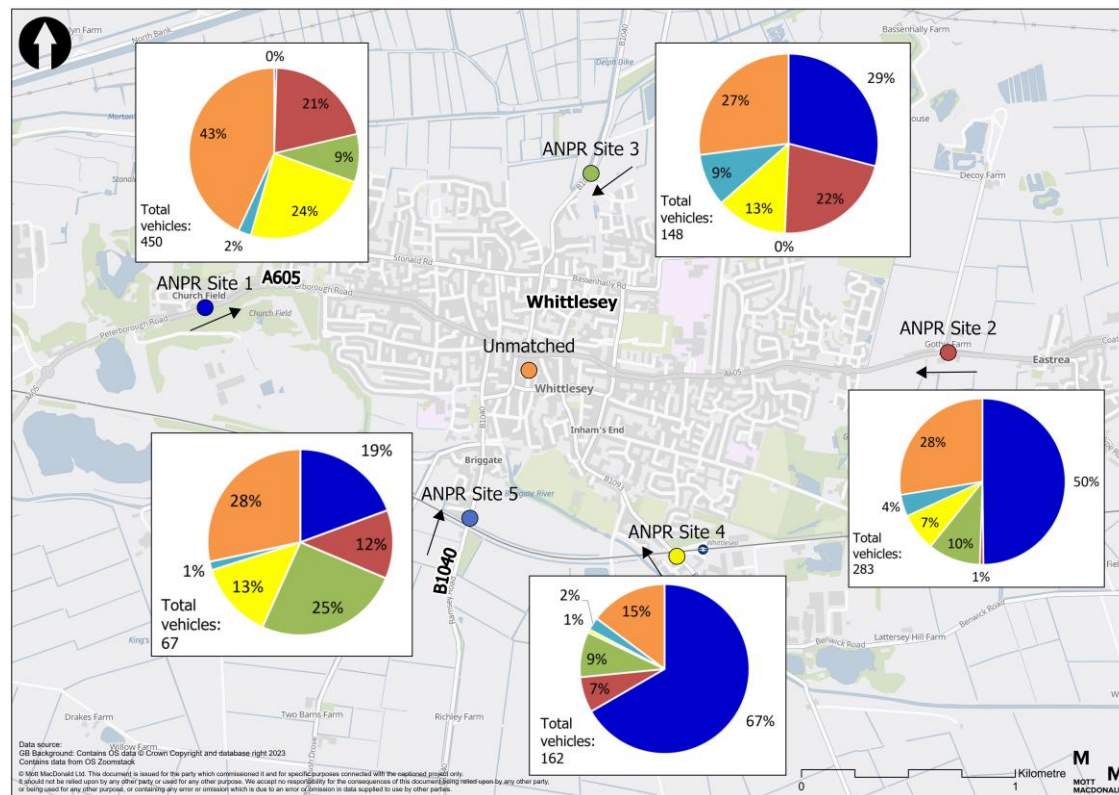
### 4.3.2 Heavy Goods Vehicles

The ANPR data is broken down into vehicle types and for the purpose of this report, Ordinary Goods Vehicles (OGV) class 1 (e.g., large vans and mid-size trucks) and class 2 (e.g., large lorries and all articulated vehicles) have been combined and are referred to as HGVs.

A total of 1,110 HGVs were recorded by the ANPR cameras travelling into Whittlesey on Tuesday 28<sup>th</sup> November. The journey breakdowns can be seen in Figure 4.11 and Table 4.5.

- HGVs account for 5.7% of all movements in Whittlesey on a weekday with the highest number of movements coming into the town from the west (450). Of these, 24% (108) travelled to the southeast and 21% (94) travelled to the east.
- A total of 755 (68%) HGV trips were through traffic, with the largest through-trips being east to west (141); southeast to west (108) and west to southeast (108). It is worth noting that the majority (if not all) of the HGV trips travelling to ANPR site 4 on Station Road will be associated with the trading estate. If these are excluded from the analysis, then the proportion of through trips is estimated at around 45% (460 weekday HGV movements).
- The A605 is a designated freight route and large industrial sites located to the west and southeast of Whittlesey are likely responsible for high levels of HGV through traffic.

**Figure 4.11: Inbound vehicle movements - weekday (HGV)**



Source: Mott MacDonald

**Table 4.4: Movement matrices – Weekday (HGV, all journey times)**

		Outbound ANPR Site					Whittlesey Destination*	Total
		1	2	3	4	5		
Inbound ANPR Site	1	2	94	41	108	11	194	<b>450</b>
	2	141	2	29	21	12	78	<b>283</b>
	3	43	32	0	19	14	40	<b>148</b>
	4	108	11	14	1	4	24	<b>162</b>
	5	13	8	17	9	1	19	<b>67</b>
Whittlesey Origin*		514	206	155	196	59		
Total		<b>821</b>	<b>353</b>	<b>256</b>	<b>354</b>	<b>101</b>		

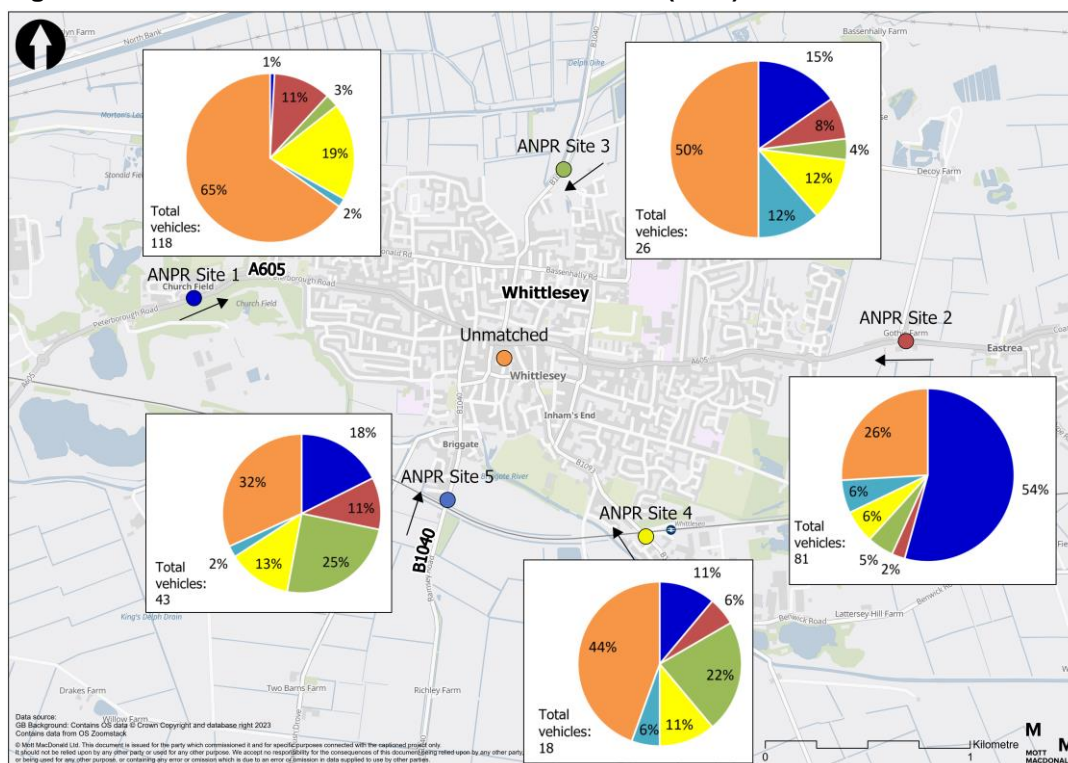
Source: Mott MacDonald

\* Trips that were recorded by only one ANPR camera are classified as unmatched. It is assumed that for inbound unmatched trips, the destination was Whittlesey and for outbound unmatched trips, the origin was Whittlesey.

A total of 286 HGVs being recorded by the ANPR cameras on Saturday 2<sup>nd</sup> December. The breakdown of these journeys can be seen in Figure 4.12 and Table 4.5.

- Weekend HGV levels (286) are significantly lower than during the weekday (1,110).
- 153 (54%) movements were captured travelling between two ANPR camera. As discussed with the weekday HGV movements, if the vehicles travelling to ANPR Site 4 Station Road are assumed to have a destination at the trading estate, then a more accurate estimate of through traffic would be around 110 vehicles (41%).
- The highest level of through traffic for HGVs is seen from the east (Site 2), with a majority of these journeys (44 trips, 54%) travelling along the A605 to the west (Site 1).
- From the west (Site 1), 19% (22) travelled through the town to the southeast whereas only two trips were recorded in the opposite direction.
- The proportion of HGV journeys which ended in Whittlesey was higher on the weekend than on the weekday, with this especially notable along the A605 from the west (65% weekend / 43% weekday) and A650 from the east (50% weekend / 27% weekday).
- However, as HGV levels were significantly reduced on the weekend, the absolute number of vehicles remaining in Whittlesey was lower than during the week.

**Figure 4.12: Inbound vehicle movements - weekend (HGV)**



Source: Mott MacDonald

**Table 4.5: Movement matrices – Weekend (HGV)**

		Outbound ANPR Site					Whittlesey Destination*	Total
		1	2	3	4	5		
Inbound ANPR Site	1	1	13	3	22	2	77	118
	2	44	2	4	5	5	21	81
	3	4	2	1	3	3	13	26
	4	2	1	4	2	1	8	18
	5	8	5	11	6	1	14	45
Whittlesey Origin*		141	49	26	16	38		
Total		200	72	49	54	50		

Source: Mott MacDonald

\* Trips that were recorded by only one ANPR camera are classified as unmatched. It is assumed that for inbound unmatched trips, the destination was Whittlesey and for outbound unmatched trips, the origin was Whittlesey.

### Through traffic – implications for the study?

Whilst the ANPR surveys show that there is some through traffic in Whittlesey, the majority of trips either finish in the town or originate from the town.

There is a bigger issue of through HGV traffic, with over half the recorded HGVs on a weekday passing through, rather than having a destination, in the town. This is despite a relatively large volume of movements to and from the trading estate off Station Road.

Restricting through traffic for all vehicles unlikely to have significant impact when a large proportion is originating in the town, however the issue of HGV through traffic is evident and considerations could be given to how this could be removed or restricted to improve the conditions within the town itself.



## 4.4 Congestion

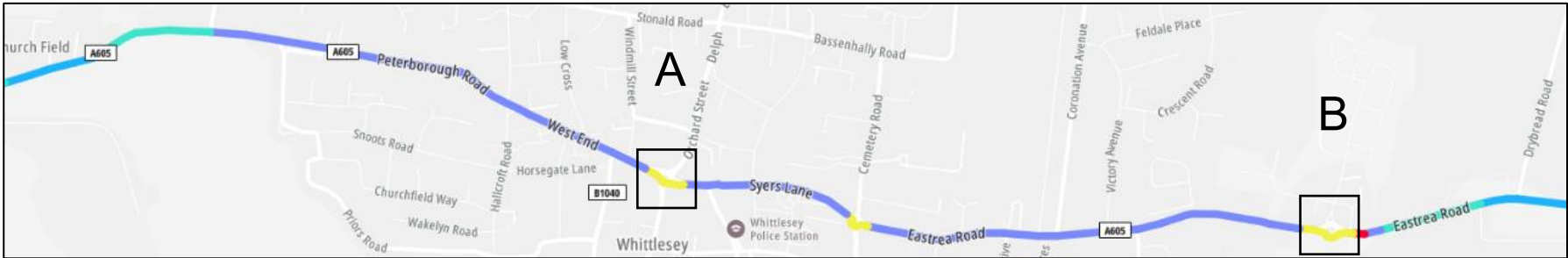
TomTom Traffic Stats data from October 2022 has been analysed to assess the average speeds of vehicles in Whittlesey to give an indication of any congestion issues. This has been done by looking at the hours of 00:00-03:00 to establish the free flow traffic speed and making a comparison to the AM peak hours of 07:00-09:00.

This overview of the average speeds across the study area shows that the key areas for slower traffic are within Whittlesey, on the A605 between Whittlesey and Peterborough, and where the A47 meets the B1040. This is partially due to lower speed limits on the roads in these areas, however, by comparing the two time periods it is clear that speeds are slower in, and immediately around, Whittlesey at busier points of the day.

The following key points can be observed about the speed data, alongside the traffic levels set out in Section 4.2 above. With free flow traffic, the majority of vehicles on the A605 travel near the speed limit, at between 25-30mph, however, there are pockets of lower speeds at the roundabout where the A605 meets the B1040 (label A on Figure 4.13), and the roundabout where the A605 meets Dandelion Drive and Tayberry Way (label B on Figure 4.14). This is likely due to the natural slowing down of traffic as it approaches a roundabout.

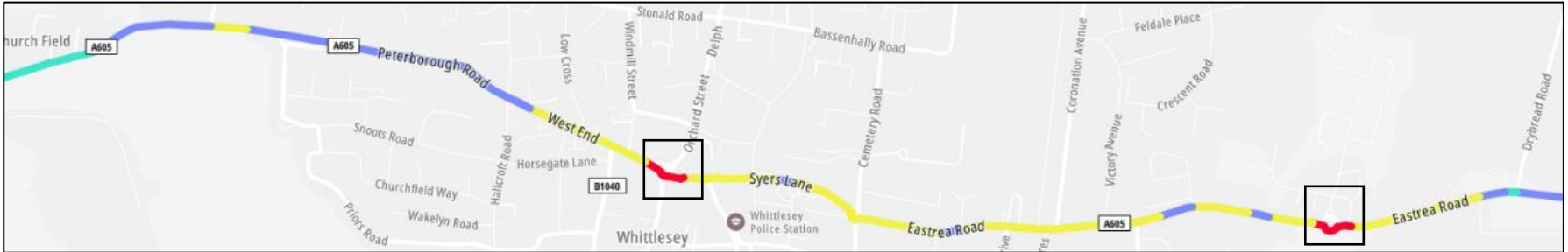
During the AM peak, it is clear that traffic slows down compared to the free flow speeds. Along much of the A605 in Whittlesey traffic slows to between 20-25mph. The speeds on the approach to the previously mentioned roundabouts also slow down to between 15-20mph and the length of road affected also increases.

Figure 4.13: A605 Free flow average speeds (Eastbound 00:00-03:00)

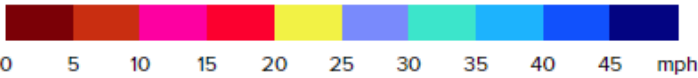


Source: TomTom

Figure 4.14: A605 AM peak average speeds (Eastbound 07:00-09:00)



Source: TomTom



A study of westbound traffic shows a similar picture to the A605 eastbound average speeds, with the free flow speeds for much of the A605 being near the speed limit with slower speeds near roundabouts, however, this also includes the roundabout where the A605 meets the B1093. The average speed westbound during the AM peak lowers for much of the A605 with the lowest speeds again being experienced at the roundabout where the A605 meets the B1040 and the roundabout where the A605 meets Dandelion Drive and Tayberry Way.

#### **Congestion – implications for the study?**

The A605 experiences slower vehicle speeds during busier times within Whittlesey, with issues exacerbated at roundabouts and junctions. The slow speeds around the A605/B1040 roundabout and the A605/Dandelion Drive/Tayberry Way roundabout could act as a constraint for new developments in these areas.

### **4.5 Junction capacity**

As shown in Section 4.4, several key junctions along the A605 suffer from congestion. Previous studies have identified capacity issues at the A605/B1040 roundabout. A Transport Assessment written to accompany a commercial planning application in 2020 forecasted that the junction is already over capacity in the 2020 baseline model and would exceed capacity in the 2025 and 2030 future years<sup>21</sup>.

The planning application concerned the addition of 32 trips during peak hours, with the council concerned about exacerbating the capacity issues. Larger residential and employment developments are planned within Whittlesey (see Section 5) which may result in greater levels of peak hour traffic and therefore even greater capacity issues at the main junctions within the centre of Whittlesey.

#### **Junction capacity – implications for the scheme?**

Some key junctions within Whittlesey are already operating close to, or over, capacity. This has been exacerbated by the level of growth in the town, with Whittlesey exceeding the required supply of housing in the town in recent years<sup>22</sup>. Further developments in the town have the potential to increase the delays faced by users of the A605.

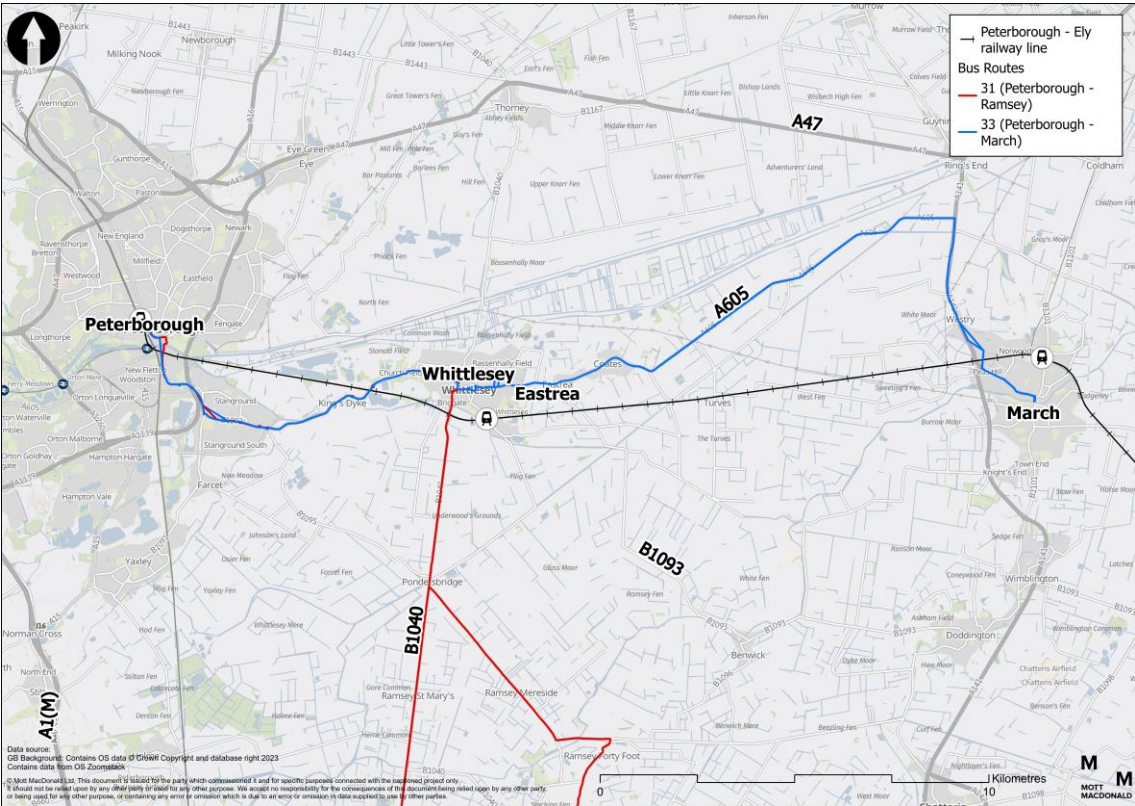
### **4.6 Public transport**

This section explores the existing public transport within Whittlesey. The rail and bus network, and associated service provision, are shown in Figure 4.15.

<sup>21</sup> Fenland District Council Planning Reference F/YR20/0357/O Churchfields Farm Transport Assessment

<sup>22</sup> PE07-1 Draft Local Plan Five Year Land Supply July 22.pdf (fenland.gov.uk)

Figure 4.15: Public transport serving Whittlesey



Source: Mott MacDonald

4.6.1 Bus

Whittlesey is served by two bus services that connect it to Peterborough, March and Ramsey (Figure 4.15). These services are infrequent, with a combined frequency of 14 per day in each direction (Table 4.6). These services are largely run on a commercial basis, with some sections and timetabled services running under tender agreements. Whilst the frequency of the services is low, the journey time to Peterborough is in the region of 26 minutes, and the buses operate to the centre of the city, providing a good connection. As a result of a UK government initiative, fares are currently capped at £2 a trip however this only applies until 31<sup>st</sup> December 2024, at which point fares may return to their previous, much higher, price<sup>23</sup>.

Table 4.6: Bus information for Whittlesey

Service	Route	Frequency	Cost
31	Ramsey – Peterborough	6 per day	£2.00 (bus fare cap single)
	Peterborough – Ramsey	7 per day	
33	March – Peterborough	8 per day	
	Peterborough - March	7 per day	

Source: Stagecoach

In addition to the routes operated by Stagecoach, the FACT Community Transport charity operate a Dial-a-Ride service. This provides additional access for those living in a rural location around Whittlesey, offering a door-to-door service where there is no bus network coverage.

<sup>23</sup> £2 bus fare cap - GOV.UK ([www.gov.uk](http://www.gov.uk))

Annual memberships cost £10 and whilst return trips can cost £5 per person, these trips are free for those with a CPCA concessionary bus pass<sup>24</sup>. To ensure the service is available to as many residents as possible, Dial-A-Ride follows an approximate route and timetable (Table 4.7) however the timings depend on daily usage and the door-to-door service allows pick up and drop off anywhere in the town. FACT Community Transport also provide special day-trip journeys for members which vary each week but allow for journeys further afield such as Ely, King's Lynn and Bury St Edmunds.

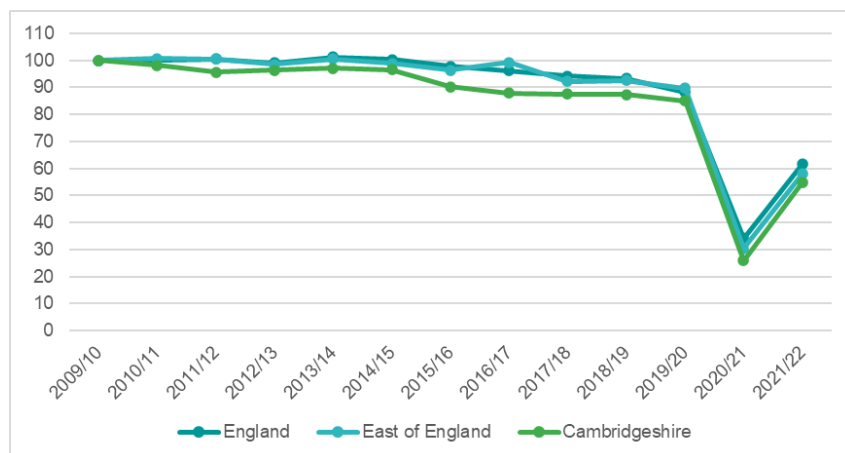
**Table 4.7: FACT Dial-A-Ride timetable**

Day	Destinations	Pickup Starts	Arrives	Return
Monday	Morrisons Cardea	Whittlesey 10:00	10:30	11:30
Tuesday	March Town (Drop of Barclays - Return Sainsburys)	Whittlesey 9:50	10:30	12:00
Wednesday	Tesco Hampton, Peterborough	Whittlesey 10:00	10:30	12:30
Thursday	FACT Befriending Club	Whittlesey 9:50	10:30	12:00
Friday	Tesco March	Whittlesey 9:50	10:30	12:00

Source: FACT

There is limited publicly available bus patronage data for Whittlesey or Fenland, however, the bus patronage in the region has been falling for many years. The lowest passenger levels were seen during the COVID-19 pandemic, when patronage in Cambridgeshire was 26% of that seen in 2009/10. Although ridership levels have since partially recovered (55% in 2021/22), they are not yet back to pre-pandemic levels (Figure 4.16).

**Figure 4.16: Annual bus patronage between 2009/10 and 2021/22 as a proportion of 2009/10 levels**



Source: DfT Bus Table 01e

### Bus – implications for the scheme?

Bus service provision in Whittlesey is poor, with only two low frequency buses serving the town. Although passengers are able to take connecting services from Peterborough, the lack of direct journeys can make bus journeys unattractive compared to private cars, which can exacerbate congestion issues.

Improving bus services in Whittlesey could provide more realistic alternative travel options to the private cars for some journeys, easing issues of congestion.

<sup>24</sup> [www.fact-cambs.co.uk/Dial-a-Ride-Fenland](http://www.fact-cambs.co.uk/Dial-a-Ride-Fenland)

#### 4.6.2 Rail

Whittlesey sits on the Peterborough to Ely line and has one station situated around 1.2km to the south of the town centre. The station, called Whittlesea Railway Station, is operated by Greater Anglia and is comprised of two staggered platforms, which are accessed via roads to the north and south of the tracks. A manually operated level crossing is located on the B1093 Station Road to the immediate west of the station.

There is free car parking on the north side of the station with space for 10 vehicles, however, there are no accessible spaces. There are 10 sheltered cycle spaces available on the access road to the car park, however, these are not within view of the station CCTV.

The location of the station means accessibility can be impacted. A direct public transport link does not exist, and for active travel, defined routes are limited. Although the station is a 15-minute walk from the centre of Whittlesey, for those with mobility issues or who live north of A650, it could take in the region of 30 minutes to walk from home to the station.

The station is served mainly by Peterborough and Ipswich services, which run approximately every two hours (Table 4.8). The station is also served in the morning by three services to Birmingham New Street, one service to Stansted Airport and one service to Liverpool Lime Street. There are also two services to Cambridge per day, one in the morning and one in the evening. Overall, the level of service is relatively limited.

Opportunities to increase the level of service at Whittlesea Station are limited and although Greater Anglia have the rolling stock to deliver an hourly service along the Peterborough-Ipswich line<sup>25</sup>, the train paths are not available as the rail network in the area is currently operating at full capacity.

There are capacity improvement schemes in the Network Rail pipeline, such as the Ely Area Capacity Enhancement programme which aims to double passenger services on the Ipswich-Peterborough route<sup>26</sup>. This would increase the number of trains that serve Whittlesea however, as the scheme is not yet committed, it could be many years before any benefits are realised.

**Table 4.8: Whittlesea rail services summary (October 2023)**

Destination	Frequency	Operator	Cost	Onboard journey time (h:mm)
Peterborough	12 per day	Greater Anglia	£5.70	0:10
Ipswich	Eight per day	Greater Anglia	£31.10	1:30
Birmingham New Street	Three per day	Cross Country	£60.20	2:00
Cambridge	Two per day	Greater Anglia	£21.10	0:49
Stansted Airport	Once per day	Cross Country	£13.00	1:20
Liverpool Lime Street	Once per day - weekdays only	East Midlands Railway	£84.40	4:11

Source: National Rail

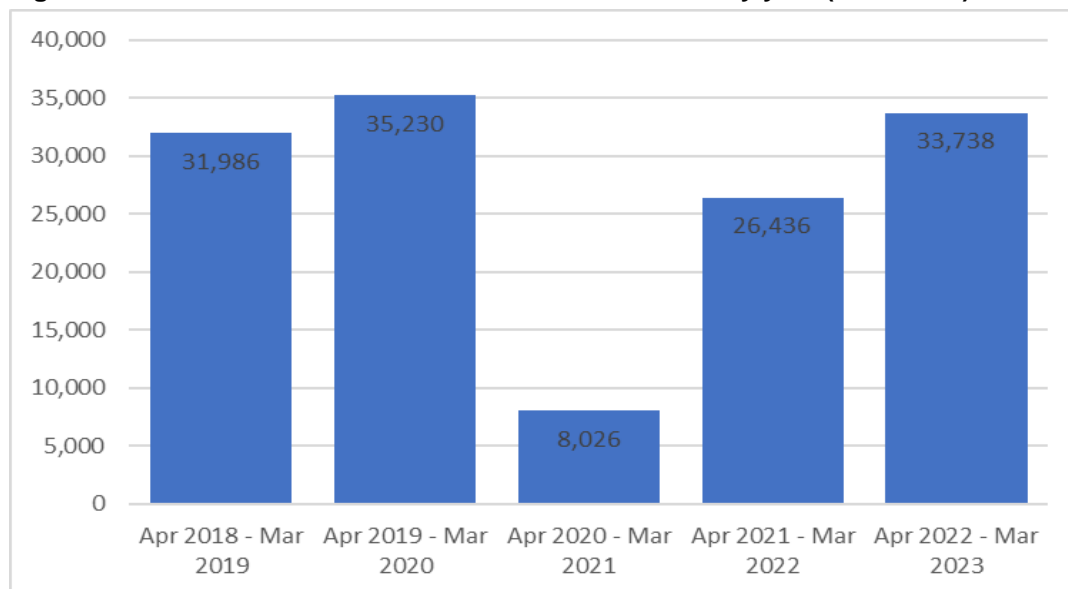
Passenger numbers are currently in the region of 34,000 per year, with the station seeing a significant decrease in patronage as a result of the COVID-19 pandemic. Patronage has almost fully recovered since, with the station currently operating at around 96% of pre-pandemic levels as of 2022/23 (Figure 4.17).

<sup>25</sup> New Anglia Transport Board Nov 18

<sup>26</sup> Ely area capacity enhancement - Network Rail



**Figure 4.17: Total entries and exits at Whittlesea Station by year (2018-2023)**



Source: Office of Rail and Road

The two closest stations to Whittlesea are March and Peterborough, with the latter seeing significantly higher levels of patronage than Whittlesea (Table 4.9), reflecting its position on the East Coast Mainline. The frequency of stopping services at both Peterborough and March stations is higher than that of Whittlesea.

**Table 4.9: Total entries and exits for Whittlesea and nearby stations**

Station	Total entries and exits (2022/23)
Whittlesea	33,738
March	305,354
Peterborough	4,519,016

Source: Office of Rail and Road

#### Rail – implications for the scheme?

The difficulties in accessing the Whittlesea station via walking, cycling, public transport and car present a barrier to usage. Improving connectivity to the station from the town could encourage modal shift from private cars and on to rail, easing traffic flows in and out of Whittlesey. This could be achieved by providing a public transport link, or by greater car parking provision; however, this would need to avoid increasing overall bus journey times (e.g., if existing routes were diverted) or increasing local car journeys, thereby worsening local traffic conditions.

The Ely Area Capacity Enhancement programme provides the potential for more train services to stop at Whittlesea station, providing connections to both local and national destinations; however, this is unlikely to be completed in the near future.

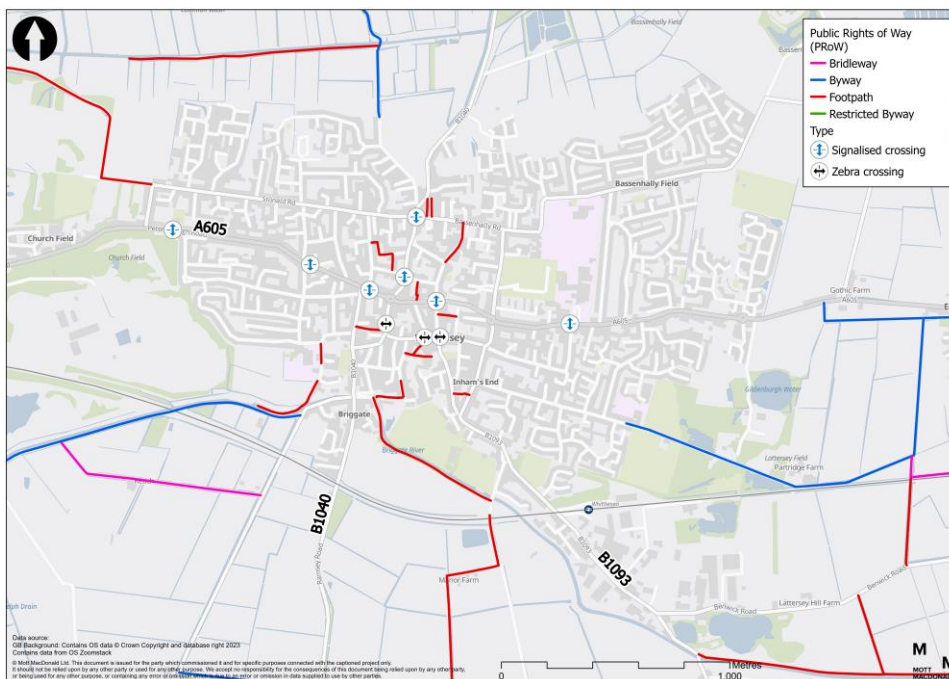
## 4.7 Active travel

### 4.7.1 Walking

Pedestrian provision in Whittlesey includes a number of Public Rights of Way (PRoW) extending from the town, allowing for traffic-free leisure routes into the surrounding countryside. Within the town, the car-dominated environment with flared junctions, narrow footways and pavement parking can present difficulties for pedestrians. In addition to this, designated crossing points for pedestrians are limited, with five signalised crossings of the A605, two signalised crossings of the B1040, and three zebra crossings within the town centre (see Figure 4.18). Outside of these locations, pedestrians can use unsignalised crossing points, however this may prove difficult given high traffic flows on some routes.

The two major roundabouts within the town centre offer little provision for pedestrians who may be required to cross up to three entry lanes before a refuge is provided. One pedestrian fatality was recorded at the A605/B1040 roundabout within the past six years (see Section 0), highlighting the dangers faced by pedestrians crossing the major roads in Whittlesey.

**Figure 4.18: Public Rights of Way and pedestrian provision**



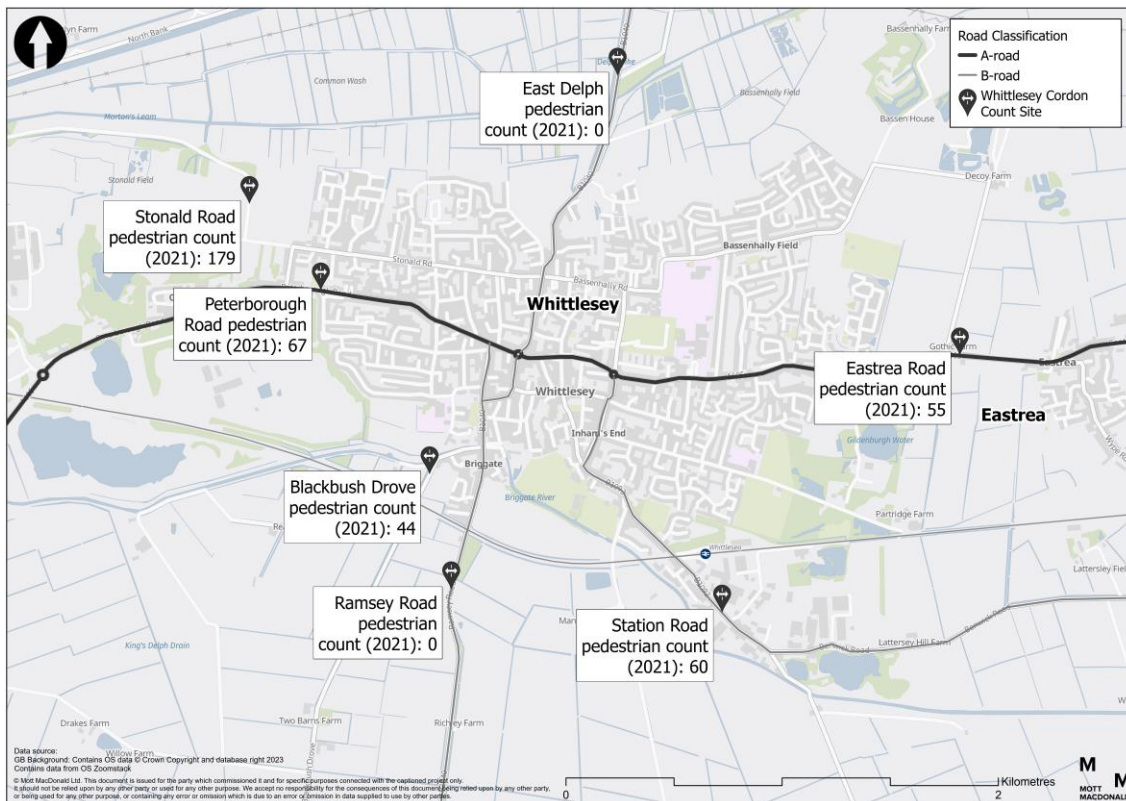
Source: OpenStreetMaps / Mott MacDonald

Figure 4.19 shows the 2021 pedestrian counts at Cambridgeshire County Council's (CCC) count sites. Due to the location of the sites on the outskirts of the Whittlesey built up area, these figures only provide an insight into people leaving and entering the town on foot, as opposed to pedestrian activity within the town itself. The greatest number of pedestrians are consistently seen at Stonald Road, with the site located on the walking and cycling route between Whittlesey and Peterborough. This provides a well-paved, traffic-free route, and is the most direct route for pedestrians wishing to travel to Peterborough.

Both B1040 routes to the north (East Delph) and south (Ramsey Road) show very low pedestrian levels. This is likely due to there being no formal pedestrian provision and the high-speed limits (60mph) at these locations, which create an unwelcoming environment for those travelling on foot. In addition to this, the closest settlements along the B1040 are Thorney (7km+) to the north and Pondersbridge (5km) to the south, with people more likely to make these journeys by car.



**Figure 4.19: Whittlesey pedestrian counts (2021)**



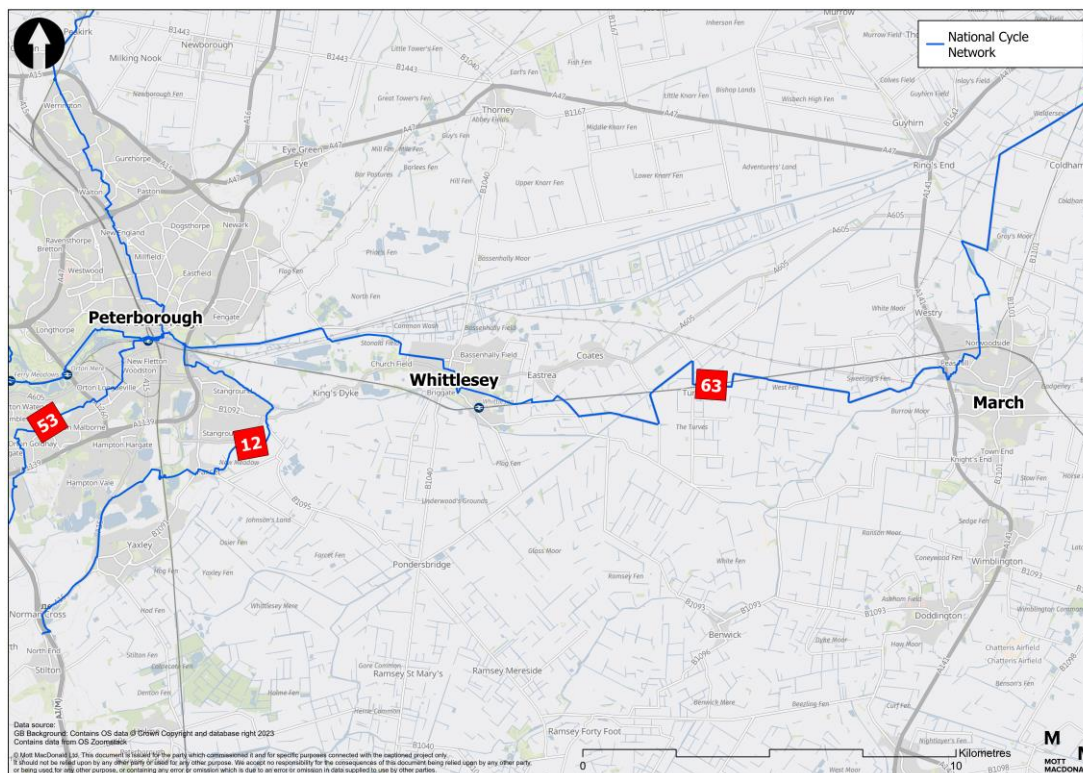
Source: CCC, Mott MacDonald

#### 4.7.2 Cycling

Formal cycling infrastructure, such as advisory cycle lanes or dedicated cycle routes are limited in Whittlesey, with the National Cycle Network (NCN) (Figure 4.20) providing the main designated route for cyclists. NCN Route 63 links Whittlesey to Peterborough and March however, within the town, the route is primarily on-road, with no separation from traffic.

To the east, the route between Whittlesey and March is predominantly on-road, following several straight, narrow roads between the two towns. Where this route is traffic free, as seen in Figure 4.21, the surface quality is poor and may not be suitable for all users and will be less attractive during poor weather. To the west, there is a 7km traffic free cycle route which follows the River Nene to Peterborough. Although this section is wide and well-paved, the route lacks street lighting. Cyclists travelling from north to south, or along the A605, have no dedicated provision. There are also no road crossing points within Whittlesey that legally permit the use of cycles.

**Figure 4.20: National Cycle Network**



Source: Sustrans

**Figure 4.21: NCN Route 63 near Wype Road**



Source: Mott MacDonald

There are limited amenities for cyclists in Whittlesey. The only public bicycle parking in the town is located at the Grosvenor Road South Car Park, with space for eight cycles. There is one bike fitting service, Foot To Pedal Bike Fit, located on Guildenburgh Crescent, however, this does not sell bicycles, with the closest bicycle retailer located in Peterborough.

Table 4.10 shows the cycle counts recorded at Whittlesey cordon sites. These figures only provide an insight into people leaving and entering the town by bicycle, as opposed to cyclist activity within the town itself, however, the counts still provide a useful insight into cycle use.

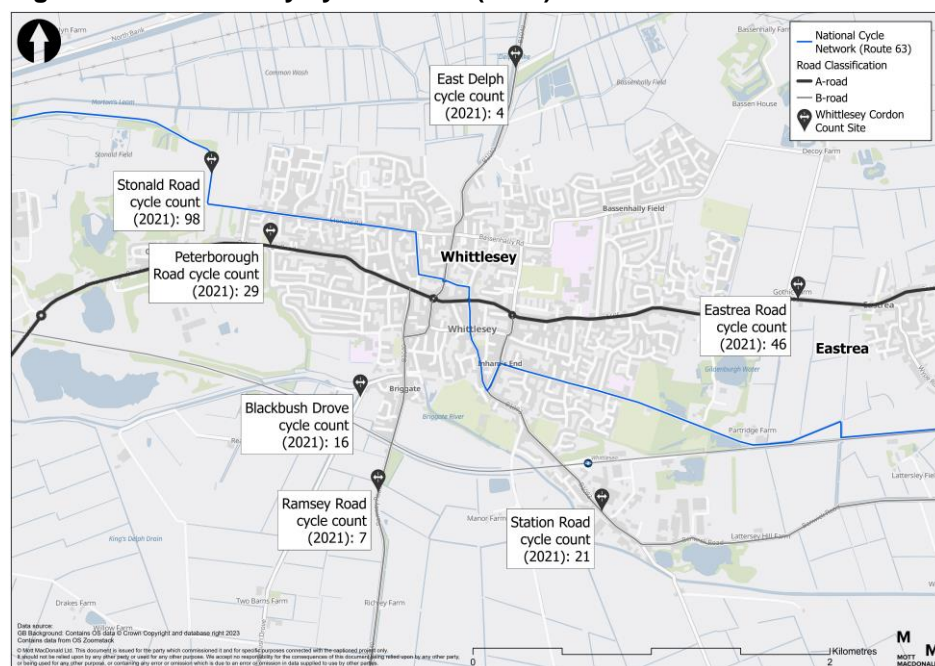
**Table 4.10: Cycle counts at Whittlesey cordon sites**

Location	A605 (Peterborough Road)	B1040 (East Delph)	A605 (Eastrea Road)	B1093 (Station Road)	B1040 (Ramsey Road)	Blackbush Drove	Stonald Road
Oct 2017	59	25	51	48	13	8	111
Oct 2018	37	7	45	53	7	4	106
Oct 2019	22	10	61	37	1	3	106
Oct 2020	16	16	39	34	2	4	73
Oct 2021	29	4	46	21	7	16	98

Source: Traffic Monitoring Report 2021, CCC

The figures show that there are low levels of cycling into and out of Whittlesey. The greatest number of cyclists are seen on the NCN route 63 at Stonald Road, with slightly fewer on the A605 Eastrea Road/Peterborough Road and B1093 Station Road over the time periods studied. Blackbush Drove and the B1040 East Delph/Ramsey Road have much fewer numbers of cyclists compared to the other sites. This is most likely due to the lack of cycling infrastructure, high speed limits, and long distances to the nearest settlements along these roads.

**Figure 4.22: Whittlesey cycle counts (2021)**



Source: CCC, Mott MacDonald

### Active travel – implications for the scheme?

The limitations of the active travel network, such as poor cycling provision and lack of signalised crossing points of the A605, mean that walking and cycling are not an attractive mode of transport for many residents and employees within Whittlesey.

Whilst active travel on its own will not solve the traffic issues within Whittlesey, better provision, and greater participation, would contribute to reducing car dependency, and help reduce congestion levels.



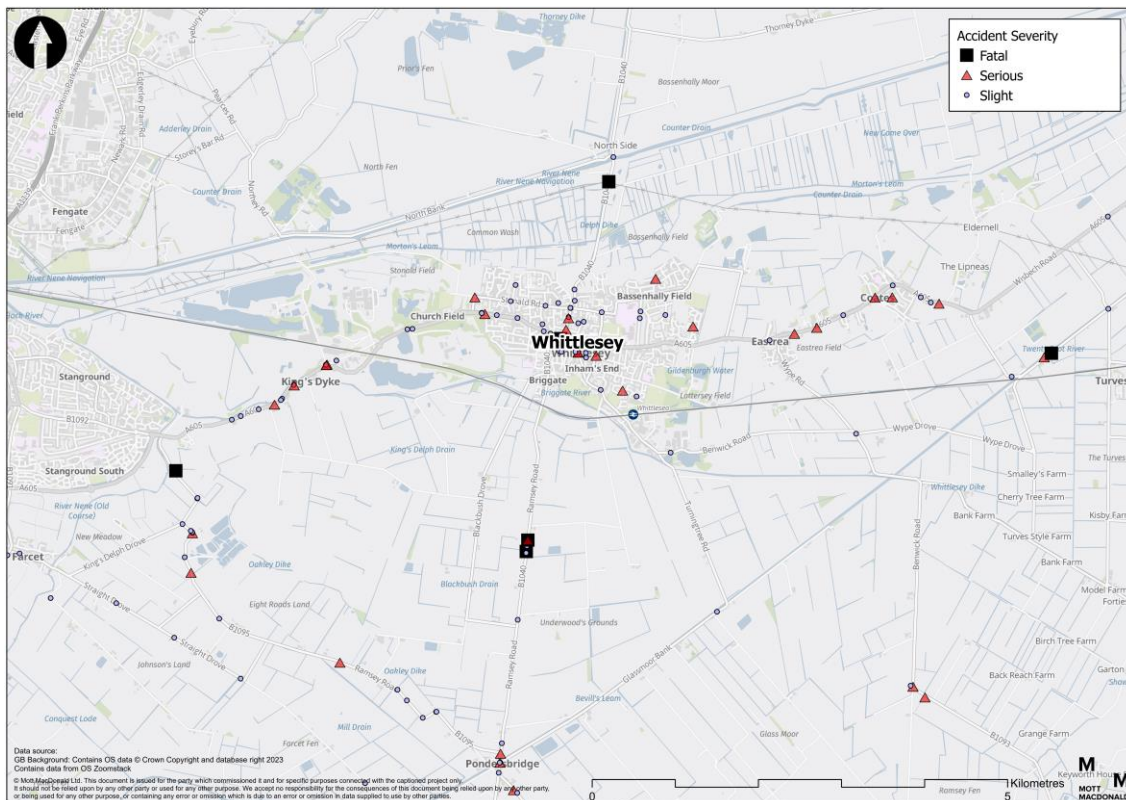
## 4.8 Road traffic collisions

The available data indicates there are traffic movements along and across the A605 throughout the day. The A605 acts a natural route for many trips across the town centre, particularly given that a majority of housing is located on the north side of the road and yet major trip attractors such as retail, leisure and healthcare, are located to the south. High car ownership levels also encourage people to drive more frequently. This combination of factors results in a higher likelihood of road collisions. Poor crossing provision also increases the risks for pedestrians and cyclists along the route.

Figure 4.23 and Figure 4.24 below show the locations of recorded collisions for the wider study area and Whittlesey town, respectively. This covers a six year and eight-month period from January 2017 to August 2023.

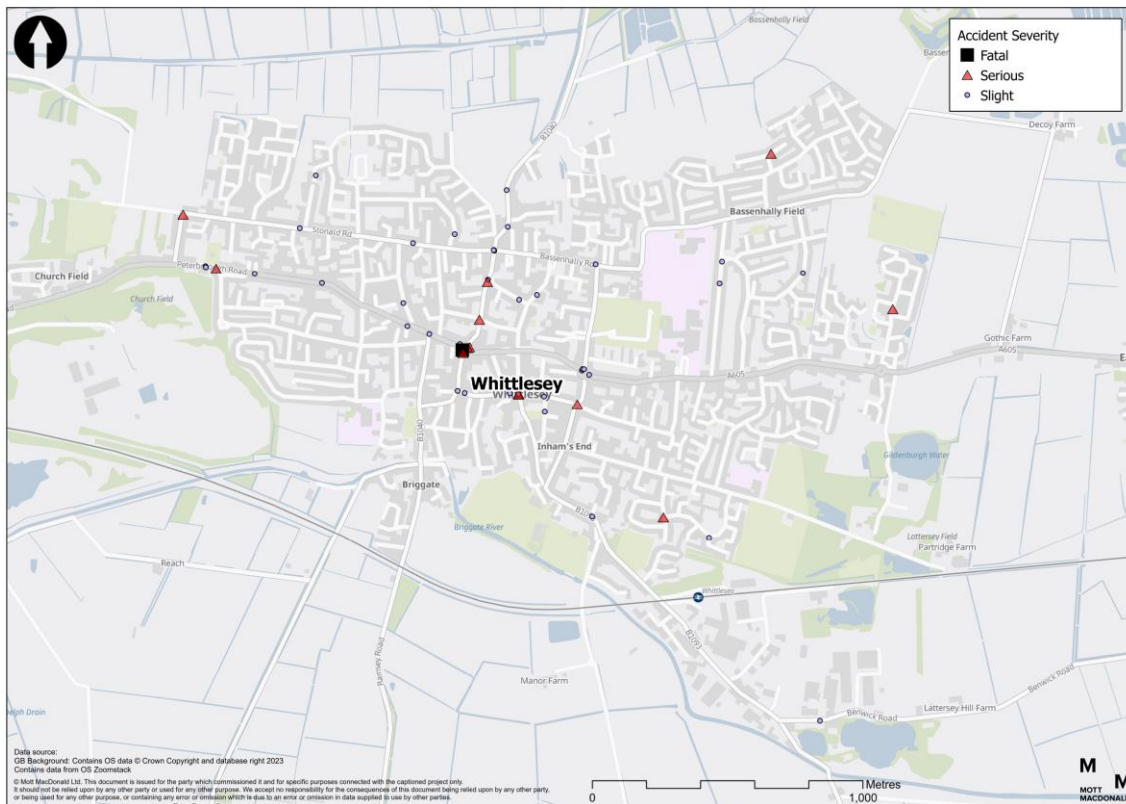
Serious and fatal collisions have occurred on the A605 both to the east and to the west of Whittlesey over the study period, however, these are not in specific clusters (Figure 4.23). On the A605, within the main built-up area of Whittlesey, there have been 12 slight, four serious and one fatal collision, with clusters at the junction between Peterborough Road and Snoots Road; the roundabout linking the A605 and B1093; and the roundabout linking the A605 and B1040. The latter has experienced three serious and one fatal collision in Whittlesey over the study period, indicating that the roundabout has room to improve safety. Regular accidents on the A605 can have negative impact on the flow of traffic in the town centre, potentially causing road closures and diversions.

**Figure 4.23: Road traffic collisions around Whittlesey (January 2017 – August 2023)**



Source: CCC / OS

**Figure 4.24: Road traffic collisions in Whittlesey (January 2017 – August 2023)**



Source: CCC / OS

### Road traffic collisions – implications for the study?

High car ownership levels, poor pedestrian crossing provision, and the dominance of the A605 within Whittlesey increase the likelihood of collisions occurring within the town.

The A605 has experienced many slight and serious collisions, as well as one fatality, over the study period on the routes entering, exiting and traveling through Whittlesey. The main accident cluster is located on the A605/B1040 roundabout. Higher car use is likely to result in a higher number of collisions and, therefore, reducing traffic levels through the town may have a positive impact on safety.

By improving the safety on this route, it will ease the impact of road closures and diversions on traffic flow, while having the potential to save lives.

## 5 Future land use

This section examines the level of future residential and employment site allocations planned in the study area and within Whittlesey, as set out in the adopted Fenland Local Plan (2014), draft Fenland Local Plan (2022) and Peterborough Local Plan (2019), as well as the local vision stated in the Whittlesey Neighbourhood Plan (2023).

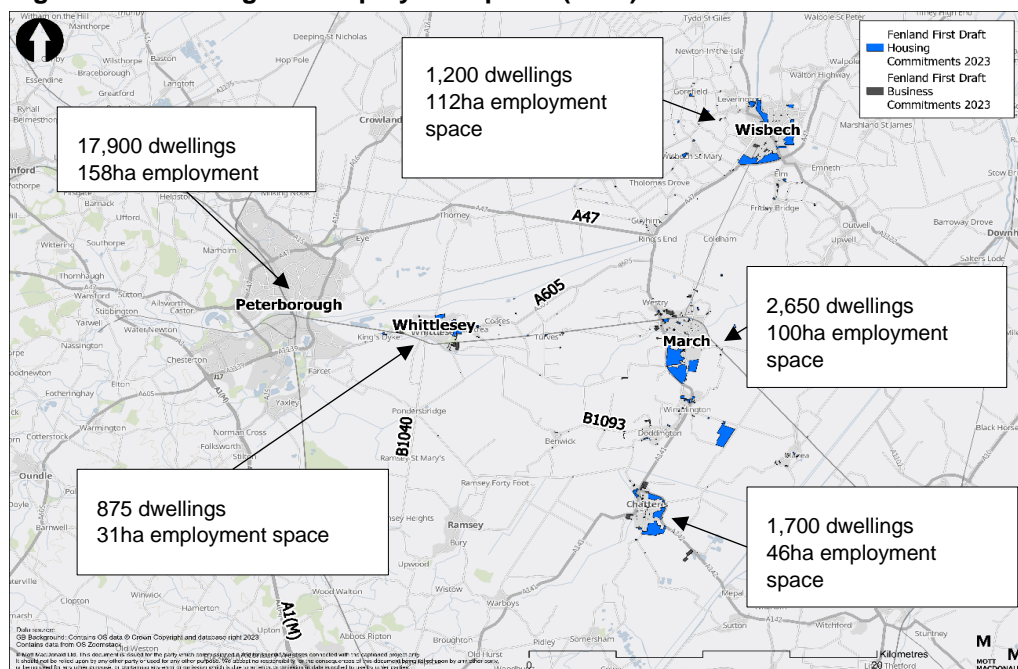
The current adopted Fenland Local Plan (2014) aimed to deliver 11,000 new homes between 2014 and 2031, with large new housing areas in the market towns of March, Wisbech, Chatteris and Whittlesey. In addition to this, there were aspirations for 85ha of new employment sites and 7,200 additional jobs. A regional rail freight interchange (132ha) is also outlined within the adopted Local Plan, with 33ha of this within Fenland.

Of the allocations in the Local Plan, 1,000 homes and five hectares of employment land were approximated for Whittlesey, with a majority of Whittlesey's housing allocation (500 dwellings) being supported by an extension to the urban area at land north and south of Eastrea Road to the east of the village. As of January 2024, this development has been partially completed and has contributed to the town seeing growth that exceeds the allocations set out in the Local Plan.

Currently a new draft Fenland Local Plan (2022) is being developed for the district, that along with the adopted Peterborough Local Plan (2019), sets out the future development strategies for the region. The overarching land allocations for future housing and employment contained within the Local Plans for the study area are shown in Figure 5.1.

Significant employment (158ha) and housing (17,900 dwellings) development is planned for Peterborough to the west of Whittlesey, whilst at the same time there are allocations for over 5,550 dwellings and 258ha of employment sites in March, Wisbech and Chatteris to the east. This is likely to result in a significant increase in demand for travel along the corridor between Peterborough and the market towns, with people benefiting from employment opportunities and new housing. The A605 is likely to play a key role in connecting these areas and new housing and employment sites, with Whittlesey at the centre.

**Figure 5.1: Housing and employment plans (2023)**



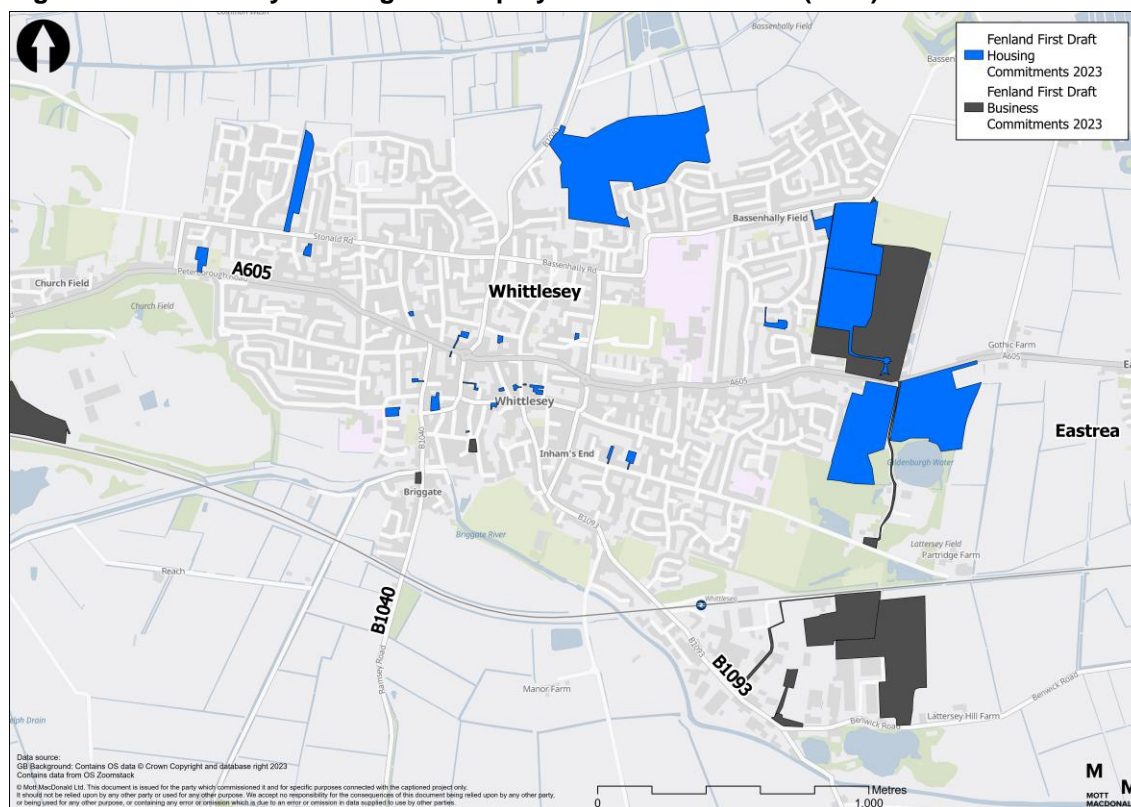


The extent of planned development within Whittlesey is not as extensive as the other towns, or Peterborough, however, it is still likely to impact upon the town. There are large developments along the A605, B1040 and B1093 (shown in Figure 5.2).

Whilst these developments will help Whittlesey to accommodate the predicted growth of the town, outlined previously in Section 3.1, flooding constraints to the north and west of Whittlesey mean that most of these developments are located to the east. The close relationship the town has with Peterborough means it is likely that many of the new trips generated by the developments will use the A605 to travel through Whittlesey town centre to Peterborough.

Significant employment (158ha) and housing (17,900 dwellings) development is planned for Peterborough to the west of Whittlesey, whilst at the same time there are allocations for over 5,550 dwellings and 258ha of employment sites in March, Wisbech and Chatteris to the east. This is likely to result in a significant increase in demand for travel along the corridor between Peterborough and the market towns, with people benefiting from employment opportunities and new housing. The A605 is likely to play a key role in connecting these areas and new housing and employment sites, with Whittlesey at the centre.

**Figure 5.2: Whittlesey housing and employment commitments (2023)**



Source: FDC

### Future land use – implications for the study?

The Peterborough Local Plan (2019) and draft Fenland Local Plan (2014) outline significant housing and employment development in the region. Although the extent of planned development in Whittlesey is not as great as in Peterborough or the other market towns, Whittlesey has already exceeded the 2014 growth targets.

The draft Fenland Local Plan (2022) sets out future growth aspirations for the region, however, any increase in housing and employment is accompanied by an increase in

potential trips and, if current trends continue, congestion levels in the town will be further impacted.

Due to potential flooding issues, most developments within Whittlesey are planned to the east of the town. With high levels of employment development in Peterborough to the west, this will increase the number of trips across Whittlesey and exacerbate congestion issues within the town. In addition to this, the large number of houses planned for March and Chatteris will likely also result in increased traffic levels on the A605.

Local employment opportunities are likely to arise due to the developments within Whittlesey which could reduce the need for some people to travel further afield for work.

## 6 Environment

The following section considers the environmental baseline conditions for air quality, flood risk, the historic environment, people and communities, and biodiversity, in relation to Whittlesey, the surrounding area and the local highway network.

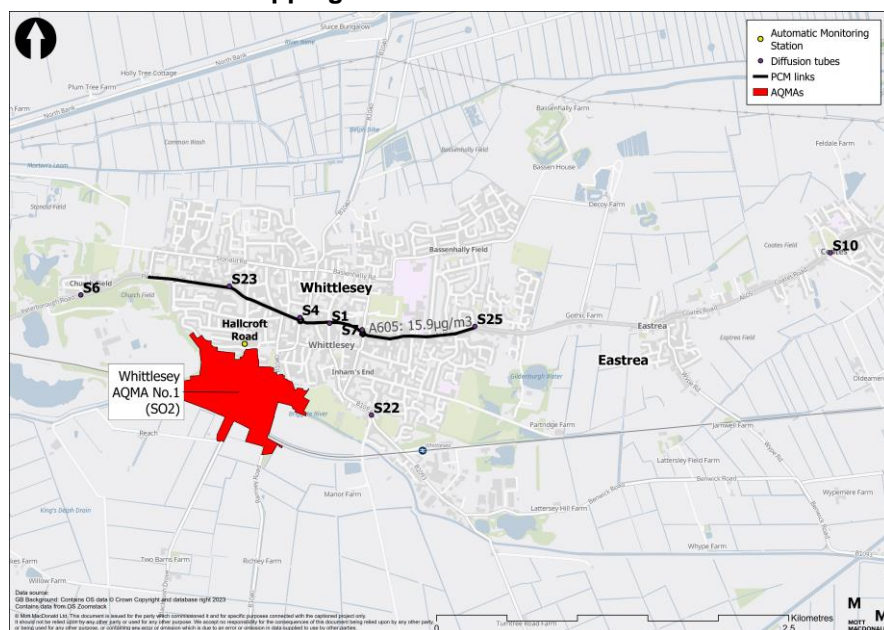
### 6.1 Air quality

Air quality is an important social and environmental issue that can lead to associated adverse health impacts when air quality exceeds objectives or limit values. Generally, air quality concerns in Whittlesey are primarily due to traffic congestion via the A605 and B1040 and industrial outputs from brickworks and other large-scale processes. Whittlesey has seen the introduction of new major residential developments, haulage yards and industrial processes, which have contributed to the town's increasing traffic levels along the A605<sup>27</sup>, further impacting on air quality levels.

This review provides an overview of existing air quality in the town, specifically relating to pollutants associated with road traffic. This has been informed by existing publicly available data. Information on air quality in the UK can be obtained from a variety of sources including local authorities, national network monitoring sites and other published sources. For the purposes of this assessment, data has been obtained from Defra<sup>28</sup> and FDC<sup>29</sup>.

The monitoring data for 2020 and 2021 is unlikely to be representative of 'normal' conditions at the monitoring sites, due to the effects associated with the COVID-19 pandemic during those years when England was subject to periods of lockdowns and the influences this had on traffic. Therefore, the data for 2020 and 2021 is presented for reference only and the most recent year with representative data is 2022.

**Figure 6.1: Air Quality Management Areas, local authority monitoring locations and Pollution Climate Mapping links**



Source: DEFRA / FDC

<sup>27</sup> Fenland District Council (2023) '2023 Air Quality Annual Status Report (ASR)'; Accessed; [ASR Template England 2023 Fenland.pdf](#)

<sup>28</sup> Air Defra (2023) 'Department for Environment Food and Rural Affairs. Air Quality Information Resource (Air) Website' Accessed; <http://uk-air.defra.gov.uk/>

<sup>29</sup> Air Defra (2023) 'Air Quality Management Areas (AQMA)'; Accessed; [Air Quality Management Areas \(AQMA\) - Defra, UK](#)

### 6.1.1 Air Quality Management Areas

There are four Air Quality Monitoring Areas (AQMAs) within the administrative area of FDC; three in Wisbech, and one in Whittlesey that was declared in 2006 for exceedances of the 15-minute sulphur dioxide (SO<sub>2</sub>). The SO<sub>2</sub> concentrations are mainly associated with industrial process associated with brickworks<sup>30</sup>. The primary pollutants from road traffic, however, are oxides of nitrogen (NO<sub>x</sub>), of which nitrogen dioxide (NO<sub>2</sub>) is a constituent part and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). The AQMA in Whittlesey is currently being reviewed, with the potential for revocation following consecutive years of good air quality.

The AQMA in Whittlesey (Whittlesey AQMA No.2 (SO<sub>2</sub>)) covers an area to the west and northwest of Whittlesey brickworks and does not intersect the main A605.

### 6.1.2 Local authority monitoring

#### 6.1.2.1 Automatic monitoring

There are currently three automatic monitoring stations in operation within FDC's administrative boundary, all of which are in Whittlesey. One of the monitors measures NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> and was installed in January 2023 on Hallcroft Road. The data recorded at this monitor is currently only provided online on Air Quality England's website<sup>31</sup>, due to the latest air quality annual status report (ASR) for FDC only providing monitoring data up to 2022. Concentrations available at the time of writing are based on recorded data between 2<sup>nd</sup> February 2023 and 30<sup>th</sup> November 2023.

Annual mean concentrations for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, which are the main pollutants associated with road traffic, are presented below in Table 6.1 and show that there have been no exceedances of any of the annual mean objectives which are 40 µg/m<sup>3</sup> for NO<sub>2</sub> and PM<sub>10</sub> and 20 µg/m<sup>3</sup> for PM<sub>2.5</sub>. There have also been no exceedances of the short-term objectives (1-hour mean NO<sub>2</sub> and 24-hour PM<sub>10</sub>). The location of this automatic monitoring station is displayed in Figure 6.1.

**Table 6.1: Air quality automatic monitoring data**

Name	British National Grid Coordinates		Site Type	Data Capture 2023 (%)	Annual Mean Concentration (µg/m <sup>3</sup> )		
	X	Y			NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Hallcroft Road	526461	297062	Suburban Industrial	90	30	15	9

Source: FDC - Air Quality monitoring service

The other two automatic monitoring stations in Whittlesey are operated by Whittlesey Brick Pits and measure SO<sub>2</sub>. They are both located within Whittlesey AQMA No.2 (SO<sub>2</sub>) AQMA. Elevated SO<sub>2</sub> concentrations in this AQMA are associated with the brickworks rather than road traffic and, as such, are not relevant to this scheme and have not been considered in this baseline.

#### 6.1.2.2 Diffusion tube monitoring

FDC undertakes NO<sub>2</sub> diffusion tube monitoring at 41 locations across their administrative boundary. Annual mean NO<sub>2</sub> concentrations recorded at the diffusion tube sites between 2018 and 2022 within and in the vicinity of Whittlesey are presented in Table 6.2.

<sup>30</sup> Air Defra (2023) 'Air Quality Management Areas (AQMAs)'; Accessed; [Air Quality Management Areas \(AQMAs\) - Defra, UK](#)

<sup>31</sup> Air Quality in England (2023) 'Fenland District Council Monitoring Data'. Accessed online; [Fenland District Council - Air Quality monitoring service \(airqualityengland.co.uk\)](#).

This consists of eight diffusion tubes, of which six are at roadside locations and two at kerbside locations, as shown in Table 6.2. All eight diffusion tubes are located along the A605 with the exception of site S22, which is located on the B1093.

Between 2018 and 2022, there were no exceedances of the annual mean NO<sub>2</sub> objective (40µg/m<sup>3</sup>) at any of the monitoring sites. Concentrations recorded in 2022 were all lower than those recorded in 2019, which is the next most recent year with representative monitoring data after 2022.

**Table 6.2: Air quality diffusion tube monitoring data**

Site ID	British National Grid Coordinates		Site Type	Data Capture 2022 (%)	Annual Mean NO <sub>2</sub> Concentration (µg/m <sup>3</sup> )				
	X	Y			2018	2019	2020	2021	2022
S1	527059	297205	Kerbside	100	21.7	21.3	15.8	17.8	17.6
S4	526849	297246	Roadside	100	22.2	22.1	17.2	16.9	18.2
S6	525293	297406	Roadside	100	16.1	19.0	15.1	15.4	12.8
S7	527291	297159	Roadside	100	20.6	18.3	16.2	16.1	16.4
S10	530615	297705	Kerbside	100	18.6	18.6	13.9	14.9	15.2
S22	527357	296554	Roadside	100	16.1	15.9	14.2	13.7	13.3
S23	526348	297468	Roadside	100	22.4	22.9	16.3	17.4	17.1
S25	528091	297183	Roadside	100	16.7	16.8	15.7	15.1	16.0

Source: 2023 Air Quality Annual Status Report (ASR), Fenland District Council

Note: Diffusion tube data is bias adjusted.

### 6.1.3 Defra projected background concentrations

Defra provides mapped future year projections of background pollution concentrations for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> for each 1 km grid square across the UK for all years between 2018 to 2030<sup>32</sup>. The maps include a breakdown of background concentrations by emission source, including road and industrial sources, which have been calibrated against 2018 (the baseline year) UK monitoring data.

Table 6.3 presents the maximum background concentrations across the 1 km grid squares containing the town of Whittlesey in the current year of 2023 for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. The maximum background concentrations for all pollutants presented in Table 6.3 are all within the relevant objectives (40 µg/m<sup>3</sup> for NO<sub>2</sub> and PM<sub>10</sub> and 20 µg/m<sup>3</sup> for PM<sub>2.5</sub>).

**Table 6.3: Defra projected background concentrations of NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> in 2023 (µg/m<sup>3</sup>)**

1km Grid Square Location (OS Grid Reference)		2023 background concentration (µg/m <sup>3</sup> )			
X	Y	NO <sub>2</sub>	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
523500	297500	11.5	15.4	16.1	8.9
525500	297500	8.8	11.4	16.5	9.3
526500	297500	9.2	12.1	15.0	9.4
531500	298500	7.4	9.5	15.5	9.4

Source: DEFRA

Note: Highest background concentration for each pollutant is shown in **bold**.

<sup>32</sup> Defra Background maps (2018) [Online]. Available at: <https://uk-air.defra.gov.uk/data/laqm-background-maps>



#### 6.1.4 Pollution Climate Model

Defra uses the Pollution Climate Model (PCM) to report compliance with the limit values transposed into UK law from the Air Quality Directive<sup>33</sup>. The PCM model provides NO<sub>2</sub> concentrations at locations 4m from the road, and projections are available for all years from 2018 to 2030 from the base year of 2018. In general, predicted NO<sub>2</sub> concentrations decline into the future, mainly in response to cleaner vehicles and technologies, and actions in air quality action plans (AQAPs) by local and combined authorities. The most recent PCM model results were published in 2020 and the projections represent the projected concentrations assuming no further action beyond the air quality measures that were committed by the reference year (2018).

There is one PCM link located in Whittlesey on the A605, as shown in Figure 6.1. The PCM model predicts an annual mean NO<sub>2</sub> concentration of 15.9µg/m<sup>3</sup> for 2023, which is well below the annual mean limit value of 40µg/m<sup>3</sup> for NO<sub>2</sub>. This concentration is expected to be even lower in the future, due to the reasons detailed above.

##### **Air quality – implications for the study?**

The air quality baseline shows that air quality does not exceed relevant air quality objectives and limit values. Nonetheless, opportunities to redirect HGVs along industrial routes and relieve congestion in the town centre would encourage more sustainable modes of transport, such as walking and cycling, which would help to improve air quality and could be considered a benefit.

#### 6.2 Noise

The information below is based upon a desktop analysis of mapping, aerial photography and review of Defra noise mapping<sup>34</sup> for major road and rail infrastructure that passes through the area.

The noise climate within Whittlesey and the small villages of Eastrea and Coates situated along the A605 to the east is dominated by traffic noise emanating from the A605, as well as the B1040 and B1093 which form other significant traffic routes within the town. There are many noise and vibration sensitive receptors (NSR) in close proximity to these roads, predominantly residences but including schools, medical practice, places of worship and community halls, such as Coates Public Hall and the Eastrea Centre.

Defra round three noise mapping provides modelled traffic noise levels for the A605. The mapping indicates daytime noise levels for NSR in close proximity to the road exceeding LAeq,16hour 65.0dB in many locations and exceeding LAeq,16hour 70.0dB in some instances. The daytime noise mapping is illustrated in Figure 6.2. During the night-time the mapping indicates noise levels for NSR in close proximity to the road exceeding LAeq,8hour 55.0dB in many locations and exceeding LAeq,8hour 65.0dB in some instances. The night-time noise mapping is illustrated in Figure 6.3.

<sup>33</sup> European Union (April 2008) 'Directive on Ambient Air Quality and cleaner Air for Europe.', 152, 0001-0044.

<sup>34</sup> DEFRA (2019) Strategic noise mapping Round 3 (2017) [online] available at: <https://www.gov.uk/government/publications/strategic-noise-mapping-2019>



Figure 6.2: Strategic noise mapping – daytime road noise levels  $L_{Aeq16h}$  (dB)

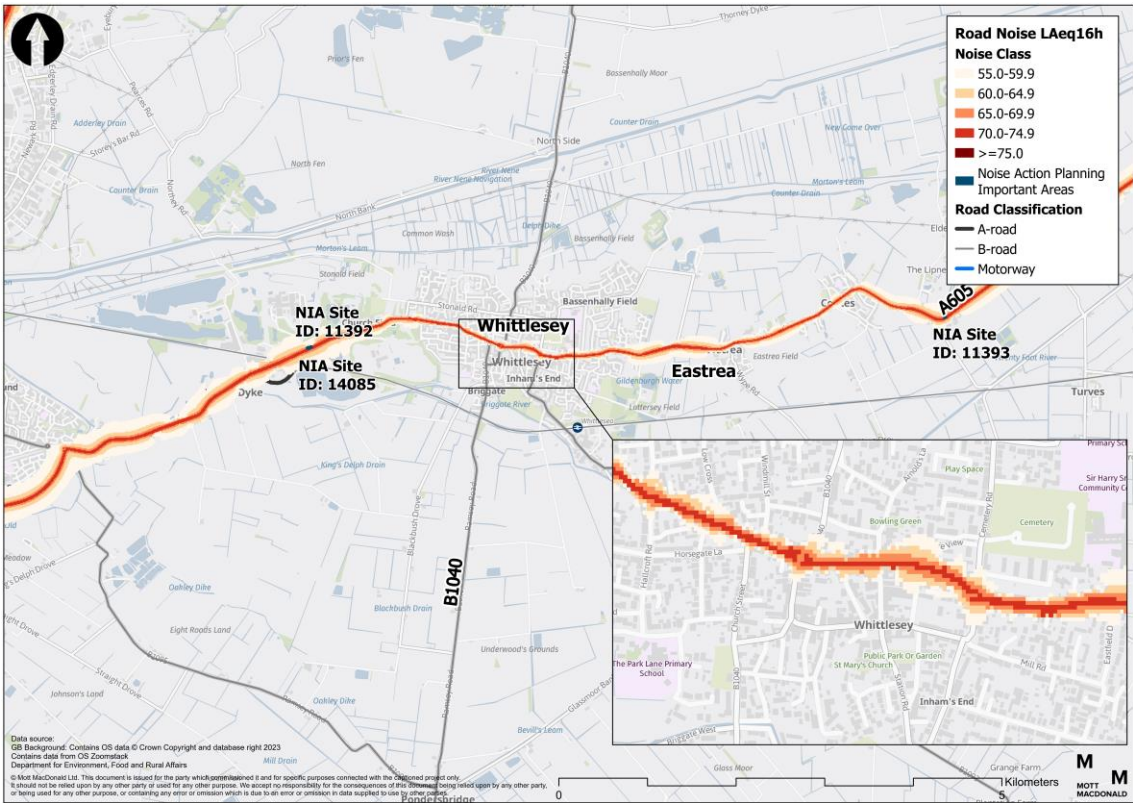
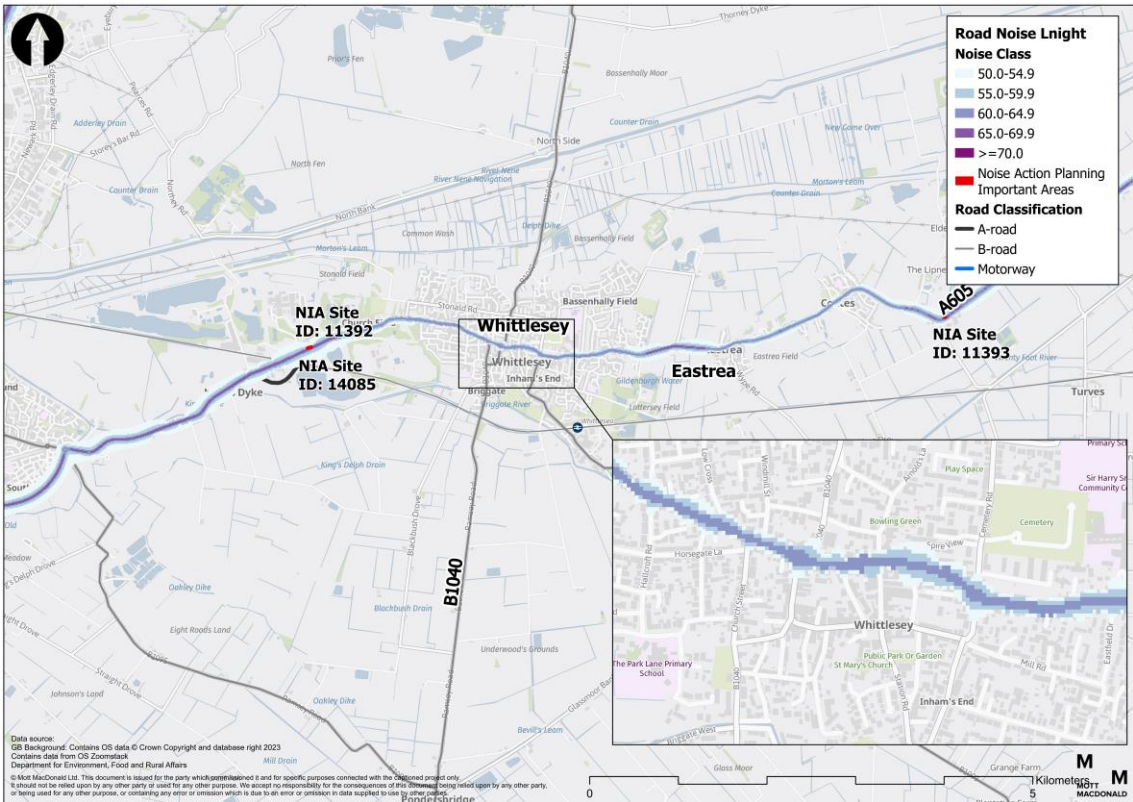


Figure 6.3: Strategic noise mapping – nighttime road noise levels  $L_{night}$  (dB)



Noise Important Areas (NIA) correspond to locations where the one percent of the population affected by the highest noise levels from major roads is situated, identified by strategic noise mapping. There are three NIAs situated along the A605 in the vicinity of Whittlesey:

- ID 11392 situated on the A605 immediately to the west of the junction with Ralph Butcher Causeway
- ID 14085 situated on the A605 at of the junction with Ralph Butcher Causeway
- ID 11393 situated on the A605 east of Coates

To the east of Whittlesey, along the A605 corridor, there are significant industrial developments, including brickworks with associated minerals extraction. Noise from these developments is likely to contribute to the noise climate, particularly where there is night-time operation when noise contribution from roads will be reduced.

Remote from the A605, noise levels are likely to be dominated by traffic noise from local roads with contribution from commercial premises, agricultural operations and the railway situated to the south.

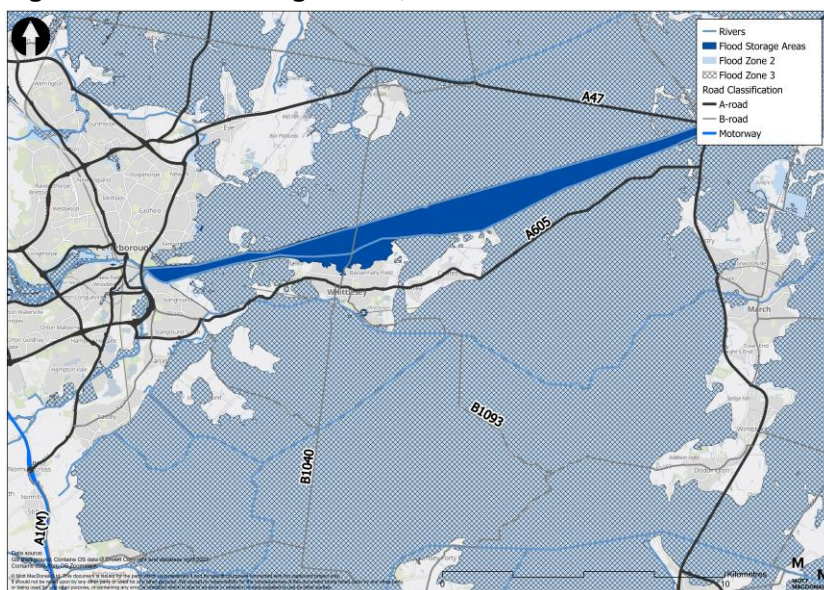
### Noise – implications for the study?

There is an opportunity to significantly reduce traffic flows along the A605, B1040 and B1093, as well as rerouting of heavy goods vehicles (HGV) away from the centre of Whittlesey. This is likely to reduce traffic noise levels at noise sensitive receptors within the town.

## 6.3 Flood risk

The Fenland area surrounding Whittlesey is primarily within flood zone 3, as defined by the Environment Agency (EA) to have a high probability of flooding, as shown in Figure 6.4<sup>35</sup>. The Whittlesey (Nene) Washes Flood Storage Reservoir, to the north of Whittlesey is within flood zone 3b as it is classified as a functional floodplain where there is a significant risk of flooding, whereas the south is located predominately within flood zone 3a<sup>36</sup>.

**Figure 6.4: Flood storage areas, flood zones and rivers**



Source: EA

<sup>35</sup> gov.uk (2023) 'Get flood risk information for planning in England', Accessed; [Flood map for planning - GOV.UK \(flood-map-for-planning.service.gov.uk\)](https://flood-map-for-planning.service.gov.uk/)

<sup>36</sup> Royal Haskoning (2021) 'Whittlesey Relief Road Study', Business Case Inception Report – Fenland District Council, Accessed; [Whittlesey Relief Road Study \(whittleseytowncouncil.gov.uk\)](https://whittleseytowncouncil.gov.uk/)



The Whittlesey (Nene) Washes are located north of Whittlesey and lie south of the River Nene. The Whittlesey (Nene) Washes, formally registered under the Reservoirs Act (1975), protect adjacent land from flooding<sup>37</sup>. The Nene Washes manage the risk of flooding to residential areas, roads, railways and surrounding agricultural land. As a result, the EA works with the internal drainage boards to manage water levels and reduce flood risk by assessing fluvial surface water, groundwater levels, failure of flood alleviation assets. The North Level District Internal Drainage Board manages flood risk north of the town<sup>38</sup>, and the Whittlesey (Nene) Washes, whereas the Whittlesey Consortium of Internal Drainage Boards (WCIDB) manages the south and east of the town<sup>39</sup>.

During times when high tides and high river levels coincide within the Whittlesey (Nene) Washes flood storage reservoir, the resulting seasonal flooding causes disruption to the road network<sup>40</sup>. There are instances when flood water covers the North Bank Road/B1040, which leads to road closures. In the event that North Bank Road/B1040 are closed an alternative route between Whittlesey and Peterborough is used via the A605. Some additional 5,000 vehicles a day are displaced by this closure<sup>41</sup>.

#### **Flood risk – implications for the study?**

Flooding is significant for Whittlesey and its transport network, in particular the highway network. As well as having roads closed, the knock-on impact of redirected traffic adds to congestion issues for the A605 and the town centre.

There is an opportunity to create alternative diversion routes in the event of flooding to minimise the social and environmental impact of the additional traffic on the Whittlesey local community, as well as disruption to road users.

## **6.4 Historic environment**

Whittlesey is an ancient market town with a variety of architecture spanning centuries, with references in Anglo-Saxon documents.

The Whittlesey area has a rich history with evidence of settlement and activity dating from the Neolithic, Bronze Age, Iron Age and Romano-British periods<sup>42</sup>. This is owing to the former wetlands conditions which prevailed in this area, leading to the exceptional preservation of prehistoric landscape, such as Flag Fen. To the west of Whittlesey, archaeological investigations as a result of quarrying has revealed are internationally important archaeological sites buried within palaeochannels. Bronze Age dwellings at Must Farm which have been described as the "best-preserved Bronze Age dwellings ever found"<sup>43</sup>. There is also a Bronze Age round barrow cemetery (National Heritage List for England reference: 1020844) situated to the south of Whittlesey. Identification of palaeochannels suggests there is a high potential for significant geoarchaeological deposits. As such, there is potential for similar archaeological remains to be sealed by peats and clays which may be of equal value to a Scheduled Monument. Archaeological investigations in advance of proposed clay extraction, such as at Stonald Field, King's Dyke West to the east of Whittlesey, found a rich collection of artefacts

<sup>37</sup> Whittlesey Town Council (2022) 'Whittlesey (Nene) Washes Factsheet', Accessed; [Whittlesey \(Nene\) Washes Factsheet \(whittleseytowncouncil.gov.uk\)](https://whittleseytowncouncil.gov.uk)

<sup>38</sup> North Level IDB (2023) 'North Level District Internal Drainage Board', Accessed; [District map – North Level District Internal Drainage Board \(northlevelidb.org\)](https://northlevelidb.org)

<sup>39</sup> WCIDB (2021) 'Whittlesey & District Maps', Accessed; [Whittlesey & District Maps | Wcidb](https://www.wcidb.co.uk)

<sup>40</sup> East Delph Lakes (2023) 'Flooding of the Northbank Road and Whittlesey Wash', Accessed; [Flooding | East Delph Lakes](https://www.eastdelphlakes.co.uk)

<sup>41</sup> Cambridgeshire County Council (2019) 'Economy and Environment Committee – 15<sup>th</sup> August 2019', Accessed; [Document.ashx \(cmis.uk.com\)](https://www.cambridgeshire.gov.uk)

<sup>42</sup> Oxford Archaeology (2011) 'Medieval pits at the old post office Whittlesey', Accessed; [Cover \(oxfordarchaeology.com\)](https://www.oxfordarchaeology.com)

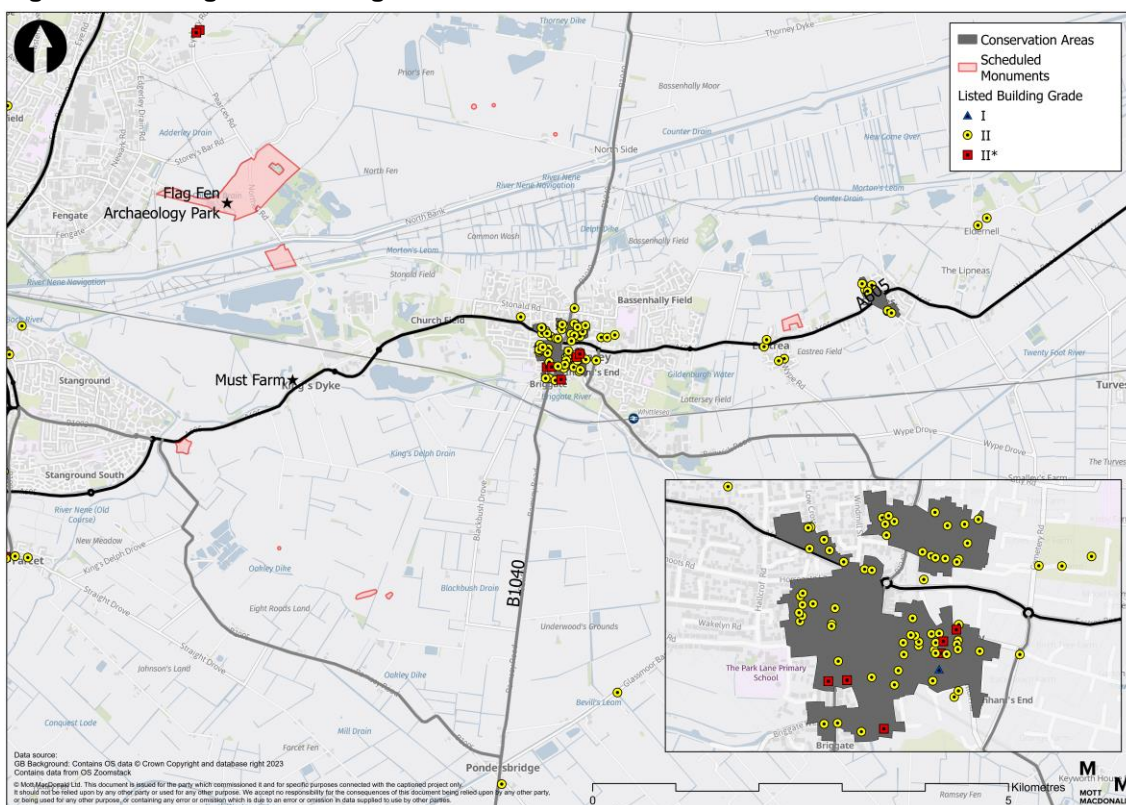
<sup>43</sup> Peterborough Archaeology 'Must Farm Bronze Age Settlement', Accessed; [Must Farm Bronze Age Settlement - Peterborough Archaeology](https://www.peterborougharchaeology.co.uk)

dating from the end of the Neolithic (c. 2500 BC) through to the end of the Roman period (410 AD)<sup>44</sup>.

The Fen Causeway Roman Road which ran between Denver, Norfolk in the east and Peterborough in the west is thought to have passed close to Whittlesey, overlying prehistoric monuments, burials and settlements<sup>45</sup>. Its construction brought with it associated roadside development, such as paddocks and enclosures and some small workshops. To the north of Whittlesey, archaeological evidence thought to date back to the Iron Age and Romano-British periods has been recorded, most likely associated with the Fen Causeway along with evidence of Post Medieval land use<sup>46</sup>.

Whittlesey itself appears in Anglo Saxon texts and developed as a Market Town through the medieval period. The historic centre of the town is designated as Whittlesey Conservation Area, with a large historic marketplace at its centre. A scheduled 17th century Buttercross is situated in the centre of the marketplace. Listed buildings in the town include two churches dating to the 14th century, and a range of houses which predominantly date to the 17th – 19th centuries. The location of designated heritage assets in the town and surrounding area are outlined in Figure 6.5.

**Figure 6.5: Designated heritage assets**



Source: Historic England

<sup>44</sup> Gibson, D. and M. Knight (2002) 'Prehistoric and Roman Archaeology at Stonald Field King's Dyke, Whittlesey', Accessed; [archive \(archaeologydataservice.ac.uk\)](https://archaeologydataservice.ac.uk)

<sup>45</sup> East Anglian Archaeology (1987) 'The Fenland Project, number 2', Accessed; [archive \(archaeologydataservice.ac.uk\)](https://archaeologydataservice.ac.uk)

<sup>46</sup> Patten, R. (2013) 'The Showfields, Whittlesey: An Archaeological', Accessed; [The Showfields, Whittlesey: An Archaeological \(archaeologydataservice.ac.uk\)](https://archaeologydataservice.ac.uk)

The historic environment inspires Whittlesey's local town culture by hosting events such as the Straw Beer Festival, Whittlesey Festival and their Christmas extravaganza<sup>47</sup>. The importance of heritage is emphasised with the development of the Whittlesey Heritage Walk<sup>48</sup> and proposals for a heritage visitor centre to promote Bronze Age heritage<sup>49</sup>.

Due to the rich prehistoric and historic landscape of the Whittlesey area and the wider Fenland region, any proposed relief road will have to consider the high likelihood of significant archaeological remains in particular, and the associated heritage impacts on the route taken. There is potential for remains of regional or national importance within the proposed relief road area. The construction phase may remove any archaeological deposits, should they be present, resulting in a permanent impact to archaeology. Should archaeological remains be identified, and design mitigation to avoid these remains cannot be carried out, then the remains will be recorded in order to advance the understanding of their value prior to loss.

#### **Historic environment – implications for the study?**

Whittlesey is a historic town that is being negatively impacted by traffic. Minimising road traffic congestion and HGVs within the centre of Whittlesey would reduce associated noise, air pollution and vibration, and thereby reduce the risk of damage to buildings, helping to preserve the historic market town. The reduction in traffic has the potential to attract more visitors to the town.

Equally, Whittlesey's rich geoarchaeology, archaeology and built heritage is a significant and important resource which must be taken into account when planning the Scheme.

### **6.5 People and communities**

In Whittlesey, the local community are likely to be affected by road traffic along the A605, and B1040, including impacts associated with air quality and noise, especially at nighttime, linked with health concerns and wellbeing. These aspects can make it difficult for residents and tourists to enjoy the historic market town.

As noted in Section 4.7, with limited crossing facilities of the A605 and B1040, traffic can also separate communities, with potential effects on social cohesion. The collision risk for cyclists and pedestrians, as noted in Section 4.7, can reduce the propensity for walking and cycling, leading to a reduction in physical activity and levels of accessibility to local facilities, and ultimately to social exclusion. The B1040 routes to the north and south have no formal pedestrian provision and high-speed limits, and the north and south routes along the A605 have no cycling provision; (see Section 4).

#### **People and communities – implications for the study?**

Traffic conditions in Whittlesey are likely to be having a negative impact on people and the local community.

There is an opportunity to improve the conditions of Whittlesey by reducing traffic, improving the social experience and creating a safer more pleasant urban realm.

<sup>47</sup> Fenland District Council (2020) 'Growing Fenland – Whittlesey – A Market Town fit for the Future', Accessed; [Growing Fenland - Whittlesey Final Report.pdf](#)

<sup>48</sup> Whittlesey Town Council (2022) 'Fenland District Council – Press Release', Accessed; [WHWLAUNCH-AA211022.pdf \(whittleseytowncouncil.gov.uk\)](#)

<sup>49</sup> Cambs Times (2021) 'Town secures £1million funding for masterplan to make it 'thrive'', Accessed; [https://www.cambstimes.co.uk/news/22839877.town-secures-1million-funding-masterplan-make-thrive/](#)

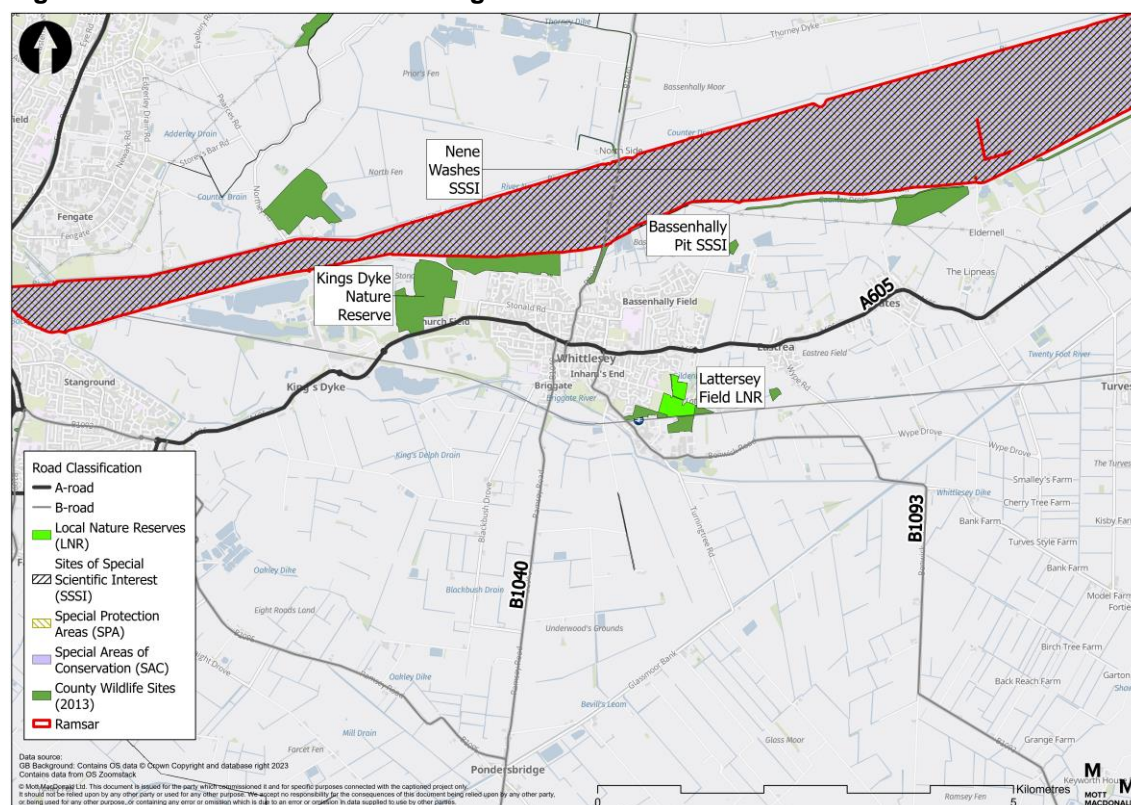


## 6.6 Biodiversity

The Whittlesey (Nene) Washes situated to the north of Whittlesey is designated as a Ramsar site, Special Area of Conservation (SAC), Special Protection Area (SPA) and as a Site of Special Scientific Interest (SSSI), (shown in Figure 6.6). The Whittlesey (Nene) Washes is an extensive area of wet grassland, usually flooded during the winter months. The site is important for various species of breeding and wintering waterbirds, notably internationally important numbers of wintering Bewick's Swans. In the summer months the land is covered in grasses and wildflowers, including nationally scarce plants<sup>50</sup>.

In addition, the Kings Dyke Nature Reserve, a former brick pit located beside the A605 to the northeast of Whittlesey, has wildlife recorded including scarce breeding and wintering species and one of the largest populations of great crested newts in the UK<sup>51</sup> (shown in Figure 6.6).

**Figure 6.6: Nature conservation designations**



Source: FDC / Mott MacDonald

### Biodiversity – implications for the study?

Whittlesey has several important locations with regards to biodiversity close to the centre of the town or A605 which need protecting. Development of a more efficient and sustainable transport network has the potential to reduce existing direct and indirect impacts of the highway network on ecological receptors.

<sup>50</sup> RSPB (2023) 'Nene Washes', Accessed: [Nene Washes | The RSPB](#)

<sup>51</sup> Ecology Surveys in Norfolk (2023) 'Kings Dyke Nature Reserve', Accessed: [Kings Dyke Nature Reserve - Ecology surveys in Norfolk](#)



## 7 Conclusion

### 7.1 Overview

This baseline evidence report explored the current situation within Whittlesey, including a review of the existing transport network and traffic conditions within the town and surrounding area to determine any issues and opportunities.

Whittlesey is a historic market town in Fenland that, whilst providing an attractive place to live for residents, faces several transport challenges. The town is well connected by road, with the A605 running directly through the town, as well as the A47 to the north and A1(M) to the west, all allowing for good connections within Fenland, as well as to the city of Peterborough and destinations further afield.

In contrast, non-car modes are less attractive in the town, with two low-frequency bus services, a two-hourly train service, limited cycling infrastructure and a walking network that present challenges to users such as narrow pavements, pavement parking and few crossing points.

Car ownership in the area is high with relatively low levels of deprivation across the study area, although the town has a lower employment rate than the national average and a high proportion of retired residents. This, along with the limitations of non-car travel within the town, is likely to create car dependency amongst residents, increasing vehicle trips within and around the study area.

Stakeholders have raised concerns around the traffic levels within the town and whilst HGV and LGV use is necessary to access key employment sites and stimulate the local economy, the highway network within the town is not built for large vehicles and their use of narrow, residential streets is of particular concern.

Congestion along the A605 is also regarded to be a problem in Whittlesey, with the A605 seeing slower speeds at the A605/B1040 roundabout and the A605/Dandelion Drive/Tayberry Way roundabout in particular. These key junctions are already operating close to, or over, capacity thereby limiting the ability of Whittlesey to grow sustainably. Whittlesey has already exceeded the growth allocated in the Fenland Local Plan (2014) and future developments in the town are likely to further exacerbate the delays faced by road users.

The primary environmental issue in Whittlesey is flooding, with the Whittlesey (Nene) Washes Flood Storage Reservoir located to the north of the town. During times when high tides and high river levels coincide, the reservoir can flood, leading to the closure of North Bank Road/B1040 and the displacement of over 5,000 vehicles per day.

Air quality monitoring, noise monitoring and a review of the historic environment and biodiversity around Whittlesey do not currently show any exceedance of monitoring objectives. However, high traffic levels within the town still affect the natural environment and Whittlesey would benefit from a reduction in through traffic.

### 7.2 Next steps

Following the identification of the issues and opportunities set out in this report, the next steps are to develop a robust case for change for the Scheme. This will form a key part of the process to determine whether a scheme is required and, if so, the options that could be considered that would address the issues outlined in this report.



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# **Whittlesey Relief Road SOBC**

## **Stakeholder Engagement Plan**

October 2023

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# **Whittlesey Relief Road SOBC**

## **Stakeholder Engagement Plan**

October 2023

# Issue and Revision Record

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# 1 Introduction

## 1.1 Overview

This Stakeholder Engagement and Communications Plan (SECP) has been prepared to support the Whittlesey Relief Road Strategic Outline Business Case (SOBC). The purpose of the SECP is to set out the planned approach to engagement and consultation with stakeholders and members of the public to inform the development of the SOBC.

## 1.2 The Scheme

The idea for a relief road for Whittlesey has existed for several decades, with the aim of reducing through traffic to improve the conditions of the market town centre for businesses, residents, and visitors, thereby contributing to its growth in keeping with its market town status. Whilst the concept of a relief road is well established locally, Fenland District Council (FDC) wishes to fully understand the issues that the scheme is proposed to address, and whether alternative options could be considered alongside the relief road proposals, thereby enabling a robust case to be made for investment in a solution that meets the needs of Whittlesey and its residents.

A draft set of primary objectives has been developed as part of the initial study (Whittlesey Relief Road Inception Study, 2021)<sup>1</sup>, which are:

1. **Economy** – Deliver economic growth and opportunity for communities in Fenland, Peterborough, and the wider Combined Authority area.
2. **Society** – Provide an accessible transport system to ensure the Whittlesey community can thrive and be healthy.
3. **Environment** – Preserve and enhance the local built, natural, and historic environments and facilitate measures to achieve net zero targets.
4. **People** – Ensuring the local community has a good level of access to facilities, services, and opportunities.
5. **Quality of Life** – enhancing the Whittlesey area as an enjoyable place to live and to visit.
6. **Place** – Making the most of Whittlesey's physical, environmental, and cultural assets and infrastructure.
7. **Business** – Focusing on business in Whittlesey with good opportunities for growth.

These high-level objectives will be reviewed as part of the SOBC development.

The current stage of work is the development of the SOBC, for which engagement and consultation is central to inform understanding of the issues. This allows for a strong case for change to be developed, and aids in the identification of potential solutions. Engagement with stakeholders and wider public consultation will also be central to the assessment of any proposed solutions, to ensure those solutions that are short listed both address the needs of Whittlesey, whilst securing broad support and buy in.

---

<sup>1</sup> [Whittlesey Relief Road Study \(whittleseytowncouncil.gov.uk\)](https://whittleseytowncouncil.gov.uk)

## 2 Stakeholder Engagement and Consultation Plan Objectives

### 2.1 Principles

The aim of this SECP is to set out the proposed approach to stakeholder and public engagement and how it will meet each individual or group's specific needs. The proposed approach aligns to the following principles:

- Consultation will enable informed opinion;
- Consultation will be well planned and timely;
- Consultation will be inclusive;
- Consultation will be professionally managed and undertaken using appropriate methods; and
- Consultation inputs will be acknowledged and fully considered.

### 2.2 Objectives of this plan

The objectives of this plan are as follows:

- Develop a strategy for engaging with all stakeholders to raise awareness and advocacy and progressing the proposals as part of the SOBC.
- Ensure that the messaging portrayed through engagement means all audiences understand the benefits and disbenefits of the different proposals across Whittlesey, Fenland and Cambridgeshire.
- Ensure that all stakeholders are given the opportunity to provide feedback on the proposals providing reassurance that their views have been listened to and have been given due consideration as any proposal progresses.
- Make sure that all stakeholder engagement activity is logged, and that all feedback is appropriately captured and responded to.
- Establish a platform for future stakeholder communications activities, making sure that changes and developments in the proposals are shared with stakeholders.

## 3 Stakeholders

### 3.1 Stakeholder identification

A stakeholder identification exercise was undertaken early in the development of proposals to establish the organisations, groups, and individuals with an interest in the proposals. The list of stakeholders is a live document and will be reviewed as the project progresses to enable additional stakeholders to be added as and when required. The list, including roles and interests of each stakeholder, is shown in Appendix A.

### 3.2 Stakeholder mapping

The way in which the stakeholders will be engaged in the process depends on their relationship with the proposals. To provide appropriate levels of information and engagement with each stakeholder group, a mapping exercise has been undertaken to classify how stakeholders should be engaged with.

A tiering approach is used to classify the level of interest and influence of stakeholders according to their ability to impact the project. Stakeholders are broadly classified in four tiers as shown in Table 3.1.

**Table 3.1: Stakeholder tiering**

Tier	Description	Examples	Methods of engagement
1	Key stakeholders need to be actively and closely managed through frequent communications to keep this group fully engaged with the project.	Local MPs, local authorities, portfolio holders, road user groups, including bus and active travel user groups, and impacted businesses and residents (once known), including impacted landowners.	Will include scheduled workshops that allow for active discussion and consultation (as set out in Section 4 of this plan). In addition, tailored communications will be offered as required that maintain an open dialogue between those closely involved with the project. <ul style="list-style-type: none"> <li>• Invite to Stakeholder workshop(s)</li> <li>• Direct invitation to public consultation / respond to consultation</li> </ul>
2	Relationships with higher profile stakeholders who may not have a direct interest in the project should be focussed on keeping the stakeholders satisfied.	Regional and local interest groups, environmental bodies (such as Environment Agency), and national bodies (such as the DfT, National Highways and Network Rail)	May include tailored communications offered as and when required to share appropriate level of information. Proactive communications on specific areas of interest may be appropriate and can increase these stakeholders' interest and support for the project, e.g., via email or the project website. <ul style="list-style-type: none"> <li>• Invitation to public consultation / respond to consultation.</li> </ul>
3	Stakeholders in this group will be kept informed of developments through regular communications providing general updates and relevant information. Information will be accessible and general, with opportunities for stakeholders to share views on specific areas of interest as required.	The media, and the public including local residents.	Will include project updates through press releases, social media and the FDC website. <ul style="list-style-type: none"> <li>• Invitation to public consultation / respond to consultation</li> </ul>
4	Stakeholders in this group are unlikely to be actively seeking information about the project but may require general, accessible communications of the key messages.	Wider public and businesses who are unlikely to be directly impacted by the Scheme.	Will include wider communications techniques. <ul style="list-style-type: none"> <li>• Online publicity / newsletters</li> <li>• Media advertising</li> <li>• Digital consultation emphasis</li> <li>• Invitation to public consultation / respond to consultation</li> </ul>

Source: Mott MacDonald

### 3.3 Stakeholder tracking

The stakeholder management tracking process will record all stakeholder interaction and engagement progress.

Contact details for stakeholders will be entered into the tracker alongside any key issues they identify, their relationship with the proposal, and status of engagement. The tracker will be a Microsoft Excel database.

Mott MacDonald and FDC will work together to ensure any stakeholder correspondence received is logged and tracked accordingly with an appropriate response. Communication with most stakeholders will be managed by FDC, with support from Mott MacDonald.



## 4 Approach to Engagement and Communications

### 4.1 Overview

This section sets out the planned approach to engagement with stakeholders and the wider public to inform the development of the SOBC.

### 4.2 Consultation narrative

A positive, aspirational tone will be used in all high-level messaging and the language and imagery will be clear and concise to be easily understood.

The narrative will be agreed with the FDC. It is important that the consultation narrative outlines that the purpose of the SOBC is to identify potential solutions to the issues experienced in Whittlesey, whether that be in the form of a relief road or other means.

### 4.3 Stakeholder workshops

Five stakeholder workshops are planned to support the development of the SOBC. This plan outlines the details of these, including the purpose of each session, and intended attendees. An outline of the proposed stakeholder engagement programme is shown in Appendix B.

#### Workshop 1 - Initial Workshop

**Purpose:** An initial stakeholder workshop will be held to establish a solid foundation for stakeholder engagement, and to begin to develop a shared understanding of the strategic objectives and insights from key stakeholders.

The session will be used as a form of knowledge transfer to make sure the project team has a broad understanding of the constraints and aspirations for the proposals, and a clear understanding of the regional context and aspirations for Whittlesey.

As well as being used as an initial knowledge transfer opportunity, Mott MacDonald will present its proposed approach to the development of the SOBC, and the planned steps in undertaking the development for the Case for Change, options identification and assessment.

**Planned for:** October 2023

**Method:** Session held virtually. Led by Mott MacDonald, using PowerPoint presentation and the use of Miro Boards (online digital whiteboard platform) to capture feedback.

**Attendees:** Focused as an initial knowledge sharing session, the stakeholders will be drawn from representatives from a selection of key officers from the Tier 1 classification (presented in Appendix A), including from FDC, Cambridgeshire & Peterborough Combined Authority (CPCA), Cambridgeshire County Council (CCC) and Peterborough City Council (PCC).

**Output:** Minutes of the Initial Stakeholder Workshop will be shared to ensure all relevant stakeholders have access to a record of the discussion and that all inputs have been captured correctly.

#### Workshop 2 – Stakeholder Workshop

**Purpose:** The second stakeholder workshop will be held to build on the inputs gathered during the Initial Workshop, with the aim to obtain further understanding of the issues underpinning the

need for intervention. During this session, the project team will present initial findings from the Baseline Data Report that will have been completed, to help inform the discussions.

**Planned for:** December 2023

**Method:** Session held virtually. Led by Mott MacDonald, using PowerPoint presentation and the use of Miro Boards to capture feedback, and support by FDC project team officers.

**Attendees:** The intention for this workshop is to draw on a wider pool of stakeholders than Workshop 1 to gain insights from a diverse range of participants. This will include local members from Whittlesey Town Council, Fenland District Council and Cambridgeshire County Council, and representatives from wider interest groups, such as local businesses, cycle groups, and public transport operators. The exact attendees list will be agreed with the Project Board.

**Output:** The findings from this session will be used to inform the Case for Change, along with the conclusions of the Baseline Data Report.

### Workshop 3 - Optioneering Technical Workshop

**Purpose:** Using the Case for Change and Baseline Data Report, an optioneering workshop will be held to discuss and identify all potential options for the Scheme that may address the issues identified, and the established objectives.

**Planned for:** May 2024

**Method:** Session will be held virtually. Led by Mott MacDonald, using PowerPoint presentation and the use of Miro Boards to capture feedback, and support by FDC project team officers.

**Attendees:** Attendees will be drawn from the pool of stakeholders who attended Workshop 1, drawing on the experience and knowledge of officers to develop the long list of options. In addition, individuals from Mott MacDonald's technical design team will be in attendance.

**Output:** Long list of options.

### Workshop 4 - Optioneering Technical Workshop

**Purpose:** Following the sifting of the long-listed options, a short list will be presented to the project board for agreement. This short list of options, along with initial designs, modelling and cost estimates will be presented at this workshop with the intention to seek the views of stakeholders to inform the assessment of the final short list that will ultimately be taken out to public consultation.

**Planned for:** Summer 2024

**Method:** Session will be held virtually. Led by Mott MacDonald, using PowerPoint presentation and the use of Miro Boards to capture feedback, and support by FDC project team officers.

**Attendees:** Attendees will be drawn from the same pool of stakeholders who attended Workshop 3.

**Output:** Short list of options

### Workshop 5 – Stakeholder Workshop

**Purpose:** This workshop will be used to present the outcomes from the short list options assessment, along with summary of the Options Assessment Report, and core themes from public consultation.

**Planned for:** Autumn 2024

**Method:** Session will be held virtually. Led by Mott MacDonald, using PowerPoint presentation and the use of Miro Boards to capture feedback, and support by FDC project team officers.

**Attendees:** Attendees will be drawn from the same pool of stakeholders who attended Workshop 4.

**Output:** Views on options assessment, and outcomes from public consultation. Views will be captured to feed into final recommendations for any future stages of work.

### Project Board

A Project Board is in place to oversee and guide the governance and delivery of the project from inception to completion. The Board will represent the interests of their organisations (FDC, Whittlesey Town Council and Cambridgeshire Council Council) whilst also disseminating information, progress updates and key decisions back to those bodies. Board members may engage directly with the public when appropriate, which will help to foster transparency and accountability of the project with the wider community.

The Project Board Members will be involved with the project through bi-monthly board meetings. These meetings will be used as appropriate to update Members with stakeholder engagement activities and findings, as well as other project updates. A list of Project Board members is included in the stakeholder list in Appendix A.

## 4.4 Wider public consultation

This plan supports a round of public consultation currently scheduled to take place over a 4-week period in late Summer/early Autumn 2024. This date is not fixed and may be subject to change. A mixture of in-person and virtual consultation methods will be used over three planned events. There will also be ongoing opportunities to engage with the consultation online or by post throughout the 4-week period.

The aim of the public consultation is to ascertain feedback from stakeholders, residents and members of the public on general support and public acceptability for the proposals, including views on the proposed short-listed options for intervention. These views will add a further layer of detail to the options assessment and be used to directly inform the SOBC and the potential preferred way forward.

Advertisement of the engagement sessions will be undertaken by the FDC and will include social media and the FDC website.

### Public Consultation Event 1

An in-person public consultation event will be held at a central location in Whittlesey, which will be determined to ensure suitability and accessibility. This engagement will include appropriate visualisations, an explanation of the presented options, and an engagement questionnaire. Details of these will be developed as the project progresses.

It is expected that this will be led by Mott MacDonald with support from the FDC.

### Public Consultation Event 2 and 3

Two digital public consultation events will be held and supported using tools such as Microsoft Teams and the online whiteboard software Miro. For consistency the same engagement materials as used in Public Engagement Event 1 will be adapted to be used in online engagement events.

These two events will be arranged to be held on different days and at different times to ensure the best chance of ensuring a diverse range of stakeholders can attend.

Following the stakeholder engagement and consultation process a Consultation Summary Report will be produced to present the findings of the consultation.

## A. Stakeholder List

**Table 4.1: Stakeholders and Roles/Interests**

Stakeholder Body	Tier	Representative - including role
CPCA	1	Active Travel Officer
	Project team	Project officer and funder
	1	Interim Head of Transport
	2	Business Board Manager
	2	Finance
	2	Public Affairs
	2	Communications
Whittlesey Town Council	Project Board	TBC
	Project Board	TBC
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
	1	Councillor
Fenland District Council	1	Planning Policy Officer
	1	Development Services
	1	Engineering Manager
	2	Senior Environmental Health Officer
	Project Board	Councillor and Portfolio Holder for Transport and Social Mobility
	Project Board	Leader of the Council, Portfolio Holder for Finance
	Project Board	Deputy Mayor of Whittlesey Town Council, Portfolio Holder for Planning
	Project team	Senior Transport Officer & Technical Lead
	Project team	Transport Development Manager
	Project team	Transport Officer
	Project team	Corporate Growth and Regeneration Advisor
	1	Councillor
Cambridgeshire County Council	Project Board	TBC
	External Project Officer	Transport Strategy Manager
	External Project Officer	Principal Transport and Infrastructure Officer
	1	Interim District Highways Manager
	2	Flood risk manager
	1	Active Travel



Stakeholder Body	Tier	Representative - including role
Peterborough City Council	1	Heritage
	1	Ecology
	3	Transport Modelling Manager
	1	Transport and Environmental Manager
	1	Highway Maintenance and Schemes Commissioning Manage
Milestone Infrastructure	3	Senior Transport Planner
Steer	3	SOBC Reviewer
Steer	3	SOBC Reviewer
Central Government	1	Local MP (NE Cambridgeshire)
Department for Transport	2	Karl Murphy
Whittlesey Business Forum	1	WBF representative, also a Whittlesey Town Councillor
National Highways	2	NH representative
Environment Agency	3	TBC
Natural England	3	TBC
Anglian Water	3	TBC
Network Rail	3	Public Affairs Manager
Greater Anglia	2	Relationship Manager, Asset Management
Stagecoach East	2	Business Development Director
Stagecoach East Midlands	2	Interim Managing Director
McCains	2	TBC
Fonterra	2	TBC
Middle Level Commissioners	3	TBC
Sustrans	2	Head of Partnerships
CamCycle	2	Communications and Community Officer
The Wildlife Trust	3	Senior Reserves Manager

## B. Engagement Plan



Source: Mott MacDonald



# Whittlesey Relief Road

Long List Options Assessment

12 June 2024

Doc Ref: 100114563-03a-03a-03a-PP-BC-010



# Content

1

Introduction

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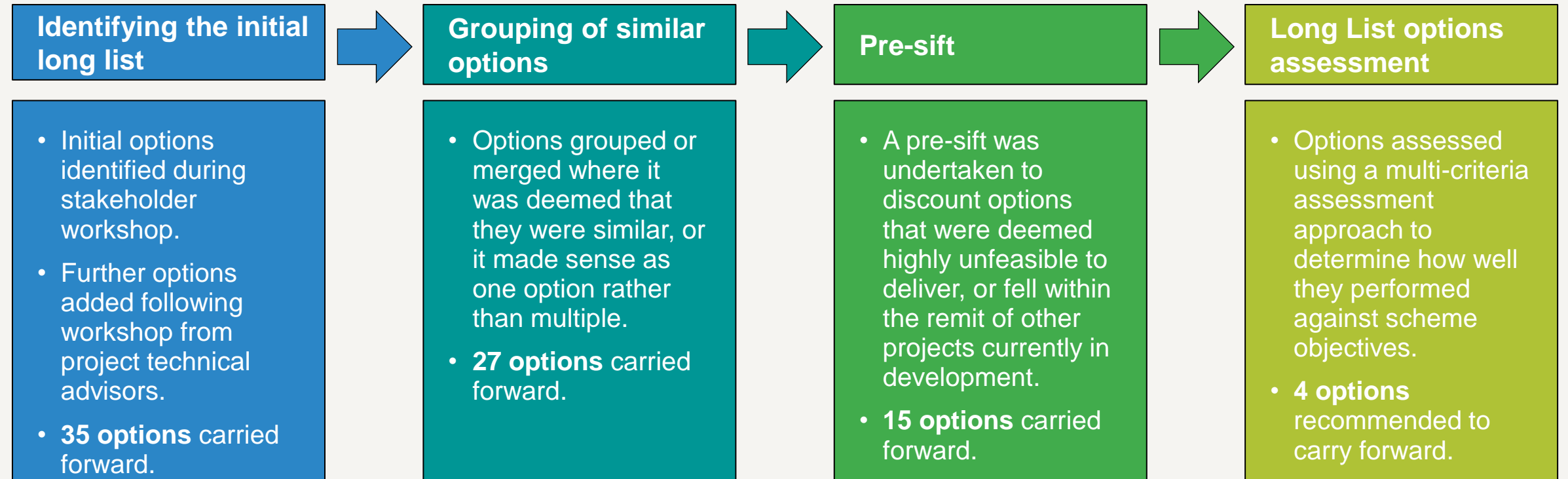
Section 4: Next Steps

# Introduction







# Introduction

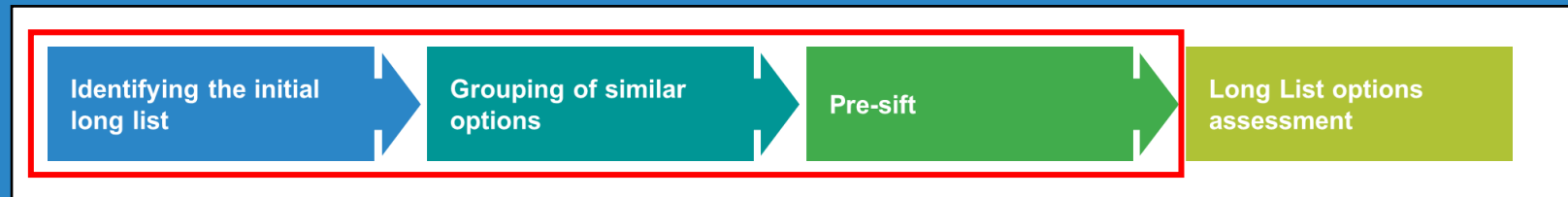
- **This report sets out how the long listed options for the Whittlesey Relief Road have been identified and assessed; concluding with the emerging short listed options.**
- The development of a long list of options is a crucial step in scheme development and the business case development process, ensuring that a wide range of options are considered and assessed. The long list optioneering process thus demonstrates that a robust decision-making process has been carried out in arriving at a long list of appropriate and suitable options.
- The process adopted for identifying the long list of options for the Whittlesey Relief Road, and the assessment of these options to arrive at a short list of options, is shown below.



# Reminder of scheme objectives (adopted by Project Board in April 2024)

Objective theme	Main objective	Sub-objective
<b>Sustainable growth</b> 	<b>1. Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.</b>	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
		1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.
<b>Connectivity and access to opportunity</b> 	<b>2. Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.</b>	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
		2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
		2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.
<b>Health, wellbeing and sense of community</b> 	<b>3. Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.</b>	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
		3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
		3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.
<b>Environment</b> 	<b>1. Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.</b>	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

# Section 1: Identifying the Long List





# Identifying the initial long list

## Stakeholder Workshop – 15<sup>th</sup> May 2024

- **Purpose** – Building off the Case for Change and review of baseline evidence, the purpose of this workshop was to discuss and identify all potential options for the Scheme that could meet the Whittlesey Relief Road scheme objectives.
- **Attendees:** Stakeholders included representatives from Fenland District Council (FDC), Cambridgeshire & Peterborough Combined Authority (CPCA), Cambridgeshire County Council (CCC) and Peterborough City Council (PCC), Sustrans, Environment Agency, Stagecoach, Network Rail and Greater Anglia. In addition, individuals from Mott MacDonald's technical design team and business case specialists were in attendance.
- **Outcome:** **35 options** were identified, covering a wide range of solutions, including but not limited to:
  - **Relief Roads** – various alignments, including to the north and south of the town.
  - **Public transport enhancements** – both infrastructure provision and service enhancements for bus and rail.
  - **Active travel enhancements** – including improved connections within the town and to Peterborough.
  - **Parking management** – including Park & Ride solutions, and parking control measures within the town.
  - **HGV re-routing** – based on both weight and time restrictions.
  - **Alterations to the A605** – speed limit restrictions, junction enhancements, pedestrian crossing enhancements.
- The full list of options captured are set out in **Appendix A**.



## Grouping of similar options

- Due to the large number of options, and high similarity between options, a decision was made to consolidate some options in advance of any sifting or assessment.
- Options were grouped where it was deemed that the sifting process was unlikely to differentiate between options. This included:
  - Options related to restricting car use e.g. clean air zone and congestion charging, grouped into **Driving disincentives**
  - Options related to car parking management e.g. introducing car park charging and reducing car parking spaces grouped into **Park & Ride**
  - Options related to HGVs e.g. HGV restrictions based on weight or time grouped into **HGV re-routing**
  - Options related to local bus offer e.g. Demand Responsive Travel and local circular bus service grouped into **Localised Public Transport enhancements**
  - Various options for active travel enhancements grouped into **Active Travel infrastructure improvements**
- This resulted in the initial long list of options being reduced from 35 to **27 options**.
- The grouped options are shown in **Appendix B**.

Identifying the initial long list

Grouping of similar options

Pre-sift

Long List options assessment

# Pre-sift

- A pre-sift was undertaken to discount options that were out of scope; against policy aspirations; do not sufficient address scheme objectives, are highly unfeasible; or fell within the remit of other projects and/or organisations. The options discounted, and the rational, is set out below:

Option	Reasons for discounting
Northern Relief Road	<ul style="list-style-type: none"><li>There are significant environmental constraints to the north of Whittlesey, such as the Whittlesey (Nene) Washes, that would likely result in significant challenges to delivery, including likely significant opposition from key stakeholders such as Environment Agency.</li><li>Costs to implementing a northern relief road is likely to incur significant costs to mitigate negative environmental impacts.</li><li>In addition, a northern relief road does not serve the industrial estates to the south of the town, so would fail to address a key issue for the town which is HGV through traffic.</li></ul>
Clean Air Zone / Congestion Charging	<ul style="list-style-type: none"><li>These options were considered unlikely to be deliverable on a small scale.</li><li>Examples of congestion charging in the UK are extremely limited, and no immediate example for a town.</li><li>Similarly with Clean Air Zones, these are used for large cities where there are issues with air quality exceeding legal limits. In Whittlesey, air quality legal limits are not currently exceeded and, therefore, it is unlikely that a Clean Air Zone would be warranted.</li></ul>
Removing traffic generators	<ul style="list-style-type: none"><li>Removing traffic generators from Whittlesey, i.e. not building new housing or employment sites, and moving existing employment sites out of the town, would greatly impact the upon the towns economy and housing needs and would be extremely unlikely to be deliverable.</li><li>This approach is not within the existing Fenland Local Plan and would require significant changes to existing planning policy.</li></ul>
Improved signage	<ul style="list-style-type: none"><li>Improving signage to direct traffic away from the town, for example via the A47, is consider to have limited impact in achieving the objectives of the WRR Scheme on its own.</li></ul>
Improvements to the A47	<ul style="list-style-type: none"><li>Improvements to the A47 which is part of the Strategic Road Network is within National Highways scope, and outside of scope and influence of the WRR Scheme.</li></ul>



Identifying the initial long list

Grouping of similar options

Pre-sift

Long List options assessment

# Pre-sift

Option	Reasons for discounting
Improved bus service frequency	<ul style="list-style-type: none"><li>Service frequency is largely within control of bus operators who operate services on a commercial basis. For them to increase frequencies would require certainty over increased patronage that would cover the costs of the additional services.</li><li>The alternative to increasing frequencies would require funding from the CPCA to support additional buses: however currently there is limited funding and scope for this.</li></ul>
Improved rail service frequency	<ul style="list-style-type: none"><li>The ability to influence and change the frequency of rail services at Whittlesea is deemed out of scope, as this would require wider changes to the rail network such as the Ely Capacity Enhancements. This is within the remit of Network Rail.</li></ul>
Promoting Whittlesea Station as a parkway station	<ul style="list-style-type: none"><li>Works to improve the station and its car parking facilities are being progressed separately to the WRR Scheme. FDC have received funding from CPCA to deliver £3m of improvements as part of the Whittlesea Station Enhancement Programme.</li><li>Building a large parkway station would likely require a link road to serve it. Otherwise, there is a risk that traffic would be drawn down Station Road, thereby not alleviating issues on the A605 from through traffic and potentially adding more traffic to an unsuitable road.</li><li>Access to a parkway site from the A605 via a new link road to avoid traffic having to go through Whittlesey would be extremely difficult to deliver due to environmental and land constraints, i.e. access would have to go via Lattersey Local Nature Reserve</li></ul>
New river bridges	<ul style="list-style-type: none"><li>This option is likely to have limited impact in addressing the scheme objectives due to the location of the river south of Whittlesey and the population it would serve.</li></ul>
Increase highway capacity by widening the A605 within Whittlesey	<ul style="list-style-type: none"><li>To deliver this would require significant intrusive construction, reducing kerb space, and the need to acquire land or property for demolition.</li><li>This is considered significantly unfeasible and, whilst it would increase highway capacity on the A605, it would not address the issues of through traffic and associated impacts of traffic within the town.</li></ul>
Level crossing improvements	<ul style="list-style-type: none"><li>As the level crossing is within Network Rail ownership, any changes would be in their remit, therefore out of scope for the WRR Scheme. However, changes to the level crossing are proposed as part of the Whittlesea Station Enhancement Programme.</li></ul>

Identifying the initial long list

Grouping of similar options

Pre-sift

Long List options assessment

## Sifted long listed options

- The outcome from the pre-sift resulted in **15 options** being identified as the long list. These were progressed to more detailed assessment.

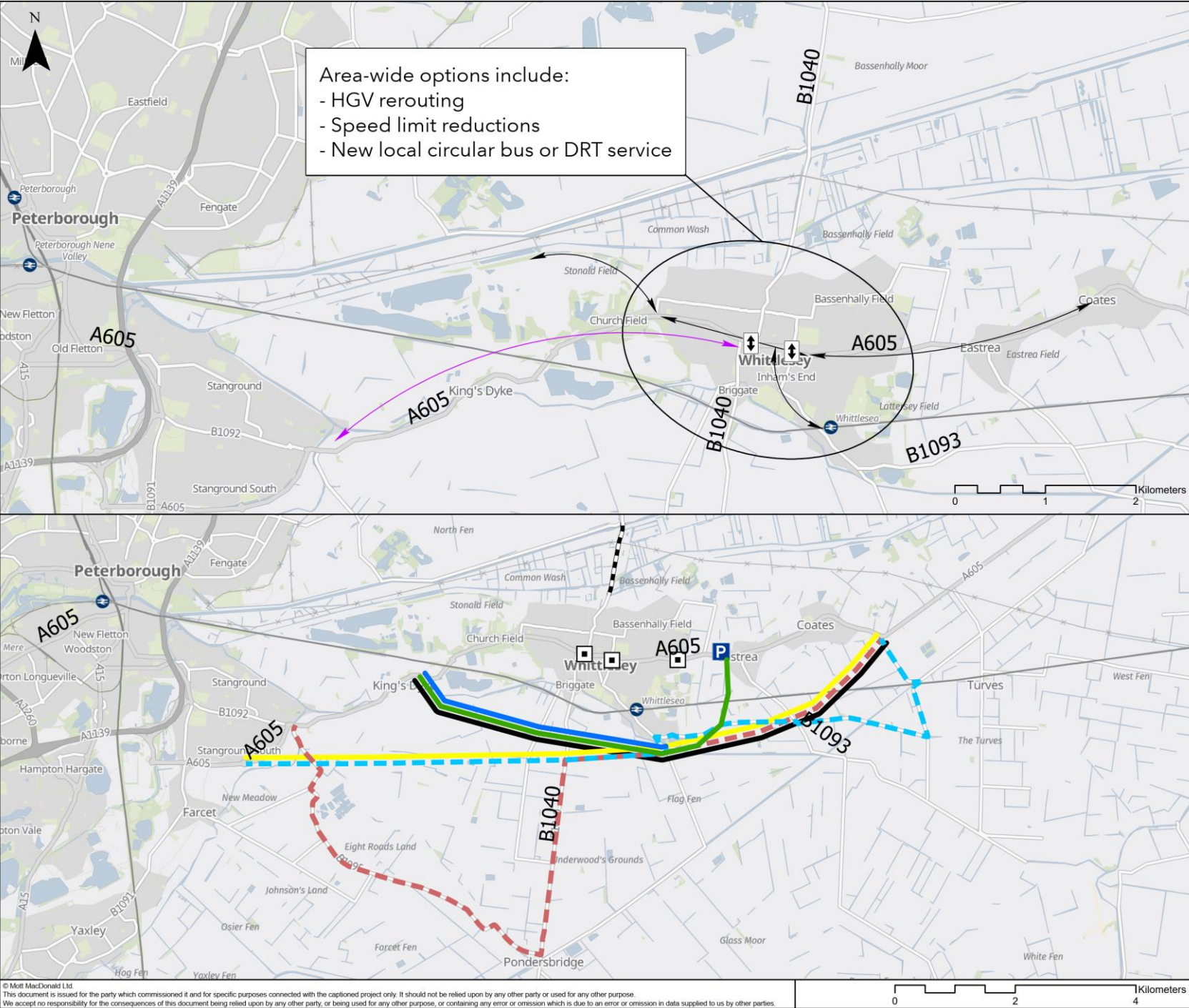
No.	Option name	Option description	Rationale for carrying forward
2	Southern Relief Road A (Blue route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and B1093, near Whittlesea Station, linking to industrial areas.	Option could help to divert through traffic away from Whittlesey and serve industrial sites to the south and west.
3	Southern Relief Road B (Grey route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 Eastrea Road, west of Eastrea.	Option could help to divert through traffic away from Whittlesey and serve industrial sites to the south and west.
4	Southern Relief Road C (Black route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 March Road, east of Coates.	Option could help to divert through traffic away from Whittlesey and serve industrial sites to the south and west.
5	Southern Relief Road D (Yellow route alignment)	Relief road to the south of Whittlesey between A605 Whittlesey Road at Cardea Morrisons roundabout and A605 March Road, east of Coates.	Option could help to divert through traffic away from Whittlesey and serve industrial sites to the south and west.
6	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	Upgrade of existing roads to the south east (e.g. B1093) and construction of new relief road linking these to the A605 west of Whittlesey.	Option could help to divert through traffic away from Whittlesey.
7	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	Upgrade of existing roads to the south west (e.g. Ramsey Road and B1040) and construction of new relief road linking these to the A605 east of Whittlesey.	Option could help to divert through traffic away from Whittlesey.
19	Improved bus priority measures	Improving the attractiveness of bus services within Whittlesey through the introduction of bus priority measures along the A605, helping to improve journey time reliability and speeds.	Option would encourage greater use of public transport and reduce the need for people to travel by car.

# Sifted long listed options

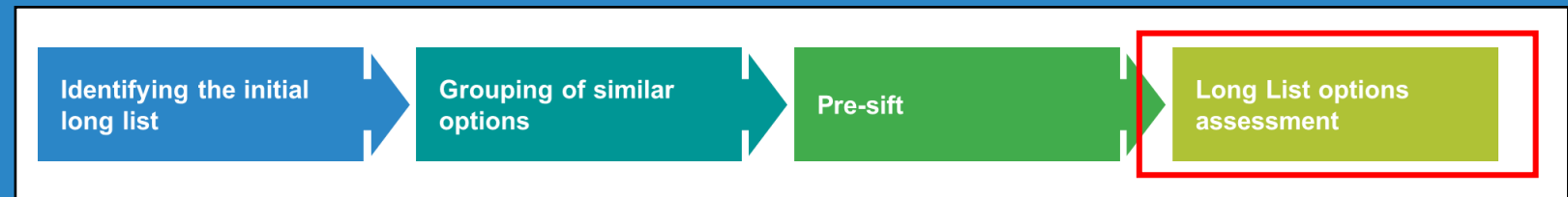
No.	Option name	Option description	Rationale for carrying forward
20	Bus based Park and Ride	Park and Ride site to the east of Whittlesey, providing parking provision for car journeys from the east (Eastrea/Coates/March) with direct bus service into Whittlesey and Peterborough.	Option would encourage greater use of public transport and reduce the need for people to travel through Whittlesey by car to access Peterborough.
28	New and improved active travel road crossings of the A605	Additional signalised crossing points of the A605 to reduce severance for pedestrians and cyclists.	Option would shorten travel times and improve safety for those walking and cycling within Whittlesey, encouraging people to undertake active travel rather than driving.
29	Speed limits	Reduce speed limits along the A605 to improve safety for road users.	Option would improve safety for those walking and cycling within Whittlesey whilst increasing journey times slightly, encouraging people to undertake active travel rather than driving.
31	Increase highway capacity at junctions	Increase capacity of the main junctions through Whittlesey on the A605 (e.g. through roundabout signalisation).	Option would improve the flow of traffic through Whittlesey, therefore reducing congestion within the town.
33	Raised road/causeway road to the north	Construction of a raised road/causeway along existing B1040 road to limit impact of flood events.	Option would increase the resilience of the road network in Whittlesey, reducing the impact of flooding on the B1040 and eliminating need for affected road users to use A605.
36	Active travel infrastructure improvements	Improvements to the active travel infrastructure within Whittlesey to improve connectivity (e.g. shared-use paths; footway improvements; cycleways). Consolidation of options 22, 23, 24, 25 and 26.	Option would improve walking and cycling infrastructure within Whittlesey, encouraging people to undertake active travel rather than driving.
37	HGV rerouting	Rerouting of HGV travel within Whittlesey to limit the impact on the network. (e.g. time/weight restrictions). Consolidation of options 12 and 13.	Option could reduce the impact of HGVs on Whittlesey, encouraging HGVs to use alternative routes.
38	New local circular bus or DRT service within Whittlesey	Introduction of a local circular bus route within Whittlesey, providing connection between key locations. This includes the potential for the service to be demand-responsive. Consolidation of Options 15 and 16.	Option could encourage use of public transport for residents and reduce the need to have/use a private car.



# Map of long listed options



# Section 2: Options Assessment



# Assessment of the long list

- Sifted long listed options have been assessed against a Multi-Criteria Assessment framework built using Mott MacDonald's in-house Investment Sifting and Evaluation Tool (INSET).
- INSET is a decision support process that helps manage information on investment options and to evaluate them. It is designed to be simple, flexible, replicable and transparent.
- Principally, INSET uses a set of assessment themes that group together homogenous criteria to appraise each of the options.
- The themes and criteria used for Whittlesey Relief Road match the scheme themed objectives and measurable sub-objectives.
- All scoring for the criteria were weighted the same, generally applying a 5-point scale.  
*(note – the carbon assessment criteria was scored on 7-point scale to accommodate additional granularity between the options to be scored).*



# Assessment criteria scoring used

Sub-objective	Large negative -2	Small negative -1	Neutral 0	Small positive +1	Large positive +2
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.	Option would result in a significant reduction in capacity	Option would result in a small reduction in capacity	Option will result in no change in capacity	Option will increase capacity, but unlikely to accommodate 16% growth in trips	Option will increase capacity to accommodate 16% growth in trips or greater
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.	Option will increase car journey times by 10% or more	Option will increase car journey times by up to 10%	Option will result in no change in car journey times	Option will reduce car journey times, but up to 10%	Option will reduce car journey times by 10% or more.
2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.	Option will significantly worsen access to education and employment opportunities	Option will slightly worsen access to education and employment opportunities	Option will not increase the number of accessible education and employment opportunities	Option will slightly improve access to education and employment opportunities	Option will significantly improve access to education and employment opportunities
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.	Option will significantly reduce public transport patronage by 25% or more	Option will slightly reduce public transport patronage between 1% and 25%	Option will result in no change in public transport patronage	Option will slightly increase public transport patronage, between 1% and 25%	Option will significantly increase public transport patronage by 25% or more
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.	Traffic speeds likely to decrease between 75% and 100% during road closure event	Traffic speeds likely to decrease between 50% and 75% during road closure event	Traffic speeds likely to decrease between 25% and 50% during road closure event	Traffic speeds likely to decrease by less than 25% during road closure event	Traffic speeds do not change during road closure event

Sub-objective	Large negative -2	Small negative -1	Neutral 0	Small positive +1	Large positive +2
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.	Option will contribute to a large increase in NO2 concentrations	Option will contribute to a small increase in NO2 concentrations	Option will contribute to annual NO2 concentrations remaining at current levels	Option will contribute to a small decrease in NO2 concentrations	Option will contribute to a large decrease in NO2 concentrations
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.	Large increase in the number of collisions and personal injuries, likely to be 50% or greater	Small increase in number of collisions and personal injuries, likely to be between 1% and 50%	No reduction in the number of collisions and personal injuries	Small reduction in number of collisions and personal injuries, likely to be between 1% and 50%	Large reduction in the number of collisions and personal injuries, likely to be 50% or greater
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.	Perception of the public realm in Whittlesey likely to significantly worsen	Perception of the public realm in Whittlesey likely to marginally worsen	Perception of the public realm in Whittlesey unlikely to change	Perception of the public realm in Whittlesey likely to marginally improve	Perception of the public realm in Whittlesey likely to significantly improve
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	General through traffic levels increase by 15% or more	General through traffic levels increase by 1-15%	No change in General through traffic levels	General through traffic levels reduced by 1-15% or more	General through traffic levels reduced by 15% or more
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	HGV through traffic levels increase by 15% or more	HGV through traffic levels increase by 1-15%	No change in HGV through traffic levels	HGV through traffic levels reduced by 1-15% or more	HGV through traffic levels reduced by 15% or more

Sub-objective	Very large negative -3	Large negative -2	Small negative -1	Neutral 0	Small positive +1	Large positive +2	Very large positive +3
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.	Significant increase in tail pipe carbon emissions and significant capital carbon emissions from implementing option	Slight increase in tail pipe carbon emissions and significant capital carbon emissions from implementing option	Slight increase in tail pipe carbon emissions and slight capital carbon emissions from implementing option	No reduction in tail pipe carbon emissions and small level of capital carbon emissions from implementing option	Small reduction in tail pipe carbon emissions, with a small level of additional capital carbon emissions from implementing option	Significant reduction in tail pipe carbon emissions, but with small level of additional capital carbon emissions from implementing option	Significant reduction in tail pipe carbon emissions and no additional capital carbon emissions from implementing option



# Long listed options assessment results

Rank	Scheme	Sustainable Growth	Connectivity and Access to Opportunity	Health, Wellbeing and Sense of Community	Environmental	Total Score
1	Southern Relief Road B (Green route alignment)	1.00	0.33	0.67	0.33	0.58
1	Southern Relief Road C (Black route alignment)	1.00	0.33	0.67	0.33	0.58
1	Southern Relief Road D (Yellow route alignment)	1.00	0.33	0.67	0.33	0.58
4	Bus based Park and Ride	0.50	0.50	0.83	0.28	0.53
5	HGV rerouting	0.50	0.17	1.00	0.39	0.51
6	Improved bus priority measures	0.50	0.50	0.50	0.28	0.44
6	New local circular bus or DRT service within Whittlesey	0.50	0.50	0.67	0.11	0.44
8	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75	0.17	0.33	0.28	0.38
8	Active travel infrastructure improvements	0.25	0.33	0.83	0.11	0.38
10	Southern Relief Road A (Blue route alignment)	0.50	0.00	0.50	0.28	0.32
11	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.50	0.00	0.33	0.28	0.28
11	New and improved active travel road crossings of the A605	0.00	0.17	0.83	0.11	0.28
13	Speed limit reductions	-0.50	-0.17	0.50	0.00	-0.04
14	Raised road/causeway road to the north	0.50	0.33	-0.50	-0.56	-0.06
15	Increase highway capacity at junctions	0.50	0.50	-1.00	-0.56	-0.14

# Long listed options assessment results

- The options assessment outputs suggest that **no single option delivers strongly against all objectives**, instead the best performing options each have different areas of strength against individual themed objectives.
- A more detailed examination of how the options perform against each themed objective is presented on the following pages to help inform the overall process of decision-making for the shortlist.

# Theme analysis

Objective theme	Main objective	Sub-objective
Sustainable growth	1. Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
		1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.

Rank	Scheme	Sustainable Growth
1	Southern Relief Road B (Green route alignment)	1.00
1	Southern Relief Road C (Black route alignment)	1.00
1	Southern Relief Road D (Yellow route alignment)	1.00
4	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75
5	Southern Relief Road A (Blue route alignment)	0.50
5	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.50
5	Improved bus priority measures	0.50
5	Bus based Park and Ride	0.50
5	Increase highway capacity at junctions	0.50
5	Raised road/causeway road to the north	0.50
5	HGV rerouting	0.50
5	New local circular bus or DRT service within Whittlesey	0.50
13	Active travel infrastructure improvements	0.25
14	New and improved active travel road crossings of the A605	0.00
15	Speed limit reductions	-0.50

- The best performing options for sustainable growth is the **Southern Relief Road**. These options score well as they could provide the significant additional capacity whilst also allowing for reduced journey times along the A605. Analysis of ANPR data suggested that 20% of all traffic and 45% of HGV traffic could potentially utilise a Southern Relief Road which exceeds the 16% growth in future trips.
- Options that do not perform as well for this objective tend to be those focused on improving other modes such as active travel infrastructure and bus-based options. These options do not offer the potential to accommodate the predicted growth in trips as a result of new developments.
- Speed limit reductions scores poorly for this option as it may result in lower road capacity and throughput and could increase car journey times.



# Theme analysis

Objective theme	Main objective	Sub-objective
Connectivity and access to opportunity	2. Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
		2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
		2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.

Rank	Scheme	Connectivity and Access to Opportunity
1	Improved bus priority measures	0.50
1	Bus based Park and Ride	0.50
1	Increase highway capacity at junctions	0.50
1	New local circular bus or DRT service within Whittlesey	0.50
5	Southern Relief Road B (Green route alignment)	0.33
5	Southern Relief Road C (Black route alignment)	0.33
5	Southern Relief Road D (Yellow route alignment)	0.33
5	Raised road/causeway road to the north	0.33
5	Active travel infrastructure improvements	0.33
10	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.17
10	New and improved active travel road crossings of the A605	0.17
10	HGV rerouting	0.17
13	Southern Relief Road A (Blue route alignment)	0.00
13	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.00
15	Speed limit reductions	-0.17

- The best performing options for connectivity and access to opportunity are **bus-based options** as these provide benefits in accessing opportunities and are likely to result in increased public transport patronage. Increased highway capacity at junctions may also result in improved bus reliability as well as providing additional resilience and therefore also scores well.
- Whilst the relief road options score well against improving access to opportunities (2a) and improving the resilience of the network (2c), they do not score as well for supporting the integration of public transport and supporting the use of sustainable modes (2b), therefore the overall score against the main objective for connectivity is not as high.

# Theme analysis

Objective theme	Main objective	Sub-objective
Health, wellbeing and sense of community	3. Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
		3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
		3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.

Rank	Scheme	Health, Wellbeing and Sense of Community
1	HGV rerouting	1.00
2	Bus based Park and Ride	0.83
2	New and improved active travel road crossings of the A605	0.83
2	Active travel infrastructure improvements	0.83
5	Southern Relief Road B (Green route alignment)	0.67
5	Southern Relief Road C (Black route alignment)	0.67
5	Southern Relief Road D (Yellow route alignment)	0.67
5	New local circular bus or DRT service within Whittlesey	0.67
9	Southern Relief Road A (Blue route alignment)	0.50
9	Improved bus priority measures	0.50
9	Speed limit reductions	0.50
12	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.33
12	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.33
14	Raised road/causeway road to the north	-0.50
15	Increase highway capacity at junctions	-1.00

- **HGV rerouting** is the best performing option for improved health wellbeing and sense of community.
- HGVs are large, loud and polluting and therefore rerouting these away from the centre of Whittlesey could see great improvements to public health and perceptions within Whittlesey.
- Highway options such as the relief road could result in traffic being taken away from Whittlesey, resulting in benefits along the A605. In comparison the raised road/causeway and increased highway capacity at junctions score very poorly as they could increase traffic levels, therefore contributing to increases in NO2 concentrations, reduced safety, and worse public perceptions of the town centre.

# Theme analysis

Objective theme	Main objective	Sub-objective
Environment	1. Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

Rank	Scheme	Environmental
1	HGV rerouting	0.39
2	Southern Relief Road B (Green route alignment)	0.33
2	Southern Relief Road C (Black route alignment)	0.33
2	Southern Relief Road D (Yellow route alignment)	0.33
5	Southern Relief Road A (Blue route alignment)	0.28
5	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.28
5	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.28
8	Improved bus priority measures	0.28
8	Bus based Park and Ride	0.28
10	New and improved active travel road crossings of the A605	0.11
10	Active travel infrastructure improvements	0.11
10	New local circular bus or DRT service within Whittlesey	0.11
13	Speed limit reductions	0.00
14	Increase highway capacity at junctions	-0.56
14	Raised road/causeway road to the north	-0.56

- The **rerouting of HGV traffic** is likely to reduce the level of HGV traffic through Whittlesey and therefore this option scores well. It is noted that emissions may increase elsewhere as HGVs undertake alternative (and potentially longer) routes and therefore this option does not score as well against carbon impact (4c).
- The three main **relief road options** also score well against the environment objective as these may contribute to the diversion of traffic away from the centre of Whittlesey. These options may have a high carbon impact (4c) however which reduces their overall performance against this objective.
- Options to provide increased highway capacity at junctions and a raised road score poorly as these could encourage additional tail-pipe emissions and may be carbon intensive to construct.
- Although active travel options may be thought to score well against an environmental objective, it is thought that these options may have no impact on general through traffic (4a) or HGV through traffic (4b).

# Consideration of deliverability

- In providing an overall assessment of the long listed options, the case of Deliverability has also been considered.
- The results are included as a sensitivity test to consider what impact matters such as cost, land take, planning requirements, and environmental constraints may have on the overall scoring of the options and their feasibility to deliver.

Rank	Scheme	Sustainable Growth	Connectivity and Access to Opportunity	Health, Wellbeing and Sense of Community	Environmental	Deliverability	Total Score
1	HGV rerouting	0.50	0.17	1.00	0.39	0.50	0.51
2	New local circular bus or DRT service within Whittlesey	0.50	0.50	0.67	0.11	0.67	0.49
3	Active travel infrastructure improvements	0.25	0.33	0.83	0.11	0.56	0.42
4	Bus based Park and Ride	0.50	0.50	0.83	0.28	-0.25	0.37
5	Improved bus priority measures	0.50	0.50	0.50	0.28	-0.06	0.34
6	Southern Relief Road C (Black route alignment)	1.00	0.33	0.67	0.33	-0.64	0.34
7	Southern Relief Road D (Yellow route alignment)	1.00	0.33	0.67	0.33	-0.67	0.33
8	Southern Relief Road B (Green route alignment)	1.00	0.33	0.67	0.33	-0.72	0.32
9	New and improved active travel road crossings of the A605	0.00	0.17	0.83	0.11	0.42	0.31
10	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75	0.17	0.33	0.28	-0.61	0.18
11	Southern Relief Road A (Blue route alignment)	0.50	0.00	0.50	0.28	-0.58	0.14
12	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.50	0.00	0.33	0.28	-0.64	0.09
13	Speed limit reductions	-0.50	-0.17	0.50	0.00	0.58	0.08
14	Increase highway capacity at junctions	0.50	0.50	-1.00	-0.56	-0.22	-0.16
15	Raised road/causeway road to the north	0.50	0.33	-0.50	-0.56	-0.78	-0.20

# Theme analysis

Criteria		
Deliverability	a. Cost	d. Buildability
	b. Delivery timescales	e. Planning requirements
	c. Land requirements	f. Environmental constraints

Rank	Scheme	Deliverability
1	New local circular bus or DRT service within Whittlesey	0.67
2	Speed limit reductions	0.58
3	Active travel infrastructure improvements	0.56
4	HGV rerouting	0.50
5	New and improved active travel road crossings of the A605	0.42
6	Improved bus priority measures	-0.06
7	Increase highway capacity at junctions	-0.22
8	Bus based Park and Ride	-0.25
9	Southern Relief Road A (Blue route alignment)	-0.58
10	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	-0.61
11	Southern Relief Road C (Black route alignment)	-0.64
11	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	-0.64
13	Southern Relief Road D (Yellow route alignment)	-0.67
14	Southern Relief Road B (Green route alignment)	-0.72
15	Raised road/causeway road to the north	-0.78

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- **Localised Public Transport, speed limit reductions, Active Travel Infrastructure and HGV rerouting** all score well due to their potential for quicker implementation times, lower costs and limited land acquisition requirements.
- Although HGV rerouting scores relatively well, it would be difficult to deliver this option without significantly affecting businesses in Whittlesey as there are no real viable alternative routes currently serving the industrial estates to the west or south of the town.
- Larger scale interventions, such as a relief road and causeway, score poorly for deliverability due to high assumed costs, land requirements and complexity of their construction.
- Of the relief road options, the black route is deemed the most deliverable.

# Packaging options to enhance outcomes

- The options assessment shows that **no single option delivers strongly against all of the objectives**, with the better performing options each having specific areas of strength and weakness.
- By packaging the better performing options that complement each other across the themed objectives, the overall outcomes from investment can potentially be improved.

Scheme	Sustainable Growth	Connectivity and Access to Opportunity	Health, Wellbeing and Sense of Community	Environmental	Total Score
Southern Relief Road	1.00	0.33	0.67	0.33	0.58
Bus based Park and Ride	0.50	0.50	0.83	0.28	0.53
HGV rerouting	0.50	0.17	1.00	0.39	0.51
Improved bus priority measures	0.50	0.50	0.50	0.28	0.44
New local circular bus or DRT service within Whittlesey	0.50	0.50	0.67	0.11	0.44
Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75	0.17	0.33	0.28	0.38
Active travel infrastructure improvements	0.25	0.33	0.83	0.11	0.38



# Packaging options to enhance outcomes

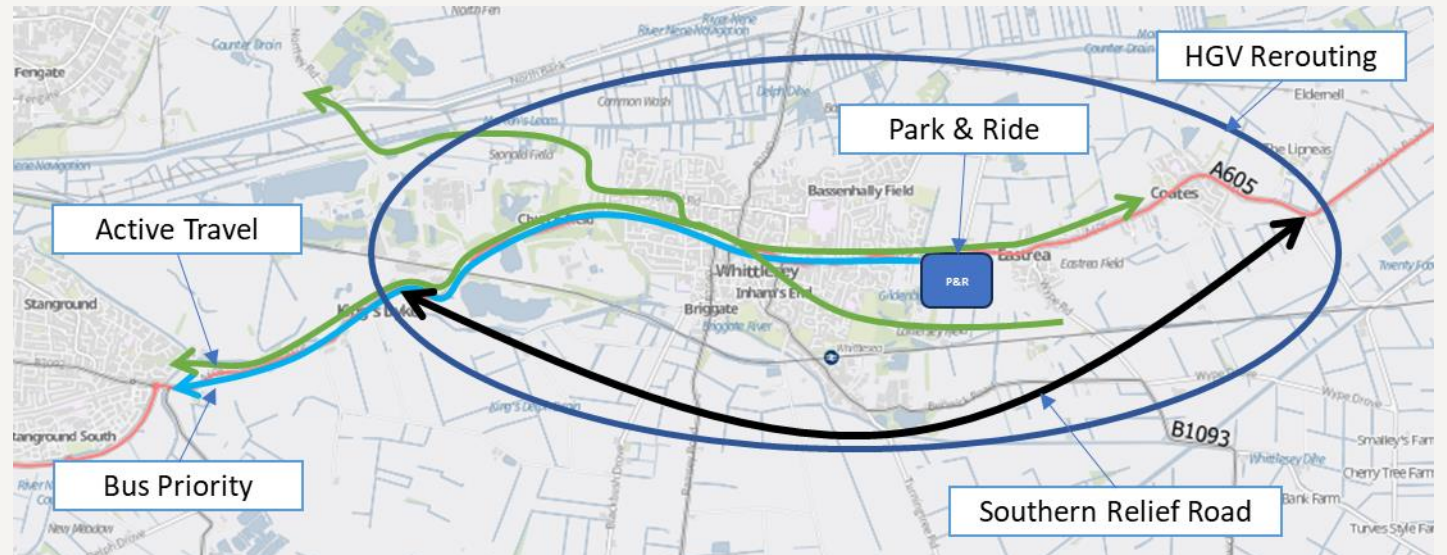
- The **Southern Relief Road** may achieve the sustainable growth ambition but performs less strongly across the other three themes. **HGV rerouting** scores higher against Health, Wellbeing and Sense of Community, as well as the Environmental themed objective, but there are challenges with the viability of the option without a clear alternative route for HGV traffic.
  - ❑ Combining these two options helps to strengthen overall outcomes.
- The delivery of a **relief road** would also release road capacity to enable complementary public transport improvements, such as improved **bus priority**, and/or **active travel infrastructure** enhancements.
  - ❑ By packing these measures together, the overall scheme outcomes would improve in relation to Connectivity and Access to Opportunity, as well as Enhanced Health, Wellbeing and a Sense of Community and improved Environmental conditions for the town.
- For the purpose of packaging, the best performing relief road route alignment (Black route) is proposed to be taken forward. Further investigation of exact routing options will take place at later stages of the scheme development process.

# Section 3: Emerging Short Listed Options

# Emerging short listed options

For progression to concept design, more detailed appraisal and consultation:

1. **Option 1** - Relief road (black route alignment) including HGV re-routing
2. **Option 2** - Relief road (black route alignment) including HGV re-routing and bus improvements
3. **Option 3** - Relief road (black route alignment) including HGV re-routing and active travel improvements
4. **Option 4** - Bus based Park & Ride



# Section 4: Next Steps

# Next Steps

Following the completion of the long listing stage, and Project Board approval, the following activities will be undertaken:

- **Concept designs** – for each of the short listed options a high level concept design will be produced.
- **Economic appraisal** – each option will be tested using the available modelling and appraisal tools to undertake a high level economic appraisal to understand performance of each option and their likely value for money.
- **High level costings** – building off the concept designs, high level cost estimates for each option will be produced.
- **Public consultation** – drawing together the outputs from above, the concept designs for the short listed options will be presented to members of the public for consultation.

# Appendices



# Appendix A: Full list of initial long listed options

Option no.	Option	Description
1	Northern Relief Road (Red route alignment)	Relief road to the north of Whittlesey between Ralph Butcher Causeway and A605 March Road, east of Coates.
2	Southern Relief Road A (Blue route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and B1093, near Whittlesea Station, linking to industrial areas.
3	Southern Relief Road B (Green route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 Eastrea Road, west of Eastrea.
4	Southern Relief Road C (Black route alignment)	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 March Road, east of Coates.
5	Southern Relief Road D (Yellow route alignment)	Relief road to the south of Whittlesey between A605 Whittlesey Road at Cardea Morrisons roundabout and A605 March Road, east of Coates.
6	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	Upgrade of existing roads to the south east (e.g. B1093) and construction of new relief road linking these to the A605 west of Whittlesey.
7	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	Upgrade of existing roads to the south west (e.g. Ramsey Road and B1040) and construction of new relief road linking these to the A605 east of Whittlesey.
8	Clean air zone	Introduction of a cordon with charges for vehicles entering that do not meet emissions standards.
9	Congestion charging	Introduction of a cordon with charges for vehicles entering at certain times of the day.
10	Parking charging	Introduction of car parking charges at Fenland District Council car parks within Whittlesey Town Centre.
11	Parking management	Altering the number or location of parking spaces within Whittlesey
12	HGV weight restrictions	Introduction of additional weight restrictions to manage where HGVs can travel within the town.
13	HGV time restrictions	Introduction of time restrictions to manage when HGVs can travel within the town.
14	Removing traffic generators	Removing traffic generators such as industrial sites from the town to reduce the traffic accessing these.
15	Local circular bus	Circular bus route within Whittlesey, providing connection between Whittlesea Station, town centre, employment sites and residential areas.
16	Demand Responsive Transport (DRT)	Introduction of DRT to provide on-demand public transport service for residents to travel within Whittlesey.
17	Improved bus service frequency	Increasing frequency of bus services in Whittlesey.
18	Improved rail service frequency	Increasing frequency of trains serving Whittlesey.
19	Improved bus priority measures	Improving the attractiveness of bus services within Whittlesey through the introduction of bus priority measures along the A605, helping to improve journey time reliability and speeds.

# Appendix A: Full list of initial long listed options

Option no.	Option	Description
20	Bus based Park and Ride	Park and Ride site to the east of Whittlesey, providing parking provision for car journeys from the east (Eastrea/Coates/March) with direct bus service into Whittlesey and Peterborough.
21	Promoting Whittlesea Station as a parkway station	Improved car parking provision at Whittlesea Station and promoting use as an option to Park and Ride. Including connection route (e.g. upgrading route between A605 and New Road via Aqua Park).
22	Shared use path along A605 in Whittlesey town centre	Shared use path along A605 in Whittlesey town centre to provide East-West connectivity and better link NCN 63 through the town.
23	Improvements to NCN Route 63 through Whittlesey	Upgrades to the existing NCN Route 63 within Whittlesey to improve attractiveness, wayfinding and accessibility.
24	Improved active travel connections to the station	Active travel improvements along Station Road to improve access and connectivity between Whittlesey town centre and the station.
25	Shared use path along A605 between Whittlesey, Coates and Eastrea	Shared use path along A605 between Whittlesey, Coates and Eastrea to provide better East-West connectivity.
26	PRoW Improvements	Improvement to the Public Rights of Way along the rivers to the south of Whittlesey.
27	New river bridges	Additional bridges across the rivers to the south of Whittlesey to reduce severance for pedestrians and cyclists.
28	New and improved active travel road crossings of the A605	Additional signalised crossing points of the A605 to reduce severance for pedestrians and cyclists.
29	Speed limits	Reduce speed limits along the A605 to improve safety for road users.
30	Increase highway capacity within Whittlesey	Upgrade of existing roads within Whittlesey to increase highway capacity.
31	Increase junction capacity	Increase capacity of the main junctions through Whittlesey on the A605 (e.g. through roundabout signalisation).
32	Level crossing improvements	Improvements/removal of the level crossing near Whittlesea Station to improve the operation of the highway.
33	Raised road/causeway road to the north	Construction of a raised road/causeway along existing B1040 road to limit impact of flood events.
34	Improved signage	Signage/wayfinding to encourage use of A47 over A605.
35	Improvements to the A47	Increasing resilience of A47 to reduce level of closures that may impact A605, and so people choose the A47 as preferred route over the A605.

# Appendix B: Grouping of similar options

Option no.	Grouped option	Description	Options formed from
20	Bus based Park and Ride	Park and Ride site to the east of Whittlesey, providing parking provision for car journeys from the east (Eastrea/Coates/March) with direct bus service into Whittlesey and Peterborough.	10 / 11 / 20
36	Active travel infrastructure improvements	Improvements to the active travel infrastructure within Whittlesey to improve connectivity (e.g. shared-use paths; footway improvements; cycleways).	22 / 23 / 24 / 25 / 26
37	HGV restrictions	Restrictions on HGV travel within Whittlesey to limit the impact on the network. (e.g. time/weight restrictions).	12 / 13
38	New local circular bus or DRT service within Whittlesey	Introduction of a local circular bus route within Whittlesey, providing connection between key locations. This includes the potential for the service to be demand-responsive.	15 / 16

# Appendix C: Pre-sift - discounted options

Option no.	Option	Reason for sifting out
1	Northern Relief Road (Red line route alignment)	There are significant environmental constraints to the north of Whittlesey such as the Whittlesey (Nene) Washes that would likely result in significant opposition to any scheme as well as high costs and negative environmental impacts.
8	Clean air zone	Discount as option is unlikely to be deliverable on a small scale. Air quality also not currently an issue to such an extent that it would warrant this.
9	Congestion charging	Discounted as option is unlikely to be deliverable due to small scale.
10	Parking charging	Discounted as similar to option 11 (parking management)
11	Parking management	Discounted as parking management included within option 20 (bus-based park and ride). This could include parking charges; a reduction in parking spaces and/or relocation of parking to the outskirts of the town centre instead.
12	HGV weight restrictions	Consolidated with HGV time restrictions (see Option 37).
13	HGV time restrictions	Consolidated with HGV weight restrictions (see Option 37).
14	Removing traffic generators	Removing traffic generators from Whittlesey would impact the town greatly. This is not in the Fenland Local Plan and would require significant changes to existing planning documents.
15	Local circular bus	Option has been consolidated with Option 16 for the Initial Sift (see Option 38).
16	Demand Responsive Transport (DRT)	Option has been consolidated with Option 15 for the Initial Sift (see Option 38).
17	Improved bus service frequency	Service frequency is within control of bus operators and therefore this is likely out of scope.
18	Improved rail service frequency	Rail frequency is out of scope. Would require wider changes to the network such as the Ely Capacity Enhancements.
21	Promoting Whittlesea Station as a parkway station	Separate to this scheme, FDC have received funding from CPCA to deliver £3m pound improvements to Whittlesea Station as part of the Whittlesea Station Enhancement Programme.

# Appendix C: Pre-sift - discounted options

Option no.	Option	Reason for sifting out
22	Shared use path along A605 in Whittlesey town centre	Due to high similarity between options and for simplicity purposes, active travel infrastructure improvements have been grouped for the initial sift. (See option 36)
23	Improvements to NCN Route 63 through Whittlesey	Due to high similarity between options and for simplicity purposes, active travel infrastructure improvements have been grouped for the initial sift. (See option 36)
24	Improved active travel connections to the station	Due to high similarity between options and for simplicity purposes, active travel infrastructure improvements have been grouped for the initial sift. (See option 36)
25	Shared use path along A605 between Whittlesey, Coates and Eastrea	Due to high similarity between options and for simplicity purposes, active travel infrastructure improvements have been grouped for the initial sift. (See option 36)
26	PRoW Improvements	Due to high similarity between options and for simplicity purposes, active travel infrastructure improvements have been grouped for the initial sift. (See option 36)
27	New river bridges	Option would have a high cost and low impact. Location of the river to the south of Whittlesey means benefits would be limited
30	Increase highway capacity by widening the A605 within Whittlesey	Significant construction would be required, including potential demolition of houses which was determined to be unfeasible and have large impact on local character.
32	Level crossing improvements	As this is within Network Rail ownership, any changes would be in their remit, therefore out of scope for this project. Separate to this scheme, FDC have received funding from CPCA to deliver £3m pound improvements to Whittlesea Station as part of the Whittlesea Station Enhancement Programme.
34	Improved signage	This would have limited impact in achieving objectives on its own.
35	Improvements to the A47	As this is within National Highways operations, any changes would be in their remit, therefore out of scope for this project.

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# Options Assessment Report

Whittlesey Relief Road

October 2024



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# Options Assessment Report

Whittlesey Relief Road

October 2024

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# 1 Introduction

## 1.1 Purpose

This Options Assessment Report (OAR) sets out how the options have been identified and shortlisted as part of the Strategic Outline Case (SOC) for the Whittlesey Relief Road scheme, hereafter referred to as 'the Scheme'.

The report will:

- Provide background on the Scheme;
- Describe the process of how options were generated;
- Detail the sifting criteria used and the appraisal techniques in the assessment of these options, and;
- Present the findings for both the long list and short list options appraisal.

## 1.2 Scheme background

Previous studies examining the issues within the town of Whittlesey have identified growing pressures from the growth in new housing and employment sites within and around the town. In particular the issues arising from traffic on the historic nature of the town and its people, and how this is leading to constraints on growth and the benefits of this growth being felt by residents and businesses.

The idea for a relief road as a solution that could help alleviate traffic in the town, in particular heavy goods vehicles, has been around for a number of years. However, whilst the background to this scheme is based on the concept that a relief road could be delivered; it has been highlighted by Fenland District Council (FDC) as the current Scheme promoter, and their partners, including Cambridgeshire County Council (CCC) and the Cambridgeshire and Peterborough Combined Authority (CPCA) that there is still a need to fully explore the issues and opportunities underpinning the concept of a relief road, and to explore more widely if there are other solutions that should be considered.

As such, an SOC is being developed to present the case for the Scheme and set out options that have been identified and considered, that could meet the needs of Whittlesey.

## 1.3 Strategic context

Whittlesey is a historic market town with an approximate population of 18,000 and is situated in Fenland to the east of Peterborough. The town has a rich heritage and culture, with a long-established history, even being mentioned in Anglo-Saxon documents that precede the Domesday Book. The town has many historical features at its heart, such as the 17th Century Buttercross, and Mud Walls dotted across the town that date back 200 years.

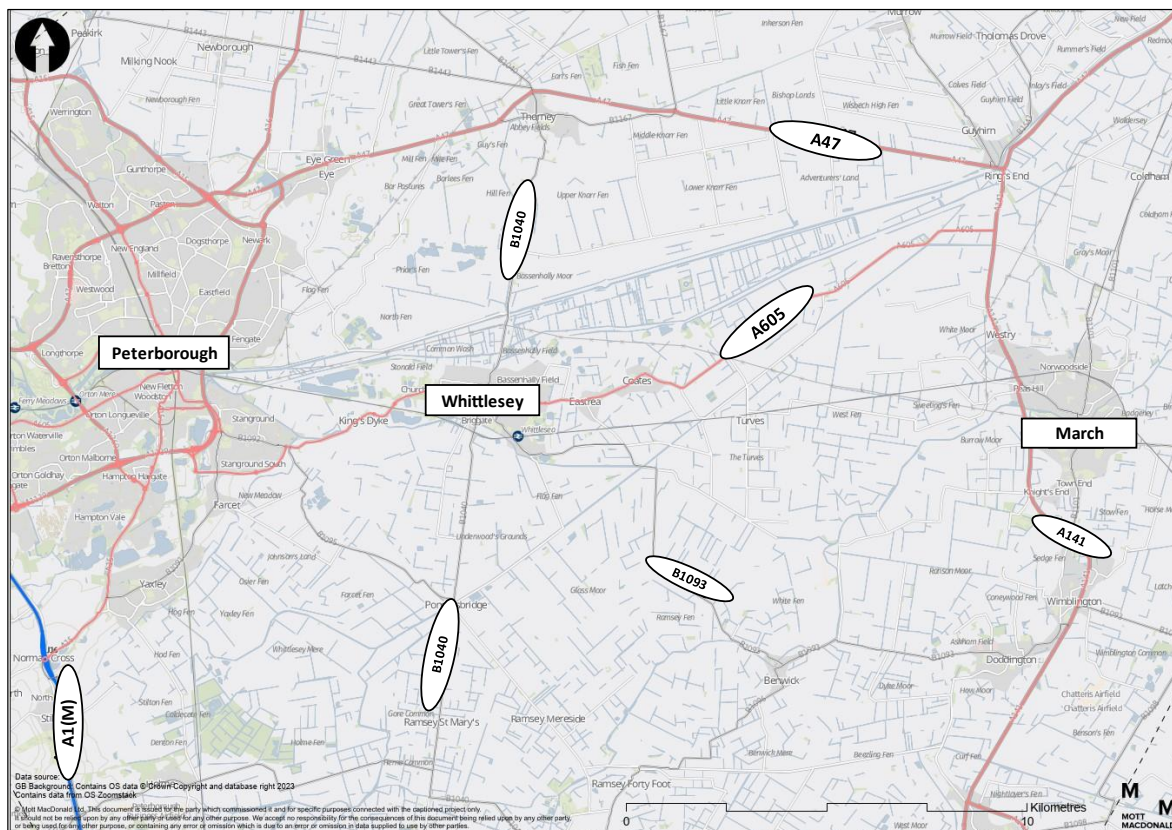
With its historic nature and many historic buildings and narrow streets, the town has a distinctive and attractive offer to those who live there, and those who choose to travel there for work and leisure opportunities. However, these same features that make the town attractive, also create some impacts that are less conducive with modern day living, particularly in relation to access and transport.

To the east there are the Fenland market towns of March and Wisbech, with the smaller villages of Coates, Eastrea, Pondersbridge and Turves situated in the area immediately surrounding Whittlesey. A lot of the surrounding area to the town is farmland, although closer to the edges of the town are

substantial industrial areas. To the north lies the Fenland washes, which act as a natural flood water storage area.

The A47 and A605 are the most significant links between Peterborough and the Fenlands area, with the latter passing directly through Whittlesey. The B1040 is the main north-south route through the town, connecting to the A605 at one of the key town centre junctions, whilst the B1093 provides further connections to the southeast.

**Figure 1.1: Whittlesey road network**



The town benefits from its proximity to Peterborough, which lies approximately 8km to the west. This is reflected in the Cambridgeshire and Peterborough Independent Economic Review (CPIER)<sup>1</sup> 2018 which recognised that Whittlesey is considered much more a part of the Greater Peterborough economic geography, compared to the rest of Fenland. This creates opportunities for residents to work, study, and shop in Peterborough, whilst still maintaining a proudly independent identity and distinct local culture.

Whittlesey can offer the ‘best of both worlds’ to current and future residents: the sense of community, calm and proximity to the countryside offered by a market town, alongside the benefits of being situated so close to a bustling and vibrant city, with everything that it has to offer. A key focus for the town is how it can further benefit from that connection, while also offering something distinct as a place to visit and spend time.

<sup>1</sup> CPIER is a review of the economy in the Cambridgeshire and Peterborough area to create a single strategic position and coherent economic growth that can be used as the basis for future investment and delivery of major infrastructure projects.

## 1.4 Report structure

The remainder of this report is structured as follows:

- Section 2 – Case for Change
- Section 3 – Optioneering Process
- Section 4 – Long List Appraisal
- Section 5 – Short List Appraisal
- Section 6 – Summary
- Section 7 – Conclusion

## 2 Case for Change

The case for change helps to set out a clear rationale for investment, highlighting the key issues with the existing situation; the impact of doing nothing; and the opportunities that could be realised, thereby helping to underpin the justification for investment.

### 2.1 The current situation

At present, Whittlesey experiences a multitude of transport related issues that is having an impact on the daily activities of the town and could potentially stunt local growth, which is likely to worsen if left unchecked.

The location of Whittlesey and its amenities, including Peterborough to the west, Whittlesey Washes to the north, large industrial sites to the south and March to the east all pose their own issues to the transport system in the town. Whittlesey sits on the A605 which is one of the key routes for east-west traffic between Peterborough and the Fenland market towns. Whilst the A47 to the north of the town offers an alternative route, it is not necessarily always more convenient, and itself can suffer from congestion, leading to traffic travelling across the region choosing to travel along the A605 and through Whittlesey.

Car trips dominate travel within Whittlesey with 75% of all traffic along the A605 through the town being made up of cars<sup>2</sup>. Whilst there are local schools, shops and health centres within the town, there are also significantly larger trip attractors outside of the town in places such as Peterborough that induce trips. These are not well connected by alternative modes to private vehicles, with limited rail (12 trains per day to Peterborough) and bus services (14 per day to Peterborough) serving the town.

Overall, there is a clear need for intervention in Whittlesey to improve sustainable access and reduce HGV and general traffic levels to improve journeys and protect the historic nature of the town.

**Photo 2.1: A605 / B1040 Junction**



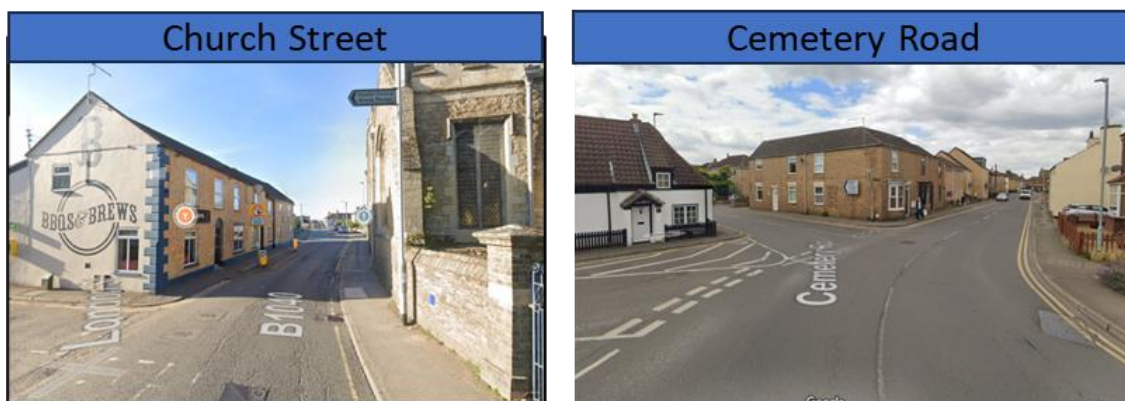
Source: Mott MacDonald – Site Visit October 2023

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<sup>2</sup> CCC - Traffic Monitoring Report (2021)

- As well as vehicle trips originating from the town, around 40% of general highway traffic is recorded as passing through and not stopping during AM Peak<sup>3</sup>. For Heavy Goods Vehicles (HGVs) this is even greater, with 68% of HGVs not stopping in the centre itself<sup>4</sup>.
- The cause for the HGV movements is due to there being a number of large industrial employment sites located around the town, with access to some of these sites requiring HGVs to travel through the town. In addition to this, the A605 forms a part of the National Highways diversion route, therefore being a key route for freight, with few restrictions.
- A key issue with the traffic moving along the A605 through Whittlesey, is that the road network in the town is not best suited to the high level of car and HGV movements. The images below show the types of roads that HGVs transverse through the town.

**Photo 2.2: Street view of Church Street and Cemetery Road**



Source: Google Street View

- The A605 segregates the town, and does not contribute to the sense of place, the historic environment and market town identity, important factors for a market town such as Whittlesey that encourage people to visit and spend time in the area.
- Further to this, the negative impact of this traffic can be seen at key junctions in the town, whereby clusters of collisions can be found. Of particular note is the A605/B1040 junction, which has seen 1 fatal pedestrian accident in past 5 years, and 3 serious accidents involving cyclists<sup>5</sup>.
- Road closures are also an issue on the wider network that impact the A605, including on the A47 when there are road traffic accidents, and the B1040 when there are flooding events. These are reported as contributing to higher levels of traffic diverting through the town further contributing to the negative impacts associated with traffic.

## 2.2 The future situation

Considering the current issues, it is important to examine the future situation, and ask the question how the town of Whittlesey may be impacted. The key points to highlight that will impact on the future situation are as follows:

- Since the start of the Fenland Local Plan period (2011/12), 1,000 new homes were planned to be built in Whittlesey between 2011 and 2031. However, as of 2024, 918 new homes have already been built, and there is permission for an additional 488 homes, with around an additional 400 homes as part of windfall sites.

<sup>3</sup> Automatic Number Plate Recognition (ANPR) Surveys (November/December 2023)

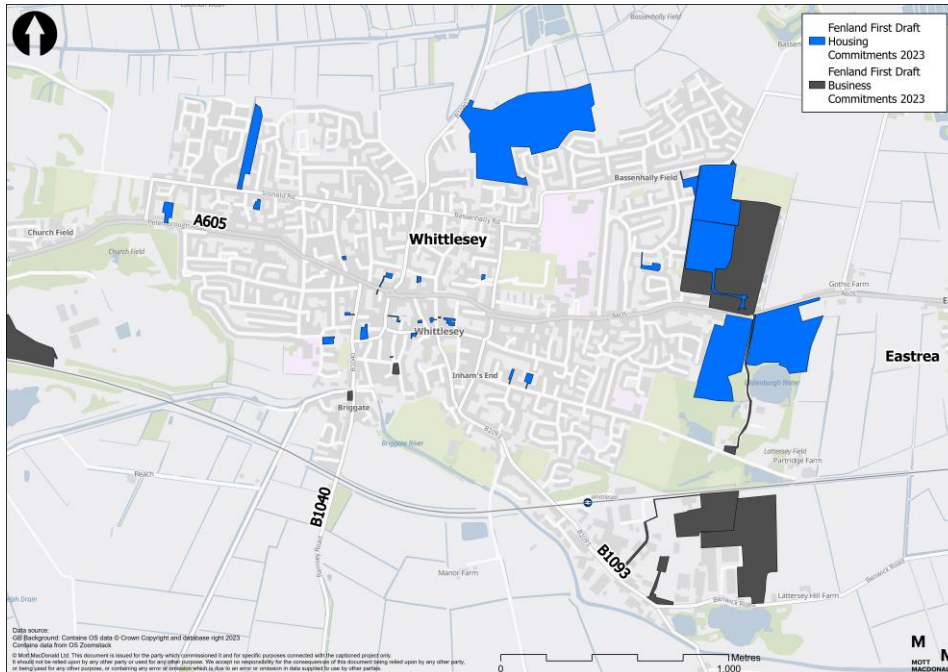
<sup>4</sup> ANPR Surveys (November/December 2023)

<sup>5</sup> CCC - Road traffic collision records in Whittlesey (January 2017 – August 2023)



- There is large growth planned within the region during the next decade. This includes 5,550 new houses and 212ha of new employment to the east of Whittlesey, and 875 new houses and 31ha of new employment planned for the town itself, as shown in Figure 2.1 and Figure 2.2.<sup>6</sup>

**Figure 2.1: Whittlesey housing and employment commitments (2023)**



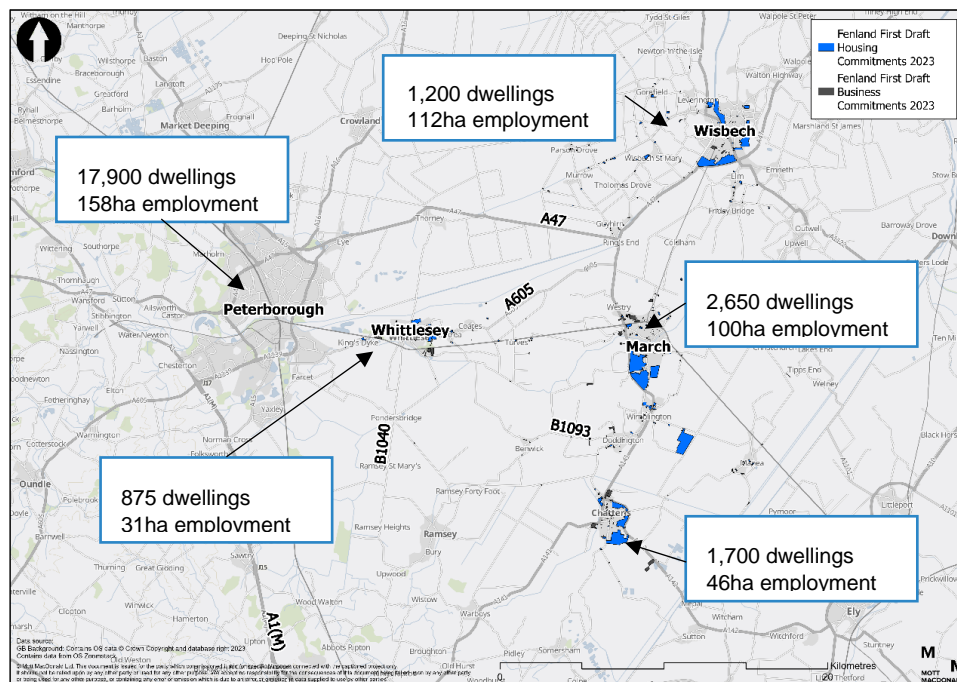
Source: FDC Draft Local Plan

- Fenland's population is forecast to grow by 16% by 2040.<sup>7</sup> This growth is likely to exacerbate known issues on the transport network due to scale and the location of proposed development, which is primarily located to the east of town, furthest from Peterborough which is a key destination for trips.
- Whilst there is currently a high proportion of people aged 65+, the growth in new housing and employment sites offer great opportunities for employment and for younger families to relocated to the town. This is likely to result in a change in local demographics, and whilst this will contribute to the economic growth of the local area will place more strain on the local transport system.

<sup>6</sup> FDC Draft Local Plan

<sup>7</sup> ONS - [Population projections for local authorities: Table 2 - Office for National Statistics](#)

**Figure 2.2: Housing and employment plans (2023)**



Source: FDC Draft Local Plan; Peterborough Local Plan\* (\*Includes City centre and urban area allocations only)

- Key junctions along the A605 through Whittlesey are currently reaching capacity and are unlikely to cope with significant further growth of vehicle trips. Previous studies have identified capacity issues at the A605/B1040 roundabout. A Transport Assessment for new development in Whittlesey has forecast that junction of A605 Syers Lane and B1040 Broad Lane will be over capacity by 2025, resulting in delays increasing from 48 seconds to over 4 minutes during peak times<sup>8</sup>. These delays would likely lead to larger queues and more congestion in the centre of Whittlesey.
- Whilst air quality as a result of traffic is not a significant issue at present, air quality could worsen if future growth in the demand for travel from / to and through the town increases, and the dependency on private vehicles as the main mode of transport persists.

## 2.3 Objectives and outcomes

Scheme objectives have been established to provide the overarching direction of the Scheme. For each scheme objective a series of measurable sub-objectives have been identified that inform the assessment criteria used to test the options and identify the best performing solution. These are set out in Table 2.1.

<sup>8</sup> F/YR20/0357/O Planning Application - Churchfields Farm Transport Assessment - Traffic modelling for the A605/B1040 Orchard Street/Broad Street roundabout (WSP/Kings Dyke Business Park Ltd 2020)

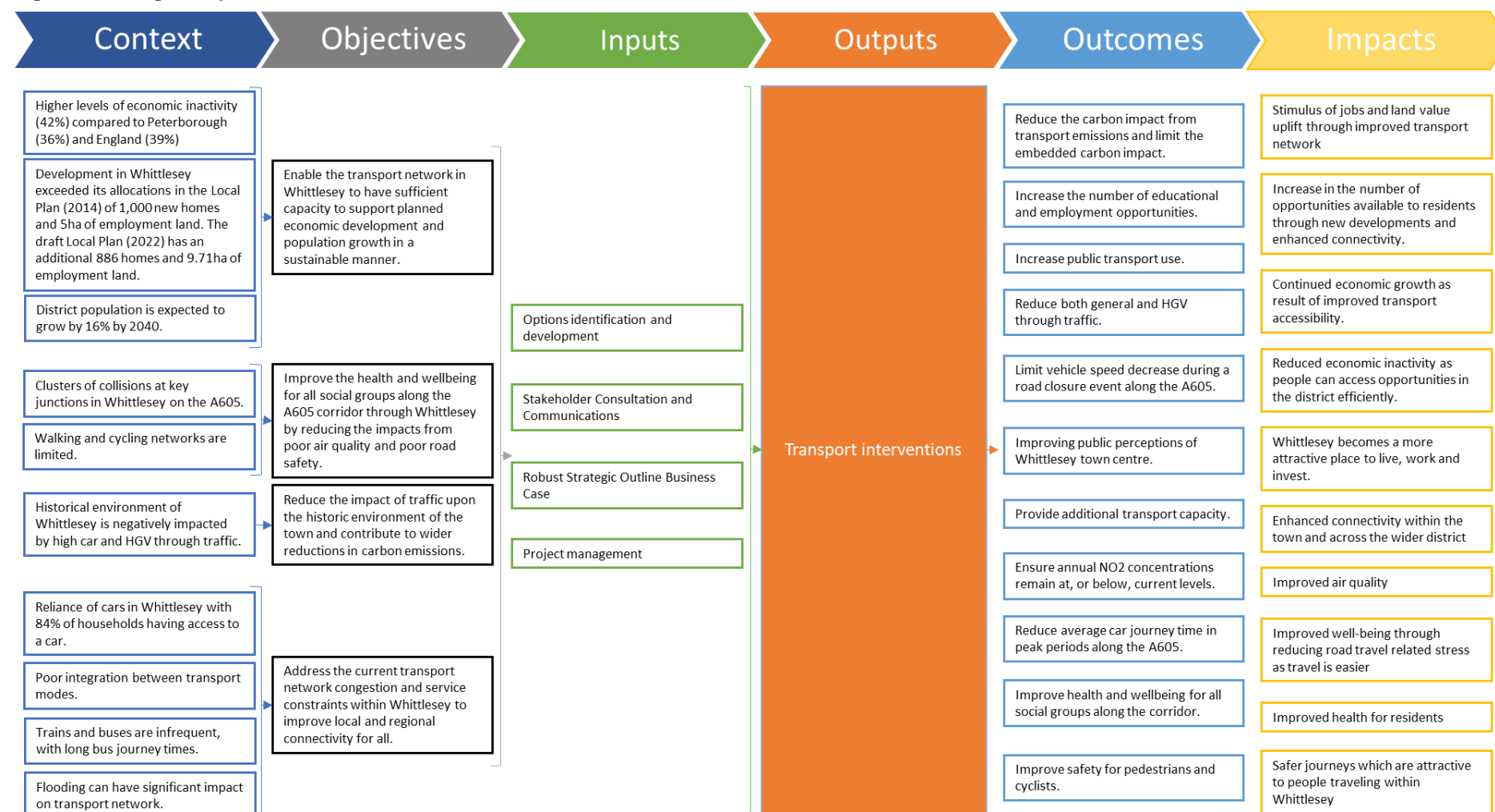
**Table 2.1: Scheme objectives**

Objective Theme	Main Objective	Sub-objective
<b>Sustainable Growth:</b>	1. Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
		1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.
<b>Connectivity and access to opportunity:</b>	2. Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
		2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
		2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.
<b>Health, wellbeing and sense of community:</b>	3. Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
		3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
		3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.
<b>Environment:</b>	4. Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
		4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

### 2.3.1 Logic map

A Logic Map has been developed to show the linkages between the scheme objectives, and the scheme outcomes and impacts, this is presented below in Figure 2.3.

**Figure 2.3: Logic Map**



Source: Mott MacDonald

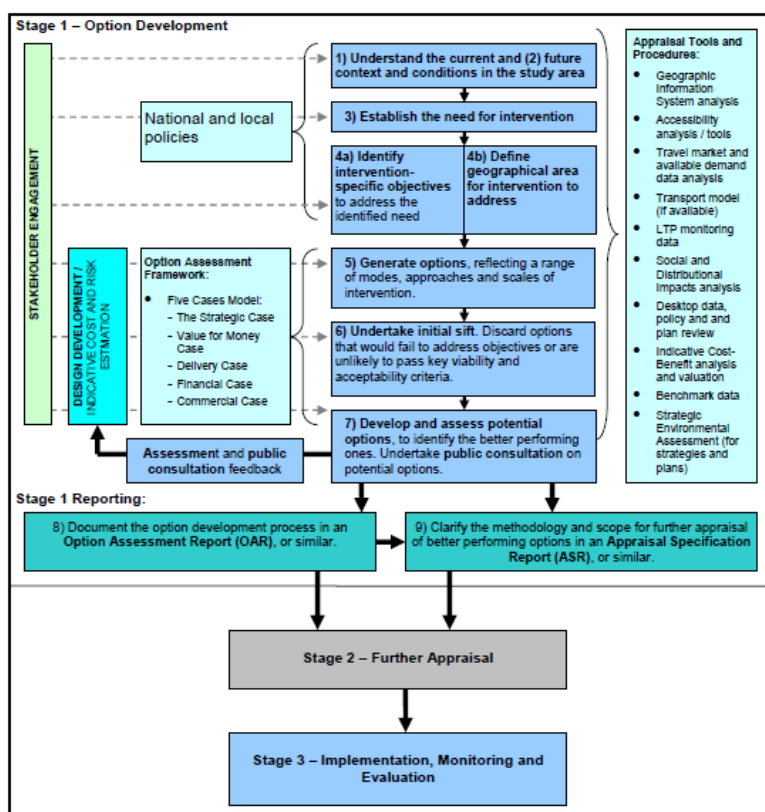
## 3 Optioneering Process

### 3.1 Overview

The following section summarises the details of the assessment and sifting processes used during the multi-stage optioneering process to narrow down the options long list before setting out the appraisal of the short listed options. The aim of this process was to identify a recommended option for further development. The detailed options assessment process, including the results are set out in the sections below.

The options assessment for this Scheme followed Stage 1 of the DfT's guidance 'The Transport Appraisal Process', which provides detailed guidance on appraisal and the requirements needed for transport intervention. A structured approach sets out the necessary steps from initial intervention through to detailed appraisal. The approach taken is designed to support the preparation of business or investment cases to subsequent approval stages and post implementation evaluation (see Figure 2.30 which illustrates the DfT Stage 1 process).

**Table 3.1: Stage 1 of the Transport Appraisal Process ('Option Development')**



Source: DfT (2018), Transport Analysis Guidance: The Transport Appraisal Process

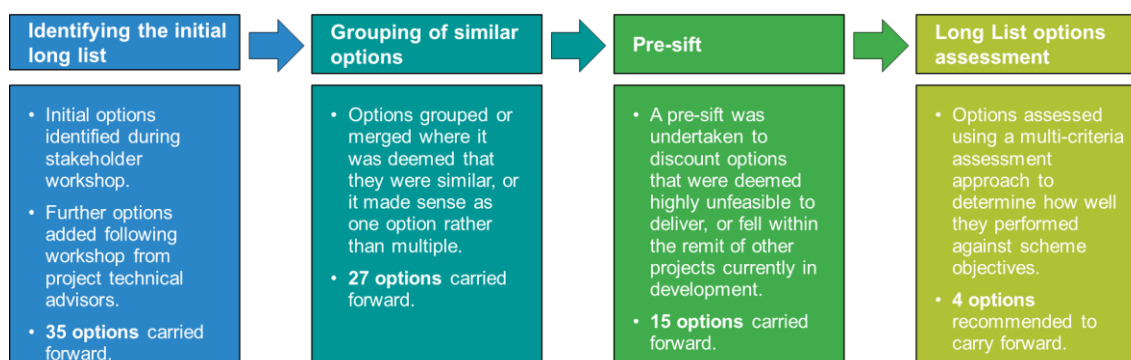
Stage 1 Option Development involves identifying the need for intervention and developing options to address a clear set of locally developed objectives that express desired outcomes. The options are then sifted to identify the better performing options, which are progressed to a further detailed appraisal in Stage 2.

## 4 Long List Optioneering

The development of a long list of options is a crucial step in scheme development and the business case development process, ensuring that a wide range of options are considered and assessed. The long list optioneering process demonstrates that a robust decision-making process has been carried out in arriving at a long list of appropriate and suitable options.

The process for identifying and assessing the long listed options is set out in this section, capturing how a long list of potential options was identified through stakeholder engagement, and with advisory input. These options were sifted before an assessment against the sub-objectives was carried out using a multi-criteria scoring approach, as shown in Figure 4.1.

**Figure 4.1: Long list options identification and assessment process**



### 4.1 Identifying the initial long list

Building off the Case for Change and utilising the review of the baseline evidence, a stakeholder workshop was held to discuss and identify all potential options for the Scheme that could meet the Whittlesey Relief Road scheme objectives. Stakeholders included representatives from Fenland District Council (FDC), Cambridgeshire & Peterborough Combined Authority (CPCA), Cambridgeshire County Council (CCC) and Peterborough City Council (PCC), Sustrans, Environment Agency, Stagecoach, Network Rail and Greater Anglia.

A total of 35 options were initially identified, covering a wide range of solutions including relief roads; public transport enhancements; active travel enhancements; parking management; HGV re-routing; and alterations to the A605. The full list of initial long listed options is set out in Appendix A.

### 4.2 Grouping of similar options

Due to the large number of options, and high similarity between options, a decision was made to consolidate some options in advance of any sifting or assessment. Options were grouped where it was deemed that the sifting process was unlikely to differentiate between options. This included:

- Options related to restricting car use e.g. clean air zone and congestion charging, grouped into Driving disincentives.
- Options related to car parking management e.g. introducing car park charging and reducing car parking spaces grouped into Park & Ride.
- Options related to HGVs e.g. HGV restrictions based on weight or time grouped into HGV re-routing.



- Options related to local bus offer e.g. Demand Responsive Travel and local circular bus service grouped into Localised Public Transport enhancements.
- Various options for active travel enhancements grouped into Active Travel infrastructure improvements.

This resulted in the initial long list of options being reduced from 35 to 27 options, as shown in Appendix A.

### 4.3 Pre-sift

A pre-sift was undertaken to discount options that were out of scope; against policy aspirations; do not sufficient address scheme objectives, are highly unfeasible; or fell within the remit of other projects and/or organisations.

**Table 4.1: Discounted options**

Option name	Rationale for discounting
Northern Relief Road	There are significant environmental constraints to the north of Whittlesey, such as the Whittlesey (Nene) Washes, that would likely result in significant challenges to delivery, including likely significant opposition from key stakeholders such as Environment Agency. Costs to implementing a northern relief road is likely to incur significant costs to mitigate negative environmental impacts. In addition, a northern relief road does not serve the industrial estates to the south of the town, so would fail to address a key issue for the town which is HGV through traffic.
Clean Air Zone / Congestion Charging	These options were considered unlikely to be deliverable on a small scale. Examples of congestion charging in the UK are extremely limited, and no immediate example for a town. Similarly with Clean Air Zones, these are used for large cities where there are issues with air quality exceeding legal limits. In Whittlesey, air quality legal limits are not currently exceeded and, therefore, it is unlikely that a Clean Air Zone would be warranted.
Removing traffic generators	Removing traffic generators from Whittlesey, i.e. not building new housing or employment sites, and moving existing employment sites out of the town, would greatly impact the upon the towns economy and housing needs and would be extremely unlikely to be deliverable. This approach is not within the existing Fenland Local Plan and would require significant changes to existing planning policy.
Improved signage	Improving signage to direct traffic away from the town, for example via the A47, is considered to have a limited impact in achieving the objectives of the WRR Scheme on its own.
Improvements to the A47	Improvements to the A47 which is part of the Strategic Road Network is within National Highways scope, and outside of scope and influence of this Scheme.
Improved bus service frequency	Service frequency is largely within control of bus operators who operate services on a commercial basis. For them to increase frequencies would require certainty over increased patronage that would cover the costs of the additional services. The alternative to increasing frequencies would require funding from the CPCA to support additional buses: however currently there is limited funding and scope for this.
Improved rail service frequency	The ability to influence and change the frequency of rail services at Whittlesea is deemed out of scope, as this would require wider changes to the rail network such as the Ely Capacity Enhancements. This is within the remit of Network Rail.

Option name	Rationale for discounting
Promoting Whittlesea Station as a parkway station	<p>Works to improve the station and its car parking facilities are being progressed separately to the WRR Scheme. FDC have received funding from CPCA to deliver £3m of improvements as part of the Whittlesea Station Enhancement Programme. Building a large parkway station would likely require a link road to serve it. Otherwise, there is a risk that traffic would be drawn down Station Road, thereby not alleviating issues on the A605 from through traffic and potentially adding more traffic to an unsuitable road.</p> <p>Access to a parkway site from the A605 via a new link road to avoid traffic having to go through Whittlesey would be extremely difficult to deliver due to environmental and land constraints, i.e. access would have to go via Lattersey Local Nature Reserve</p>
New river bridges	This option is likely to have limited impact in addressing the Scheme objectives due to the location of the river south of Whittlesey and the population it would serve.
Increase highway capacity by widening the A605 within Whittlesey	<p>To deliver this would require significant intrusive construction, reducing kerb space, and the need to acquire land or property for demolition.</p> <p>This is considered significantly unfeasible and, while it would increase highway capacity on the A605, it would not address the issues of through traffic and associated impacts of traffic within the town.</p>
Level crossing improvements	As the level crossing is within Network Rail ownership, any changes would be in their remit, therefore out of scope for the WRR Scheme. However, changes to the level crossing are proposed as part of the Whittlesea Station Enhancement Programme.

## 4.4 Long List options assessment

The outcome from the pre-sift resulted in 15 options being identified as the long list. These were progressed to more detailed assessment.

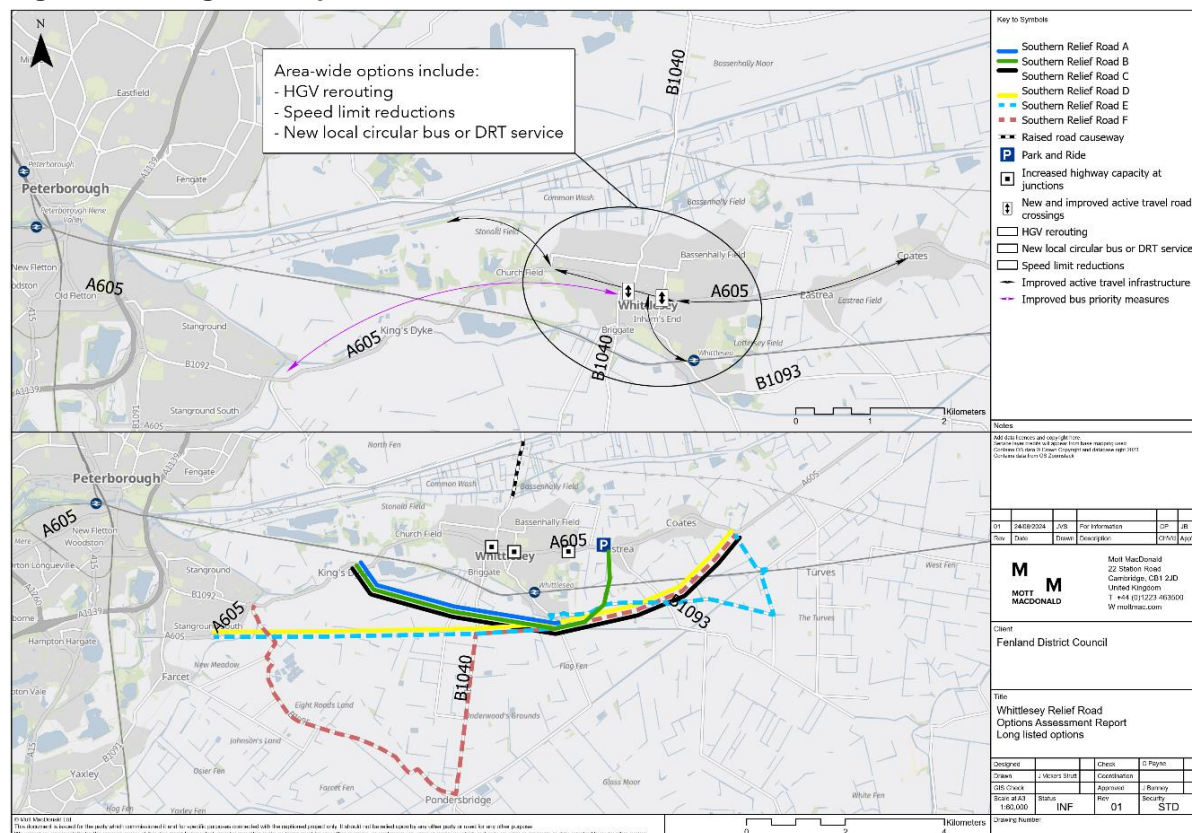
**Table 4.2: Long listed options**

No.	Option name	Option description
2	Southern Relief Road A (Blue route alignment)*	Relief road to the south of Whittlesey between Ralph Butcher Causeway and B1093, near Whittlesea Station, linking to industrial areas.
3	Southern Relief Road B (Grey route alignment)*	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 Eastrea Road, west of Eastrea.
4	Southern Relief Road C (Black route alignment)*	Relief road to the south of Whittlesey between Ralph Butcher Causeway and A605 March Road, east of Coates.
5	Southern Relief Road D (Yellow route alignment)*	Relief road to the south of Whittlesey between A605 Whittlesey Road at Cardea Morrisons roundabout and A605 March Road, east of Coates.
6	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	Upgrade of existing roads to the south east (e.g. B1093) and construction of new relief road linking these to the A605 west of Whittlesey.
7	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	Upgrade of existing roads to the south west (e.g. Ramsey Road and B1040) and construction of new relief road linking these to the A605 east of Whittlesey.
19	Improved bus priority measures	Improving the attractiveness of bus services within Whittlesey through the introduction of bus priority measures

		along the A605, helping to improve journey time reliability and speeds.
20	Bus based Park and Ride	Park and Ride site to the east of Whittlesey, providing parking provision for car journeys from the east. (Eastrea/Coates/March) with direct bus service into Whittlesey and Peterborough.
28	New and improved active travel road crossings of the A605	Additional signalised crossing points of the A605 to reduce severance for pedestrians and cyclists.
29	Speed limits	Reduce speed limits along the A605 to improve safety for road users.
31	Increase highway capacity at junctions	Increase capacity of the main junctions through Whittlesey on the A605 (e.g. through roundabout signalisation).
33	Raised road/causeway road to the north	Construction of a raised road/causeway along existing B1040 road to limit impact of flood events.
36	Active travel infrastructure improvements	Improvements to the active travel infrastructure within Whittlesey to improve connectivity (e.g. shared-use paths; footway improvements; cycleways).
37	HGV rerouting	Rerouting of HGV travel within Whittlesey to limit the impact on the network. (e.g. time/weight restrictions).
38	New local circular bus or DRT service within Whittlesey	Introduction of a local circular bus route within Whittlesey, providing connection between key locations. This includes the potential for the service to be demand-responsive.

\*Note the colour referenced in the name of options corresponds to the coloured lines shown in Figure 4.2.

**Figure 4.2: Long listed options**



Source: Mott MacDonald

The sifted long listed options were assessed against a Multi-Criteria Assessment framework built using Mott MacDonald's in-house Investment Sifting and Evaluation Tool (INSET). INSET is a decision support process that helps manage information on investment options and to evaluate them, using a set of assessment themes that group together homogenous criteria to appraise each of the options.

The long listed options were assessed using a five-point scale against the four main themes and SMART sub-objectives as set out in Section 2.3. The full assessment criteria scoring can be found in Appendix A.

The options assessment outputs (Figure 4.3) suggest that no single option delivers strongly against all objectives, instead the best performing options each have different areas of strength against individual themed objectives.

**Figure 4.3: Long listed options assessment results**

Rank	Scheme	Sustainable Growth	Connectivity and Access to Opportunity	Health, Wellbeing and Sense of Community	Environmental	Total Score
1	Southern Relief Road B (Green route alignment)	1.00	0.33	0.67	0.33	0.58
1	Southern Relief Road C (Black route alignment)	1.00	0.33	0.67	0.33	0.58
1	Southern Relief Road D (Yellow route alignment)	1.00	0.33	0.67	0.33	0.58
4	Bus based Park and Ride	0.50	0.50	0.83	0.28	0.53
5	HGV rerouting	0.50	0.17	1.00	0.39	0.51
6	Improved bus priority measures	0.50	0.50	0.50	0.28	0.44
6	New local circular bus or DRT service within Whittlesey	0.50	0.50	0.67	0.11	0.44
8	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75	0.17	0.33	0.28	0.38
8	Active travel infrastructure improvements	0.25	0.33	0.83	0.11	0.38
10	Southern Relief Road A (Blue route alignment)	0.50	0.00	0.50	0.28	0.32
11	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	0.50	0.00	0.33	0.28	0.28
11	New and improved active travel road crossings of the A605	0.00	0.17	0.83	0.11	0.28
13	Speed limit reductions	-0.50	-0.17	0.50	0.00	-0.04
14	Raised road/causeway road to the north	0.50	0.33	-0.50	-0.56	-0.06
15	Increase highway capacity at junctions	0.50	0.50	-1.00	-0.56	-0.14

Source: Mott MacDonald – Appendix B: Long List Options Assessment Report

The best performing options for **sustainable growth** are the Southern relief road variants. These options score well as they could provide the significant additional capacity while also allowing for reduced journey times along the A605. Analysis of ANPR data suggested that 20% of all traffic and 45% of HGV traffic could potentially utilise a Southern relief road which exceeds the 16% growth in future trips. Options that do not perform as well for this objective tend to be those focused on improving other modes such as active travel infrastructure and bus-based options. These options do not offer the potential to accommodate the predicted growth in trips as a result of new developments. Speed limit reductions scores poorly for this option as it may result in lower road capacity and throughput and could increase car journey times.

The best performing options for **connectivity and access to opportunity** are bus-based options as these provide benefits in accessing opportunities and are likely to result in increased public transport patronage. Increased highway capacity at junctions may also result in improved bus reliability as well as providing additional resilience and therefore also scores well. While the relief road options score well against improving access to opportunities and improving the resilience of the network, they do not score as well for supporting the integration of public transport and supporting the use of sustainable modes, therefore the overall score against the main objective for connectivity is not as high.

For **improved health, wellbeing and sense of community**, HGV rerouting is the best performing option. HGVs are large, loud and polluting and therefore rerouting these away from the centre of Whittlesey could see great improvements to public health and perceptions within Whittlesey. Highway options such as the relief road could result in traffic being taken away from Whittlesey,

resulting in benefits along the A605. In comparison the raised road/causeway and increased highway capacity at junctions score very poorly as they could increase traffic levels, therefore contributing to increases in NO2 concentrations, reduced safety, and worse public perceptions of the town centre.

When assessed against **environmental** objectives, the rerouting of HGV traffic scores well as it is likely to reduce the level of HGV traffic through Whittlesey. It is noted that emissions may increase elsewhere as HGVs undertake alternative (and potentially longer) routes and therefore this option does not score as well against carbon impact. The three main relief road options also score well against the environment objective as these may contribute to the diversion of traffic away from the centre of Whittlesey. These options may have a high carbon impact however which reduces their overall performance against this objective. Options to provide increased highway capacity at junctions and a raised road score poorly as these could encourage additional tail-pipe emissions and may be carbon intensive to construct. Although active travel options may be thought to score well against an environmental objective, it is thought that these options may have no impact on general through traffic or HGV through traffic.

#### 4.4.1 Sensitivity test

Deliverability was included as a sensitivity test to consider what impact matters such as cost, land take, planning requirements, and environmental constraints may have on the overall scoring of the options and their feasibility to deliver.

**Figure 4.4: Long listed options assessment results - deliverability**

Rank	Scheme	Deliverability
1	New local circular bus or DRT service within Whittlesey	0.67
2	Speed limit reductions	0.58
3	Active travel infrastructure improvements	0.56
4	HGV rerouting	0.50
5	New and improved active travel road crossings of the A605	0.42
6	Improved bus priority measures	-0.06
7	Increase highway capacity at junctions	-0.22
8	Bus based Park and Ride	-0.25
9	Southern Relief Road A (Blue route alignment)	-0.58
10	Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	-0.61
11	Southern Relief Road C (Black route alignment)	-0.64
11	Southern Relief Road F (involving upgrade of roads to south west and new relief road to the east)	-0.64
13	Southern Relief Road D (Yellow route alignment)	-0.67
14	Southern Relief Road B (Green route alignment)	-0.72
15	Raised road/causeway road to the north	-0.78

Source: Mott MacDonald

The options considered to have the highest **deliverability** are Localised Public Transport, speed limit reductions, Active Travel Infrastructure and HGV rerouting, which all score well due to their potential for quicker implementation times, lower costs and limited land acquisition requirements. Although HGV rerouting scores relatively well, it would be difficult to deliver this option without significantly affecting businesses in Whittlesey as there are no real viable alternative routes currently serving the industrial estates to the west or south of the town. Larger scale interventions, such as a relief road and causeway, score poorly for deliverability due to high assumed costs, land requirements and complexity of their construction. Of the relief road options, the black route is deemed the most deliverable.



## 4.5 Arriving at the short list

A more detailed examination of how the options perform against each themed objective is presented in Appendix B, however the conclusion of the options assessment is that no single option delivers strongly against all of the Scheme objectives, with each option having specific areas of strength and weakness. Therefore, the conclusion of the long listing stage was that by packaging the better performing options together, where they complement each other across the themed objectives, the overall outcomes from investment could be improved. The final short listed options therefore reflect this packaging approach.

**Figure 4.5: Best performing long listed options by theme**

Scheme	Sustainable Growth	Connectivity and Access to Opportunity	Health, Wellbeing and Sense of Community	Environmental	Total Score
Southern Relief Road	1.00	0.33	0.67	0.33	0.58
Bus based Park and Ride	0.50	0.50	0.83	0.28	0.53
HGV rerouting	0.50	0.17	1.00	0.39	0.51
Improved bus priority measures	0.50	0.50	0.50	0.28	0.44
New local circular bus or DRT service within Whittlesey	0.50	0.50	0.67	0.11	0.44
Southern Relief Road E (involving upgrade of roads to south east and new relief road to the west)	0.75	0.17	0.33	0.28	0.38
Active travel infrastructure improvements	0.25	0.33	0.83	0.11	0.38

Source: Mott MacDonald – Appendix B: Long List Options Assessment Report (note: for the purpose of this table, the relief road options have been grouped and presented as one)

The Southern relief road may achieve the sustainable growth ambition but performs less strongly across the other three themes. HGV rerouting scores higher against Health, Wellbeing and Sense of Community, as well as the Environmental themed objective, but there are challenges with the viability of the option without a clear alternative route for HGV traffic. Combining these two options helps to strengthen overall outcomes.

The delivery of a relief road would also release road capacity to enable complementary public transport improvements, such as improved bus priority, and/or active travel infrastructure enhancements. By packing these measures together, the overall scheme outcomes would improve in relation to Connectivity and Access to Opportunity, as well as Enhanced Health, Wellbeing and a Sense of Community and improved Environmental conditions for the town.

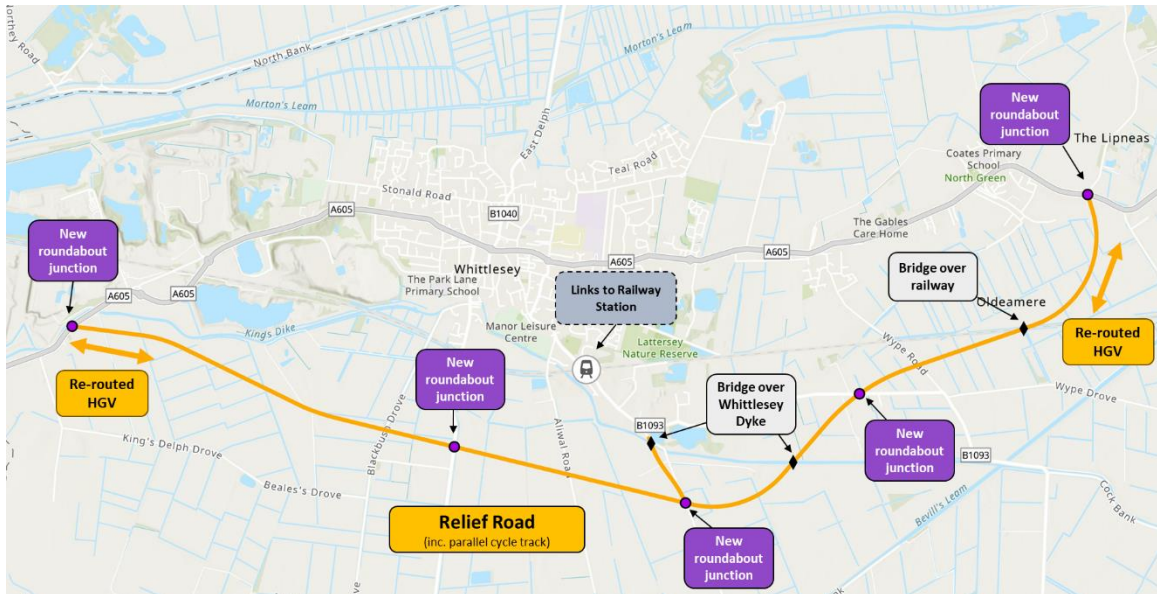
For the purpose of packaging, the best performing relief road route alignment (Black route) is proposed to be taken forward. It is proposed that further investigation of exact routing options will take place at later stages of the Scheme development process.

The outcome of this packaging process resulted in 4 options to be progressed to concept design, more detailed appraisal and consultation:

- Option 1** - Relief road with HGV re-routing
- Option 2** - Relief road with HGV re-routing and bus priority improvements
- Option 3** - Relief road with HGV re-routing and active travel improvements
- Option 4** – Mobility Hub with active travel improvements



**Figure 4.6: Option 1**



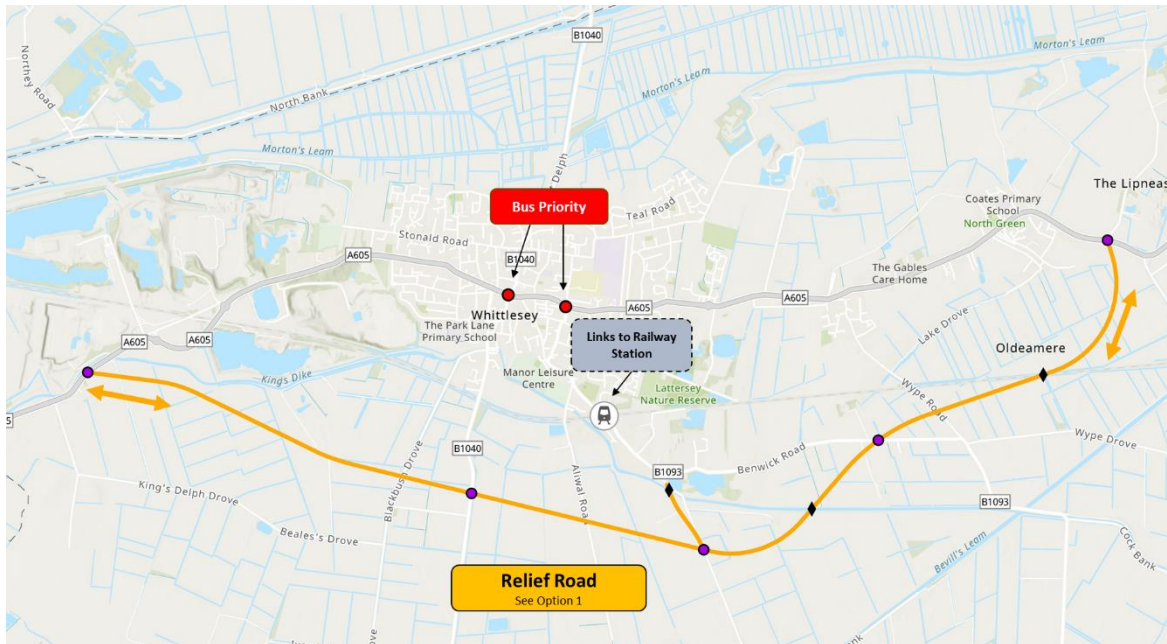
Source: Mott MacDonald

Option 1 is shown in Figure 4.6 and comprises of a new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track.

Coming from the west of the town, the new road would divert from the A605 to the south of King's Dike, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station. The road would then continue to the east, crossing over Whittlesey Dike and the railway line, before connecting back into the A605 at Wisbech Road.

The road would include junctions at key intersects with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.

**Figure 4.7: Option 2**



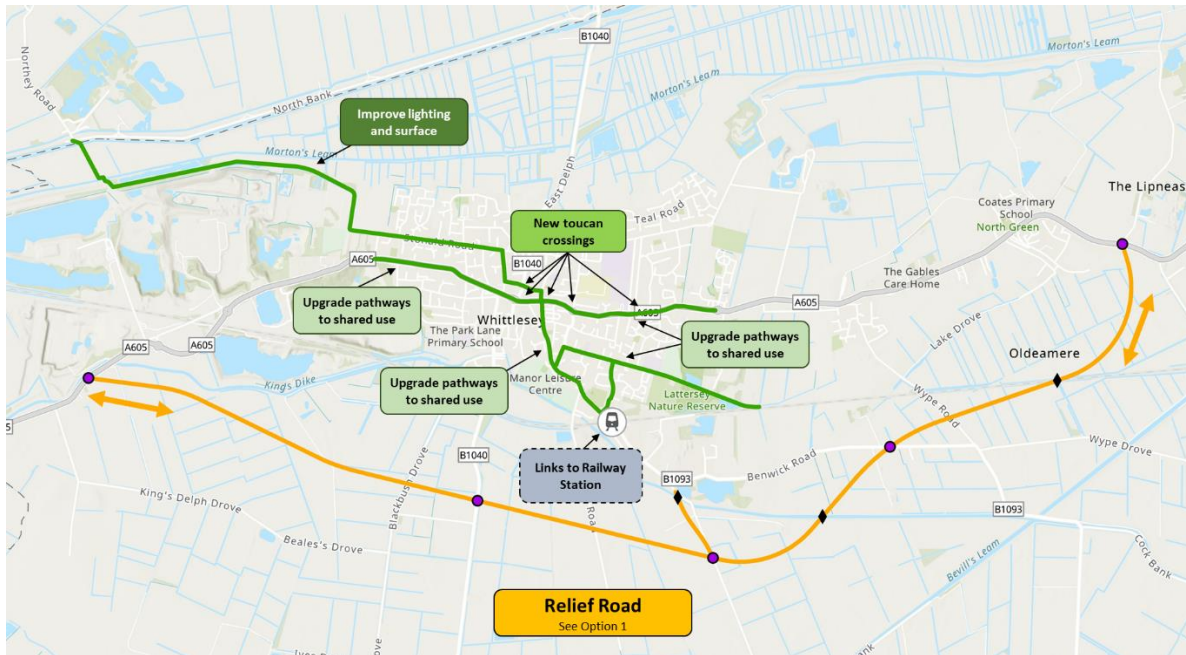
Source: Mott MacDonald

Option 2 is shown in Figure 4.7 and includes a relief road and parallel cycle track as with Option 1, but also introduces new bus priority measures through the town and along the A605 to Peterborough.

Measures will be introduced at the junctions between A605 and B1040, and the A605 and B1093, that will provide priority for buses accessing these roundabouts. This could be in the form of either enhancing the current roundabouts to provide a bus lane through them, or through the introduction of signal-controlled junctions that would allow for buses to be given priority.

Enhanced pedestrian crossing facilities are also introduced in the form of either islands or traffic lights. This option could also see a downgrade in road space for cars at these junctions to provide bus priority.

**Figure 4.8: Option 3**



Source: Mott MacDonald

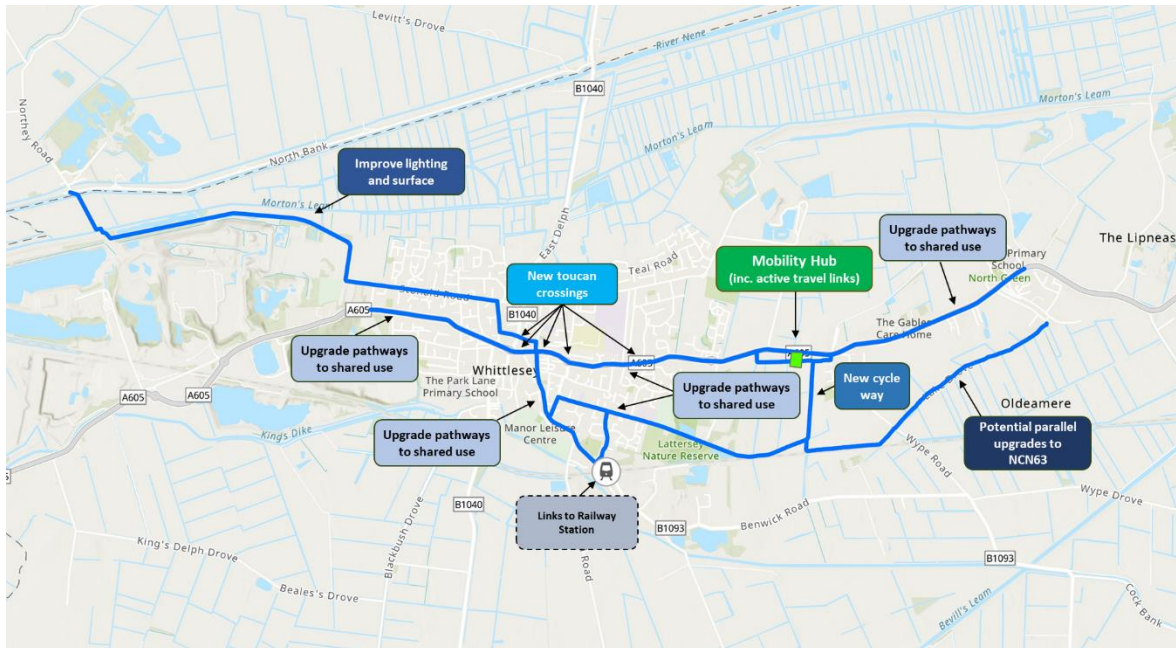
Option 3 is shown in Figure 4.8 and includes a relief road and parallel cycle track as with Option 1, but also includes new active travel improvements through the town and along the A605.

This will include segregated active travel provision where possible along the A605 through the town, including enhanced junctions with greater priority for active travel to allow for safe and seamless connections across the town, and the A605.

Improvements will be made to National Cycle Network route 63 through the town, from the northwest outskirts of the town to Lattersey Nature Reserve. This option will also include an improved cycle link to the station along Station Road from the A605, New Road, and Hawthorne Drive.



**Figure 4.9: Option 4**



Source: Mott MacDonald

Option 4 is shown in Figure 4.9 and includes a new Mobility Hub located to the east of the town which can improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough.

The option also includes improved active travel provision from across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car.

The Mobility Hub includes provision for circa 200 parking spaces, including for blue badge holders, and cycle storage facilities. There is also provision of seating and waiting facilities, as well as the potential for bike pumps, toilets and showering facilities.

## 5 Short List Appraisal

The technical scope of the Transport Appraisal of the Scheme conforms to that specified in TAG and focuses on the four strands of impacts - Economy, Environment, Social and Public Accounts, and the 24 sub-objectives as set out in the Appraisal Summary Table (AST). The approach to appraisal is set out in the Appraisal Specification Report (ASR) which can be found in Appendix B.

The appraisal of the Scheme focuses on illustrating how the Scheme benefits are meeting the individual Scheme objectives. As the Scheme options include highway, bus and active travel elements, the appraisal of impacts focuses on those related to these measures.

The impact appraisal undertaken for each of the four short listed options is shown in Table 5.1.

**Table 5.1: Short list appraisal undertaken for each short listed option**

	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 - Mobility Hub with active travel improvements
Highway Appraisal	✓	✓	✓	
Bus Appraisal		✓		
Mobility Hub Demand Appraisal				✓
Active Travel Appraisal	✓	✓	✓	✓
Environmental Appraisal	✓	✓	✓	✓
Social Impact Appraisal	✓	✓	✓	✓
Wider Economic Appraisal	✓	✓	✓	✓
Carbon Impact Appraisal	✓	✓	✓	✓

### 5.1 Highway appraisal

Of the four options shortlisted for detailed appraisal, a relief road forms a part of three of these:

- Option 1 - Relief road with HGV re-routing
- Option 2 - Relief road with HGV re-routing and bus priority improvements
- Option 3 - Relief road with HGV re-routing and active travel improvements

The highway appraisal undertaken describes the impacts of the relief road element of these three options.

In order to provide an initial quantified estimate of highway user benefits that may arise from a proposed relief road south of Whittlesey, a localised spreadsheet-based traffic model was set up to forecast traffic volumes and journey times in both 'with' and 'without' scheme scenarios. A detailed approach and the full results are set out in Appendix C.

All 'through-trips' passing through the town, other than those travelling to and from the north of Whittlesey, are expected to benefit from the proposed scheme generating travel time and distance savings.

The outputs of the spreadsheet traffic model have been used to inform a TUBA economic assessment to quantify the highway user benefits and a COBALT assessment to quantify the impact of changes in collisions forecast with and without the Scheme in place.

### 5.1.1 Highway impacts

The DfT's TUBA software (v1.9.23) has been used to estimate and monetise the highway user impacts, making use of forecast estimates of traffic demand, travel times and travel distances in the Do Minimum and Do Something scenarios for two forecast years, 2030 and 2045, for the relief road elements of each option.

The TUBA software used the forecast demand and travel costs (travel times and distances) for the two forecast years and, through a process of interpolation, estimated user benefits across the full proposed 60-year appraisal period.

Each relief road option is forecast to remove 1,900 daily trips in each direction from the A605 through the centre of Whittlesey which results in **£18.3m** of economic benefit for the 60 year appraisal period, assuming an opening year of 2030. Currently these trips route via the town centre but will gain a much more direct connection with the relief road in place. Whilst the travel distance along the relief road travelling between the east and west of Whittlesey increases by just under half a kilometre, there are significant distance savings for other trips that would be undertaken on the new relief road with a maximum reduction of 2.6km for trips between the east and south-east of the town.

The breakdown of benefits by purpose is estimated as follows:

- Business purpose = £9.2m
- Commuter purpose = £2.8m
- Other purposes = £5.8m

The breakdown of benefits by time period is estimated as follows:

- AM Peak = £4.5m
- Inter-peak = £5.9m
- PM Peak = £3.8m

The benefits are based on the time savings traffic achieves from using the relief road with a faster speed limit and fewer junctions than the current A605 leading through Whittlesey town centre. The modelling shows that travel times reduce for all through trips other than those to and from the north of Whittlesey. The largest saving of almost 5 minutes is seen for trips between the east and south-east. Journey time benefits could also be realised along the A605 as a result of the 30% reduction in through trips however this has not been included in the appraisal.

### 5.1.2 Accident impacts

The impact of the relief road options has been appraised using COBALT to understand the potential impact on accident rates, and the associated benefits, with results summarised below and presented in full in Appendix C.

The results show that the relief road options have the potential to reduce fatal accidents in the study area from 6.4 to 5.7 over the 60-year appraisal period, with a reduction in serious accidents from 115.4 to 103.7 and slight from 1075.9 to 966.5 (see Table 5.2). In monetary terms, the options with the relief road have the potential to offer £3.3m in benefit.

The assessment of accidents helps to demonstrate a positive impact of the options with the relief road in helping reduce accidents in the area. Whilst not all of these would necessarily be in the centre of Whittlesey, the results would suggest that the scheme would offer benefit to those within Whittlesey, helping improve the overall conditions of the town centre.



**Table 5.2: COBALT Casualty Numbers**

Without Scheme			With Scheme			Scheme benefits		
Fatal	Serious	Slight	Fatal	Serious	Slight	Fatal	Serious	Slight
6.4	115.4	1075.9	5.7	103.7	966.5	0.6	11.8	109.4

### 5.1.3 Highway appraisal summary

An overall summary of the highway appraisal is shown in Table 5.3. The relief road appraisal is identical for the three options that include a relief road. The benefits identified apply to the three relief road options.

Over the assessment period of 60 years there are £21.6m total benefits arising from highway and accident aspects of the scheme.

Of this, £18.3m benefits are from highway user benefits forecast. This is primarily due to benefits to user journey times which occur due to faster travel speeds, fewer junctions and, for trips to and from the south of Whittlesey, a reduction in distance travelled. Other benefits could be realised from reduced journey times along the A605 in the centre of Whittlesey due to fewer vehicles using this route however these are not included within the appraisal.

There are also estimated accident benefits of £3.3m (over 60-years), with the casualty numbers forecast to reduce by around 10% with the scheme.

**Table 5.3: Summary of Highway Appraisal**

Option	PVB (in £,000s)	Summary
Option 1 - Relief road with HGV re-routing	£21,562	<ul style="list-style-type: none"> <li>Of the 12,500 existing trips along the A605, 3,800 (30%) are 'through-trips' that currently travel through Whittlesey's urban centre but would shift to using the Relief Road.</li> <li>Reductions in journey times are seen due to faster travel speeds, fewer junctions and, for trips to and from the south of Whittlesey, a reduction in distance travelled.</li> <li>The user benefit assessment shows benefits of £18.3m with the Relief Road in place and further accident benefits of £3.3m.</li> </ul>
Option 2 - Relief road with HGV re-routing and bus priority improvements		
Option 3 - Relief road with HGV re-routing and active travel improvements		
Option 4 – Mobility Hub with active travel improvements	n/a	n/a

## 5.2 Bus appraisal

The bus appraisal undertaken analyses the impacts of new bus priority measures on bus users and journey times and is relevant to Option 2 (Bus Priority).

This appraisal is based on existing bus demand passing through the two junctions where the bus priority measures are planned. However, given the fairly modest impact on bus users, and the much greater impact on car users as a result of the relief road, it was not proportional to forecast a mode shift car to bus as a result of the scheme, and the estimated number of existing trips has been used as the number of forecasted trips with the scheme. The annual number of users is expected to modestly grow from 85,000 to 87,000 between 2030 and 2045 as a result of population growth.

Average speeds taken from TomTom data informed the possible journey time saving, and accounting for variation in the time of day that trips are made, along with other external factors, a 10-second journey time savings was assumed to be attributable to the introduction of the bus priority measures.

The journey time savings of 10 seconds per trip results in a very small benefit of £35,417. This results in an annual saving of 237 hours, with 137 benefit hours felt by 'other' trips compared to 98 hours for commuting and 4 hours for business trips.

### 5.2.1 Bus appraisal summary

An overall summary of the bus appraisal is shown in Table 5.4. The combination of low bus users and an extremely small time saving result in a near-zero benefit to the scheme. Despite limited economic benefits, a reduction in delay may see benefits to people in the centre of Whittlesey through lower levels of idling vehicles and an improved feeling of place.

**Table 5.4: Summary of bus appraisal results**

Option	PVB (in £,000s)	Summary
Option 1 - Relief road with HGV re-routing	n/a	n/a
Option 2 - Relief road with HGV re-routing and bus priority improvements	£35	<ul style="list-style-type: none"> <li>Overall there is very limited benefit arising from the bus priority measures due to the low number of trips and limited congestion.</li> <li>Benefit from a reduction of 237 hours of delay is not economically significant however, this would see improved feelings of place in Whittlesey town centre.</li> <li>However, benefits could be higher if the number of users increases as a result of mode shift to buses.</li> </ul>
Option 3 - Relief road with HGV re-routing and active travel improvements	n/a	n/a
Option 4 – Mobility Hub with active travel improvements	n/a	n/a

## 5.3 Mobility hub demand appraisal

The testing and quantification of Option 4 (bus-based travel hub with supporting package of interventions) is focused on assessing the impacts of a new travel hub bus service on existing bus passengers. This has been done through the use of a simple and high-level spreadsheet-based uni-modal model. The method for modelling Option 4 is detailed within the ASR (Appendix B).

The baseline demand for bus users is an informed estimate using the limited information available. Due to the impact on time savings for existing users, sensitivity testing should be undertaken to recognise and account for this uncertainty.

Overall, on average, there is estimated to be an additional demand of over 20,000 trips per year as a result of the mobility hub and new bus service, with this forecast to result in over 25,000 hours of journey time savings. However, this translates to a daily demand increase of 55 trips, and although there will be some modal shift to bus as a result of the mobility hub, the impact on the A605 is thought to be fairly minimal.

This appraisal assumes a facility that is served by an express bus running at 2 buses per hour, with minimal stops (one stop at Whittlesey town centre and one stop at Peterborough town centre), in addition to the existing bus services and mirroring existing bus fares. The appraisal evaluated the impact and benefits for current bus users along the corridor as well as local walking and cycling

demand however, this only captures local walk-up demand for those who use buses in Whittlesey. There are none-user benefits for people who are taken off the road and onto bus for the local catchments of the three proposed bus stops (Mobility Hub, Whittlesey town centre, Peterborough town centre) to capture those that previously drove between Whittlesey and Peterborough. Longer distance demand, such as users from the Fenland market towns to the east of Whittlesey, would likely be key users of the facility at the Mobility Hub however, this has not been evaluated as part of this appraisal.

Overall, there is likely to be higher demand for buses at the Mobility Hub than has been assessed which would result in more benefits (e.g. time and cost savings) despite a potential small impact on bus capacity at peak times.

Should this option be taken forward at the next business stage, it is recommended that it is appraised in further detail to ensure all potential benefits of the Mobility Hub can be realised.

### 5.3.1 Mobility hub appraisal summary

Overall the level of benefit from the Mobility Hub is fairly limited, with an estimated £5.9m in benefits over the 60-year appraisal period.

An overall summary of the mobility hub appraisal is shown in Table 5.5.

Further evaluation must consider the wider 'drive in' catchment of the mobility hub and whether this can generate enough demand, benefits and associated revenue costs for running a travel hub and its associated bus service without overfilling the dedicated bus service.

**Table 5.5: Summary of mobility hub appraisal results**

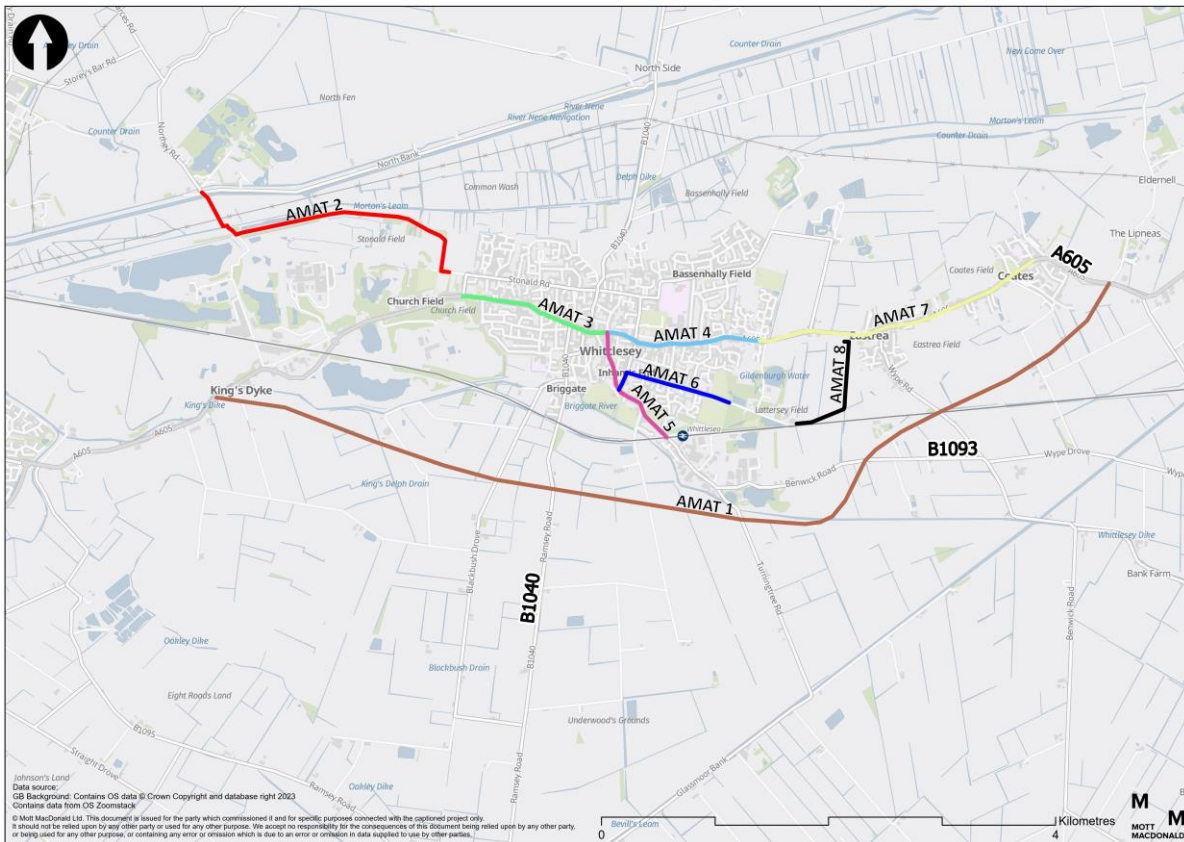
Option	PVB (in £,000s)	Summary
Option 1 - Relief road with HGV re-routing	n/a	n/a
Option 2 - Relief road with HGV re-routing and bus priority improvements	n/a	n/a
Option 3 - Relief road with HGV re-routing and active travel improvements	n/a	n/a
Option 4 – Mobility Hub with active travel improvements	£5,880	<ul style="list-style-type: none"> <li>Key drivers of the benefits are consumer users (commuting) (£4.4m); and consumer users (other) (£1.3m).</li> <li>Evaluation of the wider 'drive in' catchment to see whether this can generate enough benefits to break even with costs without overfilling the dedicated bus service.</li> </ul>

## 5.4 Active travel appraisal

The appraisal of the options that include active travel elements has been undertaken using the DfT's Active Modes Appraisal Toolkit (AMAT). The detail of the assumptions underpinning this are set out in the ASR (Appendix B).

A total of eight AMATs have been used on sections of route where improvements to infrastructure for walking and/or cycling has been proposed with these shown in Figure 5.1.

**Figure 5.1: AMAT sections**



### 5.4.1 Walking demand uplift

No pedestrian infrastructure is proposed for the relief road and therefore no demand uplift has been calculated. Existing pedestrian count data was available for AMAT sections 2-7 however, a disaggregate mode choice model is not appropriate for pedestrian demand uplift and as there were no available comparative schemes, a conservative estimate has been assumed based on the proposed improvements for infrastructure. The proposals for AMAT 2 – Stonald Road National Cycle Network (NCN) include improvements to infrastructure width and surface quality, as well as the addition of lighting whilst, for AMATs 3-7, only improvements to the width are proposed.

**Table 5.6: Assumed pedestrian uplift**

AMAT	Option	Demand uplift from disaggregate mode choice model	Number of trips per weekday with the intervention
2 – Stonald Road NCN	3 / 4	10%	194
3 – A605 West	3 / 4	5%	104
4 – A605 East	3 / 4	5%	75
5 – B1093 Station Road	3 / 4	5%	38
6 – New Road	3 / 4	5%	0
7 – A605 Eastrea Coates Road	4	5%	75

For AMAT 8, no existing pedestrian demand data was available and therefore the DfT Active Travel Fund 4 (ATF4) Uplift Tool has been used to calculate the demand uplift resulting from infrastructure improvements and scheme cost, as shown in Table 5.7.

**Table 5.7: ATF4 Uplift Tool output for pedestrian demand**

AMAT	Option(s)	Assumed scheme cost	Number of trips per weekday with the intervention
8 – Track south of Half Acre Drove	4	£328,293	89

## 5.4.2 Cycling demand uplift

Existing cyclist count data was available for AMAT sections 2-7 and therefore a disaggregate mode choice model has been used to calculate the demand uplift as a result of the improved cycling infrastructure. This has considered the change in utility from the current cycling provision to the proposed provision, the time spent on the infrastructure and the base proportion of the population who cycle using 2021 Census Journey to Work data for Fenland. As improvements along AMAT 2 – Stonald Road NCN primarily benefit pedestrians, it has conservatively been assumed that there will be no uplift for cyclists.

**Table 5.8: Disaggregate mode choice model uplift**

AMAT	Option(s)	Demand uplift from disaggregate mode choice model	Number of trips per weekday with the intervention
2 – Stonald Road NCN	3 / 4	0%	115
3 – A605 West	3 / 4	45%	164
4 – A605 East	3 / 4	49%	169
5 – B1093 Station Road	3 / 4	38%	55
6 – New Road	3 / 4	37%	49
7 – A605 Eastrea Coates Road	4	107%	137

For AMAT sections 1 and 8, no existing cycle demand data was available and therefore the DfT Active Travel Fund 4 (ATF4) Uplift Tool has been used to calculate the demand uplift resulting from infrastructure improvements and scheme cost.

**Table 5.9: ATF4 Uplift Tool output for cyclist demand**

AMAT	Option(s)	Assumed scheme cost (£,000s) <sup>9</sup>	Number of trips per weekday with the intervention
1 – Relief road	1 / 2 / 3	£7,923	135
8 – Track south of Half Acre Drove	4	£328	15

<sup>9</sup> The assumed scheme cost used within the ATF4 Uplift Tool have been calculated based on the relative size of the relevant active travel elements compared to the total scheme and this proportion of the total construction value for the Scheme.

### 5.4.3 Active travel appraisal summary

This section provides a summary of the AMAT results, with the component AMATs that have been used to calculate the overall benefits for each option shown in Table 5.10.

**Table 5.10: AMAT components for each option**

AMAT	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 - Mobility Hub with active travel improvements
1 – Relief road	✓	✓	✓	
2 – Stonald Road NCN			✓	✓
3 – A605 West			✓	✓
4 – A605 East			✓	✓
5 – B1093 Station Road			✓	✓
6 – New Road			✓	✓
7 – A605 Eastrea Coates Road				✓
8 – Track south of Half Acre Drove				✓

The AMATs for Option 1 and 2 only consider the cycle track adjacent to the relief road. This results in a total PVB of £2.38m, with a majority of the benefit arising from a reduced risk of premature death (£1.21m) and journey ambience (£0.78m).

The AMATs for Option 3 considers the relief road and five other sections of enhanced active travel route, resulting in a total PVB of £4.52m. A majority of this benefit is provided by the cycle track adjacent to the relief road (£2.38m) however there are also moderate benefits provided the improvements to A605 West (£0.78m) and A605 East (£0.82m), with these two routes having some of the highest numbers of existing users and seeing significant cycling uplift of 45-49%. As with Option 1 and 2, a majority of the benefit arising from Option 3, is due to a reduced risk of premature death (£2.52m) and journey ambience (£1.19m).

Option 4 does not include the relief road or cycle track, instead seeing improvements across the town centre of Whittlesey and along the A605 which result in an overall PVB of £4.35m. The PVB for the active travel improvements along A605 Eastrea/Coates Road (£1.59m) is the main driver for benefits arising from this option, with this route potentially seeing in a 107% increase in cyclist numbers. The other key routes where improvements are providing benefit for Option 4 are A605 West (£0.78m); A605 East (£0.82m); and the track south of Half Acre Drove (£0.63m). In line with the other options, the main benefits are due to a reduced risk of premature death (£2.42m) and journey ambience (£1.14m).

Overall, across the options, a majority of benefit (60-66%) results from health improvements, with a significant proportion also arising from improved journey quality (26-33%). The remaining benefit (7-8%) is realised due to mode shift.



**Table 5.11: Monetised costs and Benefits (in £,000s)**

	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 - Mobility Hub with active travel improvements
Congestion benefit	134.63	134.63	275.23	245.53
Infrastructure maintenance	0.65	0.65	1.33	1.18
Accident	22.46	22.46	45.91	40.95
Local air quality	0.64	0.64	1.30	1.16
Noise	1.50	1.50	3.06	2.73
Greenhouse gases	8.31	8.31	16.99	15.15
Reduced risk of premature death	1205.85	1205.85	2516.97	2416.89
Absenteeism	222.14	222.14	473.87	488.12
Journey ambience	784.80	784.80	1178.22	1136.49
Indirect taxation	2.19	2.19	4.48	4.00
Investment costs	0.00	0.00	0.00	0.00
Operating costs	0.00	0.00	0.00	0.00
Private contributions	0.00	0.00	0.00	0.00
<b>PVB</b>	<b>2382.51</b>	<b>2382.51</b>	<b>4516.03</b>	<b>4351.03</b>

**Table 5.12: Summary of Active Travel Appraisal**

Option	PVB (in £,000s)	Summary
Option 1 - Relief road with HGV re-routing	£2,383	<ul style="list-style-type: none"> <li>A majority of the benefit arising from a reduced risk of premature death (£1.21m) and journey ambience (£0.78m).</li> </ul>
Option 2 - Relief road with HGV re-routing and bus priority improvements		
Option 3 - Relief road with HGV re-routing and active travel improvements	£4,516	<ul style="list-style-type: none"> <li>A majority of this benefit is provided by the cycle track adjacent to the relief road (£2.38m).</li> <li>Moderate benefits are provided by the improvements to A605 West (£0.78m) and A605 East (£0.82m).</li> <li>As with Option 1 and 2, a majority of the benefit is due to a reduced risk of premature death (£2.52m) and journey ambience (£1.19m).</li> </ul>
Option 4 – Mobility Hub with active travel improvements	£4,351	<ul style="list-style-type: none"> <li>The PVB for the A605 Eastrea/Coates Road (£1.59m) is the main driver for benefits, with this route potentially seeing in a 107% increase in cyclist numbers.</li> <li>The other key routes are A605 West (£0.78m); A605 East (£0.82m); and the track south of Half Acre Drove (£0.63m).</li> <li>The main benefits are due to a reduced risk of premature death (£2.42m) and journey ambience (£1.14m).</li> </ul>

## 5.5 Environmental appraisal

An Environmental Impact Appraisal covers the impact of a transport scheme on environmental factors. Methods prescribed in TAG Unit A3. have been used to determine any impacts of the Scheme.

Some environmental benefits have been monetised as part of the AMAT however these are not repeated here. In addition to this, a separate Carbon Impact Appraisal that evaluates the potential carbon cost of infrastructure provision has been undertaken that can be found in Section 5.8.

The eight environmental impacts, as defined by TAG Unit A3 guidance, assessed as part of the appraisal are:

- Noise
- Air Quality
- Greenhouse gases
- Landscape
- Townscape
- Historic Environment
- Biodiversity
- Water Environment

### Option 1 – Relief road with HGV re-routing

Under this option, there would likely be an opportunity to reduce traffic **noise** levels within the town centre by reducing traffic flows along the A605 and B1040, and re-routing heavy goods vehicles (HGVs) away from the centre of Whittlesey. The scheme could significantly reduce traffic congestion by diverting vehicles away from Whittlesey's town centre. This could lead to lower vehicle idling and smoother traffic flows, which would improve **air quality** by reducing emissions associated with stop-start driving engines. The rerouting of HGVs away from the town centre is likely to decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area, but it will be introducing these emissions into the new area. Also, the new cycle lane that might change travel patterns and improve active travel could lead to decreased emissions and better air quality.

This option has the potential to reduce **greenhouse gas** emissions by alleviating congestion, improving traffic flow and reducing emissions associated with stop-start driving. However, these reductions may be partially offset by an increase in journey lengths along the relief road.

The new road will alter the visual character of the **landscape** to the south of Whittlesey centre as it will replace existing fields with paved surfaces and infrastructure (bridges, junctions, etc.), significantly changing the natural landscape, especially if the new infrastructure contrasts sharply with the existing landscape.

Diverting HGVs away from the town centre could reduce congestion and improve the overall appearance of the town centre. This option is also likely to make the area more pedestrian-friendly and attractive to residents and visitors, leading to an overall improvement in **townscape** character.

The **historic environment** may benefit from reduced congestion, noise, air pollution and vibration within the centre of Whittlesey as this would improve the setting for listed buildings and other heritage assets within the historic market town. However, the new route may impact known archaeological sites, such as the Bronze Age Round Barrow Cemetery and could result in physical damage to these regionally or nationally important sites.

Building new crossings over dykes, watercourses, and the railway line might alter local hydrology and impact wetland habitats which could disrupt habitats and affect species dependent on these

water bodies, including the great crested newt. However, Whittlesey also has several important locations concerning **biodiversity** close to the centre of the town or the A605, and by providing a new route to the south of Whittlesey centre, there is the potential to reduce the existing impacts from the highway network on ecological receptors.

The proposed relief road would be in flood zone 3a, increasing the risk of **flooding** for the road itself and potentially causing disruptions to transportation and access. It could also interfere with natural flood management processes and worsen flooding issues if not properly managed. The new road infrastructure and implementation of flood management features will be considered as an opportunity to improve the water environment to withstand flooding events to avoid damage and ensure the continuity of the transport network.

**Table 5.13: Summary of expected environmental impacts for Option 1**

Environmental Impact	Overall Appraisal Result
Noise	Slight beneficial
Air Quality	Moderate beneficial
Greenhouse gases	Slight beneficial
Landscape	Moderate adverse
Townscape	Slight beneficial
Historic Environment	Neutral
Biodiversity	Moderate adverse
Water Environment	Neutral

### Option 2 – Relief road with HGV re-routing and bus priority improvements

The assessment for **noise**, **air quality**, **greenhouse gases**, **landscape**, **biodiversity** and **water environment** have been assessed as in Option 1.

As with Option 1, diverting HGVs from the town centre would reduce congestion and improve the appearance of the town centre, making it attractive to residents and visitors. However, by introducing signal-controlled junctions, bus priority lanes, and enhanced pedestrian crossings the **townscape** and functionality of the town centre may be improved by making it more accessible and pedestrian-friendly could enhance the overall townscape environment. For this reason, the impact on townscape for Option 2 has been assessed as moderately beneficial.

The **historic environment** has largely been assessed the same as Option 1 however, by improving bus services and reducing traffic congestion, Whittlesey could become more accessible to visitors and could promote heritage tourism, increasing awareness and appreciation of Whittlesey's historic and archaeological significance.

**Table 5.14: Summary of expected environmental impacts for Option 2**

Environmental Impact	Overall Appraisal Result
Noise	Slight beneficial
Air Quality	Moderate beneficial
Greenhouse gases	Slight beneficial
Landscape	Moderate adverse
Townscape	Moderate beneficial
Historic Environment	Neutral
Biodiversity	Moderate adverse
Water Environment	Neutral

### Option 3 – Relief road with HGV re-routing and active travel improvements

The assessment for **noise**, **air quality**, **greenhouse gases**, **landscape**, **biodiversity** and **water environment** have been assessed as in Option 1.

As with Option 1, diverting HGVs from the town centre would reduce congestion and improve the appearance of the town centre, making it attractive to residents and visitors. However, the enhanced active travel infrastructure within Whittlesey, can significantly improve the **townscape** by making the town more pedestrian and cyclist friendly. This option has therefore been assessed as moderately beneficial to townscape.

The **historic environment** may benefit from active travel improvements and reducing traffic congestion as Whittlesey could become more accessible to visitors and could promote heritage tourism, increasing awareness and appreciation of Whittlesey's historic and archaeological significance. However, as with Options 1 and 2, the new relief road route an active travel infrastructure may impact known archaeological sites and prehistoric landscapes.

**Table 5.15: Summary of expected environmental impacts for Option 3**

Environmental Impact	Overall Appraisal Result
Noise	Slight beneficial
Air Quality	Moderate beneficial
Greenhouse gases	Slight beneficial
Landscape	Moderate adverse
Townscape	Moderate beneficial
Historic Environment	Neutral
Biodiversity	Moderate adverse
Water Environment	Neutral

### Option 4 – Mobility hub with active travel improvements

This option could encourage local journeys to be made by walking or cycling, and improve access to the existing public transport, likely leading to reduced car use. This could lead to lower traffic volumes on local roads, which may reduce traffic **noise** levels at noise-sensitive receptors within Whittlesey. However, any new bus service servicing the site could increase noise levels near the Mobility Hub and along bus routes.

Option 4 promotes active travel by improving the infrastructure for walking and cycling, which is likely to reduce private car use, especially for shorter trips. This reduction can help lower nitrogen dioxide (NO<sub>2</sub>) emissions and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), improving local **air quality**. However, the Mobility Hub does not address HGV traffic, which is considered to be a significant contributor to air emissions in Whittlesey.

This option has less potential to reduce **greenhouse gas** emissions than the other options as this option will not reduce the level of HGV movements in Whittlesey; however, encouraging active travel can reduce private car use, improve traffic flow and eventually reduce emissions associated with stop-start driving engines.

The improvements in active travel infrastructure and promoting walking and cycling and public transport, may slightly reduce the visual impact of vehicular traffic and road infrastructure, contributing to a more pleasant and less cluttered **landscape**. However, the presence of the Mobility Hub itself, including parking facilities and bus infrastructure, may be visually intrusive and alter the character of the surrounding landscape.

By encouraging the use of public transport and improving the links into the town centre, Whittlesea station, and Peterborough, this option should reduce traffic congestion and improve the **townscape** by reducing the visual and physical clutter associated with high traffic volumes. The enhanced active travel infrastructure is likely to improve the townscape by making the town more pedestrian and cyclist friendly.

This option could reduce private car congestion within the centre of Whittlesey, which would reduce the impact of road traffic on the setting of historic assets in this market town. Although the numbers of vehicles that may be removed from the road are unlikely to have a significant impact on existing traffic conditions. By improving pedestrian and cycling routes, the **historic environment** could also become more accessible and attractive to visitors. However, the Mobility Hub location contains some Grade II listed buildings and is adjacent to a Scheduled Monument. New infrastructure may harm these heritage assets as well as other historic assets and prehistoric landscapes.

Option 4 may positively impact **biodiversity** by reducing traffic through ecologically sensitive areas through improving active travel infrastructure. Active travel infrastructure improvements may reduce the pressure on existing natural habitats by encouraging mode shift which can lead to fewer disturbances in sensitive areas and can help protect habitats from being degraded by vehicle emissions and polluted road runoff. However, the construction associated with the new active travel infrastructure might temporarily disturb local habitats.

The area around Whittlesey is primarily within flood zone 3 and has a high probability of **flooding**. The active travel infrastructure proposed will need to be designed with the flood risk in mind. Proper management and mitigation would need to be implemented to minimise potential adverse effects on the local water environment.

**Table 5.16: Summary of expected environmental impacts for Option 4**

Environmental Impact	Overall Appraisal Result
Noise	Neutral
Air Quality	Neutral
Greenhouse gases	Neutral
Landscape	Neutral
Townscape	Slight beneficial
Historic Environment	Slight beneficial
Biodiversity	Slight beneficial
Water Environment	Neutral

### 5.5.1 Environmental appraisal summary

Options 2 and 3 perform well overall, with the potential to reduce through trips in Whittlesey resulting in moderate benefits to townscape and air quality, as well as smaller benefits to noise and greenhouse gases. However, the construction of the relief road does result in adverse impacts on landscape and biodiversity for options 1, 2 and 3. Option 4 performs the best as it does not result in any adverse impacts and sees small benefits for townscape, historic environment and biodiversity however, overall, this option sees very little change and therefore most impacts are neutral.

**Table 5.17: Summary of expected environmental impacts for all options**

Environmental Impact	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 – Mobility Hub with active travel improvements
Noise	Slight beneficial	Slight beneficial	Slight beneficial	Neutral
Air Quality	Moderate beneficial	Moderate beneficial	Moderate beneficial	Neutral
Greenhouse gases	Slight beneficial	Slight beneficial	Slight beneficial	Neutral
Landscape	Moderate adverse	Moderate adverse	Moderate adverse	Neutral
Townscape	Slight beneficial	Moderate beneficial	Moderate beneficial	Slight beneficial
Historic Environment	Neutral	Neutral	Neutral	Slight beneficial
Biodiversity	Moderate adverse	Moderate adverse	Moderate adverse	Slight beneficial
Water Environment	Neutral	Neutral	Neutral	Neutral

## 5.6 Social appraisal

A Social Impact Appraisal covers the human experience of a transport system and its impact on social factors not considered as part of economic and environmental appraisals. Methods prescribed in TAG Unit A4.1 have been used to determine any impacts of the Scheme.

The eight social impacts, as defined by TAG Unit A4.1 guidance, assessed as part of the appraisal are:

- Accidents
- Physical activity
- Security
- Severance
- Journey quality
- Option and non-use values
- Accessibility
- Personal affordability



### Option 1 – Relief road with HGV re-routing

This option performs well for **accidents** as it will likely reduce the number of vehicles, including HGVs, travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey. The new infrastructure will ultimately contribute to reduced casualties, lower accident severity and a lower accident rate, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers).

This option has a slight benefit for **physical activity** as it is likely to reduce the number of vehicles travelling through Whittlesey town centre, improving safety and reducing severance for pedestrians and cyclists in Whittlesey.

While the development of the Scheme aims to improve safety and **security** for all, the Scheme is unlikely to affect vulnerability to crime and other aspects of personal safety, which are the primary factors assessed in the TAG guidance. Therefore, the overall impact on security, during construction and operation is anticipated to be neutral.

The option performs well for reducing **severance** by diverting through traffic away from the A650 in the centre of Whittlesey and onto the new relief road. The new cycle track parallel to the relief road will provide a new safe active travel route that bypasses Whittlesey Town Centre.

An improved road layout is likely to reduce fear of accidents and frustration for users of the Scheme, reducing travel stress levels and thereby improving **journey quality**. The option is expected to reduce traveller frustration and stress and as such improve journey quality for road users as a result of reduced congestion and improved, more predictable, journey times. The provision of safer and more reliable transport routes should contribute to positive impacts on journey quality for all road users.

The option does not include measures that will change the availability of public transport options for those living in the study area. Therefore, the overall impact for **option and non-use values** is considered to be neutral.

Option 1 increases **accessibility** to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. However, the option predominantly focuses on accessibility for motorised users, with minimal focus on active travel and public transport therefore is assessed to have a slight beneficial effect.

There are no significant impact relating to **personal affordability** of transport and the proposed scheme does not include measures that will change the affordability of public transport options for those living in the study area. Therefore, the overall impact appraisal is neutral.

**Table 5.18: Summary of expected social impacts for Option 1**

Social Impact	Overall Appraisal Result
Accidents	Moderate beneficial
Physical activity	Slight beneficial
Security	Neutral
Severance	Moderate beneficial
Journey quality	Moderate beneficial
Option and non-use values	Neutral
Accessibility	Slight beneficial
Personal affordability	Neutral

## Option 2 – Relief road with HGV re-routing and bus priority improvements

The assessment for **accidents, security, severance, option and non-use values** and **personal affordability** have been assessed as in Option 1, with some minor improvements due to bus priority measures and additional crossings for pedestrians and cyclists.

This option sees a moderate benefit for **physical activity** as it is likely to providing all the benefits from Option 1 as well as further improvements to pedestrian crossing infrastructure, improving safety and reducing severance for pedestrians and cyclists in Whittlesey.

In addition to the benefits to all road users outlined in Option 1, **journey quality** for those using public transport is particularly likely to improve due to the bus priority measures within Whittlesey and therefore this option is appraised as being largely beneficial.

Option 2 increases **accessibility** as with Option 1 and also includes bus priority measures which will reduce bus journey times and improve reliability, thus enhancing the bus offer for those travelling between Whittlesey, March and Peterborough. However, this is reliant on bus operators capitalising on these new improvements by running services. Pedestrian safety and access are improved through enhanced pedestrian crossing facilities.

**Table 5.19: Summary of expected social impacts for Option 2**

Social Impact	Overall Appraisal Result
Accidents	Moderate beneficial
Physical activity	Moderate beneficial
Security	Neutral
Severance	Moderate beneficial
Journey quality	Large beneficial
Option and non-use values	Neutral
Accessibility	Moderate beneficial
Personal affordability	Neutral

## Option 3 – Relief road with HGV re-routing and active travel improvements

The assessment for **accidents, option and non-use values** and **personal affordability** have been assessed as in Option 1, with some minor improvements due to additional crossings for pedestrians and cyclists.

This option has a large benefit for **physical activity** as it is likely to reduce the number of vehicles travelling through Whittlesey town centre whilst also providing new active travel improvements through the town and along the A605 which could enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling whilst reducing car use for shorter journeys.

While the development of the Scheme aims to improve safety and **security** for all, the Scheme is unlikely to affect vulnerability to crime and other aspects of personal safety, which are the primary factors assessed in the TAG guidance. Improved active travel infrastructure, including segregation, improved lighting and improved surfaces may increase feelings of security amongst vulnerable road users (VRU's) such as the elderly.

The option performs well for reducing **severance** by diverting through traffic away from the A605 and providing active travel improvements through the town and alongside the relief road including shared use paths and toucan crossings.

The provision of safer and more reliable transport networks should improve the overall quality of journey for all road users. An improved road layout is likely to reduce fear of accidents and frustration for users of the Scheme, reducing travel stress levels and thereby improving **journey quality**.

Option 3 increases **accessibility** to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. This option is also likely to enable a greater level of local journeys to be undertaken by walking or cycling, reducing car use for shorter journeys. Improvements to National Cycle Network route 63 will improve the quality of longer distance journeys and improvements to active travel access to Whittlesea station, allowing for easier access to onwards journeys by rail.

**Table 5.20: Summary of expected social impacts for Option 3**

Social Impact	Overall Appraisal Result
Accidents	Moderate beneficial
Physical activity	Large beneficial
Security	Slight beneficial
Severance	Large beneficial
Journey quality	Large beneficial
Option and non-use values	Neutral
Accessibility	Large beneficial
Personal affordability	Neutral

#### Option 4 – Mobility hub with active travel improvements

Improvements to bus services in the town brought about by the Mobility Hub, along with the improvements to active travel are likely to result in a modal shift away from private car use and on to public transport and active travel. This could slightly reduce the number of vehicles and congestion on the local road network, thereby improving pedestrian safety and reducing **accidents**. However, this option will not reduce HGV movements, and the Mobility Hub's location may mean that residents in the west of Whittlesey may not utilise its facilities.

This option has a moderate beneficial impact to **physical activity** as it proposes improved active travel provision across the town to a new Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift from private car to public transport and active travel.

While the development of the Scheme aims to improve safety and **security** for all, the Scheme is unlikely to affect vulnerability to crime and other aspects of personal safety, which are the primary factors assessed in the TAG guidance. This option provides improved active travel infrastructure, including segregation where possible, improved lighting and improved surfaces which has the potential to increase feelings of security amongst vulnerable road users (VRU's) such as the elderly.

Option 4 has the potential to indirectly reduce **severance** by encouraging more public transport and active travel use though the provision of shared use spaces, toucan crossings, and a mobility hub. However, this option will not reduce the number of HGVs travelling through Whittlesey.

**Journey quality** is thought to slightly benefit from the provision of the mobility hub as it is anticipated to improve the journey reliability and reduce stress of users travelling through and accessing Whittlesey.

The new Mobility Hub could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport. However, the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities and this option is reliant on bus operators capitalising on these new improvements by running services. Overall, the impact for **option and non-use values** is considered as slight beneficial.

This option is likely to moderately benefit **accessibility** as it will encourage more bus services to serve Whittlesey and encourage a modal shift away from private cars to public transport and active travel. However, it is unlikely to significantly reduce the levels of through traffic in Whittlesey and the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities.

There are no significant impact relating to **personal affordability** of transport and the proposed scheme does not include measures that will change the affordability of public transport options for those living in the study area. Therefore, the overall impact appraisal is neutral.

**Table 5.21: Summary of expected social impacts for Option 4**

Social Impact	Overall Appraisal Result
Accidents	Slight beneficial
Physical activity	Moderate beneficial
Security	Slight beneficial
Severance	Slight beneficial
Journey quality	Slight beneficial
Option and non-use values	Slight beneficial
Accessibility	Moderate beneficial
Personal affordability	Neutral

### 5.6.1 Social appraisal summary

An overall summary of the social appraisal is shown in Table 5.22. All four options are beneficial to improving the human experience within Whittlesey. Option 3 performs best overall, with the potential to reduce through trips in Whittlesey and active travel improvements resulting in large benefits by encouraging physical activity, reducing severance, improving journey quality, and increasing accessibility, as well as moderately reducing accidents and slightly improving personal security.

Option 2 also performs well but the improvements to bus priority do not provide the same level of benefit to movement within Whittlesey as the enhanced active travel of Option 3.

Overall, Option 4 sees some slight improvements compared to the existing situation, with moderate benefits arising from the improved accessibility brought about by new cycle routes and bus services as well as encouraging more physical activity.

Option 1 performs worst as this option primarily benefits drivers and only slightly improves journeys for pedestrians and cyclists through reducing through traffic in the centre of Whittlesey.

**Table 5.22: Summary of expected social impacts for all options**

Social Impact	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 – Mobility Hub with active travel improvements
Accidents	Moderate beneficial	Moderate beneficial	Moderate beneficial	Slight beneficial
Physical activity	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial
Security	Neutral	Neutral	Slight beneficial	Slight beneficial
Severance	Moderate beneficial	Moderate beneficial	Large beneficial	Slight beneficial
Journey quality	Moderate beneficial	Large beneficial	Large beneficial	Slight beneficial
Option and non-use values	Neutral	Neutral	Neutral	Slight beneficial
Accessibility	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial
Personal affordability	Neutral	Neutral	Neutral	Neutral

## 5.7 Wider economic appraisal

The wider economic impacts for the Scheme are those that are considered additional to the transport user benefits. As the level of benefits coming from wider economic impacts, including both from changes in land use and fixed land use are predicted to be small in relation to the overall Scheme benefits, a qualitative approach has been taken. The full appraisal of Wider Economic Benefits can be found in Appendix E.

### Option 1 – Relief road with HGV re-routing

The relief road with HGV re-routing could increase carrying capacity for future development, improve living standards and the quality of Whittlesey's public realm, and support local trade within the town. Enhanced infrastructure such as new roads can lead to positive effects in several economic indicators, including user benefits, improvements in productivity, as well as investment and employment. The relief road may support local industry and business to the South and West of the town by improving connections to employment such as local industry and business areas to the South and West of the town.

However, there is a potential the induced demand could negate traffic reduction objectives as any increased capacity as a result of the relief road may then attract additional trips by car, resulting in no overall capacity benefit in comparison to the current state. In addition, the proposed parallel cycle track may not benefit the town in keeping with sustainable travel objectives, as the option does not provide infrastructure that links into Whittlesey itself.

### Option 2 – Relief road with HGV re-routing and bus priority improvements

In addition to the benefits and disbenefits outlined in Option 1 this option may benefit from a higher quality urban realm through the provision of bus priority improvements. Additionally, the public transport enhancements could be a benefit for future development, however, improved provision of bus services would need to occur to maximise this benefit.

While enhanced infrastructure and greater priority at the junctions could enable buses to better access the town centre, the option is reliant on provision of bus services to maximise this benefit. This could pose a challenge given constrained budgets for public transport and a steady decline in rural bus services over many years.

### Option 3 – Relief road with HGV re-routing and active travel improvements

Active travel improvements in Whittlesey may enhance the benefits of the relief road outlined in Option 1 by improving access for local journeys, improving the quality of the public realm, and better encouraging modal shift to improve health and potential growth. However, improvements remain constrained due to limited space along A605 and the surrounding road network.

As is the Case for Option 1 induced demand may cancel out the benefits brought by the relief road, as the increment in new vehicle traffic could occur alongside the improvement of network capacity. Whilst improved active travel links may promote walking and cycling over private vehicles, the relief road could still draw people away from active travel.

### Option 4 – Mobility hub with active travel improvements

This option includes all the benefits already stated for active travel improvements in Option 3, but not the relief road. However, the additional Mobility Hub and further active travel infrastructure may enhance benefits such as better health and wellbeing outcomes, and improved quality of the public realm.

The lack of a relief road may mean HGVs and through vehicle traffic will continue to travel through the town of Whittlesey. This will limit the previously mentioned benefits of the scheme such as a

reduction in air and noise pollution, increase in local transport capacity to support development, and enhancement of public realm through reduced traffic volumes. However, the lack of a relief road may also encourage modal shift and public transport by making driving a less attractive option for many.

### 5.7.1 Wider economic appraisal summary

Overall, Options 1, 2 and 3 could see benefits as a result of the relief road with HGV Re-routing as this could increase carrying capacity for future development, improve living standards and the quality of Whittlesey's public realm, and support local trade within the town. Options 2 and 3 could see further benefits to the public realm through the provision of bus priority and active travel measures respectively.

Despite this, some benefits may be lessened by the effects of induced demand, with a growth in traffic on the A605 that would not have occurred without the improvement of the network capacity.

The mobility hub and active travel improvements proposed in Option 4 could enhance benefits such as better health and wellbeing outcomes, and improved quality of the public realm however, without a relief road, HGVs and through vehicle traffic levels within the town may not reduce and therefore, benefits such as reduced noise and air pollution, improved public realm and reduced traffic volumes may not be realised.

## 5.8 Carbon impact appraisal

An assessment of the carbon impact of each option was undertaken which provides an estimate for both capital carbon from construction of new infrastructure, as well as the operational carbon which captures the carbon emissions from using the infrastructure and the reduction in carbon associated with mode shift away from private vehicles.

This is a high level assessment based on the information available at this stage. The capital carbon is based on benchmarks that may overestimate the carbon required to deliver each option, especially with active travel infrastructure where the proposals are only proposing to provide shared use paths rather than completely new cycle routes.

### Option 1 – Relief road with HGV re-routing

The results from the carbon assessment of Option 1 are shown in Table 5.23. The option has high capital carbon emissions of 19,845 tCO<sub>2</sub>e due to the construction of the relief road and cycle track. The assessment shows an overall reduction in operation carbon as a result from the scheme, with a majority of the 10,600 tCO<sub>2</sub>e reduction coming from lower carbon emissions from private vehicles, due to more efficient driving and less stop-start traffic along the relief road. Overall, the option is assessed to be a net carbon emitter.

**Table 5.23: Summary of carbon impact (tCO<sub>2</sub>e over appraisal period) for Option 1**

	Capital carbon	Operational carbon	Total
Do-minimum (without scheme)	-	85,725	85,725
Do-something (with scheme)	19,845	75,125	94,970
Impact of scheme (difference)	19,845	-10,600	9,245
Intensity metric of scheme impact (tCO <sub>2</sub> e/£m)*	72	-39	34

\*Note: the intensity figure is provided in order to provide a common metric across all options

### Option 2 – Relief road with HGV re-routing and bus priority improvements

The results from the carbon assessment of Option 2 are shown in Table 5.24. The option has slightly higher capital carbon emissions due to additional construction to provide bus priority measures. The



operational carbon emissions are identical to Option 1 as there is no mode shift associated with the new bus priority measures. Overall, the option is assessed to be a net carbon emitter.

**Table 5.24: Summary of carbon impact (tCO<sub>2</sub>e over appraisal period) for Option 2**

	Capital carbon	Operational carbon	Total
Do-minimum (without scheme)	-	85,725	85,725
Do-something (with scheme)	19,989	75,125	95,114
Impact of scheme (difference)	19,989	-10,600	9,389
Intensity metric of scheme impact (tCO <sub>2</sub> e/£m)*	72	-38	34

\*Note: the intensity figure is provided in order to provide a common metric across all options

### Option 3 – Relief road with HGV re-routing and active travel improvements

The results from the carbon assessment of Option 3 are shown in Table 5.25Table 5.23. The option has higher capital carbon emissions (22,701 tCO<sub>2</sub>e) than Options 1 and 2 due to the additional construction of active travel routes throughout Whittlesey. The assessment shows a larger overall reduction in operation carbon (12,351 tCO<sub>2</sub>e than Options 1 and 2 as a result of greater potential mode shift to walking and cycling. Despite this, the carbon reductions are not forecast to offset the additional construction emissions and overall the option is assessed to be a net carbon emitter.

**Table 5.25: Summary of carbon impact (tCO<sub>2</sub>e over appraisal period) for Option 3**

	Capital carbon	Operational carbon	Total
Do-minimum (without scheme)	-	85,725	85,725
Do-something (with scheme)	22,701	73,374	96,075
Impact of scheme (difference)	22,701	-12,351	10,350
Intensity metric of scheme impact (tCO <sub>2</sub> e/£m)*	81	-44	37

\*Note: the intensity figure is provided in order to provide a common metric across all options

### Option 4 – Mobility hub with active travel improvements

The results from the carbon assessment of Option 4 are shown in Table 5.26. This has the lowest capital carbon emissions of the four options due to less construction undertaken. Operational carbon resulting from Option 4 increases as, although new cycle lanes and bus services encourage some mode shift away from private vehicles, this is outweighed by carbon emissions from the new services. This option has the lowest total carbon emissions (6,953 tCO<sub>2</sub>e) however, as the overall cost of this option is much lower than the other three options, the carbon intensity (tCO<sub>2</sub>e/£m) is much greater.

**Table 5.26: Summary of carbon impact (tCO<sub>2</sub>e over appraisal period) for Option 4**

	Capital carbon	Operational carbon	Total
Do-minimum (without scheme)	-	85,725	85,725
Do-something (with scheme)	5,839	86,838	92,678
Impact of scheme (difference)	5,839	1,113	6,953
Intensity metric of scheme impact (tCO <sub>2</sub> e/£m)*	440	84	524

\*Note: the intensity figure is provided in order to provide a common metric across all options

## 5.8.1 Carbon impact appraisal summary

This section presents a summary of the Carbon Impact Assessment, with an overview of the results for each option shown in Table 5.27. Of the three relief road options, Option 1 has the lowest overall carbon emissions (9,245 tCO<sub>2</sub>e) as it requires the relief road on its own to be built. Options 2 and 3

provide bus priority or active travel measures and any mode shift to bus or walking and cycling is not enough to offset the initial emissions resulting from construction of these elements.

Option 4 has the lowest carbon emissions of the options as no new roads are proposed and only construction of active travel routes and mobility hub are required. As with Option 2 and 3, mode shift to public transport and active travel does result in some operational carbon reduction however this is not enough to offset the capital carbon emissions. In addition to this, this option is an overall operational carbon emitter due to new bus services provided. This option also has the highest carbon intensity.

**Table 5.27: Summary of carbon impact for each option (tCO<sub>2</sub>e over appraisal period)**

	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 - Mobility Hub with active travel improvements
Do-minimum (without scheme)	85,725	85,725	85,725	85,725
Do-something (with scheme)	94,970	95,114	96,075	92,678
Impact of scheme (difference)	9,245	9,389	10,350	6,953
Intensity metric of scheme impact (tCO <sub>2</sub> e/£m)	34	34	37	524

## 6 Summary

This section provides an overall summary of the appraisal undertaken of the four shortlisted options, including the overall present value of benefits. An assessment of how each option performs against the objectives is also provided.

### 6.1 Option 1 – Summary

The overall summary for Option 1 is shown in Table 6.1. The overall PVB is £23,462 with a majority of this (£21,080) resulting from benefits to the highway and associated journey time benefits. Around 10% of the benefits come from active travel route and increases in physical activity. There are also potential non-monetised benefits from lowering air pollution; reducing accidents; improving severance; and improving journey quality, as well as general improvements to creating a more attractive town centre.

Despite this, Option 1 has the potential to cause disbenefits for landscape, biodiversity and induced demand.

The carbon emissions resulting from the scheme construction are significant and are not outweighed by the reduction brought about by mode shift to active travel or through more efficient travel behaviour.

**Table 6.1: Summary of Option 1 results**

Appraisal	PVB (£,000s)	Summary
Highway	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>
Bus Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Mobility Hub Demand Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Active Travel Appraisal	£2,383	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£1.43m).</li> </ul>
Environmental Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with a reduction in air pollution, whilst there are slight benefits with noise, GHG and townscape.</li> <li>Moderate adversities are found with landscape and biodiversity.</li> </ul>
Social Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits found with reducing accidents and severance and increasing journey quality.</li> </ul>
Wider Economic Appraisal	n/a	<ul style="list-style-type: none"> <li>Benefits found with supporting future expansion, healthier streets and attractive town centre, and improved productivity.</li> <li>Disbenefits found with induced demand.</li> </ul>
Carbon Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-645 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (19,845 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 34 tCO<sub>2</sub>e / £m</li> </ul>
<b>Total</b>	<b>£23,946</b>	

Option 1 generally performs well against the objectives. The provision of a relief road, and potential for a reduction in through traffic, means residents of Whittlesey may benefit from improved public realm, greater access to opportunity, and journey time improvements. There will be some benefits

with regards to improved health and wellbeing as well as a reduction in accidents; however, the extent of these benefits is not believed to be enough to fully achieve the objective.

Option 1 is not considered to achieve the objectives around improving public transport patronage or reducing carbon emissions. There are no public transport elements included within the option and the carbon required to deliver the scheme is projected to be significant, exceeding any savings from mode shift or more efficient travel behaviours.

**Table 6.2: Option 1 performance against objectives**

Objective	How does Option 1 perform?
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.	<ul style="list-style-type: none"> <li>Provides additional transport capacity in the area to accommodate future growth.</li> <li>Planned housing developments in Whittlesey are mostly located to the east of the town which may benefit from use of the relief road to go around the town rather than through.</li> <li>The relief road could divert around 30% of traffic deemed as through traffic away from the existing A605.</li> <li>However, it may not be an attractive option for people in the town to divert away from the A605.</li> <li>Induced demand may result in some of freed up capacity being taken up by future new local trips.</li> </ul>
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.	<ul style="list-style-type: none"> <li>Journey times between Ralph Butcher Causeway and Coates may be around 27% quicker for vehicles travelling along the relief road compared to current journey times along the A605.</li> <li>For vehicles remaining on the A605, there could be a moderate reduction in journey times as 30% of trips along the A605 divert to the relief road, although induced demand may limit this.</li> </ul>
2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.	<ul style="list-style-type: none"> <li>Journey times for vehicles using the relief road could be 27-73% faster than existing journeys.</li> <li>Journey times along the A605 may also decrease as a result of the relief road and therefore the number of education and employment opportunities that are accessible within 30 minutes could increase.</li> </ul>
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.	<ul style="list-style-type: none"> <li>Option 1 does not include measures that will change the availability of public transport options for those living in the study area and although the relief road includes a parallel cycle track, this option is unlikely to lead to a significant growth in public transport patronage.</li> </ul>
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.	<ul style="list-style-type: none"> <li>Parallel cycle track to the south of Whittlesey provides additional transport capacity in the area which would provide an alternative route to the A605 and A47 during road closure events.</li> <li>However, due to induced demand, any road capacity initially freed up along the A605 may be taken up by more local trips therefore lessening the potential benefits.</li> </ul>
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.	<ul style="list-style-type: none"> <li>Could significantly reduce traffic congestion, leading to lower vehicle idling and smoother traffic flows, which would improve air quality by reducing emissions associated with stop-start driving engines.</li> <li>The rerouting of HGVs away from the town centre may decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area.</li> <li>New cycle lane may improve active travel, therefore leading to decreased emissions and better air quality.</li> </ul>
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.	<ul style="list-style-type: none"> <li>Could reduce the number of vehicles travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey and reduce the number of accidents.</li> <li>Appraisal of accidents suggests a 10% reduction in all accidents along the A605.</li> <li>However, whilst option could result in a reduction in collisions involving pedestrians and cyclists, a 50% reduction may not be achieved.</li> </ul>

Objective	How does Option 1 perform?
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.	<ul style="list-style-type: none"> <li>Option 1 could divert through traffic and HGVs away from the town centre which could reduce congestion and improve the overall appearance of the town centre.</li> <li>Option may also make the area more pedestrian-friendly and attractive to residents and visitors, leading to an overall improvement in public perceptions.</li> </ul>
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Relief road could divert 1,900 vehicles away from A605 in each direction, representing 30.4% of traffic using the road.</li> <li>However, due to induced demand, any road capacity initially freed up along the A605 may be taken up by more local trips.</li> </ul>
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Option could divert HGVs away from the town centre. Highway modelling has assumed the relief road will divert 30.4% of all traffic using the road.</li> <li>The relief road will provide significantly improved access to the industrial sites to the south of the town and therefore the reduction in HGV traffic through the town may be higher.</li> </ul>
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.	<ul style="list-style-type: none"> <li>Has the potential to reduce greenhouse gas emissions by alleviating congestion, improving traffic flow and reducing emissions associated with stop-start driving engines.</li> <li>However, the construction of a relief road would result in significant capital carbon emissions.</li> </ul>

## 6.2 Option 2 – Summary

The overall summary for Option 2 is shown in Table 6.3. The overall PVB is £23,498 with a majority of this (£21,080) resulting from benefits to the highway and associated journey time benefits. Around 10% of the benefits come from active travel route and increases in physical activity. There are very few benefits arising from the bus priority measures with the monetised results near-zero. There are also potential non-monetised benefits from lowering air pollution; improved townscape; reducing accidents; improving severance; and improving journey quality, as well as general improvements to creating a more attractive town centre.

Despite this, Option 2 has the potential to cause disbenefits for landscape, biodiversity and induced demand.

The carbon emissions resulting from the scheme construction are significant and are not outweighed by the reduction brought about by mode shift to bus or active travel, or through more efficient travel behaviour.

**Table 6.3: Summary of Option 2 results**

Appraisal	PVB (£,000s)	Summary
Highway	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>
Bus Appraisal	£35	<ul style="list-style-type: none"> <li>Very small level of benefit, proposed infrastructure providing in the region of 20s of JT improvement.</li> </ul>
Mobility Hub Demand Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Active Travel Appraisal	£2,383	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£1.43m).</li> </ul>
Environmental Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with a reduction in air pollution and townscape (slight benefit for Option 1), whilst there are slight benefits with noise and GHG.</li> <li>Moderate adversities are found with landscape and biodiversity.</li> </ul>

Social Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Large benefits found with increasing journey quality.</li> </ul>
Wider Economic Appraisal	n/a	<ul style="list-style-type: none"> <li>As with Option 1, but additional benefits with healthier streets and attractive town centre and enhanced public transport connections.</li> </ul>
Carbon Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-645 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (19,989 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 34 tCO<sub>2</sub>e / £m</li> </ul>
<b>Total</b>	<b>£23,981</b>	

As with, Option 1, Option 2 generally performs well against the objectives. The provision of a relief road, and potential for a reduction in through traffic, will help address accidents and improved health and wellbeing. In addition to this, the provision of bus priority measures means that there may be a small benefit to public transport patronage; however, this is predicted to be very small and not achieve the 25% target.

Like Option 1, option 2 is not projected to reduce carbon emissions, given the carbon required to deliver the scheme will not be offset by any savings from mode shift or more efficient travel behaviours.

**Table 6.4: Option 2 performance against objectives**

Objective	How does Option 2 perform?
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.	<ul style="list-style-type: none"> <li>Improving bus priority within Whittlesey could provide additional transport capacity by moving people more efficiently within the town.</li> <li>Provides additional highway capacity in the area to accommodate future growth.</li> </ul>
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.	<ul style="list-style-type: none"> <li>Bus priority measures may result in some journey time increases for private vehicles through the centre of Whittlesey.</li> <li>Journey times between Ralph Butcher Causeway and Coates may be around 27% quicker for vehicles travelling along the relief road compared to current journey times along the A605.</li> <li>For vehicles remaining on the A605, there could be a moderate reduction in journey times as 30% of trips along the A605 divert to the relief road, although induced demand may limit this.</li> </ul>
2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.	<ul style="list-style-type: none"> <li>Highway modelling for the relief road shows that, depending on origin and destination, the journey times for vehicles using the relief road could be 27-73% faster than existing journeys.</li> <li>Journey times along the A605 may also decrease as a result of the relief road and therefore the number of education and employment opportunities that are accessible within 30 minutes could increase.</li> <li>Bus priority measures will improve bus travel within Whittlesey and allow residents without a car to access more opportunities.</li> </ul>
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.	<ul style="list-style-type: none"> <li>Provides bus priority measures at key junctions in the centre of Whittlesey. Along with the relief road, these measures should improve the operation of buses within the town, making them a more attractive option.</li> <li>Bus priority improvements could result in growth in bus usage.</li> <li>However, the relief road makes driving easier and therefore may not encourage modal shift.</li> </ul>
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.	<ul style="list-style-type: none"> <li>Option 2 provides additional transport capacity in the area which would provide an alternative route to the A605 and A47 during road closure events.</li> <li>However, due to induced demand, any road capacity initially freed up along the A605 may be taken up by more local trips therefore lessening the potential benefits.</li> <li>Bus priority measures may result in some journey time increases for private vehicles through the centre of Whittlesey.</li> </ul>



Objective	How does Option 2 perform?
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.	<ul style="list-style-type: none"> <li>Option 2 could significantly reduce traffic congestion, leading to lower vehicle idling and smoother traffic flows, which would improve air quality by reducing emissions associated with stop-start driving engines.</li> <li>The rerouting of HGVs away from the town centre may decrease emissions in the area.</li> <li>In addition to this, the bus priority measures and new cycle lane may change travel patterns, promoting some mode shift away from private car and therefore leading to decreased emissions and better air quality.</li> </ul>
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.	<ul style="list-style-type: none"> <li>Option 2 could reduce the number of vehicles travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey and reduce the number of accidents.</li> <li>Enhanced crossing facilities are proposed as part of bus priority measures which could improve safety for pedestrians. Appraisal of accidents suggests a 10% reduction in all accidents along the A605.</li> <li>Overall option could result in a reduction in collisions involving pedestrians and cyclists however a 50% reduction may not be achieved.</li> </ul>
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.	<ul style="list-style-type: none"> <li>Option 2 could divert through traffic and HGVs away from the town centre which could reduce congestion and improve the overall appearance of the town centre.</li> <li>Introducing signal-controlled junctions, bus priority lanes, and enhanced pedestrian crossings may also make the area more pedestrian-friendly, leading to an overall improvement in public perceptions.</li> </ul>
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Relief road could divert 1,900 vehicles away from the A605 in each direction, representing 30.4% of all traffic using the road.</li> <li>Bus priority measures may result in a small modal shift away from private vehicles, further reducing through traffic within Whittlesey.</li> </ul>
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Option could divert HGVs away from the town centre. Highway modelling has assumed the relief road will divert 30.4% of all traffic using the road.</li> <li>However, the relief road will provide significantly improved access to the industrial sites to the south of the town and therefore the reduction in HGV traffic through the town may be higher.</li> </ul>
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.	<ul style="list-style-type: none"> <li>The construction of a relief road and bus priority measures would result in significant capital carbon emissions.</li> </ul>

## 6.3 Option 3 – Summary

The overall summary for Option 3 is shown in Table 6.5. The overall PVB is £25,595 with a majority of this (£21,080) resulting from benefits to the highway and associated journey time benefits. Just under 20% of the benefits come from the new active travel routes due to subsequent increases in physical activity and improvements in journey quality. There are also potential non-monetised benefits from lowering air pollution; improved townscape; reducing accidents; improving severance; and improving journey quality, as well as general improvements to creating a more attractive town centre.

Despite this, Option 3 has the potential to cause disbenefits for landscape, biodiversity and induced demand.

The carbon emissions resulting from the scheme construction are significant and are not outweighed by the reduction brought about by mode shift to active travel or through more efficient travel behaviour.

**Table 6.5: Summary of Option 3 results**

Appraisal	PVB (£,000s)	Summary
Highway	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>
Bus Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Mobility Hub Demand Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Active Travel Appraisal	£4,515	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£2.99m) and improved journey quality (£1.18m).</li> </ul>
Environmental Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with air quality and townscape, while moderate adversities are found with landscape and biodiversity.</li> </ul>
Social Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Large benefits are found with physical activity, severance, journey quality and accessibility.</li> </ul>
Wider Economic Appraisal	n/a	<ul style="list-style-type: none"> <li>As with Option 1, but additional benefits with active travel and health, healthier streets and attractive town centre, and enhanced capacity and connections.</li> </ul>
Carbon Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-2,396 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (22,701 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 37 tCO<sub>2</sub>e / £m</li> </ul>
<b>Total</b>	<b>£26,078</b>	

Like the other two relief road options, Option 3 generally performs well against the objectives. The potential for a reduction in through traffic generates benefits of improved public realm, greater access to opportunity, and journey time improvements. Unlike Option 1 and 2, the additional mode shift and physical activity, brought about by improved active travel infrastructure, may meet the objective to improve health and wellbeing in Whittlesey. There will be some benefits with regards to a reduction in accidents; however, the extent of these benefits is not believed to be enough to fully achieve the objective. Improved connectivity provided by new active travel links may also benefit the integration of transport modes; however, this is thought to be small.

As with Options 1 and 2, the carbon required to deliver the scheme is projected to be significant, exceeding any savings from mode shift or more efficient travel behaviours.

**Table 6.6: Option 3 performance against objectives**

Objective	How does Option 3 perform?
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.	<ul style="list-style-type: none"> <li>Option provides additional transport capacity in the area to accommodate future growth.</li> <li>Active travel improvements may encourage more people to walk or cycle for shorter trips, therefore freeing up additional road capacity.</li> <li>The relief road could divert around 30% of traffic away from the existing A605 and, although induced demand may result in some of this capacity being taken up by local trips, there could still be significant transport capacity to accommodate future growth along the A605.</li> </ul>
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.	<ul style="list-style-type: none"> <li>Journey times between Ralph Butcher Causeway and Coates may be around 27% quicker for vehicles travelling along the relief road compared to current journey times along the A605.</li> <li>For vehicles remaining on the A605, there could be a moderate reduction in journey times as 30% of trips along the A605 divert to the relief road, although induced demand may limit this.</li> </ul>
2a. Increase the number of local and regional educational and employment	<ul style="list-style-type: none"> <li>Journey times for vehicles using the relief road could be 27-73% faster than existing journeys along the A605.</li> </ul>

Objective	How does Option 3 perform?
opportunities accessible within 30 minutes for residents in Whittlesey.	<ul style="list-style-type: none"> <li>Journey times along the A605 may also decrease as a result of the relief road and therefore the number of education and employment opportunities across Fenland and Peterborough that are accessible within 30 minutes could increase.</li> <li>Active travel improvements may allow more people to safely undertake walking and cycling journeys to access opportunities.</li> </ul>
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.	<ul style="list-style-type: none"> <li>Option 3 does not include measures that will change the availability of public transport options for those living in the study area.</li> <li>However, active travel improvements may encourage more sustainable travel around Whittlesey, including to access Whittlesea Station for journeys by rail.</li> </ul>
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.	<ul style="list-style-type: none"> <li>Option 3 provides an alternative route to the A605 and A47 during road closure events.</li> <li>Due to induced demand, any road capacity initially freed up along the A605 may be taken up by more local trips therefore lessening the potential benefits.</li> <li>Active travel improvements could also provide additional resilience, allowing more people to walk and cycle around the town and reducing the impact of road closures on the A605.</li> </ul>
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.	<ul style="list-style-type: none"> <li>Option 3 could significantly reduce traffic congestion, leading to lower vehicle idling and smoother traffic flows, which would improve air quality by reducing emissions associated with stop-start driving engines.</li> <li>The rerouting of HGVs away from the town centre may decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area, but it will be introducing these emissions into a new area.</li> <li>New active travel infrastructure may change travel patterns by encouraging a greater uptake in walking and cycling, therefore leading to decreased emissions and better air quality.</li> </ul>
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.	<ul style="list-style-type: none"> <li>Option 3 could reduce the number of vehicles travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey and reduce the number of accidents.</li> <li>Overall option could result in a reduction in collisions involving pedestrians and cyclists however a 50% reduction may not be achieved.</li> <li>Active travel infrastructure could provide safer routes for pedestrians and cyclists.</li> </ul>
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.	<ul style="list-style-type: none"> <li>Enhanced active travel infrastructure, including shared cycle paths and improved pedestrian crossings, can significantly improve townscape, making the town more pedestrian and cyclist friendly.</li> <li>By diverting through traffic and HGVs away from the town centre congestion could be reduced which would also improve the overall appearance of the town centre.</li> </ul>
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Relief road could divert 1,900 vehicles away from the A605 in each direction, representing 30.4% of all traffic using the road.</li> <li>Active travel improvements may allow more people to safely undertake walking and cycling journeys, thereby further reducing traffic through the town.</li> </ul>
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>Option could divert HGVs away from the town centre. Highway modelling has assumed the relief road will divert 30.4% of all traffic using the road.</li> <li>However, the relief road will provide significantly improved access to the industrial sites to the south of the town and therefore the reduction in HGV traffic through the town may be higher.</li> </ul>
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.	<ul style="list-style-type: none"> <li>The construction of a relief road and active travel measures would result in significant capital carbon emissions.</li> </ul>

## 6.4 Option 4 – Summary

The overall summary for Option 4 is shown in Table 6.7. The overall PVB is £9,880 with a majority of this (£5,880) resulting from benefits brought about by the mobility hub which provides journey time savings for commuters and other users. Around 40% of the benefits come from the new active travel routes due to subsequent increases in physical activity and improvements in journey quality. There are also potential moderate non-monetised benefits increasing physical activity and accessibility, as well as general improvements to creating a more attractive town centre. The main disbenefits with Option 4 are due to continued use of the A605 by through traffic and HGVs.

The carbon emissions resulting from the scheme construction are account for 5,839 tCO<sub>2</sub>e. In addition to this, new bus services result in an additional 3,329 tCO<sub>2</sub>e across the appraisal period. These emissions are not outweighed by the reduction brought about by mode shift to active travel or bus (-2,215 tCO<sub>2</sub>e).

**Table 6.7: Summary of Option 4 results**

Appraisal	PVB (£,000s)	Summary
Highway	n/a	n/a
Bus Appraisal	n/a	n/a
Mobility Hub Demand Appraisal	£5,880	<ul style="list-style-type: none"> <li>Majority of benefits come from journey time savings for commuting (£4.38m) and other users (£1.32m).</li> </ul>
Active Travel Appraisal	£4,100	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£2.9m) and journey quality (£1.14m).</li> </ul>
Environmental Appraisal	n/a	<ul style="list-style-type: none"> <li>Slight benefits are found with townscape, historic environment and biodiversity while there are no identified adversities.</li> </ul>
Social Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with physical activity and accessibility.</li> </ul>
Wider Economic Appraisal	n/a	<ul style="list-style-type: none"> <li>Benefits found with active travel and health, and healthier streets and attractive town centre. Disbenefits found with continued HGV and through traffic.</li> </ul>
Carbon Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of from active travel (-2,137 tCO<sub>2</sub>e) and mode shift to bus (-78 tCO<sub>2</sub>e).</li> <li>Increase in operational carbon due to new bus services (3,329 tCO<sub>2</sub>e) results in overall operational carbon increase from the scheme.</li> <li>Capital carbon emissions resulting from construction of new active travel routes and mobility hub (5,839 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 524 tCO<sub>2</sub>e / £m</li> </ul>
<b>Total</b>	<b>£9,880</b>	

Option 4 performs well against the objectives to improve access to opportunity and increase the integration of transport modes. The option goes some way to addressing a lot of the other objectives, with journey times reducing, additional transport capacity provided and a reduction in through traffic; however, the extent of these improvements is not anticipated to meet the level of improvement specified by the objective.

As the option does not provide a relief road around Whittlesey, Option 4 does not perform well against the objectives to improve resilience during road closures events or reduce HGV through traffic in the town.

**Table 6.8: Option 4 performance against objectives**

Objective	How does Option 4 perform?
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.	<ul style="list-style-type: none"> <li>Option 4 increases transport capacity and may encourage modal shift away from private vehicles, especially for shorter journeys within the town.</li> <li>This option could accommodate some future growth in trips however it may not provide enough capacity to accommodate 16% growth.</li> </ul>
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.	<ul style="list-style-type: none"> <li>Option 4 could encourage modal shift away from private vehicles, reducing congestion within the peak periods and decreasing journey times.</li> <li>Whilst journey times across Whittlesey may be reduced, the extent of this is unlikely to be the same as options with a relief road.</li> </ul>
2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.	<ul style="list-style-type: none"> <li>Active travel improvements and improved public transport options may allow more people to safely undertake journeys by walking, cycling and public transport to access opportunities within 30 minutes.</li> <li>By encouraging shorter journeys to be undertaken by active modes, congestion may reduce, thereby also improving the access to opportunities for those driving.</li> </ul>
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.	<ul style="list-style-type: none"> <li>Option 4 improves the provision of public transport options for those living in the study area.</li> <li>The option greatly improves transport integration, with active travel improvements proposed including better access to the new mobility hub for bus journeys and to Whittlesea Station for journeys by rail which may encourage more sustainable journeys.</li> <li>Modal shift away from private vehicles could also allow for more efficient and punctual public transport.</li> </ul>
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.	<ul style="list-style-type: none"> <li>Although Option 4 provides additional transport capacity by way of improvements to active travel and public transport, this uses existing roads within Whittlesey and provides no additional routes to bypass the A605 for private vehicles.</li> <li>Local journeys may be made by walking and cycling when there are road closure events however longer distance trips and HGV journeys through Whittlesey may see traffic speeds reduce during such events.</li> </ul>
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.	<ul style="list-style-type: none"> <li>Option 4 promotes public transport and active travel, which is likely to reduce private car use.</li> <li>This reduction can help lower nitrogen dioxide (NO2) emissions and particulate matter (PM10 and PM2.5), improving local air quality.</li> <li>However, the Mobility Hub does not address HGV traffic, which is considered to be a significant contributor to air emissions in Whittlesey.</li> </ul>
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.	<ul style="list-style-type: none"> <li>Option 4 could reduce the number of vehicles travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey and reduce the number of accidents.</li> <li>Improvements to active travel infrastructure could provide safer routes for pedestrians and cyclists.</li> <li>This option will also not reduce the level of HGV movements in Whittlesey which may still pose a risk to pedestrians in the town.</li> </ul>
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.	<ul style="list-style-type: none"> <li>Improvements to public and transport as well as provision of segregated cycle lanes and improved pedestrian crossings, is likely to improve perceptions of the town by making the town more pedestrian and cyclist-friendly, which will promote healthier lifestyles and improve the overall quality of life.</li> <li>However, this option will not reduce HGV levels in Whittlesey which are a large driver of negative perceptions of the town centre.</li> </ul>
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>The mobility hub and improvements to public transport and active travel may allow more people to safely undertake journeys by walking, cycling and public transport, thereby further reducing traffic through the town.</li> </ul>

Objective	How does Option 4 perform?
	<ul style="list-style-type: none"> <li>● However, there would need to be a reduction of around 950 vehicles per day in each direction to account for a 15% decrease in through traffic levels and this option may not result in such a reduction.</li> </ul>
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.	<ul style="list-style-type: none"> <li>● Option 4 does not provide an alternative route for HGVs and therefore HGV traffic within the town could remain at the current level.</li> </ul>
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.	<ul style="list-style-type: none"> <li>● Option 4 has the potential to reduce greenhouse gas emissions by encouraging more sustainable trips through public transport and active travel.</li> <li>● This option requires the construction of a mobility hub however this is not as carbon intensive as the construction of a new relief road.</li> </ul>



## 7 Conclusion

Overall the appraisal shows that the best performing option is Option 3: relief road with HGV re-routing and active travel improvements. This option performs best against the Scheme objectives by rerouting traffic and HGVs away from the centre of Whittlesey. It also improves the centre of Whittlesey through the provision of enhanced active travel links, delivering benefits to non-motorised users and public transport. The additional benefits from the active travel provision (reduced severance, improved physical activity, improved air quality and townscape within Whittlesey town centre) provide more overall benefit than the relief road on its own.

Options 1 and 2 are very similar in their appraisal, with the provision of bus priority measures allowing for option 2 to have perform slightly better against some aspects of appraisal. The level of benefit brought about by bus priority itself is anticipated to be low, but this option does go further towards addressing the integration of transport modes and, therefore, performs better slightly better against the objectives.

Option 4 provides the lowest overall benefits; however, the intervention is the least intrusive of the four, with no relief road provided. The appraisal of this option shows positive benefits in terms of severance, environment, physical activity, and improving the attractiveness of Whittlesey town centre. However the scheme does not remove through traffic or HGVs from Whittlesey, which are key drivers for the scheme. It, therefore, does not score as well as the other options when assessed against the objectives.

**Table 7.1: Overall summary of options against scheme objectives**

Objectives	Option 1 - Relief road with HGV re-routing	Option 2 - Relief road with HGV re-routing and bus priority improvements	Option 3 - Relief road with HGV re-routing and active travel improvements	Option 4 - Mobility Hub with active travel improvements
1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.				
1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.				
2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.				
2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.				
2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.				
3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.				
3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.				
3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.				
4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.				
4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.				
4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.				

**Table 7.2: Overall summary of appraisal**

Appraisal	Option 1 - Relief road with HGV re-routing		Option 2 - Relief road with HGV re-routing and bus priority improvements		Option 3 - Relief road with HGV re-routing and active travel improvements		Option 4 - Mobility Hub with active travel improvements	
	PVB (£,000s)	Summary	PVB (£,000s)	Summary	PVB (£,000s)	Summary	PVB (£,000s)	Summary
Highway	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>	£21,563	<ul style="list-style-type: none"> <li>Majority of benefits come from JT benefits (£18.3m).</li> <li>Reduction in accidents along A650 results in £3.25m of benefits.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Bus Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>	£35	<ul style="list-style-type: none"> <li>Very small level of benefit, proposed infrastructure providing in the region of 20s of JT improvement.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>
Mobility Hub Demand Appraisal	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>	n/a	<ul style="list-style-type: none"> <li>n/a</li> </ul>	£5,880	<ul style="list-style-type: none"> <li>Majority of benefits come from journey time savings for commuting (£4.38m) and other users (£1.32m).</li> </ul>
Active Travel Appraisal	£2,383	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£1.43m).</li> </ul>	£2,383	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£1.43m).</li> </ul>	£4,515	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£2.99m) and improved journey quality (£1.18m).</li> </ul>	£4,100	<ul style="list-style-type: none"> <li>Majority of benefits come from increases in physical activity (£2.9m) and journey quality (£1.14m).</li> </ul>
Environmental Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with a reduction in air pollution, whilst there are slight benefits with noise, GHG and townscape.</li> <li>Moderate adversities are found with landscape and biodiversity.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with a reduction in air pollution and townscape (slight benefit for Option 1), whilst there are slight benefits with noise and GHG.</li> <li>Moderate adversities are found with landscape and biodiversity.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with air quality and townscape, while moderate adversities are found with landscape and biodiversity.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Slight benefits are found with townscape, historic environment and biodiversity while there are no identified adversities.</li> </ul>

Social Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Moderate benefits found with reducing accidents and severance and increasing journey quality.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Large benefits found with increasing journey quality.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Large benefits are found with physical activity, severance, journey quality and accessibility.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Moderate benefits are found with physical activity and accessibility.</li> </ul>
Wider Economic Appraisal	n/a	<ul style="list-style-type: none"> <li>Benefits found with supporting future expansion, healthier streets and attractive town centre, and improved productivity.</li> <li>Disbenefits found with induced demand.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>As with Option 1, but additional benefits with healthier streets and attractive town centre and enhanced public transport connections.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>As with Option 1, but additional benefits with active travel and health, healthier streets and attractive town centre, and enhanced capacity and connections.</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Benefits found with active travel and health, and healthier streets and attractive town centre. Disbenefits found with continued HGV and through traffic.</li> </ul>
Carbon Impact Appraisal	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-645 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (19,845 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 34 tCO<sub>2</sub>e / £m</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-645 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (19,989 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 34 tCO<sub>2</sub>e / £m</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of the scheme from active travel (-2,396 tCO<sub>2</sub>e) and relief road (-9,950 tCO<sub>2</sub>e).</li> <li>Significant capital carbon emissions resulting from new construction (22,701 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 37 tCO<sub>2</sub>e / £m</li> </ul>	n/a	<ul style="list-style-type: none"> <li>Reduction in operational carbon emissions as a result of from active travel (-2,137 tCO<sub>2</sub>e) and mode shift to bus (-78 tCO<sub>2</sub>e).</li> <li>Increase in operational carbon due to new bus services (3,329 tCO<sub>2</sub>e) results in overall operational carbon increase from the scheme.</li> <li>Capital carbon emissions resulting from construction of new active travel routes and mobility hub (5,839 tCO<sub>2</sub>e).</li> <li>Overall intensity metric of the scheme is 524 tCO<sub>2</sub>e / £m</li> </ul>
Total	<b>£23,946</b>		<b>£23,981</b>		<b>£26,078</b>		<b>£9,880</b>	



# 8 Appendices



# A. Long List Options Assessment Report

# B. Appraisal Specification Report

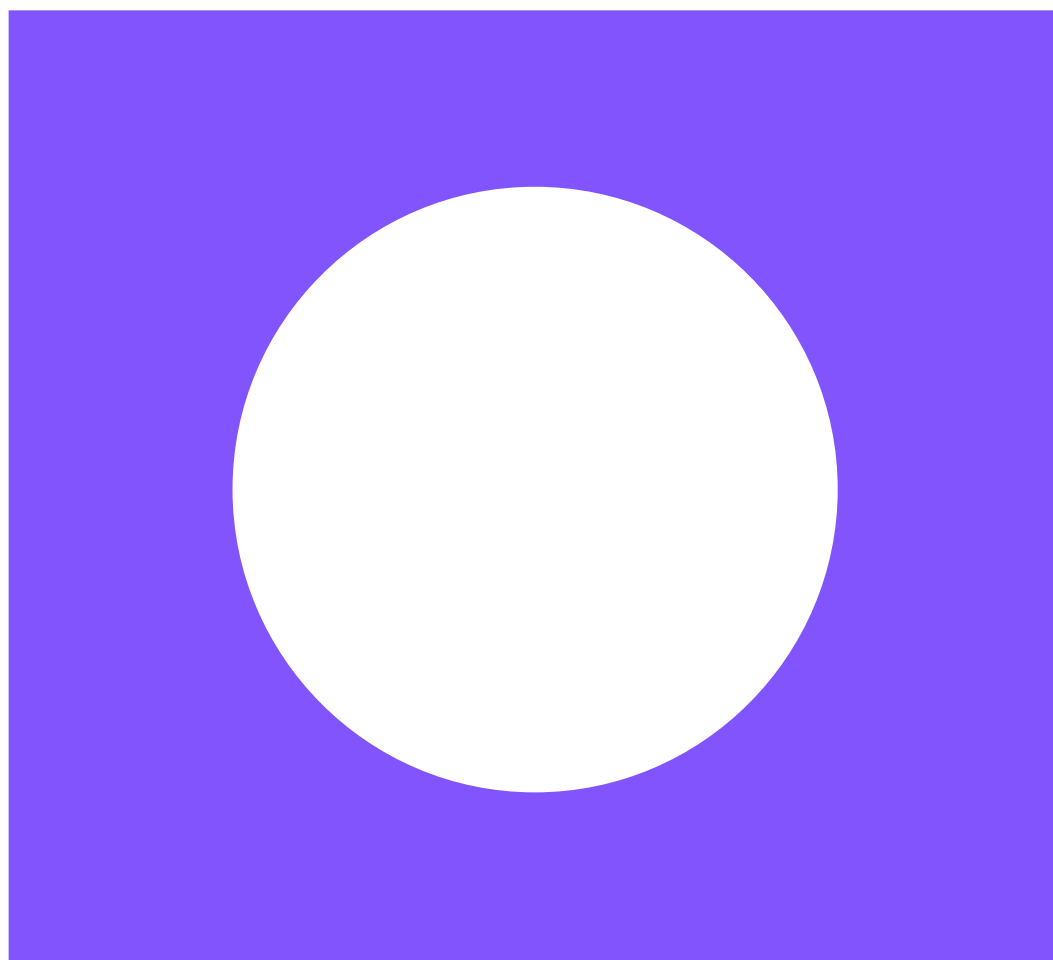
## C. Highway Appraisal Technical Note

# D. Social Impact Appraisal Report

# E. Wider Economic Impacts Technical Note







# **Whittlesey Relief Road**

## **Appraisal Specification Report**

August 2024

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# **Whittlesey Relief Road**

## **Appraisal Specification Report**

August 2024

# Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
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**Document reference:** 100114563-MMD-BCA-04-RP-BC-014 | P02 |

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# 1 Introduction

This Appraisal Specification Report (ASR) has been prepared to accompany the Strategic Outline Business Case (SOC) for the Whittlesey Relief Road Scheme, hereafter referred to as 'the Scheme'. This ASR summarises the appraisal approach that will be adopted for the SOC to appraise the shortlisted options.

## 1.1 Purpose of the Appraisal Specification Report

This ASR forms part of the Transport Appraisal process as defined by the Department for Transport (DfT) in the Transport Analysis Guidance (TAG): The Transport Appraisal Process (May 2018), and the Cambridgeshire and Peterborough Combined Authority Single Assurance Framework (2023). In line with this guidance, this ASR sets out the:

- Proposed approach to demand forecasting; and,
- Proposed methodology for appraising impacts as presented in the Appraisal Summary Table (AST).

Included as part of this ASR is the Appraisal Specification Summary Table (ASST) (Appendix A) which summarises the proposed methodology for appraisal against each of the impacts that will be reported in the final AST and presented within the Economic Dimension of the SOC.

This ASR is reflective of the current appraisal approach adopted for the Scheme as part of the development of the SOC. This ASR will be reviewed and updated to capture any changes in the appraisal approach should reason to revisit the approach arise. For example, if there are changes to the proposed interventions, or if more appropriate alternative appraisal methods are identified, or if new guidance is published. Where any changes are proposed, these will be agreed with Fenland District Council (FDC) and the Cambridgeshire and Peterborough Combined Authority (CPCA).

## 1.2 Document structure

Following this introductory section, the report continues to discuss:

- Section 2: Scheme Background
- Section 3: Demand Forecasting Approach
- Section 4: Appraisal Approach

## 2 Scheme Background

Previous studies examining the issues within the town of Whittlesey have identified growing pressures from the growth in new housing and employment sites within and around the town. In particular the issues arising from traffic on the historic nature of the town, its people, and how this is leading to constraints on growth and the benefits of this growth being felt by residents and businesses.

The idea for a relief road as a solution that could help alleviate traffic in the town, in particular heavy goods vehicles, has been around for a number of years. However, whilst the background to this scheme is based on the concept that a relief road could be delivered; it has been highlighted by the Cambridgeshire and Peterborough Combined Authority (CPCA), Cambridgeshire County Council (CCC), and the Fenland District Council (FDC) that there is still a need to fully explore the issues and opportunities underpinning the concept of a relief road, and to explore more widely if there are other solutions that should be considered.

As such, an SOC is being developed to present the case for the Scheme and set out options that have been identified and considered, that could meet the needs of Whittlesey.

### 2.1 Geographic scope

The location context Whittlesey is shown in Figure 2.1, with the extent of the corridor under consideration extending from the east of Peterborough where the A605 meets the Cardea roundabout, to the east of the village of Coates.

**Figure 2.1: Location of Whittlesey**



## 2.2 Strategic context

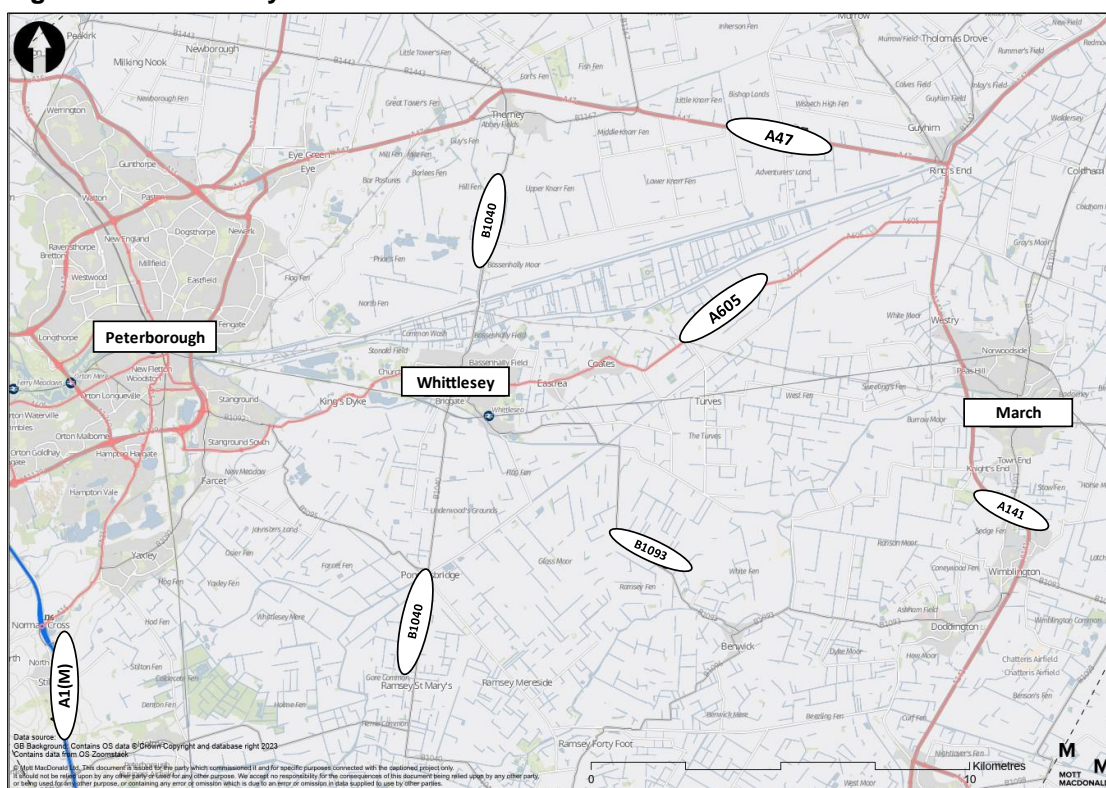
Whittlesey is a historic market town with an approximate population of 18,000 and is situated in Fenland to the east of Peterborough. The town has a rich heritage and culture, with a long-established history, even being mentioned in Anglo-Saxon documents that precede the Domesday Book. The town has many historical features at its heart, such as the 17th Century Buttercross, and Mud Walls dotted across the town that date back 200 years.

With its historic nature and many historic buildings and narrow streets, the town has a distinctive and attractive offer to those who live there, and those who choose to travel there for work and leisure opportunities. However, these same features that make the town attractive, also create some impacts that are less conducive with modern day living, particularly in relation to access and transport.

To the east there are the Fenland market towns of March and Wisbech, with the smaller villages of Coates, Eastrea, Pondersbridge and Turves situated in the area immediately surrounding Whittlesey. A lot of the surrounding area to the town is farmland, although closer to the edges of the town are substantial industrial areas. To the north lies the Fenland washes, which act as a natural flood water storage area.

The A47 and A605 are the most significant links between Peterborough and the Fenlands area, with the latter passing directly through Whittlesey. The B1040 is the main north-south route through the town, connecting to the A605 at one of the key town centre junctions, whilst the B1093 provides further connections to the southeast.

**Figure 2.2: Whittlesey road network**



Sourcehe town benefits from its proximity to Peterborough, which lies approximately 8km to the west. This is reflected in the Cambridgeshire and Peterborough Independent Economic Review (CPIER) 2018 which recognised that Whittlesey is considered much more a part of the Greater Peterborough economic geography, compared to the rest of Fenland. This creates opportunities

for residents to work, study, and shop in Peterborough, whilst still maintaining a proudly independent identity and distinct local culture.

Whittlesey can offer the ‘best of both worlds’ to current and future residents: the sense of community, calm and proximity to the countryside offered by a market town, alongside the benefits of being situated so close to a bustling and vibrant city, with everything that it has to offer. A key focus for the town is how it can further benefit from that connection, while also offering something distinct as a place to visit and spend time.

## 2.3 Case for change

### 2.3.1 The current situation

- Whittlesey sits on the A605 which is one of the key routes for east-west traffic between Peterborough and the Fenland market towns. Whilst the A47 to the north of the town offers an alternative route, it is not necessarily always more convenient, and itself can suffer from congestion, leading to traffic travelling across the region choosing to travel along the A605 and through Whittlesey.
- Car trips dominate travel within Whittlesey with 75% of all traffic along the A650 through the town being made up of cars<sup>1</sup>. Whilst there are local schools, shops and health centres within the town, there are also significantly larger trip attractors outside of the town in places such as Peterborough that induce trips. These are not well connected by alternative modes to private vehicles, with limited rail (12 trains per day to Peterborough) and bus services (14 per day to Peterborough) serving the town.

**Photo 2.1: A605 / B1040 Junction**



Source: Mott MacDonald – Site Visit October 2023

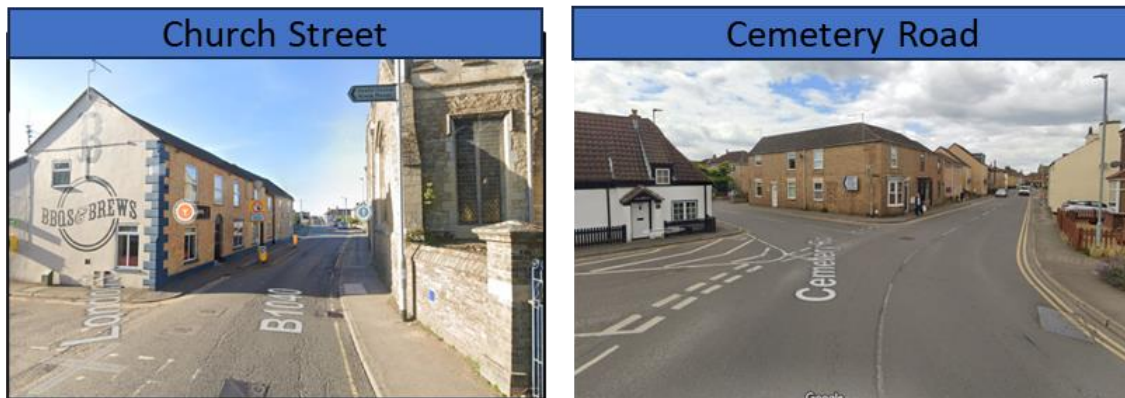
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<sup>1</sup> CCC - Traffic Monitoring Report (2021)



- As well as vehicle trips originating from the town, around 40% of general highway traffic is recorded as passing through and not stopping during AM Peak<sup>2</sup>. For Heavy Goods Vehicles (HGVs) this is even greater, with 68% of HGVs not stopping in the centre itself<sup>3</sup>.
- The cause for the HGV movements is due to there being a number of large industrial employment sites located around the town, as well as the fact that the A605 forming part of the National Highways diversion route, therefore being a key route for freight, with few restrictions.
- A key issue with the traffic moving along the A605 through Whittlesey, is that the road network in the town is not best suited to the high level of car and HGV movements. The images below show the types of roads that HGVs transverse through the town.

**Photo 2.2: Street view of Church Street and Cemetery Road**



Source: Google Street View

- The A605 segregates the town, and does not contribute to the sense of place, the historic environment and market town identity, which is so important for a market town such as Whittlesey.
- Further to this, the negative impact of this traffic can be seen whereby the clusters of collisions at key junctions in the town, in particular at the A605/B1040 junction, which has seen 1 fatal pedestrian accident in past 5 years, and 3 serious accidents involving cyclists<sup>4</sup>.
- Road closures are also an issue on the wider network, that impact the A605, including on the A47 when there are road traffic accidents, and the B1040 when there are flooding events. These are reported as contributing to higher levels of traffic diverting through the town further contributing to the negative impacts associated with traffic.

### 2.3.2 The future situation

Considering the current issues, it is important to examine the future situation, and ask the question how the town of Whittlesey may be impacted. The key points to highlight that will impact on the future situation are as follows:

- There is large growth planned within the region during the next decade. This includes 5,550 new houses and 212ha of new employment to the east of Whittlesey, and 875 new houses and 31ha of new employment planned for the town itself.<sup>5</sup>

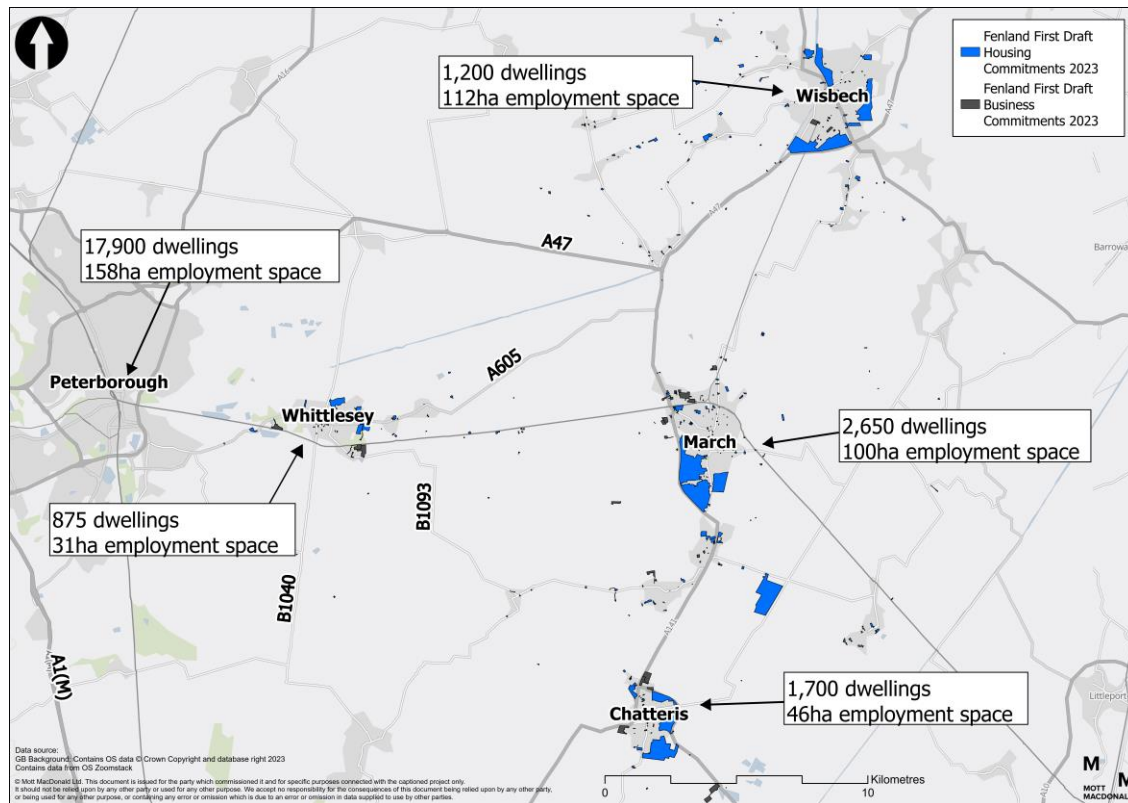
<sup>2</sup> Automatic Number Plate Recognition (ANPR) Surveys (November/December 2023)

<sup>3</sup> ANPR Surveys (November/December 2023)

<sup>4</sup> CCC - Road traffic collision records in Whittlesey (January 2017 – August 2023)

<sup>5</sup> FDC Draft Local Plan

**Figure 2.3: Housing and employment plans (2023)**



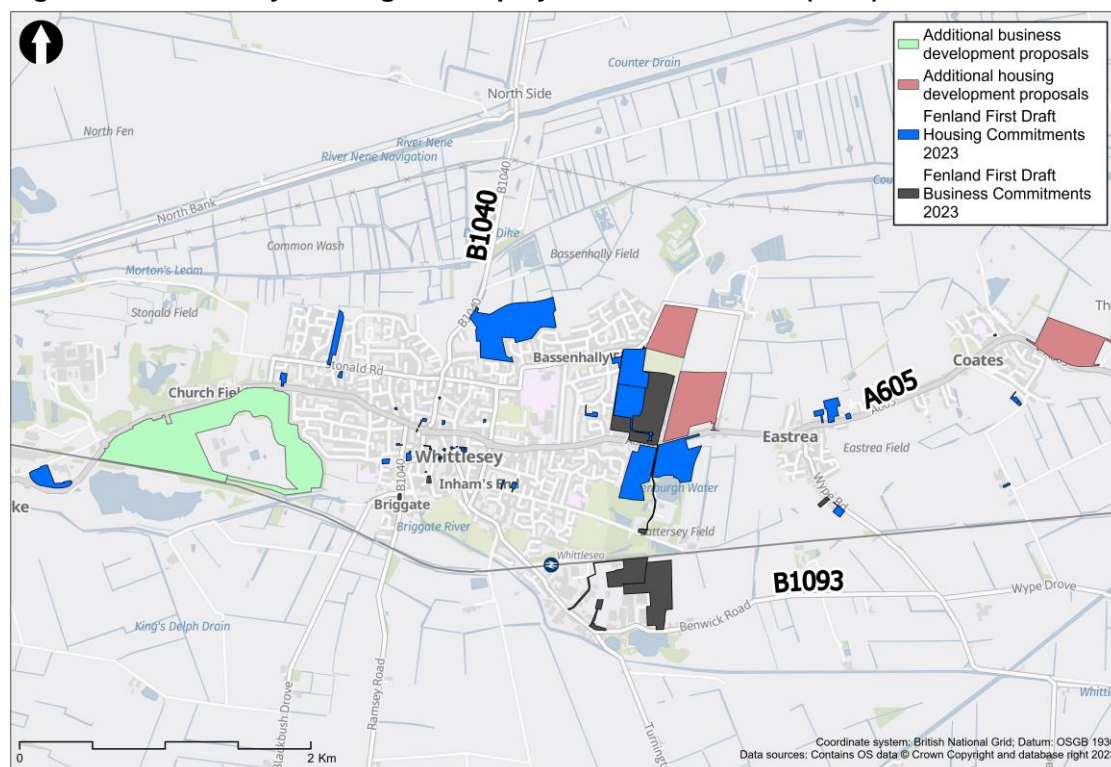
Source: FDC Draft Local Plan; Peterborough Local Plan\* (\*Includes City centre and urban area allocations only)

- Fenland's population is forecast to grow by 16% by 2040.<sup>6</sup> This growth is likely to exacerbate known issues on the transport network due to scale and the location of proposed development, which is primarily located to the east of town, furthest from Peterborough which is a key destination for trips.
- Whilst there is currently a high proportion of people aged 65+, the growth in new housing and employment sites offer great opportunities for employment and for younger families to relocated to the town. This is likely to result in a change in local demographics, and whilst this will contribute to the economic growth of the local area, this expected growth in Whittlesey and the surrounding area will place more strain on the local transport system.
- Key junctions along the A605 through Whittlesey are currently reaching capacity and are unlikely to cope with significant further growth of vehicle trips. Previous studies have identified capacity issues at the A605/B1040 roundabout. A Transport Assessment written to accompany a commercial planning application in 2020 forecasted that the junction is already over capacity in the 2020 baseline model and would exceed capacity in the 2025 and 2030 future years. The assessment forecast an increase in delays from 47.57s to 246.23s between 2020 and 2025 along the A605 Syers Lane during the AM peak, with delays worsening and the junction also operating over capacity along A605 Syers Lane and B1040 Broad Lane during the PM peak<sup>7</sup>. These delays would likely lead to larger queues and more congestion in the centre of Whittlesey.
- Whilst air quality as a result of traffic is not a significant issue at present, air quality could worsen if future growth in the demand for travel from / to and through the town increases, and the dependency on private vehicles as the main mode of transport persists.

<sup>6</sup> ONS - Population projections for local authorities: Table 2 - Office for National Statistics

<sup>7</sup> F/YR20/O357/O Planning Application - Churchfields Farm Transport Assessment - Traffic modelling for the A605/B1040 Orchard Street/Broad Street roundabout (WSP/Kings Dyke Business Park Ltd 2020)

**Figure 2.4: Whittlesey housing and employment commitments (2023)**



Source: FDC Draft Local Plan

### 2.3.3 Scheme objectives

Taking into account the current issues and the future situation, a set of scheme objectives have been established. The objectives also reflect current policy and strategy at a national, regional and local level, and will guide the solution and option selection, so that the option short list is targeted towards meeting the needs of Whittlesey and the surrounding area.

The Scheme objectives that have been established to provide the overarching direction of the scheme are set out in Table 2.1.

**Table 2.1: Scheme objectives**

Objective Theme	Main Objective
1. <b>Sustainable Growth:</b>	Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.
2. <b>Connectivity and access to opportunity:</b>	Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.
3. <b>Health, wellbeing and sense of community:</b>	Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.
4. <b>Environment:</b>	Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.



For each scheme objective a series of measurable sub-objectives have been identified that inform the assessment criteria used to test the options and identify the best performing solution. These are set out in Table 2.2.

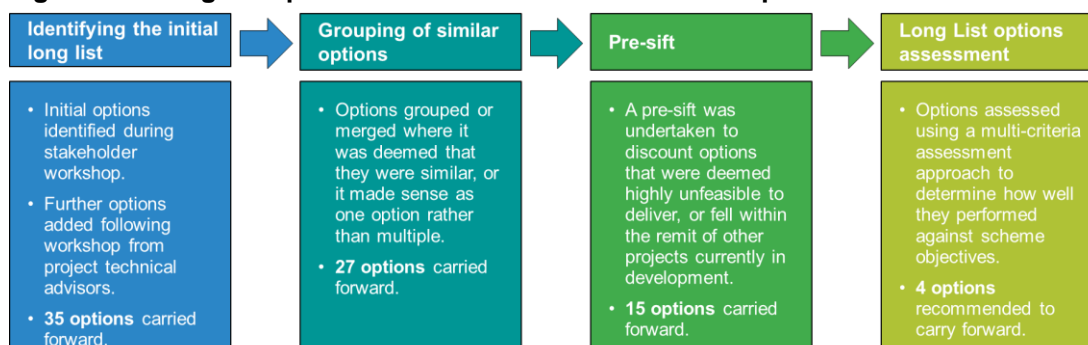
**Table 2.2: Scheme measurable sub-objectives**

Main objective theme	Sub-objective
<b>1. Sustainable Growth:</b>	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
	1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.
<b>2. Connectivity and access to opportunity:</b>	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
	2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
	2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.
<b>3. Health, wellbeing and sense of community:</b>	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
	3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
	3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.
<b>4. Environment</b>	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
	4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
	4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

## 2.4 The options

The process for identifying and assessing the long listed options is set out in the Long List Options Assessment Report (Appendix B). In summary this captures how the Scheme identified a long list of potential options through stakeholder engagement, and with advisory input. These options were sifted before an assessment against the sub-objectives was carried out using a multi-criteria scoring approach. Figure 2.5 summarises the steps taken to arrive at a shortlist of four options.

**Figure 2.5: Long list options identification and assessment process**



Source: Mott MacDonald

The results of the long list options assessment outputs suggest that no single option is likely to deliver strongly against all Scheme objectives. Therefore, the conclusion of the long listing stage was that by packaging options together, where they complement each other across the themed objectives, the overall Scheme objectives could be met. The final four short listed options therefore reflect this packaging approach.

These options were progressed to concept design and will be subject of more detailed appraisal and public consultation. The options include:

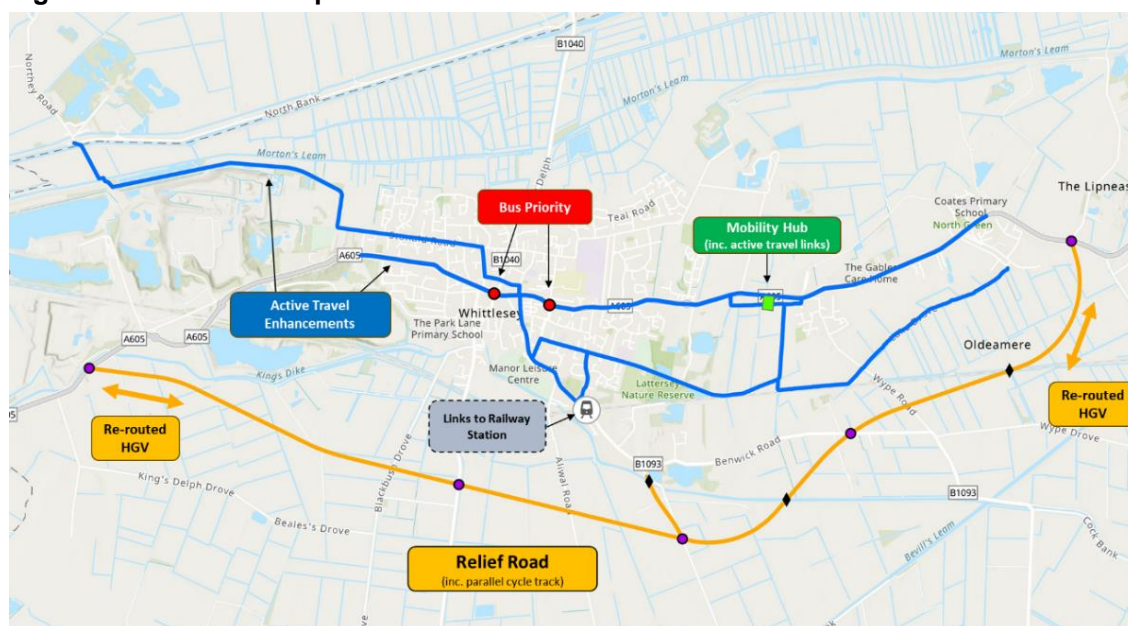
**Option 1** - Relief road (black route alignment) including HGV re-routing.

**Option 2** - Relief road (black route alignment) including HGV re-routing and bus improvements.

**Option 3** - Relief road (black route alignment) including HGV re-routing and active travel improvements.

**Option 4** - Bus based travel hub with active travel links.

**Figure 2.6: Shortlisted options**



Source: Mott MacDonald

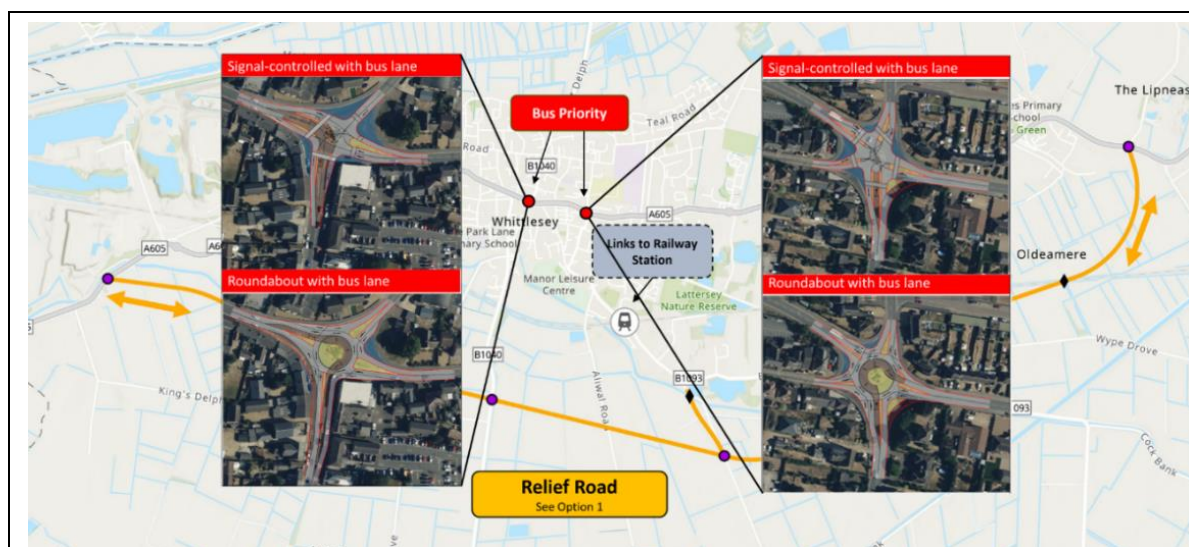
## 2.4.1 Option descriptions

Each of the four options are described in more detail below in Table 2.3.

**Table 2.3: Shortlist option descriptions**

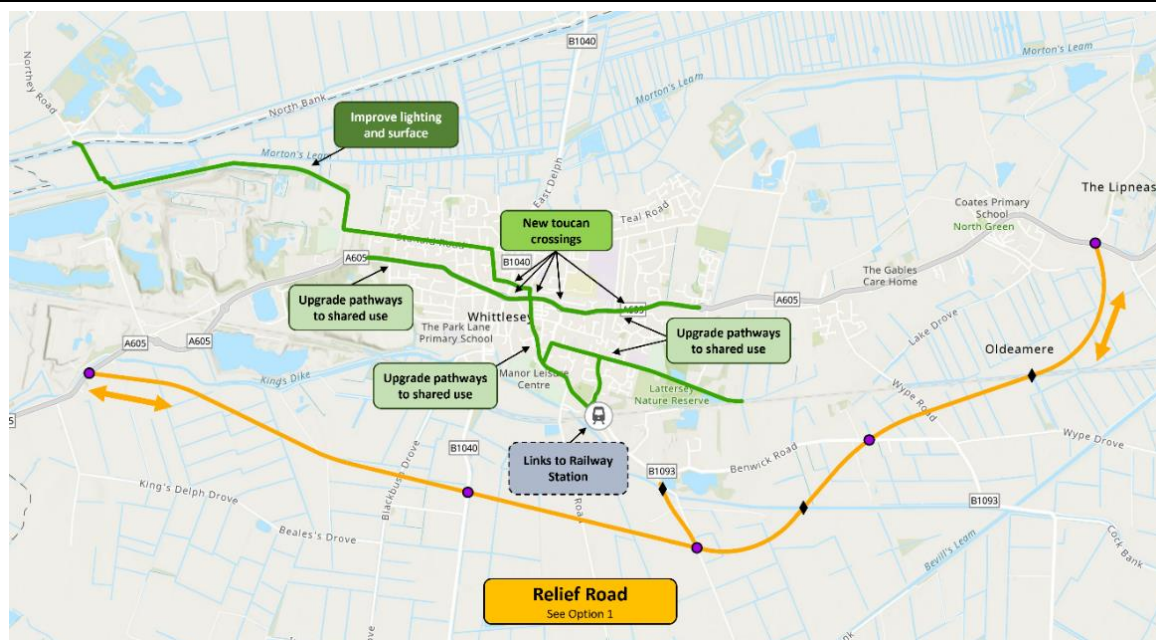
Option	Description
<b>Option 1 – Relief Road with HGV re-routing</b>	<p>A new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track.</p> <p>Coming from the west of the town, the new road would divert from the A605 to the south of King's Dyke, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station. The road would then continue to the east, crossing over Whittlesey Dyke and the railway line, before connecting back into the A605 at Wisbech Road. The road would include junctions at key intersects with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.</p>
<b>Option 2 – Relief Road with HGV re-routing and bus priority improvements</b>	<p>As with Option 1, but to also include the introduction of new bus priority measures through the town and along the A605 to Peterborough.</p> <p>Measures will be introduced at the junctions between A605 and B1040, and the A605 and B1093, that will provide priority for buses accessing these roundabouts. This could be in the form of either enhancing the current roundabouts to provide a bus lane through them, or through the introduction of signal-controlled junctions that would allow for buses to be given priority. Enhanced pedestrian crossing facilities are also introduced in the form of either islands or traffic lights. This option could see a downgrade in road space for cars at these junctions to provide bus priority.</p>





**Option 3 –**  
Relief Road  
with HGV re-  
routing and  
active travel  
improvements

As with Option 1, but to also include the introduction of new active travel improvements through the town and along the A605. This will include segregated active travel provision where possible along the A605 through the town, including enhanced junctions with greater priority for active travel to allow for safe and seamless connections across the town, and the A605. Improvements will be made to National Cycle Network route 63 through the town, from the northwest outskirts of the town to Lattersley Nature Reserve. This will also include an improved cycle link to the station along Station Road from the A605, New Road, and Hawthorne Drive.



**Option 4 –**  
Mobility Hub  
with active  
travel  
improvements

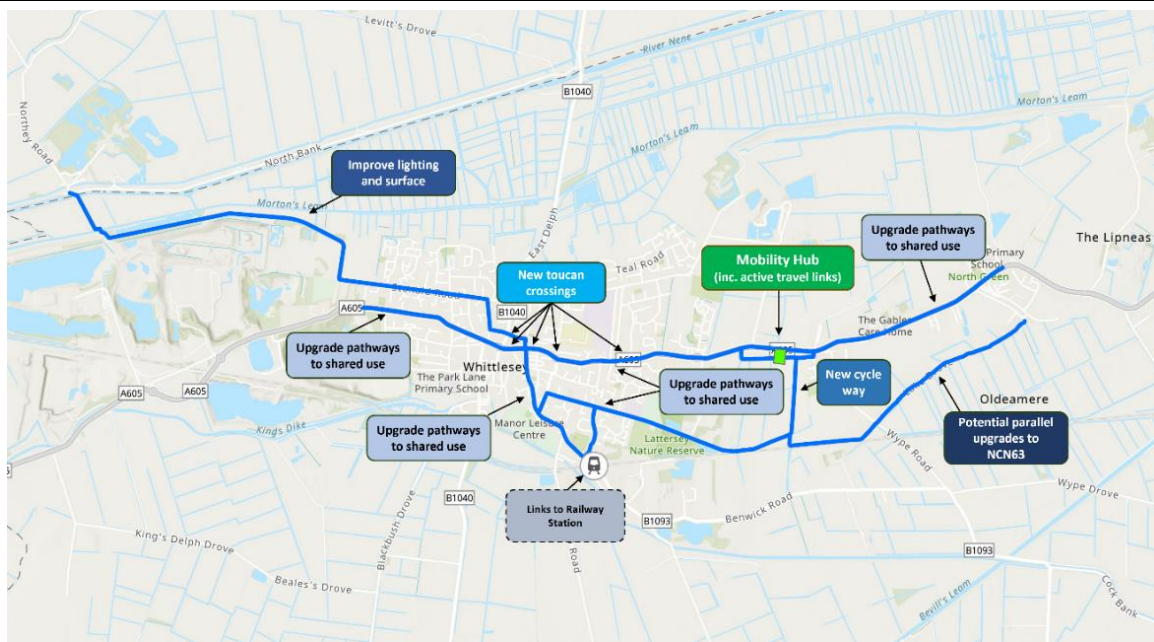
A new Mobility Hub located to the east of the town which can improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. To include improved active travel provision from across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car.

### Mobility Hub Assumptions:

Provision for circa 200 spaces, including for blue badge holders, and cycle storage facilities.

Provision of seating and waiting facilities, with the potential also for bike pumps, toilets and showering facilities.

Assumed that in order to attract users the site, it would be served by either dedicated services, or by existing services with higher frequency (circa 2 buses per hour), offering an express-type service to Peterborough with limited stops i.e. Whittlesey town centre and Peterborough city centre.



The following sections of this report set out how these options will be appraised alongside a Do Minimum.

## 3 Demand Forecasting Approach

This section sets out the proposed demand forecasting approach for the core elements of the Scheme options being appraised, including highway, bus and active travel.

### 3.1 Highway demand assessment

The proposed approach to the demand forecasting for the highways elements of the Scheme options at SOC stage has been informed by guidance set out in TAG, and The Transport Appraisal Process (May 2018) and Guidance for the Technical Project Manager (May 2018) in particular.

The latter document explains that initial appraisal is expected to be proportionate, to utilise readily available data and that, *“whilst the use of transport models to extract evidence at this stage would be desirable, it is not generally required for promoters to build a comprehensive transport model at this stage”*<sup>8</sup>.

The Transport Appraisal Process guidance document also notes that, *“While the presumption is that more complex models will not be needed for Stage 1, existing transport models should be considered where sufficiently contemporary in nature and developed to acceptable standards. If an existing transport model does not exist or is not suitable for a particular study, consideration must be given to whether to commit resources to developing a model at this stage of the process, and to the required complexity of that model. Analysts should be clear that a transport model will add sufficient value to the more basic methods of analysis which could be undertaken at this stage of the process.”*<sup>9</sup>

Therefore, whilst there is a need for proportionality at SOC, it is also clear that utilising tools that are not suitable (e.g., models that are not suitable for a particular study) to assess scheme options is not appropriate and could lead to incorrect conclusions being drawn.

Given the above guidance, a review has been taken to understand the availability and suitability of existing transport models of the area. This review is summarised in section 3.1.1. The conclusion of the model review is that the existing transport model for the area is unlikely to be suitable to inform scheme appraisal at this stage, although it could be used to inform and develop the Strategic Dimension of the scheme.

It is considered that the enhancements likely to be necessary to develop a suitable model to inform the demand assessment of the Scheme will not add sufficient value over other methods of analysis that are now proposed to be undertaken at this stage of the process instead.

The proposed approach to the demand assessment for highway elements of the Scheme options, and the appraisal of these options at this stage at SOC is therefore to develop a quantitative spreadsheet-based model. This will enable the potential highway impacts of the relief road options to be estimated, including the potential level of demand that would use a relief road, as well as travel time and vehicle operating cost impacts. More information on the proposed approach is set out in section 3.1.2.

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<sup>8</sup> TAG Guidance for Technical Project Manager (May 2018)

<sup>9</sup> TAG Guidance for Technical Project Manager (May 2018)



### 3.1.1 Existing transport models

As noted above, a review of the availability and suitability of existing transport models of the area has been undertaken. This is summarised within this sub-section.

The following transport models have been identified as being available or are understood to be in the process of being developed:

- Peterborough Transportation Model 3 (PTM3);
- Peterborough Transportation Model 4 (PTM4); and
- Cambridgeshire and Peterborough Combined Authority Model (CAPCAM).

At the time of writing, it is understood that both PTM4 and CAPCAM are under development and completion dates are uncertain<sup>10</sup>. It is therefore assumed that these models will not be available for use at SOC, and no further consideration is given to them within this ASR.

#### 3.1.1.1 PTM3 2023 'refresh'

As explained within the review of the existing PTM3 (see section 3.1.1.2), the existing model has a 2019 Base year, but it is understood that a 'refresh' of PTM3 to account for the impact of the COVID-19 pandemic is currently being finalised.

The PTM3 refresh is understood to involve a simple factoring of the 2019 demand matrices, the inclusion of recently completed transport schemes<sup>11</sup> and subsequent comparisons of updated modelled flows against 2023 observed traffic data. It is understood that no structural changes are being implemented to the model network or zoning system in the vicinity of Whittlesey, and no new or additional validation/calibration count sites or journey time routes are being included. The model refresh is primarily being undertaken in relation to the Peterborough Station Quarter scheme.

In summary, whilst the 2023 'refresh' should help to provide a model that is sufficiently contemporary in nature, other limitations of the model in terms of its suitability for use in the appraisal this Scheme are likely to remain. These limitations are identified in section 3.1.1.2. It is also noted that the model refresh is in the process of being finalised and/or approved and, at the time of writing, it is not certain when it would be available and whether this would align with the programme for developing and delivering the SOC.

However, if the model becomes available during the development of the SOC, it has the potential to be used in informing and developing the Strategic Dimension. This could include, for example, initial tests using the model to understand issues and high-level strategic impacts relating to the closure (due to flooding) of the B1040 to the north of Whittlesey. However, it is anticipated that the model will not be suitable for informing the demand assessment and economic appraisal of the Scheme options even at SOC.

#### 3.1.1.2 Existing PTM3

##### Overview

As noted above, the existing PTM3 includes all main A and B roads (and some minor roads) in and around the Peterborough Unitary Authority area. It therefore includes a representation of Whittlesey, although its representation is relatively coarse and simplistic due to the town's location on the periphery of the model's simulation area.

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<sup>10</sup> PTM4 was previously expected to be completed in early-2024 but this has not transpired.

<sup>11</sup> Including the A605 Ralph Butcher Causeway scheme, which replaced a level crossing on the A605 to the west of Whittlesey.

The PTM3 Local Model Validation Report (LMVR) has been obtained, as have the existing Base year and forecast future year models and the model zoning system. This information has informed the model review, which is summarised below.

### **Model type and structure**

The PTM3 is a SATURN-based highway assignment model. It does not include public transport assignment or variable demand model (VDM) components. The absence of these components is not likely to be a material concern at SOC stage, though it will limit its ability to assess public transport options and the lack of a VDM needs to be recognised as a limitation. These potential limitations would need to be considered as the Scheme progresses beyond SOC.

### **Base year**

The existing PTM3 has a base year of 2019. As noted previously, it is currently undergoing what is understood to be a relatively simplistic 'refresh' to update its base year to 2023 (i.e., post-COVID). The refresh will not involve updates to the underlying demand data used in the model (i.e., demand matrices will continue to be based on data from 2019) and will instead entail factoring of the demand using traffic count data.

### **Time periods**

The model includes a representation of a weekday AM peak hour (08:00-09:00), inter peak hour (14:00-15:00) and a PM peak hour (17:00-18:00). These modelled time periods should be appropriate for modelling and appraisal of scheme options at this stage of scheme development. Further analysis and consideration would need to be given to confirm the appropriateness of these time periods as the Scheme progresses beyond SOC.

### **Demand segmentation**

Demand within the model is segmented into the following user classes:

- Car Commute;
- Car Employers' Business;
- Car Other;
- Light Goods Vehicles (LGV); and
- Heavy Goods Vehicles (HGV).

This level of demand segmentation (vehicle types and journey purposes) should be appropriate for modelling and appraisal of the Scheme options at SOC.

### **Data**

Various data sources have been used in the development of the existing (2019 Base) PTM3. These are summarised below:

- Matrix data
  - Demand matrices were developed primarily using Mobile Network Data (MND) collected on Mondays to Thursdays in March 2019, and supplemented with data from the UK Census, the National Trip End Model (NTEM v7.2), the National Travel Survey (NTS) and traffic count data.
  - Although detail is lacking within the LMVR, the 2019 demand matrices appear to have been developed appropriately using MND, with synthetic matrices used to infill short distance trips for example.

- The reliance on pre-COVID matrix data and non-current NTEM data<sup>12</sup> is recognised as a potential limitation of PTM3, noting that the PTM3 'refresh' does not involve the use of post-COVID data to update the prior matrices.
- Traffic count data
  - The LMVR notes that Manual Classified Turning and Link Counts (MCCs) were undertaken in September 2019 and used for model calibration and validation purposes.
  - It is not clear whether longer term Automatic Traffic Counts (ATCs) have been used in model development.
  - The location of traffic data used in model calibration and validation is not clearly identified within the LMVR, but it appears that some calibration or validation counts are included in the model on all main routes into Whittlesey, plus some sites within the town itself.
- Journey time data
  - TrafficMaster journey time data collected in October 2017 has been used to validate journey times on a selection of routes within PTM3.
  - No journey time validation routes are included in or around Whittlesey.

In conclusion, there are limitations and uncertainties with the data used in the development of the existing PTM3. In particular, the lack of journey time validation through Whittlesey is a limitation that is recommended would need to be addressed at SOC if PTM3 were to be used. More detailed review of the data used in model development would need to be undertaken ahead of further business case stages.

### Model network

The model highway network in the vicinity of Whittlesey is shown in Figure 3.1.

**Figure 3.1: PTM3 SATURN network**



Source: PTM3

The highway network within the existing (2019 Base) model includes most routes into Whittlesey, with the exception of the B1093 between the town and Benwick to the southeast.

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<sup>12</sup> The latest version of NTEM is version 8.

The network is also relatively coarse within Whittlesey itself, but this is not likely to be a material limitation at SOC, noting that key junctions appear to be represented in the model.

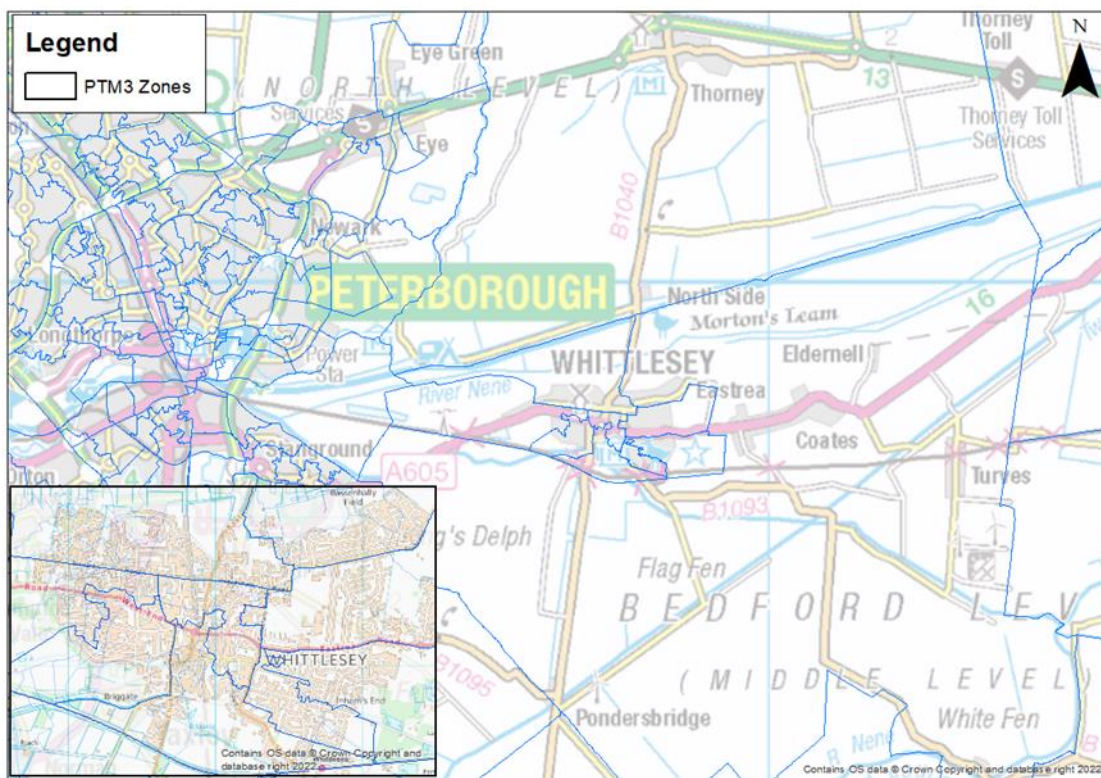
However, as noted above, the lack of journey time validation through Whittlesey means that confidence that the model (in terms of supply and demand) within the town is representative of observed conditions is low. In essence, though key junctions in the town are represented within the network there is only limited confidence that they operate as expected in the model.

While the 2019 Base model does not include the A605 Ralph Butcher Causeway scheme (a bridge replacing a level crossing on the A605 to the west of the town), it is understood that the model 'refresh' incorporates this scheme.

### Model zoning system

As noted in the Whittlesey Relief Road Scheme Gap Analysis Report (November 2023), the model zoning system is coarse in the Whittlesey area. The zoning system is shown in Figure 3.2.

**Figure 3.2: PTM3 zoning system**



Source: PTM3 and Ordnance Survey © data

In terms of suitability of the model for assessing a relief road scheme the most pertinent issue appears to be the representation of Eastrea and Coates within the zoning system. These settlements, located on the A605 to the east of Whittlesey, are included within a large model zone that loads onto the network on the B1093 to the southeast of the town, rather than the A605.

Analysis of routing patterns in the local area, and analysis of Automatic Number Plate Recognition (ANPR) survey data obtained in November and December 2023, indicates that much of the traffic routing through Whittlesey on the A605 could be generated by Eastrea and Coates, rather than settlements further east. The coarse representation of Eastrea and Coates

within the model is therefore potentially a significant limitation, and it is understood that the PTM3 refresh will not incorporate changes to the zoning system in this area.

Unless the zoning system (and demand matrices) were revised to address the above limitations, it is considered that the existing PTM3 is not suitable for use in assessing and appraising a relief road scheme.

### **Model performance**

An initial review of the existing (2019 Base) model's performance in terms of comparisons of modelled flows and journey times against observations was undertaken and summarised in the 2023 Gap Analysis Report.

In terms of traffic flows, a selection of links in and around Whittlesey are included in model calibration or validation and, in general, modelled flows were a reasonable match with observations in 2019. The modelled westbound flow on the A605 to the east of the town in the AM peak was, however, significantly lower than observed flows. The coarse zoning system in this area may have contributed to this instance of poor validation.

It was also noted that there are no journey time validation routes in or around Whittlesey within PTM3. This represents a significant limitation in terms being able to understand the suitability of the model for use in assessing a relief road scheme for the town.

### **Forecasts**

Information on existing future forecasts developed using the PTM3 has not been made available at this stage. As such, it is not known whether any existing forecasts have been developed in a suitable manner for use in assessing the proposed Scheme options. For example, assumptions regarding forecast traffic demand are not known, including whether the proposed housing and employment developments within the town are incorporated in the forecasts.

If PTM3 and its existing forecasts were to be used at SOC, it would be necessary to review forecast assumptions and potentially update them with relevant assumptions.

### **Conclusions**

The existing PTM3 includes a relatively crude representation of Whittlesey, reflecting the town's location on the periphery of the model area.

The model is therefore not considered suitable for this particular study, mainly due to the coarse zoning system being unsuitable for assessing the impacts of the relief road options. The lack of journey time validation through the town is also a notable limitation that reduces confidence in the model for use in assessing the Scheme options for this study.

Enhancements could be made to the existing model to improve its suitability for assessing and appraising options at SOC. As a minimum, this would need to include disaggregation of the model's zoning system, followed by a local model calibration and validation exercise, making use of updated traffic count and journey time data. It would also likely be necessary to revisit forecast models to incorporate relevant key future year assumptions relating to local developments.

In light of the above review, and in consideration of relevant guidance, it is considered that the level of resource and cost required to implement the necessary enhancements would be disproportionate for the Scheme at this stage, particularly as alternative more basis methods of analysis could be undertaken in place of a more complex transport model.

The recommended approach to highway modelling at SOC is set out in section 3.1.2 below.



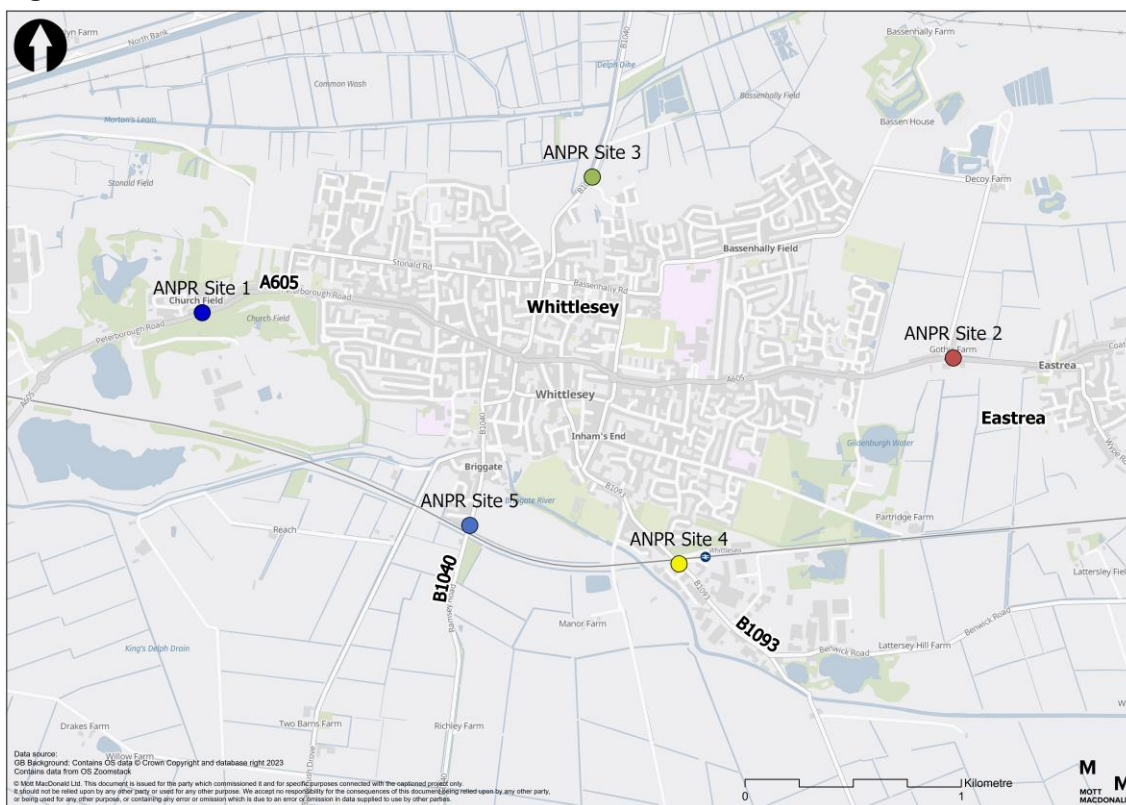
### 3.1.2 Proposed approach

As discussed in the previous sub-sections, given the limitations of the existing formal transport model, and the likely scale of effort required to develop a suitable model, the proposed approach to modelling at SOC involves the development of a spreadsheet-based model.

It is proposed that the extent of the spreadsheet model covers the routes into and out of Whittlesey, as recorded in the Automatic Number Plate Recognition (ANPR) survey undertaken in November and December 2023 (locations of counts shown in Figure 3.3). The ANPR survey captured movements between the following routes into/out of Whittlesey:

- ANPR site 1 – A605 west of Whittlesey
- ANPR site 2 – A605 east between Whittlesey and Eastrea
- ANPR site 3 – B1040 north of Whittlesey
- ANPR site 4 – B1093 southeast of Whittlesey
- ANPR site 5 – B1040 south of Whittlesey

**Figure 3.3: ANPR site locations**



Source: Mott MacDonald

The spreadsheet-based model would be used to estimate traffic volumes in forecast Do Minimum and Do Something scenarios (i.e., with and without scheme scenarios) between these points on the network. The spreadsheet would also provide an estimate of travel times associated with the relief road in the Do Minimum and Do Something scenarios. The estimates of demand and travel times would be used to inform an economic appraisal of highway user benefits, which is discussed in section 4.

It is proposed that the model includes an assessment of two future years – one will capture the assumed year of opening of the relief road scheme, with a single further horizon year. The horizon year assessment is subject to confirmation, but it would seek to capture any major step



changes in demand or supply that may affect the profile of scheme benefits. This would seek to include, for example, any significant local developments.

Subject to the temporal disaggregation available within the ANPR data, the spreadsheet model would be developed to represent key time periods of the week. It is proposed that this would include a weekday AM and PM peak period, a weekday inter-peak period and a weekend daytime period. At this stage it is not envisaged that assumptions regarding the proportion of traffic that would reassign onto the relief road would change by period, but the assumed travel times may vary by period based on assumed levels of highway congestion/delay.

Highway demand within the spreadsheet model would be segmented by the vehicle types for which the ANPR is provided (Car, LGV and HGV).

### **3.1.2.1 Demand estimates**

The spreadsheet model would utilise observed traffic data, including the ANPR survey, to identify vehicle flows in the existing (Baseline) situation. Estimates of the volume of traffic that passes through Whittlesey (i.e., through-traffic) on the routes through the town (A605, B1040 and B1093), as well as traffic that has an origin or destination within the town, will be recorded within the spreadsheet model. Separating these types of demand will be important as it will inform estimates of the scale of traffic reassignment that may occur if a relief road scheme were implemented.

Forecast growth in traffic demand would be incorporated within the spreadsheet model for both forecast years, and for both the Do Minimum (without scheme) and Do Something (with scheme) scenarios. It is proposed that estimated growth would be informed by DfT TEMPro forecasts with specific allowance included for traffic associated with proposed local developments, if applicable.

Information on proposed local developments (e.g., development location, quantum, timescales etc) would be identified and trip generation and distribution exercises undertaken to provide an estimate of traffic demand associated with the developments. This will be necessary to enable an estimate of the volume of traffic associated with proposed developments that may reassign onto a new relief road. For example, traffic originating from developments in the east of Whittlesey and travelling into the centre of the town would be unlikely to use the relief road, whereas if it were travelling toward Peterborough, it may reassign onto the new route.

Development trip generation and distribution would be undertaken through review of Transport Assessments submitted as part of existing planning applications where these are available. If such documents are not available, a bespoke trip generation and distribution exercise would be undertaken, making use of trip rates derived from the TRICS database and distribution assumptions informed from a simple gravity model or the Census Travel to Work dataset.

The traffic impact of the Scheme would be captured within the spreadsheet model through estimates of the level of demand that could reassign onto the relief road. These estimates would primarily be informed by the ANPR data, which identifies the level of through-traffic on each route into Whittlesey. The proportion of through-traffic that would likely reassign onto the proposed relief road would be estimated through comparisons of assumed journey times for the existing route(s) through the town compared to the journey time if using the relief road (see below).

### **3.1.2.2 Journey time estimates**

Estimates of highway journey times for each scenario (i.e., Baseline and forecast Do Minimum and Do Something scenarios) for each movement through the town would be made and incorporated into the spreadsheet model.

The travel time estimates would be based on TomTom Traffic Stats data (i.e., observed journey times) obtained for the project, and supplemented by other assumptions if required (e.g., use of online journey planners and assumed design speeds for the new road). Travel times in the forecast scenarios would be adjusted to account for estimated additional congestion in the future years, with the use of the DfT's National Road Traffic Projections 2022 (NRTP22) data or the application of basic 'speed-flow' relationships<sup>13</sup>.

### **3.1.2.3 Additional scenario testing**

The spreadsheet model would be used to include additional scenario testing, and specifically understanding the impacts associated with incidents/closures of the A47 route between Peterborough and Guyhirn. This would involve applying assumptions regarding the volume of traffic that would reassign onto the A605 when issues arise on the A47.

### **3.1.2.4 Limitations**

A spreadsheet-based model is considered an appropriate and proportionate approach to assessing and appraising the relief road options at SOC. However, it should be recognised that the approach does have limitations as summarised below.

The model would provide only a simplistic representation of delays for traffic routing through the study area. While the model will seek to capture the relationship between demand and delays, it will do so in a relatively simplistic manner through the use of speed/flow relationships on a highway link basis. It will not, however, account for impacts of delays at specific junctions.

The model will capture demand and journey times for movements routing through the town, between the five points in the network identified in section 3.1.2. It will not be able to robustly account for impacts on trips with a start or an end point within Whittlesey itself. For example, any time savings for these trips (savings associated with reduced traffic demand within the town) will not be robustly captured. However, relative to the time impacts associated with the alternative route provided by the relief road, these impacts are not likely to be significant.

A further potential limitation is that it is unlikely to capture any wider strategic reassignment that may be associated with a proposed relief road option. However, analysis of local traffic routing within the area indicates that wider traffic reassignment is unlikely to be significant, so this limitation is unlikely to be material at this stage.

The spreadsheet model will not capture potential variable demand responses associated with the scheme options. Demand responses could cover changes in trip generation/trip frequency, trip distribution, as well as travel mode and time period choice. This is unlikely to be a significant issue at this stage, but further consideration of demand responses (and potential need for a variable demand model) will need to be given as the scheme progresses beyond SOC.

### **3.1.2.5 Spreadsheet model outputs**

The proposed spreadsheet model would provide estimates of the volume of traffic that would reassign onto the proposed relief road, and the associated travel time savings. It would also provide inputs for an initial economic assessment of highway user impacts, as described in section 4.1.1.

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<sup>13</sup> These capture the relationship between supply and demand with higher levels of traffic flow causing speeds to reduce, while lower flows contribute to speeds increasing.

### 3.1.2.6 Modelling at subsequent stages

The proposed approach to modelling has been developed following consideration of the availability and suitability of existing formal transport models of the area and is considered proportionate for SOC.

Should the Scheme progress beyond SOC, and based on the DfT's Transport Appraisal Process guidance document, it is likely that a formal model of the transport will be required to assess and appraise the scheme. This would likely involve the development of a model of the area, potentially through making enhancements to existing models such as PTM3, PTM4 or CAPCAM. The enhancements would need to be fully scoped but should seek to address the key limitations of the existing PTM3 that were noted within this section of the document.

## 3.2 Bus demand assessment

The demand forecasting for bus is relevant to Option 2 (Bus Priority) and Option 4 (bus-based travel hub).

### 3.2.1 Travel hub

The testing and quantification of Option 4 (bus-based travel hub with supporting package of interventions) will be conducted separately to the quantification of Options 1-3. Option 4 will instead focus on assessing the impacts of a new travel hub bus service on existing bus passengers, through the building of a simple and high-level spreadsheet-based uni-modal model.

This method is deemed appropriate at the options appraisal stage, given time and budget constraints to efficiently evaluate and compare a range of different options across different modes. However, following this study, should this option be taken forward as a preferred option, the model methodology would be developed into a more comprehensive mode choice model, incorporating bus impacts with highway impacts (e.g. using appropriate model skims as an input to understand shift from car trips to travel hub trips).

The modelling of Option 4 will be undertaken in four discrete steps, as follows:

1. **Data gathering:** confirming the data available and their sources;
2. **Model build:** developing the high-level travel hub forecasting demand model;
3. **Model testing:** sensitivity testing of key risks (limited to max 4), based on input data assessment; and
4. **Economic appraisal:** developing a high-level economic appraisal of standard DfT 'established impacts', in proportion with assessments developed for other options.

The model developed will be uni-modal (bus/travel hub mode only) using an elasticity-based approach akin to the Passenger Demand Forecasting Handbook (PDFH) used to forecast rail demand, as follows:

- Base demand will be collated for selected bus routes/ journeys using either bus count data (by cordon or service), or bus passenger surveys, depending on data availability, noting that without such data no baseline position can be ascertained, and demand forecasting would be difficult. This data will most likely be collated from the Cambridgeshire and Peterborough Transport Model (CaPCAM) model, which uses surveys at key locations.
- Bus routes/journeys will be selected by building a small node-link network in ArcGIS (Arc Pro) covering the impacted bus routes and key stops for the following services;
  - 31 bus (Ramsey – Whittlesey – Peterborough)
  - 33 bus (March – Coates – Eastrea – Whittlesey – Peterborough)

- The number of node (bus stop) pairs that can be modelled will be determined by the nature of the input demand data (e.g. location of cordons) but can be embellished by secondary sources where required (e.g. travel to work by mode data for local output areas).
- Baseline demand will be uplifted to the Scheme opening year and predetermined model years using exogenous factors (driven by TAG and TEMPro inputs for the local area, such as GVA, population, employment and competing modes/fuel costs).
- The model will forecast bus demand uplift for each selected node pair according to the change in generalised journey time (in-vehicle time + service interval penalty/ wait time + interchange penalty) and the PDFH Generalised Journey Time (GJT) elasticities used for rail (or bus equivalent, if available).
- GJT inputs will be sourced using online bus timetables, for impacted routes (and added to using the proposed bus service for the travel hub option).
- The change in GJT will be calculated between the Do Minimum scenario (current bus network) and Do Something scenario (Do Minimum plus travel hub service).
- The model response can be validated against comparator travel hub schemes (e.g. Cambridge) using observed counts, in proportion to car park capacity/ bus frequency.
- Key sensitivities (max 4x) of the model can be tested, such as DfT's Covid-19 recovery factors and alternative bus-based generalised journey time elasticities.
- Estimated demand uplift (constrained to the proposed car park capacity/ bus frequency) between the Do Minimum and Do Something will drive the outputs for this option, along with the Scheme costs, feeding a high-level economic assessment for comparability to other options (e.g. bus user benefits/ time savings, none-user benefits via mode shift from car, bus revenue).

The following data inputs (where available) are required to undertake this task:

- Bus passenger surveys or bus counts (by impacted service, or cordon) – CaPCAM surveys at key locations;
- Travel hub passenger counts and/or ticket sales (users) for comparator travel hub sites (e.g. Cambridge) - time of day and/or counts in/out;
- Existing bus service timetables (31 and 33), routes and fares – publicly available;
- Confirmation of supply-side information (routes, timetables, fare prices, car park costs, car park capacities, bus vehicles used);
- 2021 Census journey to work data for local output areas;
- TEMPro v8 population and employment trends;
- PDFH and TAG guidance; and
- DfT's Covid-19 recovery factors.

### 3.2.2 Bus priority

Existing demand figures for bus ridership across the two junctions where the bus priority measures are planned can be derived from the methodology set out above for mapping the existing bus network for the Travel Hub scenario. Given that this intervention has a significantly smaller scope, selected zones from the network assessment can be selected to give an estimate of existing users that are likely to gain some journey time saving.

Traditional Green Book demand elasticity forecasting methods are not appropriate for this project, as elasticity modelling for a single mode requires that there is no significant change in Generalised Cost (GC) for any other mode of transport. In this instance, the Do Minimum, based on today, includes car congestion which is a driver for bus demand. However, with the inclusion of the relief road as part of the scheme, the congestion for car users is reduced, thus leading to

a material improvement of the car GC. This material impact for car users means that it is inaccurate to assume that there will be a mode shift to bus from Car, without developing a more complex multi model transport model to account for the competing GCs of each mode.

Therefore, given the fairly modest impact on bus users, and the much greater impact on car users, it is proposed that it is not proportional to forecast a mode shift car to bus as a result of the scheme, and that the estimated number of existing trips should be used as the number of forecasted trips with the scheme.

### 3.3 Active travel demand assessment

DfT's Active Mode Appraisal Toolkit (AMAT) will be used to quantify the uplift in demand for the walking and cycling enhancement option (Option 3), with standard diversion factors applied to estimate diversion and mode shift from other modes such as cars. These will come from standard TAG Databook diversion factors, and the concurrent Marginal External Costs of Car (MECC) values.

Baseline counts for walking and cycling will, where available, come from observed local count data provided by Fenland District Council and the Cambridgeshire and Peterborough Combined Authority. Observed count data we are currently aware of include DfT traffic counts and 2017-2021 cordon count sites around Whittlesey.

If pedestrian numbers are required and not captured by observed count data, we will use values from DataShine Commute. Similar to PCT, this only accounts for commuting trips so the 'all trips' demand, in line with 2021/2022 Active Travel Fund guidance will be calculated by multiplying the values by 32 (x2 for outbound/homebound trips and x16 to convert commuting trips to all trips).

One of the limitations of DataShine is that the data is area based so looks at MSOA-to-MSOA movements. Therefore, professional judgement will be used to determine whether the MSOA flows are likely to use the route where improvements are proposed.

To growth the baseline demand data to the Scheme opening year we will use the background growth rate in AMAT (0.75% per annum).

To forecast the increase in walking and cycling demand as a result of the Scheme, comparable schemes in which pre- and post-scheme implementation demand data is available, will be used to understand the growth factors to apply based on the level of infrastructure to be provided. The latest version of Active Travel England's 'uplifts' tool (September 2023) will be used to produce a forecast of the walking and cycling demand uplifts to enhance the robustness of the demand forecasts.

## 4 Appraisal Approach

The technical scope of the Transport Appraisal of the Scheme will conform to that specified in TAG and focus on the 4 strands of impacts - Economy, Environment, Social and Public Accounts, and the 24 sub-objectives as set out in the Appraisal Summary Table (AST). The following sections build on what was reported in the SOC ASR.

### 4.1 Appraisal approach summary

The appraisal of the Scheme will focus on illustrating how the scheme benefits are meeting the individual Scheme objectives. As the Scheme options include highway, bus and active travel elements, it is intended that the appraisal of impacts focuses on those related to these measures.

The methodology for appraising the impacts of each option is set out in the sections of this report below, with a summary of approach set out in Table 4.1, whilst the Appraisal Specification Summary Table (ASST) in Appendix A sets out the likely impact of the options against each impact. The ASST identifies where the Scheme is likely to have only a neutral, slight positive, or slight adverse impacts. Where these impacts are likely to have little influence on the Scheme's overall Value for Money, they will be categorised in the ASST as 'assumed neutral', and therefore no further assessment will be carried out (this is in line with TAG – The Transport Appraisal Process (May 2018), under Section 3.1 on scope for proportionality).

**Table 4.1: Summary of appraisal approach**

Impact	Appraisal approach
Highway traffic user impacts	Quantitative / Monetised
Bus user impacts	Quantitative / Monetised
Active travel impacts	Quantitative / Monetised
Accident impacts	Quantitative / Monetised
Environmental impacts	Qualitative
Reliability impacts	Qualitative
Social impacts	Qualitative
Distributional impacts	Qualitative
Wider economic impacts	Qualitative

#### 4.1.1 Highway user impacts

The appraisal of highway user impacts would seek capture and monetise changes in travel time and vehicle operating costs associated with the scheme options.

It is proposed to use the DfT's TUBA software (current version v1.9.23) to estimate and monetise the highway user impacts, making use of forecast estimates of traffic demand, travel times and travel distances in the Do Minimum and Do Something scenarios for two forecast years. These estimates would be provided from the spreadsheet-based model outlined in section 3.1.2.

The TUBA software will use the forecast demand and travel costs (travel times and distances) for the two forecast years and, through a process of interpolation, will estimate user benefits across the full proposed 60-year appraisal period. The software will also apply relevant adjustments (e.g., discounting to 2010 and conversion to market prices) to convert the monetised benefits into a Present Value of Benefit (PVB) for the Scheme options.



Consideration will be given to the use of annualisation factors that would be used by TUBA to estimate benefits across the whole year based on inputs for the modelled periods. Annualisation factors will be derived from local long-term traffic data, which will be analysed to understand the relationship between demand in the modelled periods and non-modelled periods. At this stage, the modelled periods are subject to confirmation but, as noted in section 3.1.2, are expected to include weekday AM and PM periods, a weekday inter-peak period and a weekend daytime period.

#### **4.1.2 Bus user impacts**

The appraisal of bus user benefits is relevant to Option 2 (Bus Priority) and Option 4 (bus-based travel hub).

##### **Option 2 – Bus Priority**

Demand figures, based on an estimate of existing trips across the two junctions where the bus priority measures will be located, will be used to calculate the annual number of hours saved in journey time. The journey time calculation will be based on the assessment of link flow speeds through Whittlesey, assuming that the bus priority measures allow the bus to flow without congestion. This value of journey time saving per trip will allow for a rule-of-a-half calculation for the overall user benefits in hours. Note that because there are no 'new' users, this calculation is simply users x journey time saving.

Using the latest values from the TAG databook (May 2024), the journey time savings will be monetised and appraised over a 60-year period. The PVB, discounted and in 2010 prices will show the impact of the intervention.

##### **Option 4 – Travel Hub**

The appraisal of the Travel hub impacts will be similar to that of the bus priority in that a rule-of-a-half calculation will be undertaken to calculate total impact to users. For this option, there will be 'new' users and therefore an assumed mode shift from car to bus. A TAG compliant MEC (Marginal External Cost) of car appraisal will be undertaken to capture congestion and environmental effect of the resulting mode shift.

As with the bus priority, an appraisal spreadsheet will be developed capturing the latest values from the TAG databook, resulting in a PVB value, discounted in 2010 prices.

#### **4.1.3 Active travel impacts**

The standard approach for calculating benefits associated with walking and cycling is the use of the latest version of the DfT's Active Mode Appraisal Toolkit (AMAT)<sup>14</sup>, following guidance set out in TAG Unit 5.1.

AMAT enables for the following benefits to be quantified:

- User benefits - journey ambience uplift.
- Business benefits - reduction in absenteeism.
- Health benefits - economic benefits of preventing early mortality through cycle and walking exercise; and
- Marginal external cost savings - reduction in the number of car trips to mode switch to cycling and walking.

In line with the value for money guidance issued as part of Active Travel Fund 4 (ATF4), the economic benefits of the options with walking and cycling improvements will be appraised over

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<sup>14</sup> May 2024 at the time of producing this ASR.

a 40-year due to the high-quality infrastructure that the Scheme will provide and alignment to the principles of LTN 1/20 which contribute to a longer asset life.

#### 4.1.4 Accident impacts

Accident impacts appraisal will be undertaken in accordance with TAG Unit A4-1. At this stage, it is anticipated that the options under consideration would result in the reassignment of traffic away from the centre of Whittlesey and onto a modern relief road. This reassignment would be expected to contribute to a reduction in personal injury collisions over the 60-year appraisal period.

It is proposed that a simple assessment is undertaken at this stage using the Cost and Benefit to Accidents – Light Touch (COBA-LT) software to forecast the change in the number and severity of accidents associated with the proposed scheme options. The COBALT software will also apply standard economic values in order to monetise the forecast change in the number and severity of accidents.

The assessment would make use of existing traffic flows and accidents in Whittlesey, which COBALT would use to calculate observed accident rates on the existing routes through the town. Accident rates on the proposed new relief road would set to default rates contained in COBALT, reflecting the proposed link types and speed of the proposed route.

Forecast future year changes in traffic flows associated with the scheme will be sourced from the spreadsheet-based model discussed in section 3.1.2. Through the application of the observed accident rates (and default rates on the relief road links), COBALT will estimate the number and severity of accidents in the Do Minimum and Do Something scenarios. By comparing the results from both scenarios, the overall benefit (or disbenefit) associated with the Scheme is identified.

In addition, accident benefits as a result of mode shift will be estimated using the MEC approach values for safety, which will calculate benefits associated with the removal of traffic arising from any mode shift from car trips to bus and active travel.

#### 4.1.5 Environmental impacts

The appraisal of environmental impacts will be undertaken in accordance with TAG Unit A3 following a qualitative approach. The environmental topics covered include:

- Noise
- Air Quality
- Greenhouse gases
- Landscape
- Townscape
- Historic Environment
- Biodiversity
- Water environment

The level of impact for each topic will be summarised using the standard TAG seven-point scale and reported in the AST of the SOC. The assessment will be informed using evidence already collated and reviewed as part of the development of the SOC, as set out in the Baseline Evidence Report<sup>15</sup>.

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<sup>15</sup> Baseline Evidence Report - Mott MacDonald, February 2024.

#### **4.1.6 Social impacts**

The social impact appraisal will be carried out in accordance with TAG Unit A4.1. Social impact appraisal covers the human experience of the transport project and its impact on social factors. The impacts considered include:

- Accidents
- Physical activity
- Security
- Severance
- Journey quality
- Option and non-use values
- Accessibility
- Personal affordability

Each social impact will be assessed using qualitative analysis and will be informed by the result of the environmental appraisal and transport model outputs where available. For example, the outputs from COBA-LT will be used for accident analysis, whilst AMAT will be used for the physical activity impact analysis. The appraisal will produce summary assessment scores for each social impact on a seven-point scale of beneficial, neutral or adverse impacts. As with the environmental appraisal, the social assessment will be informed using evidence already collated and reviewed as part of the development of the SOC, as set out in the Baseline Evidence Report.

#### **4.1.7 Distributional impacts**

A distributional impact appraisal will be carried out in accordance with TAG Unit A4.2. Due to the stage of work, this will be limited to Step 1 in the process for undertaking a Distributional Impacts Assessment, which is a screening process.

The impacts considered include:

- User benefits
- Noise
- Air quality
- Accidents
- Security
- Severance
- Accessibility
- Personal affordability

#### **4.1.8 Wider economic impacts**

The wider economic impacts for the Scheme are those that are considered additional to the transport user benefits. As the level of benefits coming from wider economic impacts, including both from changes in land use and fixed land use are predicted to be small in relation to the overall Scheme benefits, it is proposed that a qualitative approach is taken to appraising these as part of the options appraisal that is reported in the final SOC.

This qualitative assessment of benefits relating to changes in land use as defined within TAG Unit A2.1, will examine how the Scheme contributes to the economic growth of Whittlesey and the wider region by providing new transport infrastructure that will improve links to development sites, supporting housing and employment growth.

## 4.2 Reporting and appraisal outputs

The results of this analysis will be summarised in the following tables and statements:

- A TEE (Transport Economic Efficiency) table, reflecting transport efficiency benefits
- Public Accounts (PA) table
- The Analysis of Monetised Costs and Benefits (AMCB) table
- An Appraisal Summary Table (AST)
- A Value for Money (VfM) statement

In addition to the reports and tables listed above, the methodologies and results discussed in this ASR will be summarised and presented in the Economic Dimension of the SOC for the Scheme.

# 5 Appendices

## A. Appraisal Specification Summary Table

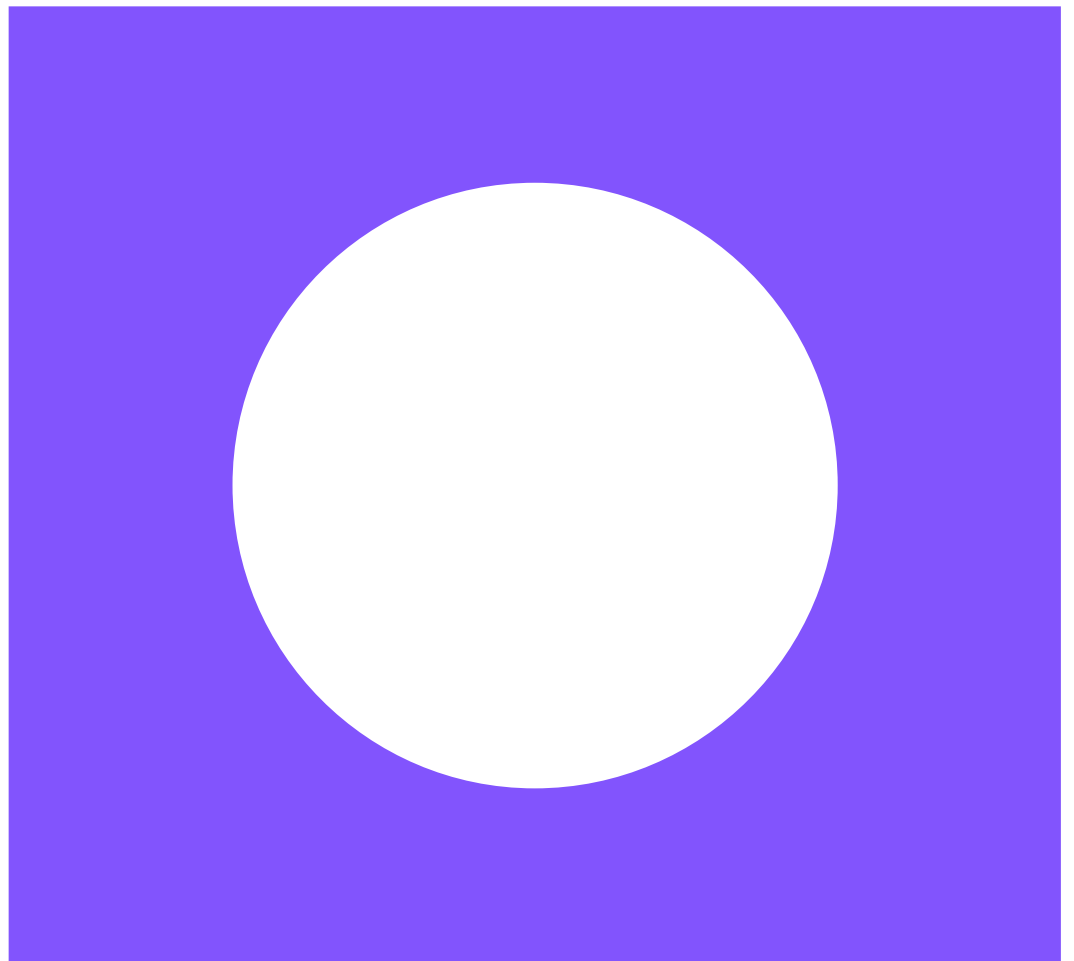
**Table A.1: Appraisal Specification Summary Table**

Impacts	Sub-impacts	Estimated Impact	Level of uncertainty	Proposed proportionate appraisal methodology	Reference to evidence and rationale in support of proposed methodology	Type of Assessment Output (Quantitative/Qualitative/Monetary/Distributional)
Economy	Business users & transport providers	Positive	High	Assessment through TUBA based on outputs from bespoke spreadsheet model	TAG Unit A1-3	Monetary
	Reliability impact on Business users	Positive	High	Qualitative	TAG Unit A1.3	Qualitative
	Regeneration	Non expected	Low	N/A	N/A	N/A
	Wider Impacts	Limited	Low	Qualitative assessment following TAG Unit A2.1	TAG Unit A2.1	Qualitative
Environmental	Noise	Slight Benefit	Low	Environmental impacts worksheets	TAG Unit A3 Section 2	Qualitative
	Air Quality	Slight Benefit	Low	Environmental impacts worksheets	TAG Unit A3 Section 3	Qualitative
	Greenhouse gases	Neutral	Low	Environmental impacts worksheets	TAG Unit A3 Section 4	Qualitative
	Landscape	Slight Adverse	Low	Environmental impacts worksheets	TAG Unit A3 Section 7	Qualitative
	Townscape	Slight Benefit	Low	Environmental impacts worksheets	TAG Unit A3 Section 7	Qualitative
	Heritage of Historic resources	Slight Benefit	Low	Environmental impacts worksheets	TAG Unit A3 Section 8	Qualitative
	Biodiversity	Slight Adverse	Low	Environmental impacts worksheets	TAG Unit A3 Section 9	Qualitative
	Water Environment	Slight Adverse	Low	Environmental impacts worksheets	TAG Unit A3 Section 10	Qualitative
Social	Commuting and Other users	Large Benefit	Low	Qualitative	TAG Unit A1-3	Qualitative
	Reliability impact on Commuting and Other users	Large Benefit	High	Qualitative		Qualitative



Impacts	Sub-impacts	Estimated Impact	Level of uncertainty	Proposed proportionate appraisal methodology	Reference to evidence and rationale in support of proposed methodology	Type of Assessment Output (Quantitative/Qualitative/Monetary/Distributional)
	Physical activity	Slight Benefit	Low	Qualitative	TAG Unit A4.1, Section 3	Qualitative
	Journey quality	Slight Benefit	Low	Qualitative	TAG Unit A4.1, Section 6	Qualitative
	Accidents	Slight Benefit	Low	COBALT	TAG Unit A4.1, Section 3	Quantitative/Monetary
	Security	Neutral	Low	Qualitative	TAG Unit A4.1, Section 4	Qualitative
	Access to services	Slight Benefit	Low	Qualitative	TAG Unit A4.1, Section 8	Qualitative
	Affordability	Slight Benefit	Low	Qualitative	TAG Unit A4.1, Section 9	Qualitative
	Severance	Large Benefit	Low	Qualitative	TAG Unit A4.1, Section 5	Qualitative
	Option values	Slight-Large Benefit	Low	Qualitative	TAG Unit A4.1, Section 7	Qualitative
Public Accounts	Cost to Broad Transport Budget		Low	Scheme costings	TAG Unit A1-2	Monetary
	Indirect Tax Revenues		Low	Outputs from TUBA and AMAT		Monetary

# B. Long List Options Assessment Report





# **Whittlesey Relief Road**

Social Impact Appraisal

September 2024

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# **Whittlesey Relief Road**

## **Social Impact Appraisal**

September 2024



# Issue and Revision Record

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# 1 Introduction

Mott MacDonald has been commissioned by Fenland District Council to support the development of the short listed options for the proposed Whittlesey Relief Road. A Social Impact Appraisal covers the human experience of a transport system and its impact on social factors not considered as part of economic and environmental appraisals. Methods prescribed in TAG Unit A4.1<sup>1</sup> have been used to determine any impacts of the scheme.

The eight social impacts, as defined by TAG Unit A4.1 guidance, assessed as part of the appraisal are:

- Accidents
- Physical activity
- Security
- Severance
- Journey quality
- Option and non-use values
- Accessibility
- Personal affordability

The overall summary of the expected social impacts is outlined in Table 1. Each social impact is assessed per option in more detail below.

**Table 1: Summary of expected social impacts**

Social Impact	Overall Appraisal Result			
	Option 1	Option 2	Option 3	Option 4
<b>Accidents</b>	Moderate beneficial	Moderate beneficial	Moderate beneficial	Slight beneficial
<b>Physical Activity</b>	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial
<b>Security</b>	Neutral	Neutral	Slight beneficial	Slight beneficial
<b>Severance</b>	Moderate beneficial	Moderate beneficial	Large beneficial	Slight beneficial
<b>Journey Quality</b>	Moderate beneficial	Large beneficial	Large beneficial	Slight beneficial
<b>Option and non-use values</b>	Neutral	Neutral	Neutral	Slight beneficial
<b>Accessibility</b>	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial

<sup>1</sup> Department for Transport, TAG UNIT A4.1 Social Impact Appraisal Guidance, Available at - [TAG UNIT A4.1 Social Impact Appraisal \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/68444/tag-unit-a4-1-social-impact-appraisal-guidance.pdf), accessed March 2022.

Personal affordability	Neutral	Neutral	Neutral	Neutral
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## 2 Accidents

### 1.1 Overview

Transport interventions may reduce the likelihood of people being hurt in accidents. Accidents can occur in all modes of transportation, affecting both users and non-users. The key quantitative indicator for evaluating transportation initiatives is the difference in the number of casualties and accidents with and without the scheme.

Accidents can result in no casualties (resulting in damage only) or one or more casualties (such as Personal Injury Accidents) of varying severity. As stated in Section 2.1.4 in the TAG guidance<sup>2</sup>, three groups are used to differentiate between casualty severity: fatal (death occurs within 30 days); serious (casualties require hospital treatment and have lasting injuries); and slight (casualties have injuries that do not require hospital treatment or if they do, effects subside quickly).

### 1.2 Appraisal of impacts

The A605 is a key route for east-west traffic between Peterborough and the Fenland market towns. The A605 through Whittlesey sees circa 7,500 vehicles per day from Peterborough and 5,000 vehicles per day from Fenland Market Towns, 75% of which is dominated by private vehicles. A significant proportion of all traffic along this route through Whittlesey is through traffic (40%) and 68% of HGV movements are through traffic. The high volume of traffic on the A605 through a town centre segregates the town and means accidents are likely, causing congestion and resulting in longer journey times for commuting traffic.

The objectives of the scheme include reducing congestion, improving safety and reducing severance on the local road network through Whittlesey, which requires a smoother flow of traffic in the area.

Option 1, 2 and 3 propose a new single carriageway relief road running to the south of Whittlesey town centre, that includes a parallel cycle track. This is likely to reduce the number of vehicles, of up to 3,000 vehicles per day, including up to 370 HGVs per day travelling through Whittlesey town centre, reducing the likelihood of collisions which will potentially improve safety in Whittlesey and reduce the number of accidents.

Option 2 includes enhanced pedestrian crossing facilities in the form of either islands or traffic lights, which is likely to improve safety and access for pedestrians in Whittlesey, reducing the likelihood of accidents involving pedestrians.

Option 3 includes the introduction of new active travel improvements through the town and along the A605 which is likely to enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling, reducing car use for shorter journeys and subsequently congestion and likelihood of accidents. However, there may be an increase in accidents as a result of an increased number of pedestrians and cyclists.

Option 4 proposes a new Mobility Hub located to the east of the town which could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. Option 4 will also include improved active travel provision across the town to both the Mobility Hub and Whittlesea station

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<sup>2</sup> Department for Transport, TAG UNIT A4.1 Social Impact Appraisal Guidance, Available at - [TAG UNIT A4.1 Social Impact Appraisal \(publishing.service.gov.uk\)](#), accessed March 2022.

to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel, thus slightly reducing the number of vehicles and congestion on the local road network, and improve safety in the area for pedestrians. However Option 4 will not reduce the level of HGV movements in Whittlesey, and the Mobility Hub's location may mean that residents in the west of Whittlesey may not utilise its facilities. Additionally, Option 4 is reliant on bus operators capitalising on these new improvements by running services.

All of these measures will ultimately contribute to reduced casualties, lower accident severity and a lower accident rate, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). Options 1, 2 and 3 will therefore yield a moderate beneficial impact and Option 4 a slight beneficial impact, for users of the A605 through Whittlesey.

### 1.3 Summary appraisal scores

**Option 1:** Moderate beneficial

**Option 2:** Moderate beneficial

**Option 3:** Moderate beneficial

**Option 4:** Slight beneficial



## 3 Physical Activity

### 3.1 Overview

The interdependence between transportation, the environment, and health has long been recognised<sup>3</sup>. Physical activity levels can be influenced by transportation. Physical inactivity is a major risk factor for a wide variety of noncommunicable diseases, including coronary heart disease, stroke, diabetes, as well as many cancers<sup>4</sup>. Physical activity is also effective in reducing weight gain and obesity, as well as enhancing mental health. This section examines the health benefits of travel (i.e. walking and cycling).

Physical activity benefits are often a major component of the scheme's benefits for interventions aimed at promoting cycling and walking. Physical activity impacts will be relevant for schemes such as this that involve other modes, if it can be proved that there is a considerable mode shift owing to the intervention to or from active modes.

### 3.2 Appraisal of impacts

The implementation of the proposed scheme may affect pedestrians, cyclists and existing public transport services.

Option 1, 2 and 3 propose a new single carriageway relief road running to the south of Whittlesey town centre, that includes a parallel cycle track. This is likely to reduce the number of vehicles travelling through Whittlesey town centre, improving safety and reducing severance for pedestrians and cyclists in Whittlesey.

Option 2 includes enhanced pedestrian crossing facilities which is likely to improve safety and access for pedestrians in Whittlesey.

Option 3 includes the introduction of new active travel improvements through the town and along the A605 which is likely to enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling and reducing car use for shorter journeys.

Option 4 proposes improved active travel provision across the town to a new Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel.

Overall, Options 1 is assessed to have a slight beneficial effect, Option 2 a moderate beneficial effect, Option 3 a large beneficial effect and Option 4 a moderate beneficial effect.

### 3.3 Summary appraisal scores

**Option 1:** Slight beneficial

**Option 2:** Moderate beneficial

**Option 3:** Large beneficial

**Option 4:** Moderate beneficial

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<sup>3</sup> Road Transport and Health (1997), British Medical Association

<sup>4</sup> Department of Health (2004): At Least Five a Week. A report from the Chief Medical Officer.



## 4 Security

### 4.1 Overview

Transport interventions may have an impact on the level of security for transport users. The assessment of these impacts should take into account both changes in security and the predicted number of affected users. Site perimeters, entrances, and exits; formal and informal monitoring; landscaping; lighting and visibility; and emergency call points are all examples of security indicators.

While the TAG guidance focuses on the security impacts of railway stations and public transportation, our assessment will focus on the security of non-motorised users of the road, particularly pedestrians and cyclists. Certain user groups, such as women and older people, may be more prone to safety concerns and, as a result, are more likely to avoid travelling by bicycle or foot.<sup>5</sup>

### 4.2 Appraisal of impacts

While the development of the scheme aims to improve safety and security for all, the scheme is unlikely to affect vulnerability to crime and other aspects of personal safety, which are the primary factors assessed in the TAG guidance.

During construction of the scheme, there is potential for adverse landscape and visual effects, which may contribute to potential security concerns but are expected to be temporary in nature.

While Options 1, 2 and 3 provide an improved cycle track along the potential relief road, these improvements are unlikely to impact on perceived safety of non-motorised users from the perspective of reduced crime. Options 3 and 4 provide improved active travel infrastructure, including segregation where possible, improved lighting and improved surfaces. This has the potential to increase feelings of security amongst vulnerable road users (VRU's) such as the elderly. Therefore, the overall impact on security, during construction and operation is anticipated to be neutral for Options 1 and 2 and slightly beneficial for Options 3 and 4.

### 4.3 Summary appraisal scores

**Option 1:** Neutral

**Option 2:** Neutral

**Option 3:** Slight beneficial

**Option 4:** Slight beneficial

---

<sup>5</sup> TAG Unit A4.1 Social Impact Appraisal

## 5 Severance

### 5.1 Overview

The introduction or removal of a physical barrier between residents and community facilities/services, as well as whether traffic flows arising from the scheme cause or remove barriers between residents and community facilities/services, are all considered in community severance. Significant changes in transportation infrastructure that obstruct pedestrian mobility or create a physical barrier to movement might cause severance.<sup>6</sup>

Severance predominantly impacts non-motorized modes of transportation, notably walkers, however this assessment will also consider motorised travel due to the higher impact on journey delays. Cyclists will be impacted differently by severance due to two factors: they travel faster and may not have access to crossing facilities. Severance impacts are grouped into four broad categories, according to TAG guidance: none, slight, moderate, and large.

### 5.2 Appraisal of impacts

The objective of the scheme is to reduce congestion, improve safety and reduce severance on the A605 through Whittlesey and the surrounding road, walking and cycling network.

The high volume of traffic on the A605 through Whittlesey segregates the town centre creating severance. Options 1, 2 and 3 are likely to reduce the severance caused by the high volume of traffic through Whittlesey by providing a relief road to the south of Whittlesey for through traffic. Additionally, the new cycle track parallel to the relief road will provide a new safe active travel route that bypasses Whittlesey Town Centre. Option 2 is also likely to discourage private vehicles travelling through Whittlesey town centre due to bus priority measures, further reducing severance along the A605. Option 3 has the potential to further reduce severance in Whittlesey through the introduction of active travel improvements including shared use paths and toucan crossings. Therefore the impact is assessed to be moderate beneficial for Option 1 and 2 and large beneficial for Option 3.

Option 4 has the potential to indirectly reduce severance by encouraging more public transport and active travel use through the provision of shared use spaces, toucan crossings, and a mobility hub. However this option will not reduce the number of HGVs travelling through Whittlesey, therefore the overall impact is assessed to be slight beneficial.

### 5.3 Summary appraisal scores

**Option 1:** Moderate beneficial

**Option 2:** Moderate beneficial

**Option 3:** Large beneficial

**Option 4:** Slight beneficial

---

<sup>6</sup> TAG Unit A4.1 Social Impact Appraisal

## 6 Journey Quality

### 6.1 Overview

Journey quality is a measure of the real and perceived physical and social environment experienced while travelling and can be affected both by travellers and by network providers and operators. The journey quality assessment evaluates the actual and perceived social and physical environment experienced when travelling, which can have an important influence on travel choices. Traveller care, traveller perspectives, and traveller stress are three subcategories of journey quality. Poor journey experience may deter people from taking certain modes of transportation, whereas good journey quality can often go undetected and become assumed.

### 6.2 Appraisal of impacts

TAG Unit A4.1 guidance includes aspects such as cleanliness, level of facilities and information provision in traveller care, which have limited relevance in highways schemes.

As a result, this section primarily assesses traveller stress from the perspectives of both motorised and non-motorized users. Traveller stress, according to TAG guidelines, may be subdivided into frustration, fear of accidents, and route uncertainty, the latter of which is less relevant for highway schemes. Frustration is caused by road layout and geometry, road network quality, and overall ability to make effective progress along a route. The presence of other cars, inadequate sight distances, the risk of pedestrians stepping onto the road, the presence of central reservations or safety barriers, and the presence of roadworks all contribute to the concerns about potential accidents.

Options 1, 2 and 3 are likely to increase the journey quality of journeys for road users due to the provision of a relief road, directing through traffic out of Whittlesey town centre. Thus improving the road layout which is likely to reduce fear of accidents and frustration for users of the scheme, reducing travel stress levels. Options 1, 2 and 3 are expected to reduce traveller frustration and stress and as such improve journey quality for road users as a result of reduced congestion and improved, more predictable, journey times. The provision of safer and more reliable transport routes should contribute to positive impacts on journey quality for all road users.

Journey quality for those using public transport is particularly likely to improve as a result of Option 2 which includes bus priority measures within Whittlesey and Option 4 which includes a Mobility Hub, which is anticipated to improve the journey reliability and reduce stress of users travelling through and accessing Whittlesey.

Across all options, journey quality may be temporarily impacted during construction due to construction activities and potential road diversions or closures increasing route uncertainty. These disruptions to routes will no longer exist once the project is operational, and positive effects are envisaged. The provision of safer and more reliable transport networks should improve the overall quality of journey for all road users. The overall rating is assessed as moderate beneficial for Option 1, large beneficial for Options 2 and 3 and slight beneficial for Option 4.

### 6.3 Summary appraisal scores

**Option 1:** Moderate beneficial

**Option 2:** Large beneficial

**Option 3:** Large beneficial

**Option 4:** Slight beneficial

## 7 Option Values and Non-Use Values

### 7.1 Overview

Option and non-use values should be assessed if the scheme being appraised includes measures that will substantially change the availability of public transport services within the study area. Option values consider the willingness to pay to preserve the option of using a transport service for trips not yet anticipated or currently undertaken while non-use values are the values that are placed on the continued existence of a service.

### 7.2 Appraisal of impacts

Where a step-change in transport service is expected (e.g. the removal or introduction of a new mode), an appraisal is required include an assessment regarding the nature of the change in service and whether the change is beneficial or adverse in terms of option and non-use values. Options 1, 2 and 3 do not include measures that will change the availability of public transport options for those living in the study area. Therefore, the overall impact is considered for Options 1, 2 and 3 is neutral.

Option 4 proposes a new Mobility Hub which could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport. However, the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities and this option is reliant on bus operators capitalising on these new improvements by running services. Overall the impact is considered slight beneficial for Option 4.

### 7.3 Summary appraisal scores

**Option 1:** Neutral

**Option 2:** Neutral

**Option 3:** Neutral

**Option 4:** Slight beneficial



## 8 Accessibility

### 8.1 Overview

This section is focussed on local accessibility impacts that more vulnerable residents, such as people who are disabled and older people, could experience. Residents without access to a private car and those from vulnerable social groups can be more reliant on public transport, non-motorised travel, or lifts from friends and family. Key barriers to accessibility according to TAG guidance are availability and physical accessibility of transport, cost of transport, services and activities located in inaccessible places, safety and security, and travel horizons.

### 8.2 Appraisal of impacts

Option 1, 2 and 3 increase accessibility to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. However, Option 1 predominantly focuses on accessibility for motorised users, with minimal focus on active travel and public transport therefore Option 1 is assessed to have a slight beneficial effect.

Option 2 also includes bus priority measures which will reduce bus journey times and improve reliability, thus enhancing the bus offer for those travelling between Whittlesey, March and Peterborough. However, this is reliant on bus operators capitalising on these new improvements by running services. Option 2 also enhances pedestrian crossing facilities to improve safety and access for pedestrians. Therefore Option 2 is assessed to have a moderate beneficial effect.

Option 3 includes the relief road mentioned above in addition to the introduction of new active travel improvements through the town and along the A605. This will include:

- Segregated active travel provision where possible along the A605 through the town, including enhanced junctions with greater priority for active travel to allow for safe and seamless connections across the town, and the A605.
- Improvements will be made to National Cycle Network route 63 through the town, from the northwest outskirts of the town to Lattersley Nature Reserve.
- An improved cycle link to the station along Station Road from the A605, New Road, and Hawthorne Drive.

Option 3 is likely to enable greater level of local journeys around Whittlesey to be undertaken by walking or cycling, reducing car use for shorter journeys. Improvements to National Cycle Network route 63 will improve the quality of longer distance journeys and improvements to active travel access to Whittlesea station, allowing for easier access to onwards journeys by rail. As well as more people orientated infrastructure in the town and the potential reduction in local car journeys which will enhance the public realm and experience for visitors. Therefore Option 3 is assessed to have a large beneficial effect.

Option 4 proposes a new Mobility Hub which could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. Option 4 will also include improved active travel provision across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel. However, Option 4 is unlikely to significantly reduce the levels of through traffic in Whittlesey and the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities. The option is also reliant on bus operators capitalising

on these new improvements by running services. Overall, Option 4 is assessed to have a moderate beneficial effect.

Additionally, the scheme will have no impact on the availability and physical accessibility and cost of transport across all options.

### 8.3 Summary appraisal scores

**Option 1:** Slight beneficial

**Option 2:** Moderate beneficial

**Option 3:** Large beneficial

**Option 4:** Moderate beneficial

## 9 Personal Affordability

### 9.1 Overview

The monetary cost of travel can act as a major barrier to mobility for certain groups of people, for example those on lower incomes or from more deprived areas. Changes to the transport network that involve changes in user charging can impact upon those from low-income groups and deprived areas.

### 9.2 Appraisal of impacts

As the scheme proposes developments relating to changes to the road layout, and minor changes to public transport priority, there are no significant impact relating to personal affordability of transport. The proposed scheme also does not include measures that will change the affordability of public transport options for those living in the study area. Therefore, the overall impact appraisal is neutral across all options.

### 9.3 Summary appraisal scores

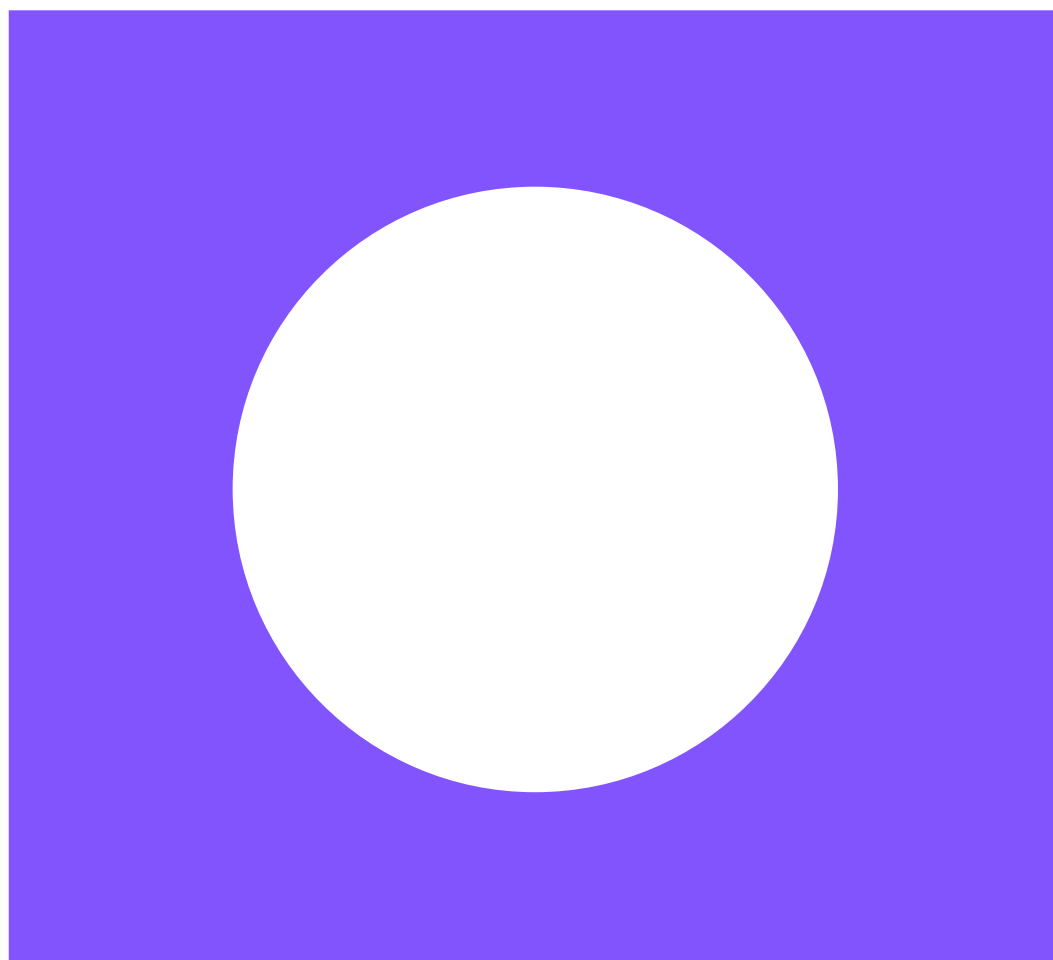
**Option 1:** Neutral

**Option 2:** Neutral

**Option 3:** Neutral

**Option 4:** Neutral





# **Consultation Summary Report**

Whittlesey Relief Road

December 2024

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# Consultation Summary Report

Whittlesey Relief Road

December 2024



# Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	December 2024	S Adams	C Payne	J Bunney	First Issue
B	December 2024	S Adams	C Payne	J Bunney	Updated following client review

**Document reference:** 100114563-MMD-BCA-04-RP-BC-018

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# 1 Introduction

## 1.1 Purpose

This report provides a summary of the consultation undertaken for the Whittlesey Relief Road Project that ran from Wednesday 23<sup>rd</sup> October to Friday 22<sup>nd</sup> November 2024. This consultation was undertaken as part of the development of the Strategic Outline Business Case (SOC) to seek feedback on the underlying issues that inform the case for change for the project, and to seek feedback on the short-listed scheme options.

## 1.2 Scheme background

Previous studies examining challenges within the town of Whittlesey have identified growing pressures associated with growth in new housing and employment sites within, and around, the town. There are issues arising from traffic impacting upon the historic nature of the town and how this affects local people.

The idea of a relief road as a solution to help alleviate traffic in the town, in particular heavy goods vehicles, has been around for many years. Whilst the background to this project is based on the concept that a relief road could be delivered, it has been highlighted by the Cambridgeshire and Peterborough Combined Authority (CPCA), Cambridgeshire County Council (CCC), and the Fenland District Council (FDC) that there is still a need to fully explore the issues and opportunities underpinning the concept of a relief road, and to explore more widely if there are other solutions that should be considered.

As such, an SOC is being developed to present the case for a scheme intervention and to set out a range of potential options that could meet the needs of Whittlesey.

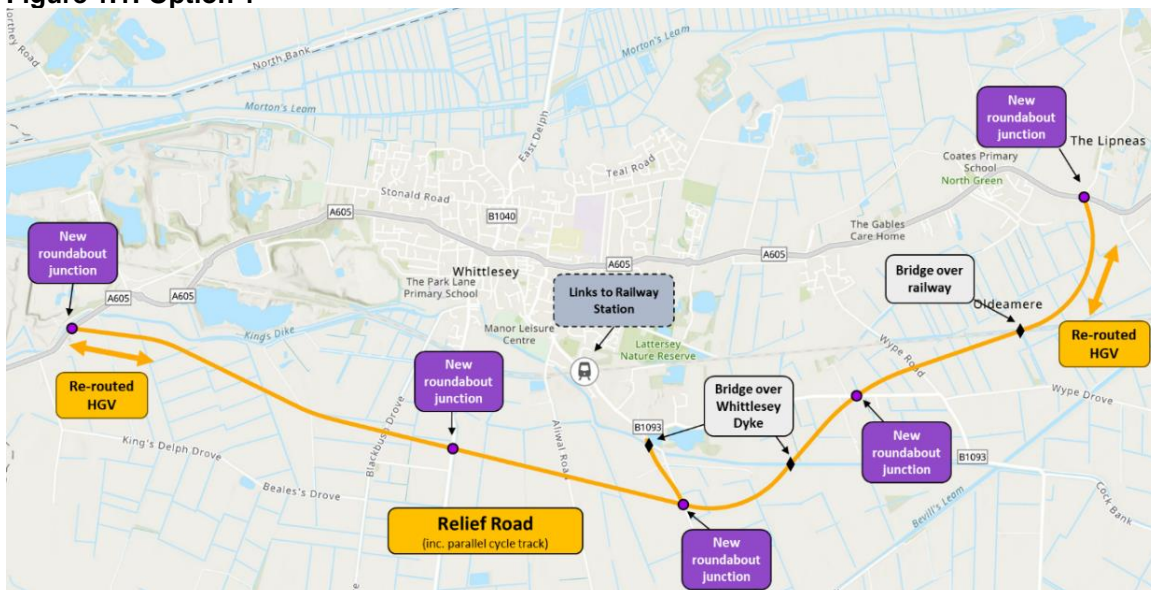
### 1.2.1 Short-list Options

After an optioneering process to assess potential options, four short-list Options were selected for further design development, appraisal and consultation. These options are set out below.

#### 1.2.1.1 Option 1 (Relief Road with HGV re-routing)

Option 1 comprises of a new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track, shown in Figure 1.1.

**Figure 1.1: Option 1**



Source: Mott MacDonald

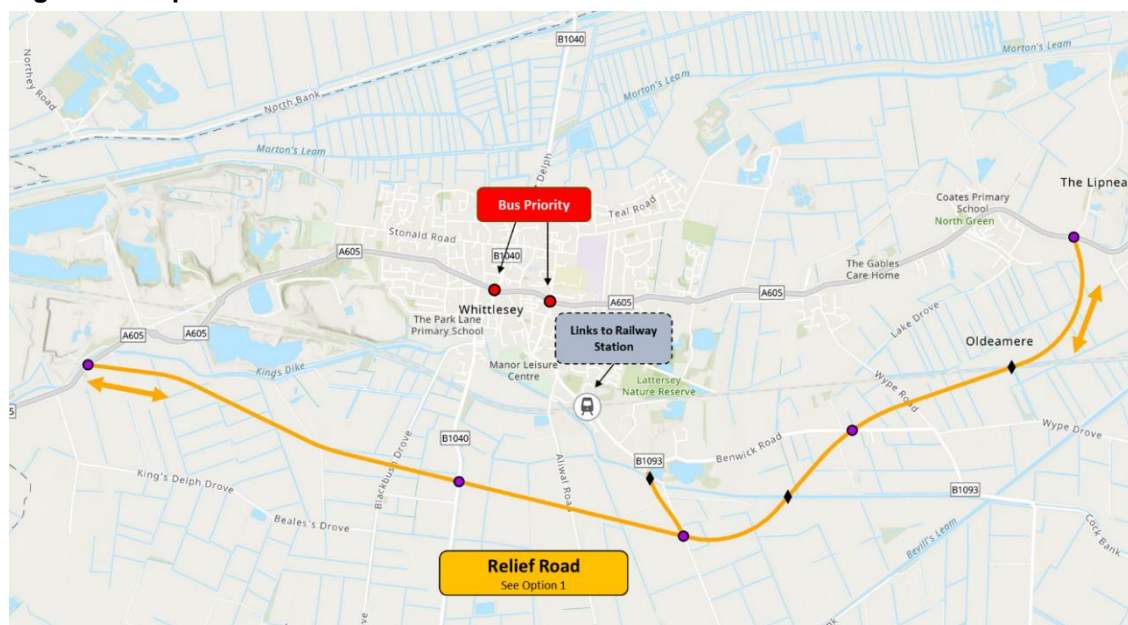
Coming from the west of the town, the new road would divert from the A605 to the south of King's Dyke, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station. The road would then continue to the east, crossing over Whittlesey Dyke and the railway line, before connecting back into the A605 at Wisbech Road.

The road would include junctions at key intersects with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.

### 1.2.1.2 Option 2 (Relief Road with HGV re-routing and bus priority improvements)

Option 2 includes a relief road and parallel cycle track as with Option 1, but also introduces new bus priority measures through the town and along the A605 to Peterborough, shown in Figure 1.2.

**Figure 1.2: Option 2**



Source: Mott MacDonald

Measures would be introduced at the junctions between A605 and B1040, and the A605 and B1093, that would aim to provide greater priority for buses through these roundabouts. This could be in the form of either enhancing the current roundabouts to provide a bus lane through them, or through the introduction of signal-controlled junctions that would allow for buses to be given priority.

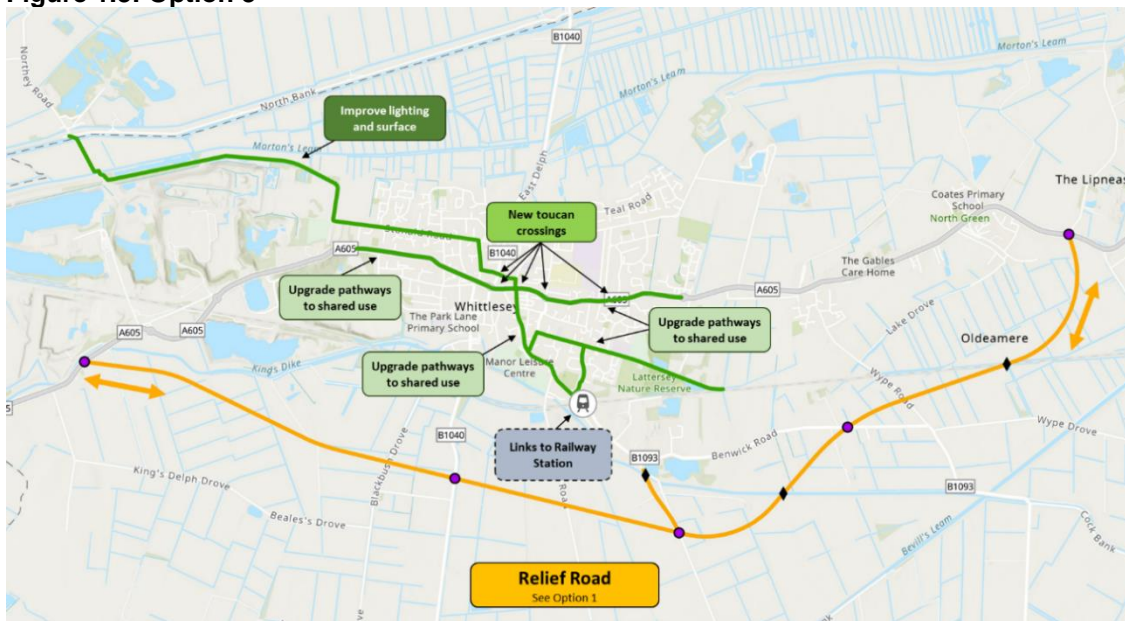
Enhanced pedestrian crossing facilities would also be introduced in the form of either pedestrian crossing islands or signal controlled crossing. This option could also see a downgrade in road space for cars at these junctions to provide bus priority.

### 1.2.1.3 Option 3 (Relief Road with HGV re-routing and active travel improvements)

Option 3 includes a relief road and parallel cycle track as with Option 1, but also includes new active travel improvements through the town and along the A605, shown in Figure 1.3.



**Figure 1.3: Option 3**



Source: Mott MacDonald

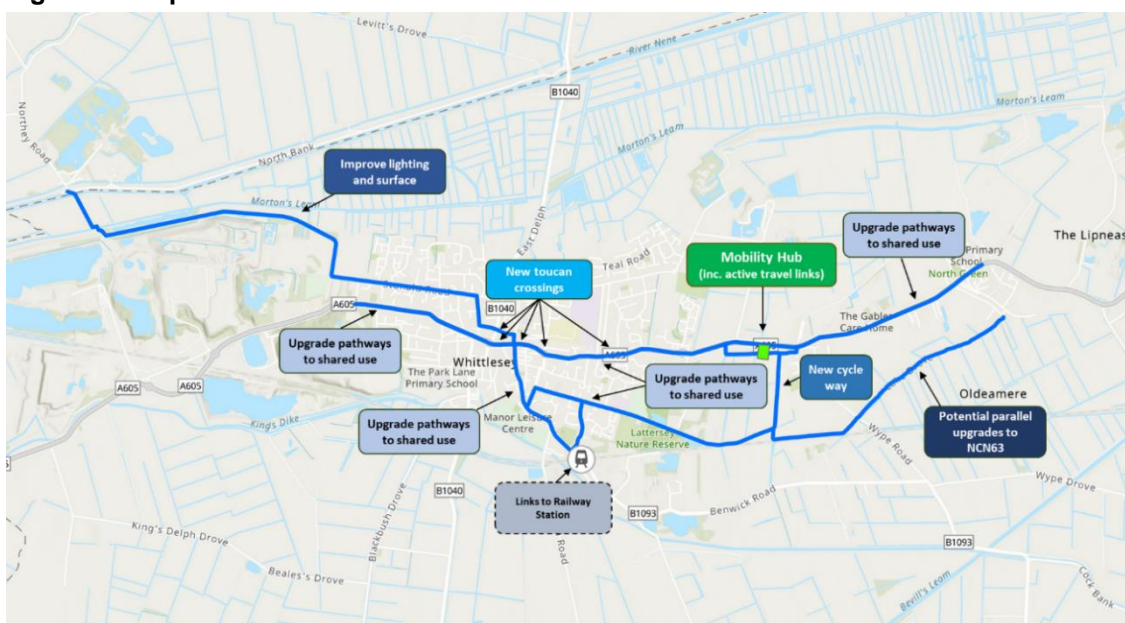
This will include segregated active travel provision where possible along the A605 through the town, including enhanced junctions with greater priority for active travel to allow for safe and seamless connections across the town, and the A605.

Improvements will be made to National Cycle Network route 63 through the town, from the northwest outskirts of the town to Lattersey Nature Reserve. This option would also include an improved cycle link to the station along Station Road, New Road, and Hawthorne Drive.

#### 1.2.1.4 Option 4 (Mobility Hub with active travel improvements)

Option 4 is shown in Figure 1.4 and includes a new Mobility Hub located to the east of the town which can improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough.

**Figure 1.4: Option 4**



Source: Mott MacDonald

The option also includes improved active travel provision from across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car.

The Mobility Hub includes provision for circa 200 parking spaces, including for blue badge holders, and cycle storage facilities. There is also provision of seating and waiting facilities, as well as the potential for bike pumps, toilets and showering facilities.



## 2 Summary of Consultation

### 2.1 Consultation approach

A Stakeholder Engagement and Communications Plan (SECP) has previously been prepared that sets out the planned approach to engagement and consultation with stakeholders and members of the public. The SECP is available in Appendix A.

As stated in the SECP, the aim of the public consultation was to ascertain feedback from stakeholders, residents, and members of the public on general support and public acceptability for the proposals, including views on the proposed short-listed options for intervention. These views will add a further layer of detail to the options assessment and be used to directly inform the SOC and the potential preferred way forward.

### 2.2 Consultation materials

An information pack which outlines the purpose of the Scheme, the Scheme Objectives, and an overview of the four short-listed Options was produced for the consultation. This material was available at all consultation events and in Whittlesey Town Hall over the course of the consultation period, as well as being available online. Advertisement for the consultation and a section of the consultation material is shown in Figure 2.1.

Figure 2.1: Consultation advertisement and section of material

**Whittlesey Relief Road Consultation**  
23rd October to 22nd November

The **Whittlesey Relief Road Project** is to examine a wide range of solutions to address the town's transport issues. Options that could achieve this have been identified and we would like to know what your views are about these options.

**How to find out more and have your say!**

Visit [www.fenland.gov.uk/WRRConsultation](http://www.fenland.gov.uk/WRRConsultation) for details about the project and to access the consultation survey.

Or visit us in person at the following locations on these dates:

- Fri. 25th October** between 8am and 12noon at Whittlesey Town Council Offices, Peel House, 8 Queen Street, Whittlesey, PE7 1JY
- Sat. 9th November** between 10am and 3pm at Add, Eastrea Road, Whittlesey, PE7 2AE
- Tues. 12th November** between 6pm and 8pm online via TEAMS Contact: [transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk) to book your place.

**Project team contact details:**  
[transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk)  
 01534 422 445  
 Printed surveys are available on request.  
 All consultation responses and feedback must be received in full by no later than midnight Friday 22nd November.

**Option 1 - Relief Road with HGV re-routing**

**Description**

- Creation of a new single carriageway road running to the south of Whittlesey with parallel cycle track.
- The new road would divert from the A605 west of King's Dyke and reconnect with the A605 at Wisbech Road.
- The route would run across fields and provide a link to Station Road to enable access to the train station and the industrial area.
- The road would include new junctions at key roads connecting into Whittlesey and Eastrea.

**Benefits**

- Potential to divert up to 3,000 east/west bound vehicles away from Whittlesey, Eastrea and Coates per day.
- Providing improved capacity and resilience on the A605.
- Potential reduction of around 370 HGV vehicles per day travelling in and through Whittlesey (and villages).
- Provision of better routes to enable HGV access to the southern trading estate and western industrial areas via the relief road.
- Provides a new, safe, long distance active travel route along the relief road plus potential to release road space on A605 that could be used for active travel infrastructure or public transport improvements.

**Challenges**

- The funding required for this scheme is expected to be significant. Options to fund a new road scheme of this scale may be limited as road building is currently a low priority across the country.
- A number of dikes, watercourses and the railway line will need to be crossed, requiring new infrastructure.
- Rail services could be temporarily impacted by the bridge construction.
- The scheme will have environmental impacts on local habitat and carbon emissions from its construction.

Source: Fenland District Council

This information pack is available in Appendix B, and the advertisement for the consultation is available in Appendix C.

## 2.3 Consultation events

Two in-person public consultation events were held in Whittlesey over the consultation period, and one virtual public consultation was held via Teams. These events gave the public the opportunity to read the consultation materials and speak to members of FDC and Mott MacDonald who are engaged on the project.

These events were held on:

- Friday 25 October 2024: Whittlesey Town Council offices, Peel House, 8 Queen Street, Whittlesey, PE7 1AY, 8am to 12noon.
- Saturday 9 November 2024: Aldi supermarket, Eastrea Road, Eastrea, PE7 2AE, 10am to 3pm.
- Tuesday 12 November 2024: Online via Microsoft Teams, 6pm to 8pm

These events were well attended with approximately 150 attendees at the first event, 300 at the second event, and nine at the online event. In addition to this, the consultation materials were available in Whittlesey Town Hall to be viewed by the public, with approximately 400 people having access to these over the consultation period. Overall, there has been in the region of 850 instances where people have had the opportunity to directly engage with the materials via the events.

## 2.4 Online consultation

An online consultation was run over the course of 23<sup>rd</sup> October – 24<sup>th</sup> November 2024 using the platform SurveyMonkey. This online consultation asked respondents a series of questions to understand public perception of issues facing Whittlesey, their opinions on the four short-listed Options, and their general demographic data. This data has been anonymously collected and analysed within this report.

The questions included in the online consultation survey and complete anonymised answers can be found in Appendix D.

## 2.5 Consultation context

During the consultation period, Whittlesey has been facing some infrastructure challenges that, whilst external to this Scheme, may have influenced some of the consultation responses, taking away focus from the aims of this consultation which was to gain feedback on this Scheme. These challenges relate to the Ralph Butcher Causeway to the west of Whittlesey, which has been reduced to a single lane of operation due to structural issues, as well as the extended closure of the B1040 due to the flooding of the Whittlesey Washes and associated road repairs that were being undertaken.

## 3 Demographics of Consultation Respondents

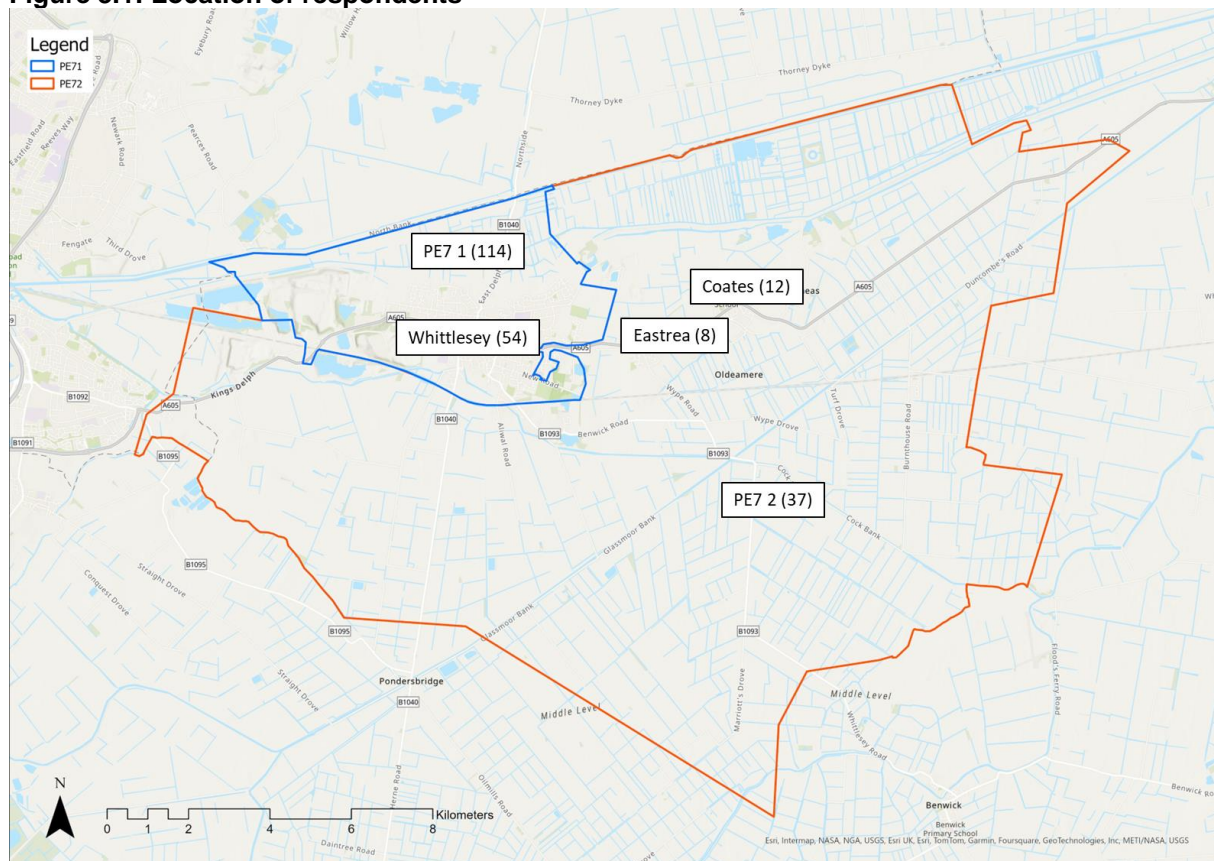
### 3.1 Number of responses

In total there were 310 responses to the online consultation, with 252 responding as individuals, 5 on behalf of a business or organisation, and 53 not stating. It was not required for respondents to complete every question in the consultation, and whilst every respondent did provide some level of insight around their opinions on the issues in Whittlesey and the shortlisted Options, not every question received 310 responses.

#### 3.1.1 Location

Figure 3.1 shows the location of where the majority of respondents live. A total of 114 of the 250 respondents that provided a location live in a PE7 1 postcode, which covers the majority of Whittlesey, whilst 37 live in a PE7 2 postcode, which covers to the East and South of Whittlesey. A further 54 respondents stated their location as “Whittlesey”. Other locations included Coates (12) and Eastrea (8).

**Figure 3.1: Location of respondents**

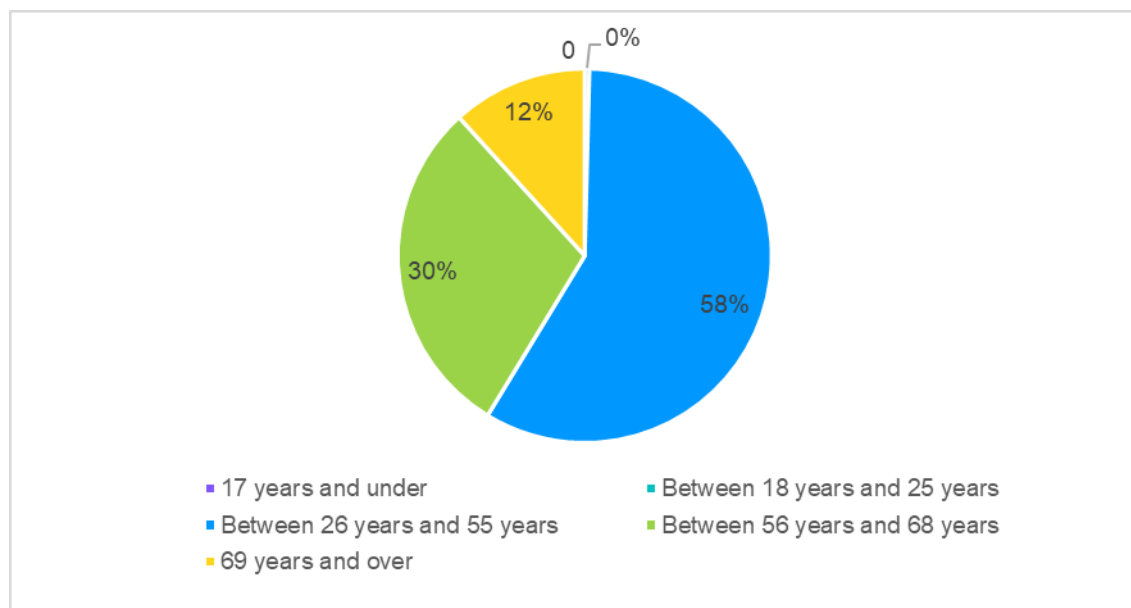


Source: Mott MacDonald

### 3.2 Responses by age

Of those 264 respondents who provided details about their age, the majority of responses were from people aged between 26 years and 55 years with 144 (58%), followed by those aged between 56 years and 68 years with 73 responses (30%), and then those aged 69 years and over with 29 responses (12%). There were 64 respondents who did not wish to state their age.

**Figure 3.2: Age of respondents**

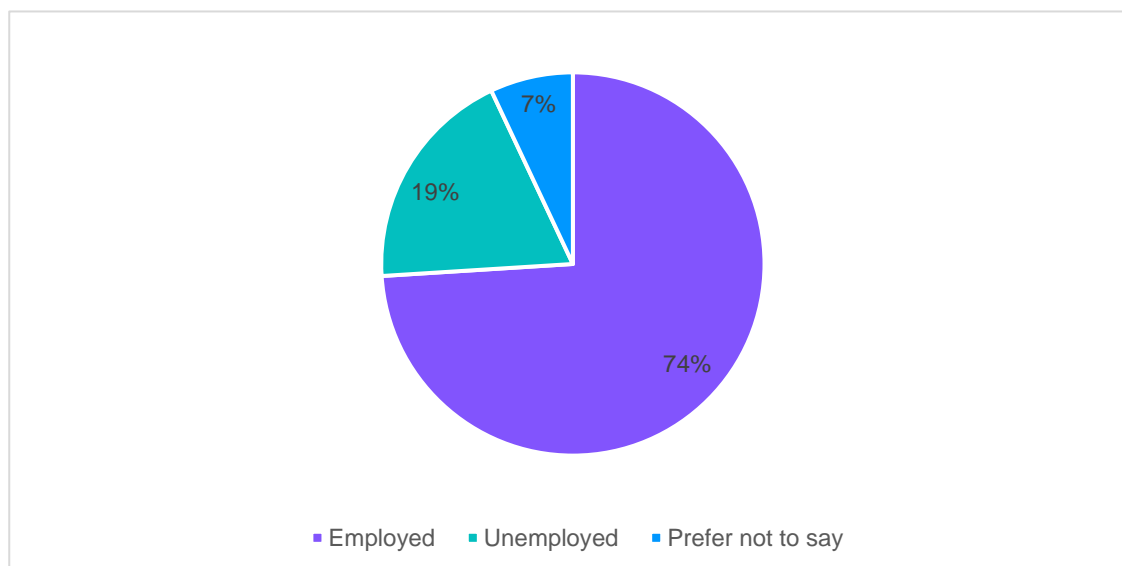


There were no respondents recorded as aged 17 years and under and only one aged between 18 and 25 years. The lack of young respondents can be likely attributed to the fact that they are traditionally a hard-to-reach group in terms of public participation and engagement, and due to the demographic build-up of the area. The split of responses by age does not reflect the exact make-up of the Whittlesey population.

### 3.3 Employment

Of the 253 respondents who answered the question 'Are you currently employed or do any work either unpaid or voluntary?', 186 (74%) advised that they are, while 48 (19%) are not, with 19 (7%) preferring not to say. In addition to this, six respondents advised that they are in full time education.

**Figure 3.3: Levels of employment**



Out of those that are employed or doing any work, either unpaid or voluntary, 175 provided details on where they work. Of these, 23 work at least one day in Whittlesey, 65 at least one day in Peterborough, and 18 at least one day at home.

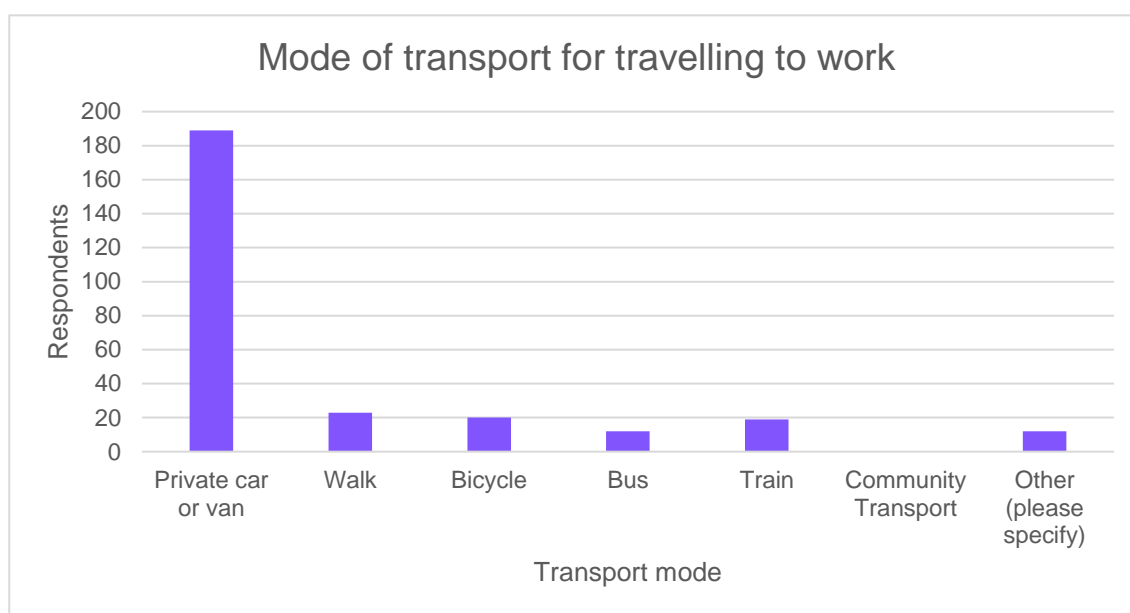
A total of 23 respondents stated that they owned a business either in or near Whittlesey. Of these, 12 stated that their business is located in Whittlesey while the other locations were in the local area including Peterborough, Coates, Thorney, and Turves.

## 3.4 Travel behaviour

### 3.4.1 Travel to work

Of the 216 respondents who advised they are in employment or doing any work, either unpaid or voluntary, and responded to the question '*What mode of transport do you use to travel to work? Please select all that apply*', the majority (189 / 88%) advised that private car or van is their mode of transport for travelling to work. This was followed by walking (23 / 11%), bicycle (20 / 9%), train (19 / 9%) and then bus (12 / 6%).

**Figure 3.4: Mode of transport for travelling to work**



There were 12 responses that stated they travel to work by another mode, eight comments did not state the other mode. However, the other modes that were stated were:

- Work van
- Motorcycle
- Plane
- Vehicle

### 3.4.2 Access to transport

The majority of the 253 respondents who answered the question '*Do you have access to a car, van or other motor vehicle? This may be via others in your household*', stated that they did (236 / 93%).

In addition to this, 183 respondents stated that they are able to ride a bicycle.

A total of 143 respondents stated that they have used public or community transport in the past 12 months. Out of these respondents, 79 advised they have used a train and 67 have used a bus. Some other methods of transport used include coach and a community car scheme.



## 4 Identified Issues

Respondents were asked a series of questions around current traffic conditions, the impact this has, as well as their opinion of transport options. They were also asked to state whether they supported the set of core themes and issues presented and the proposed objectives for the Scheme.

### 4.1 Opinions on current traffic conditions

Question 1 of the online consultation asked the respondents:

**Please tell us your views and experiences of the current traffic conditions in Whittlesey.**

In total there were 285 responses to Question 1. Figure 4.1 shows a word cloud of the most used words from the answers, showing that traffic, flooding, bridge and A605 were commonly mentioned in responses.

**Figure 4.1: Question 1 word cloud**



Source: SurveyMonkey

The following key themes were identified from the answers:

**Congestion and traffic issues:** Many respondents mentioned that the town experiences significant traffic congestion, especially during peak hours and when there are roadworks or flooding. This has a detrimental impact on travel times, affecting daily commutes and school runs.

**HGVs:** According to respondents, HGVs have a substantial impact in Whittlesey, stating that they cause traffic issues, present dangerous conditions, and cause damage to roads and houses in the town.

**Road conditions and infrastructure issues:** Existing infrastructure issues in the area, including flooding closing the B1040, Ralph Butcher Causeway bridge being reduced to one lane, and narrow unmaintained roads impact the experiences of traffic conditions of respondents.

**Impact on daily life:** Respondents highlighted that the current traffic conditions are having an impact on their health, safety and local environment. There are also claims that the traffic issues are seen as a deterrent for visitors and potential new residents, which could negatively impact local businesses and the town's economy.

**Public transport and active travel:** There were many respondents who highlighted that there are few bus and train services in Whittlesey and that walking and cycling is not pleasant, particularly near the secondary school.

## 4.2 Impact of current traffic volumes

Question 2 of the online consultation asked the respondents:

**Please tell us your views and experiences of how the current traffic volumes in Whittlesey effect the town.**

In total there were 264 responses to Question 2. Figure 4.2 shows a word cloud of the most used words from the answers, showing that traffic, roads, people and town were commonly mentioned in responses.

**Figure 4.2: Question 2 word cloud**



Source: SurveyMonkey

The following key themes were identified from the answers:

**Congestion:** Respondents stated that the high amounts of cars and HGVs in the town contribute to large amounts of congestion, which is only getting worse.

**Impact on local business and visitors:** The heavy traffic deters visitors and shoppers, negatively affecting local businesses. Some respondents mentioned that the lack of parking, and the difficulty in navigating the town, make it less appealing for potential customers.

**Environmental and health:** There are widespread concerns about pollution from vehicle emissions, which affects air quality and public health. This is also accompanied by large amounts of noise pollution, including early in the mornings.

**Safety:** The volume of traffic, especially HGVs, poses safety risks for pedestrians and cyclists. Narrow roads and the presence of large vehicles make it dangerous for non-motorized road users.

**Infrastructure:** According to respondents, the current traffic volumes are also having a negative impact on the infrastructure in the town, including roads and shaking buildings.



## 4.3 Opinions on transport options

Question 3 of the online consultation asked the respondents:

**Please tell us your views and experiences of transport options available in Whittlesey.**

The following key themes were identified from the answers:

**Bus services:** Many respondents highlighted that buses are infrequent, with long gaps between services, especially in the evenings and on weekends. There is no bus service on Sundays, which significantly impacts those who rely on public transport for work or other activities.

**Train services:** Similar to buses, train services were criticized for their infrequency. Respondents expressed a desire for more trains to stop at Whittlesey station, particularly during peak hours. The train station's location was noted as inconvenient for many, requiring additional transport to reach it. There were also concerns about the lack of services connecting to other major destinations.

**Active travel:** Active travel provision in Whittlesey also had mixed opinions but were mostly negative. Safety was a major concern, with heavy traffic making it dangerous to walk or cycle in some areas, with calls for better infrastructure including wider pathways and dedicated cycle lanes.

**Traffic conditions:** Many comments were made about the poor state of road surfaces, which are seen as dangerous and in need of repair.

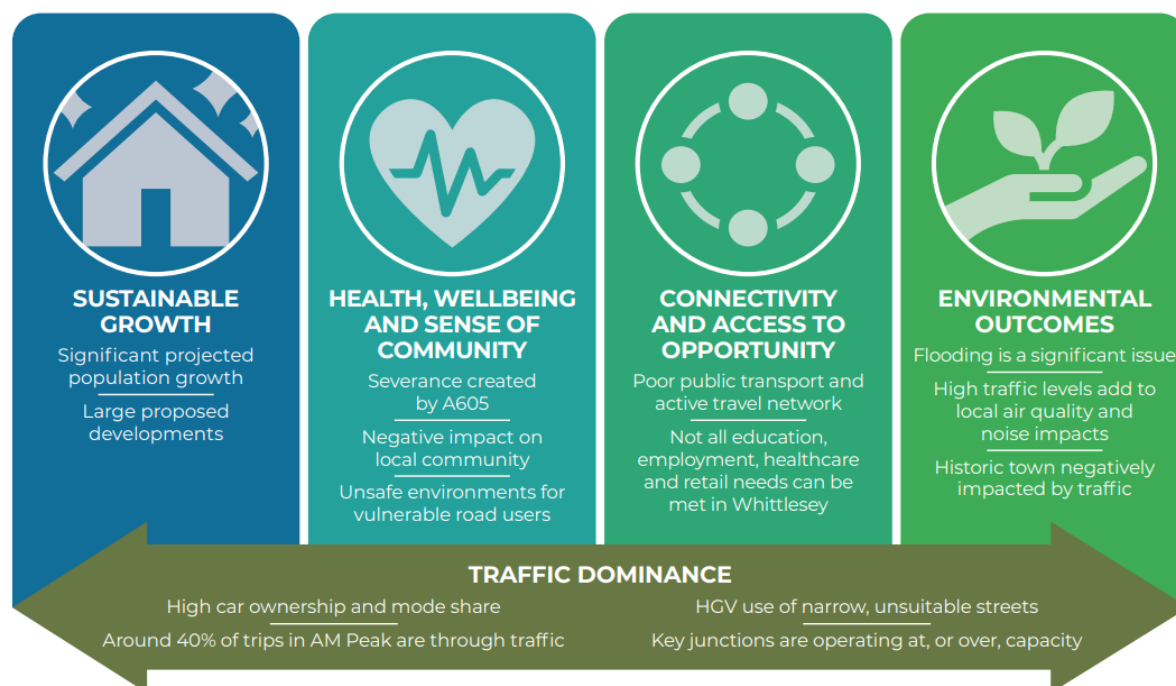
## 4.4 Agreement with identified issues

Question 4 asked respondents:

**Do you agree with the core themes and issues that have been identified for Whittlesey?**

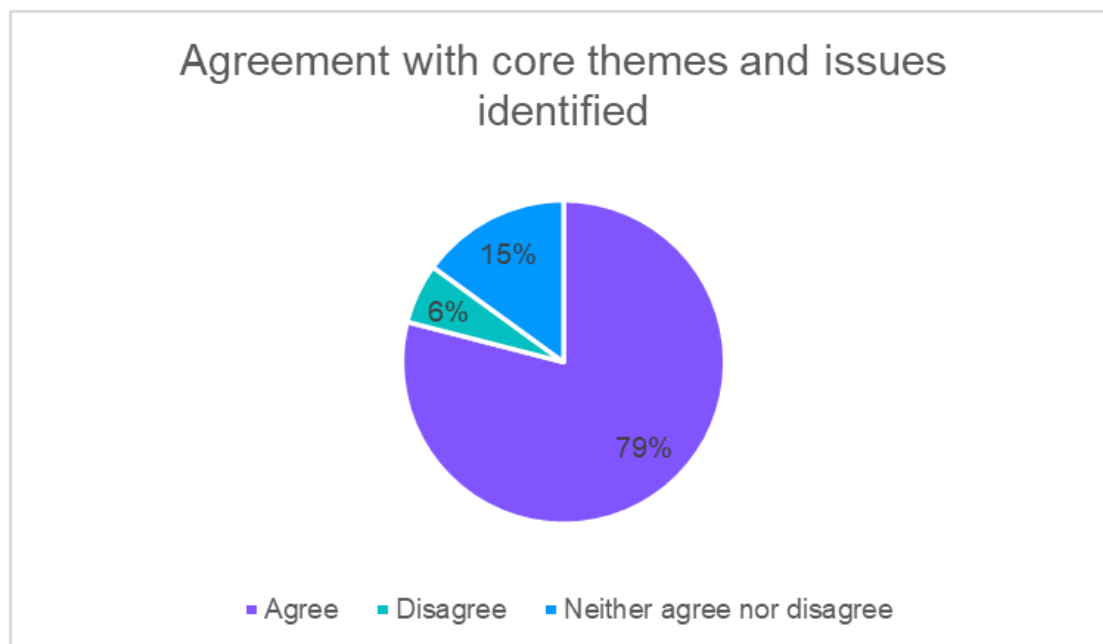
These core themes and issues are shown in Figure 4.3.

**Figure 4.3: Core themes and issues**



There were 261 responses to this question, with 207 (79%) in agreement, 14 (6%) disagreeing, while 40 (15%) neither agreed nor disagreed.

**Figure 4.4: Agreement with core themes and issues identified**



## 4.5 Further issues

Question 5 asked respondents:

### Is there anything else you would like to highlight as an issue in Whittlesey?

The answers reflect a broad range of issues that residents feel need addressing to improve the quality of life in Whittlesey. The responses suggest a strong desire for better infrastructure, more effective traffic management, and enhanced public services to support the growing community.

The following key themes were identified from the answers:

**Healthcare and education:** There is a significant concern about the lack of adequate healthcare facilities (GPs, dentists) and schools to support the growing population.

**Parking:** Illegal and dangerous parking practices are frequently mentioned, with a lack of enforcement exacerbating the problem.

**Infrastructure:** Many respondents mentioned the poor condition of roads and the inadequacy of the new bridge, which is seen as poorly constructed and requiring constant repairs. This was coupled with the common flooding on the B1040.

**Housing development:** The rapid pace of new housing developments is seen as unsustainable without corresponding improvements in infrastructure.

**Saxon Pit:** The constant noise and pollution from Saxon Pit are significant concerns for nearby residents.

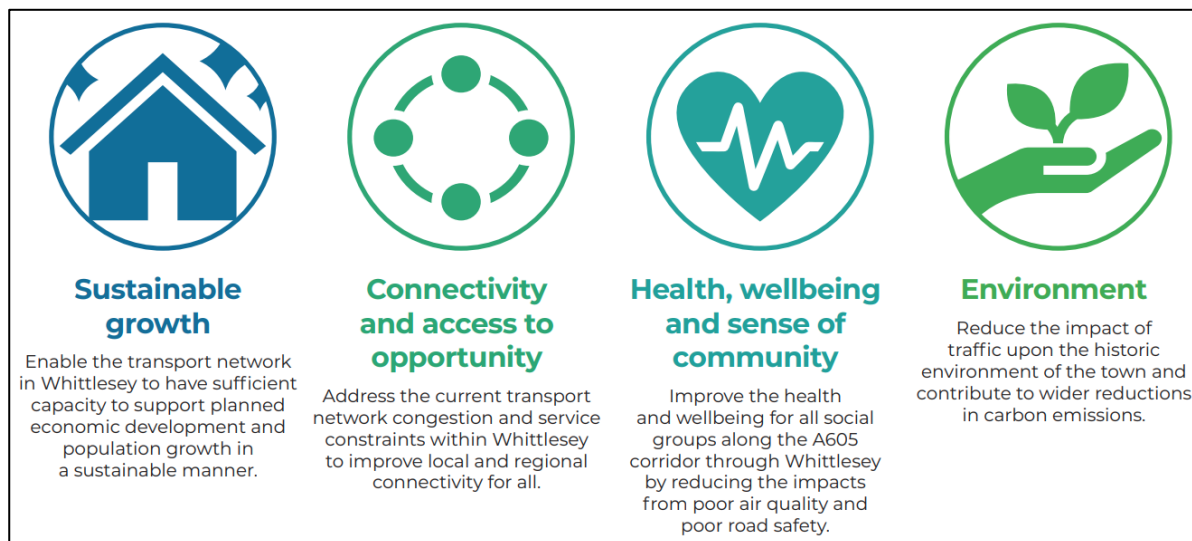
## 4.6 Agreement with objectives

Question 6 asked respondents:

### Do you agree with the objectives the options aim to resolve?

These objectives are shown in Figure 4.5 and Table 4.1.

**Figure 4.5: Core Scheme objectives**

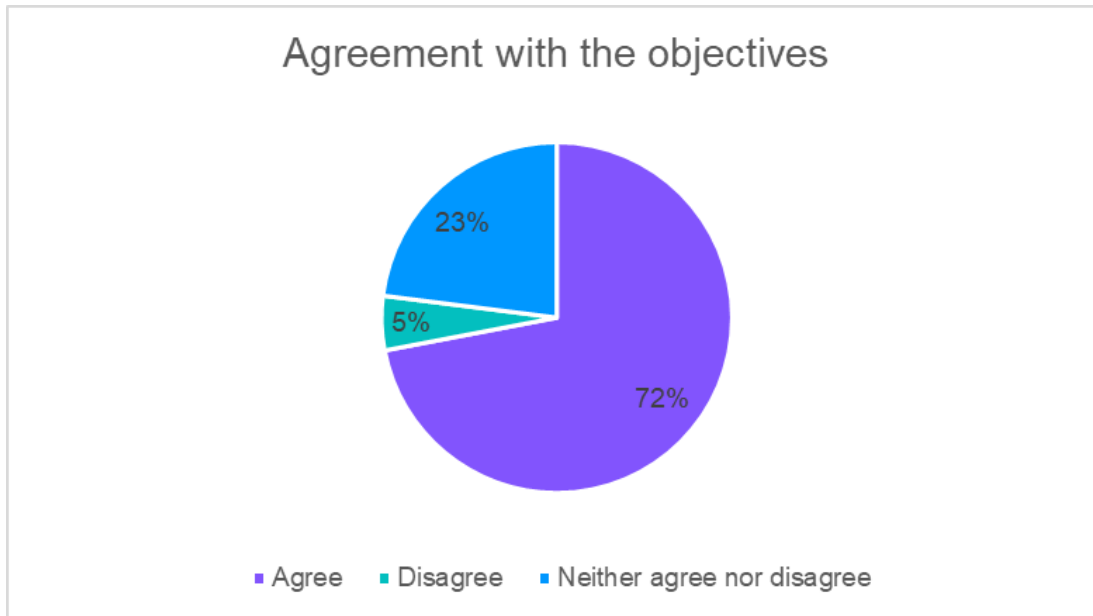


**Table 4.1: Scheme sub-objectives**

Main objective theme	Sub-objective
1. <b>Sustainable Growth:</b>	1a. Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
	1b. Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.
2. <b>Connectivity and access to opportunity:</b>	2a. Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
	2b. Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
	2c. Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.
3. <b>Health, wellbeing and sense of community:</b>	3a. Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
	3b. Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
	3c. Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.
4. <b>Environment:</b>	4a. Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
	4b. Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
	4c. Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.

There were again 261 responses to this question with 189 (72%) in agreement, 13 (5%) disagreeing, and 59 (23%) neither agreed nor disagreed.

**Figure 4.6: Agreement with the objectives**



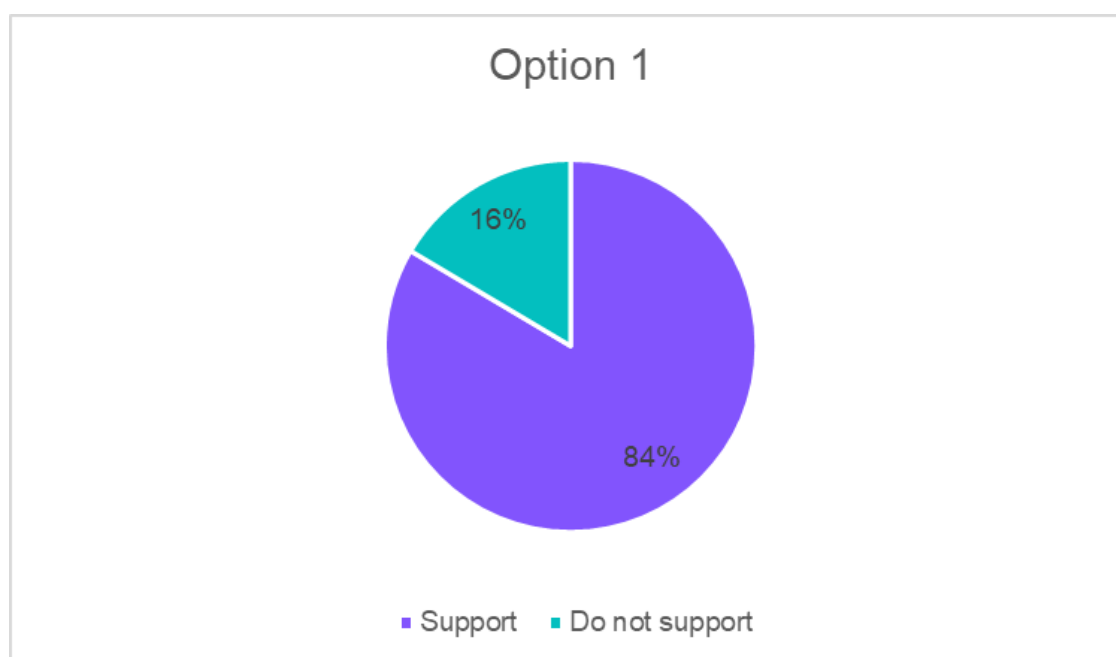
## 5 Responses to the Short-Listed Options

Respondents were offered the opportunity to express their support or opposition for each of the short-listed Options and offer their opinions.

### 5.1 Option 1 (Relief Road with HGV re-routing)

Out of 261 respondents, 218 (84%) stated that they support Option 1 while 43 (16%) did not. This Option has the highest level of support out of the four Options.

**Figure 5.1: Support and opposition for Option 1**



Of the 218 respondents who stated that they support Option 1, 102 left comments, while of the 43 who stated that they do not support Option 1 there were 24 comments.

Of those who stated that they support Option 1, the comments were generally based around support for re-routing HGVs and reducing traffic, and the environmental and health benefits that it might bring. There were also some comments amongst those who support the Option but have some reservations.

**Traffic reduction and HGV re-routing:** Many respondents believe this option will significantly reduce traffic, especially HGVs, through the town, making roads safer for pedestrians and school children. This also included minimising the risk of potholes and worsening road conditions and protecting the buildings in the town.

**Environmental and health benefits:** Reducing traffic through Whittlesey is seen as beneficial for air quality and reducing noise pollution, and facilitate more journeys taken by active modes, which would improve residents' health and well-being.

**Support Option 1 yet have a few reservations:** There were a few respondents who supported Option 1 but had some reservations on its effectiveness, particularly if the ground on which it would be built would be suitable, the impact it may have on natural habitats, and that it does not address issues with public transport.

Of those who stated that they do not support Option 1, the comments were generally based around the impact the relief road will have on local homes, the expectation that it would be ineffective, and that it may not be worth the money.

**Impact on residents:** Some residents are concerned about the noise, dust, and disruption the construction and presence of the relief road will cause, potentially affecting property values.

**Environmental impact:** There are worries about the roads impact on local wildlife and natural habitats, as well as the potential for subsidence due to the area's geology.

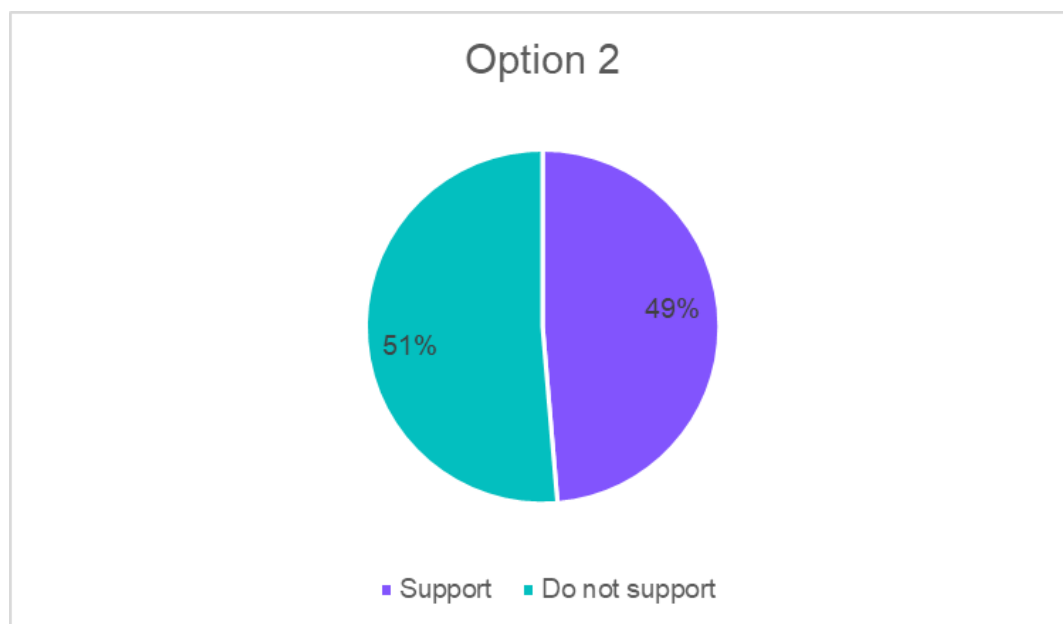
**Effectiveness and cost:** Some respondents questioned whether the relief road will effectively reduce traffic or if it will simply shift congestion to other areas. There are also concerns about the project's cost and whether it represents the best use of public funds.

There was also a selection of comments from respondents who support what Option 1 is aiming to achieve but had some recommendations on how to minimise the impact on the area and maximise its effectiveness. Some of these recommendations included ensuring the HGVs are directed through the industrial estate rather than existing roads, connecting the relief road to Cardea roundabout, and ensuring that the relief road doesn't follow the same fate as Ramsey Road, which is subject to sinking.

## 5.2 Option 2 (Relief Road with HGV re-routing and bus priority improvements)

Out of 261 respondents, 127 (49%) stated that they support Option 2, while 134 (51%) did not.

**Figure 5.2: Support and opposition for Option 2**



Of the 127 respondents who stated that they support Option 2, only 30 left comments, while of the 134 who stated that they do not support Option 2 there were 71 comments.

Of those who stated that they support Option 2, the comments were generally based around support for the relief road, support for the bus priority measures, and the desire for improved bus services.

**General support for relief road:** Many respondents believe a relief road is essential to reduce traffic and improve safety and see it as the only viable option to manage traffic effectively. This largely echoed what was mentioned regarding the relief road for Option 1.

**Bus priority measures:** Supporters think bus priority could enhance public transport and reduce overall traffic, however some supporters still questioned whether there is space for the infrastructure in the town.

**Desire for improved bus services:** There were suggestions that more regular bus routes are needed to make the bus priority measures effective, particularly to Peterborough.

Of those who stated that they do not support Option 2, the comments were generally based around the lack of bus services, the impact that the bus priority measures may have on traffic, and the ineffectiveness of the bus priority measures.

**Lack of bus services:** Some respondents claimed that, due to the low frequency of bus services currently operating in Whittlesey, bus priority measures are not needed and would offer little value for money.

**Impact bus priority measures may have on traffic:** There are worries that bus priority measures could cause more traffic congestion in Whittlesey, both during construction and operation, reducing overall traffic throughput.

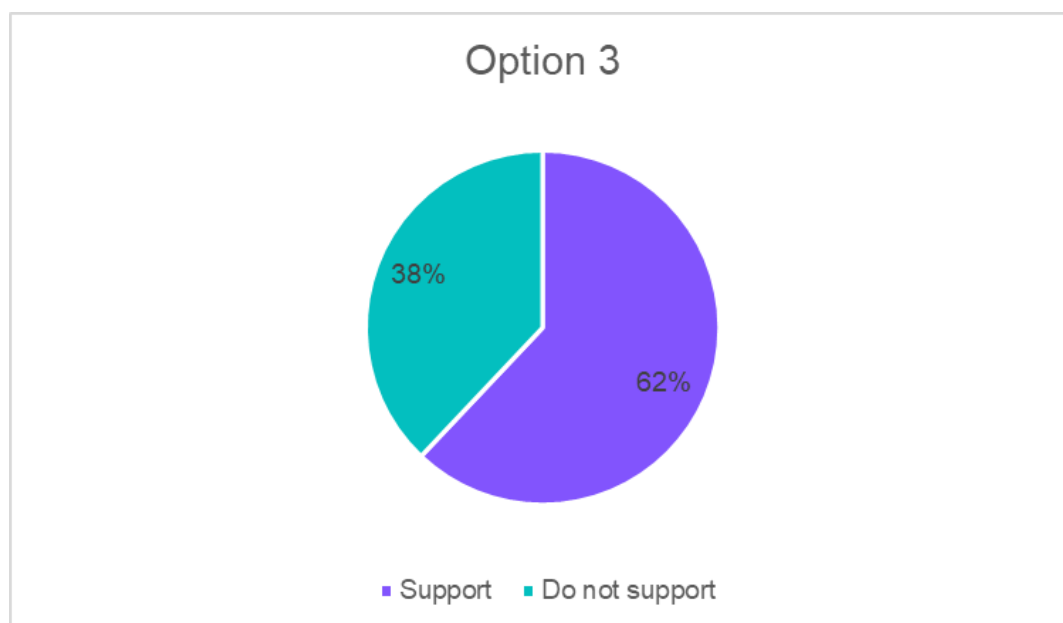
**Ineffectiveness of bus priority measures:** There are doubts that bus priority measures would have a meaningful impact on bus services or travel times and would need a substantial shift from cars to buses.

There were also comments left by those who both support and oppose Option 2 on whether bus priority measures would be needed if a relief road was provided, stating that if the relief road reduced congestion through the town, then buses would be able to travel through the town more efficiently.

### 5.3 Option 3 (Relief Road with HGV re-routing and active travel improvements)

Out of 261 respondents, 162 (62%) stated that they support Option 3, while 99 (38%) did not.

**Figure 5.3: Support and opposition for Option 3**



Of the 162 respondents who stated that they support Option 3, 46 left comments, while of the 99 who stated that they do not support Option 3 there were 35 comments.

Of those who stated that they support Option 3, the comments were generally based around support for the relief road, support for the active travel improvements, and the desire for further improvements.



**General support for relief road:** Again, many respondents believe a relief road is the most important feature of the option, echoing what was mentioned regarding the relief road for Options 1 and 2. There were some comments stating that the active travel improvements should only be implemented after the relief road, if there is funding remaining.

**Active travel improvements:** Respondents believed that the active travel schemes would improve safety for those who use them, stating that the current facilities are very poor, and walking is currently unsafe.

**Further improvements:** There were some suggestions that the active travel improvements should extend to the industrial areas, as well as Eastrea and Coates, and that cycle parking should be introduced around the town.

Of those who stated that they do not support Option 3, the comments were generally based around the cost, the lack of need for active travel improvements, and concerns regarding safety.

**Financial cost of the scheme:** Some of the opposition comments were stating that the relief road should be funded before anything else and that, for the money, the active travel improvements would not offer the benefits needed.

**Lack of need for active travel improvements:** Some respondents claimed that the current active travel provision was adequate for the number of users, and that more crossings would impact drivers and the flow of traffic in Whittlesey.

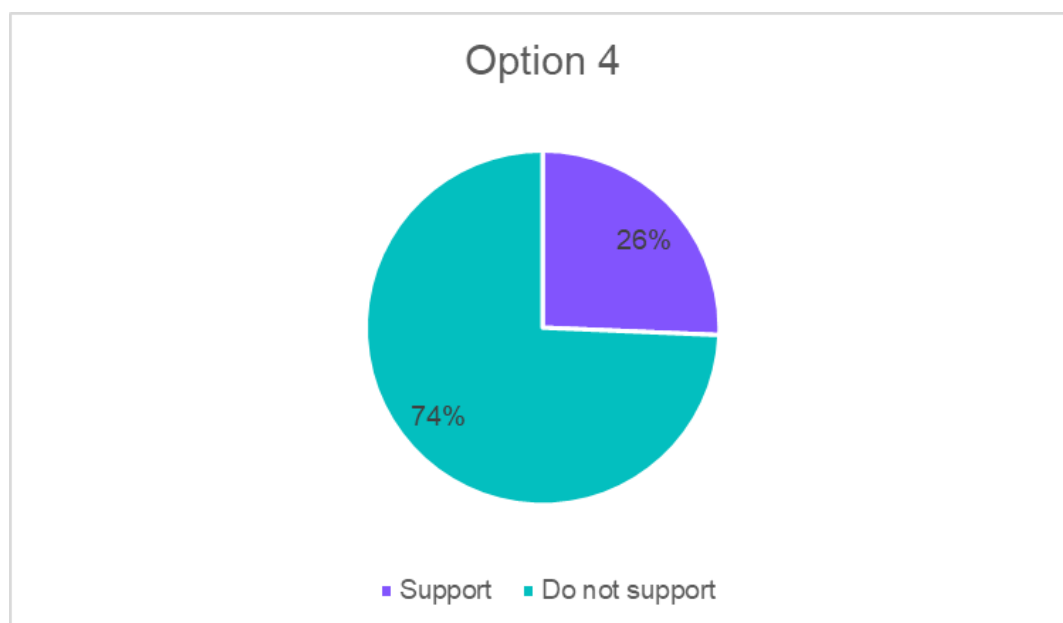
**Safety concerns:** There are fears that shared walking and cycling facilities would be dangerous for users, especially for the elderly, due to cyclists, e-bikes and e-scooters traveling too fast very close to pedestrians.

Again, there were comments left by those who both support and oppose Option 3 on whether the active travel measures would be needed if a relief road was provided, stating that walking and cycling would be much easier with the reduction of traffic brought by the relief road.

## 5.4 Option 4 (Mobility Hub with active travel improvements)

Out of 261 respondents, only 67 (26%) stated that they support Option 4, while 194 (74%) did not. This was the least supported Option.

**Figure 5.4: Support and opposition for Option 4**



Of the 67 respondents who stated that they support Option 4, only 11 left comments, while of the 194 who stated that they do not support Option 4 there were 82 comments.

Of those who stated that they support Option 4, the comments were generally based around support for the active travel and public transport improvements, and believe it would be the most cost effective, however, there were also those that support this option but don't think that it will address the issues facing Whittlesey.

**Active travel and public transport:** Many support the idea of improving active travel and bus/rail services, stating that it would aid a lot of non-car users and those with mobility issues.

**Cost effectiveness:** This Option is seen as more reasonable and cost effective compared to the other Options.

**Further issues:** Some of the respondents that support this Option acknowledged that it would not solve a lot of the issues facing Whittlesey, particularly the HGVs that pass through the town.

Of those who stated that they do not support this Option, the comments were generally based around not addressing the traffic issues in Whittlesey, doubts that there is the demand for a Mobility Hub, and the desire for a relief road.

**Traffic issues:** A significant number of respondents feel this option does not address the main problem of traffic congestion, especially from HGVs, and more buses may add to the congestion on the A605.

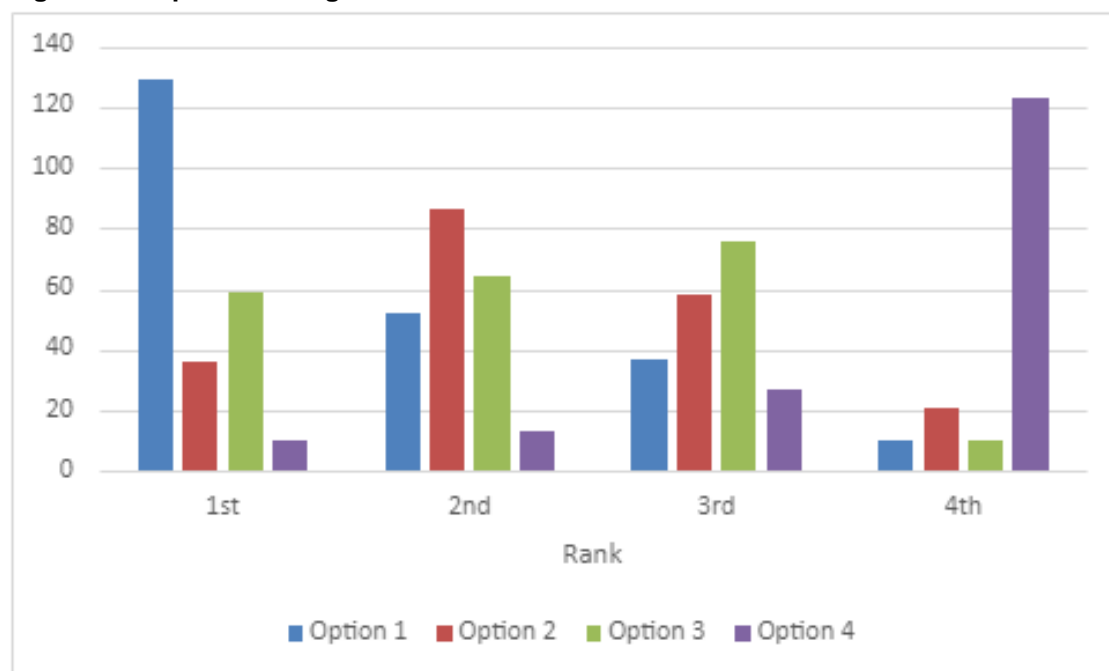
**Lack of demand:** There is scepticism about the demand for a mobility hub and whether it would be widely used as Whittlesey is not a huge population area and there are few current bus services.

**Relief road:** Many respondents stated that they believed the relief road is the only measure that could solve the issues that are facing Whittlesey and should be the focus of this Scheme.

## 5.5 Ranking

Respondents were asked to rank the short-listed Options in order of their preference from most liked to least liked, with 256 responses. The results are shown in Figure 5.5.

**Figure 5.5: Option ranking**



The results demonstrate that Option 1 was selected as the most favourable option amongst respondents, with 129 stating that it was the option that they liked the most. This was followed by Option 3, with 59 respondents stating that it was their preference, then Option 2 with 36, and finally Option 4 with only 10 respondents finding it the most favourable. This means that 224 respondents in total placed the relief road as their preferred choice, with 95 of those desiring further measures with the relief road.

Option 4 was ranked least preferred with 123 respondents, while Option 1 and Option 3 were only ranked least preferable by 10 people each. There were a further 79 respondents that stated they did not support Option 4 and classed it as 'N/A'.

## 6 Stakeholder Consultation Feedback

Whilst stakeholders have been engaged throughout the development of the SOC, the following section summaries the formal responses from key stakeholders that were approached as part of the consultation.

### 6.1 Cambridgeshire County Council

Cambridgeshire County Council's (CCC) Flood Risk Team were approached to provide feedback on the consultation. They advised that, from a flood risk perspective, they would look for more detail relating to the following as part of any scheme development:

- How surface water will be managed, through the use of SuDS where possible
- Existing and proposed impermeable areas
- Flood Risk Assessment
- Drainage general arrangement plans outlining location/ diameters of all pipes/ infrastructure along with discharge points/rates
- Appropriate water quality treatment
- Maintenance plans

### 6.2 Middle Level Commissioners + Whittlesey & District Internal Drainage Board

At the time of issuing this report feedback from the Middle Level Commissioners + Whittlesey & District Internal Drainage Board was still to be received.

## 7 Summary

The public consultation allowed for a wide range of views to be collected and analysed on the issues Whittlesey is facing and the opinions on the short-listed options. These responses will help to guide the future stages of the project and develop the options to maximise their potential.

The headline issues that were identified from the public consultation were the impact that HGVs are having on the town, including on safety, infrastructure and traffic. High amounts of congestion, especially at peak times, were also reiterated throughout the consultation. Inadequate public transport, particularly bus services, and poor access to the railway station were also highlighted as contributing to high levels of car usage and worsening the issues of congestion.

Overall, Option 1 of the relief road with parallel cycle track and HGV re-routing was the most favourable option, with 84% of respondents supporting this option. Option 4 was the least favourable option, with only 26% of respondents stating that they support it.

## **A. Stakeholder Engagement and Communications Plan**

# B. Consultation Information Pack



# Welcome to the Whittlesey Relief Road Project



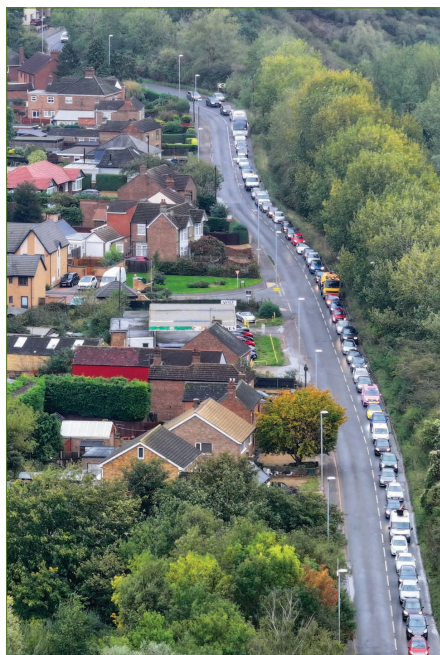
## What are we hoping to achieve?

The outcome of this project is to develop a Strategic Outline Business Case (SOBC) to demonstrate the need for investment to address the town's transport issues and examine a wide range of solutions to assess and determine the best option to take forward.



## Why a relief road project?

The idea for a relief road for Whittlesey has existed for several decades, with the aim of reducing through traffic to improve the conditions of the town centre for businesses, residents, and visitors, thereby contributing to its growth in keeping with its market town status.



## Are we only looking at road options?

Whilst the concept of a relief road is well established locally, this project aims to fully explore and evidence the issues that a relief road is proposing to address, and to understand whether alternative options could be considered alongside relief road proposals. This will enable a robust case to be made for investment in a well-rounded solution that meets the needs of Whittlesey and its residents.



## How is the current work being funded?

The Strategic Outline Business Case is funded by the Cambridgeshire and Peterborough Combined Authority and being delivered by Fenland District Council with support from consultants Mott MacDonald.

Future stages of the project will require further funding to take forward (see "Next Steps" for more details).



# About Whittlesey



## A Small Market Town

Whittlesey has a rich heritage and culture, with a long-established history. The town has many historical features at its heart, such as the 17th Century Buttercross, and Mud Walls dotted across the town that date back 200 years.

The town, with a population of around 18,000, has a distinctive and attractive offer to those who live there, and those who choose to travel there for work or leisure. However, these same features that make the town attractive, also create some impacts that are less conducive with modern day living, particularly in relation to access and transport.



## Links to Peterborough

Whittlesey benefits from being close to the vibrant city of Peterborough. This creates opportunities for residents to work, study, and shop in Peterborough, whilst still maintaining a proudly independent identity and distinct local culture.



## Best of both worlds

Whittlesey can offer the sense of community, calm and proximity to the countryside, alongside the benefits of being situated so close to a bustling city, with everything that it has to offer. A key focus for the town is how it can further benefit from that connection, while also offering something distinct as a place to visit and spend time.



## Public Transport

Low frequency bus and rail services in Whittlesey means public transport is limited. There are few alternatives for many journeys resulting in a high reliance on travel by private car which adds to local traffic volumes.





# Why do we need a Relief Road Project?



## Traffic volumes and through traffic

Whittlesey experiences high levels of traffic due to its location on the A605 and proximity to Peterborough. There is a particular issue with HGVs with around 755 of these passing-through Whittlesey on a given single weekday. The route of the A605 through the centre of Whittlesey means this traffic splits the north and south of the town making walking or cycling in these directions more challenging.



## Highway diversions and Flooding

The A605 forms part of the National Highways' diversion route for the A47 and is a key route for freight. These aspects can lead Whittlesey to experience higher levels of traffic within the town centre when there is disruption on the wider road network. Flooding events often cause the north section of the B1040 to close, further causing issues for traffic through Whittlesey. There are limited options for those impacted by these road closures, resulting in traffic diverting along the A605 through Whittlesey instead.



## Whittlesey is growing

Fenland District's population is expected to grow 16% by 2040. Housing development is planned within Fenland and the surrounding area during the next decade to accommodate this growth, but this will only exacerbate the transport network problems. Solutions are needed to resolve current issues and support future demand.



## Road safety

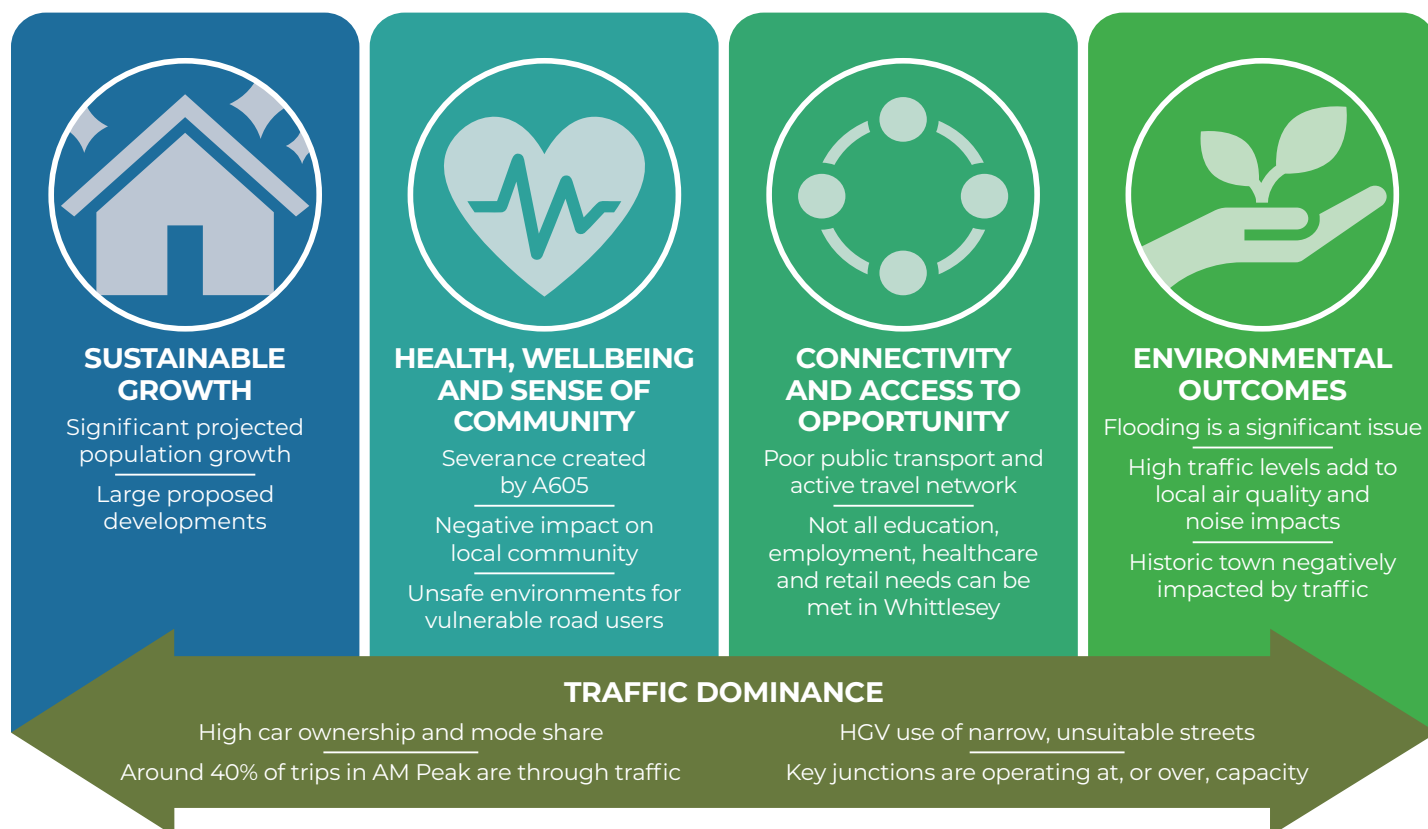
There are a number of small clusters of collisions at key junctions in Whittlesey, in particular at the A605/B1040 junction. This includes 1 fatal pedestrian accident in the past 5 years, and 3 serious incidents involving cyclists.



# Core themes and issues for Whittlesey



The consistent theme of traffic dominance has a significant effect across areas of opportunity for Whittlesey. This is shown on the table below where the issues and challenges Whittlesey faces have been grouped under the opportunities they affect.



This suggests that improving transport issues in Whittlesey can unlock potential for growth, health, connectivity and sustainability for the town. To ensure the best option is put forward in the Strategic Outline Business Case the project has set out a range of objectives. Solutions to reduce traffic dominance in Whittlesey would need to achieve these objectives.



# Scheme Objectives



**Four core scheme objectives** have been established based around the core themed issues and opportunities in Whittlesey. These are linked to national, regional and local strategy themes relevant to the town.

The main scheme objectives are set out below and the targets connected to them are set out on the next board through a series of sub-objectives. These have been established from the main objectives to create meaningful, measurable targets for a transport solution for Whittlesey to be assessed against.



## Sustainable growth

Enable the transport network in Whittlesey to have sufficient capacity to support planned economic development and population growth in a sustainable manner.



## Connectivity and access to opportunity

Address the current transport network congestion and service constraints within Whittlesey to improve local and regional connectivity for all.



## Health, wellbeing and sense of community

Improve the health and wellbeing for all social groups along the A605 corridor through Whittlesey by reducing the impacts from poor air quality and poor road safety.



## Environment

Reduce the impact of traffic upon the historic environment of the town and contribute to wider reductions in carbon emissions.



# What do we want the options to achieve?



## Measurable sub-objectives:

### Sustainable Growth:

- Provide additional transport capacity to accommodate 16% growth in future trips in Whittlesey.
- Reduce the average car journey time in the peak periods by 10% for journeys along the A605 through Whittlesey.

### Connectivity and Access to Opportunity:

- Increase the number of local and regional educational and employment opportunities accessible within 30 minutes for residents in Whittlesey.
- Improve the integration of transport modes to provide viable sustainable travel options for all, leading to a 25% growth in public transport patronage.
- Improve the resilience of the transport network within Whittlesey so that traffic speeds do not decrease by more than 25% during a road closure event along the A605.

### Health, Wellbeing and Sense of Community:

- Improve health and wellbeing for all social groups along the corridor and ensure annual NO2 concentrations remain at, or below, current levels, despite growth in trips.
- Improve the safety for the travelling public, with a 50% reduction in collisions involving pedestrians and cyclists within Whittlesey by 2030.
- Enhance the public realm within Whittlesey so that it puts people first and promotes active lifestyles, improving public perceptions of Whittlesey town centre by 10%.

### Environment:

- Reduce general through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
- Reduce HGV through traffic by 15% to ensure the natural, historic and built environment of Whittlesey is protected and enhanced.
- Reduce the carbon impact from transport emissions and limit the embedded carbon impact from the delivery of any solution.



### Do the options include improvements to Whittlesea Railway Station?

Work to consider improvements to Whittlesea Railway Station are part of a separate project. £3 million pounds has been awarded for project and scheme delivery between April 2024 and March 2027. A public consultation is expected to take place in 2025.

Further details are available from this link:



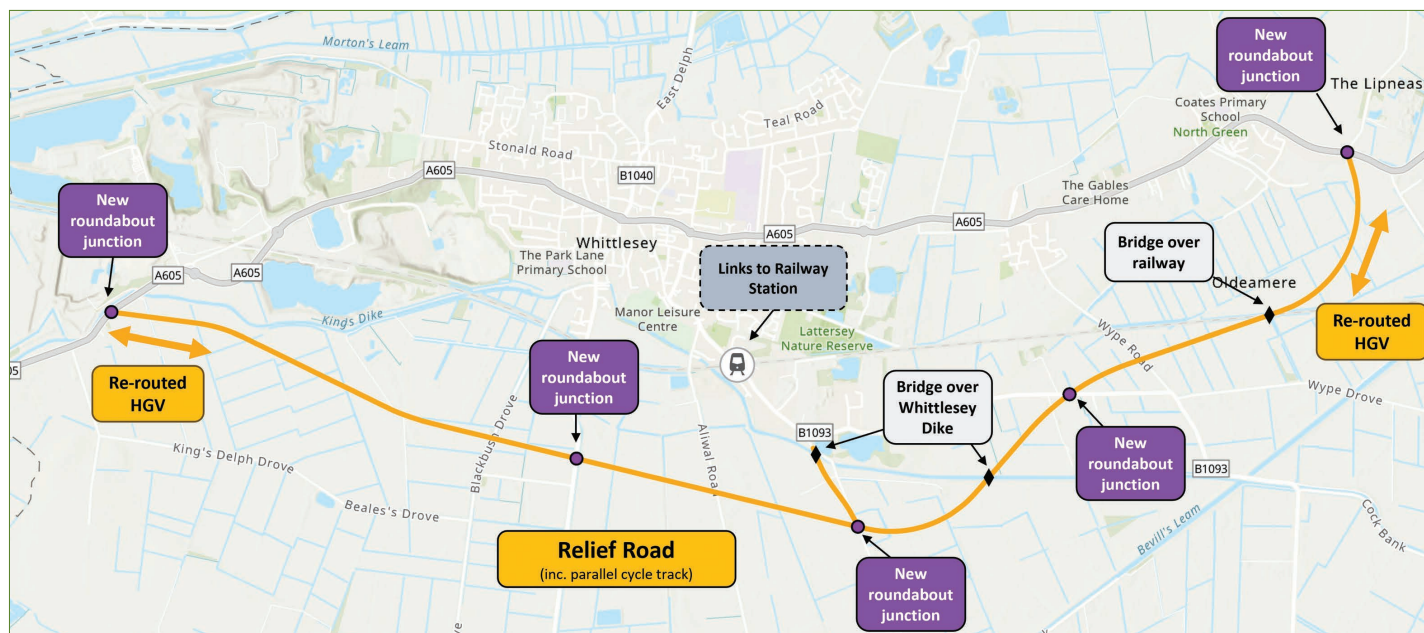


# Option 1 - Relief Road with HGV re-routing



## Description

- Creation of a new single carriageway road running to the south of Whittlesey with parallel cycle track.
- The new road would divert from the A605 west of King's Dyke and reconnect with the A605 at Wisbech Road.
- The route would run across fields and provide a link to Station Road to enable access to the train station and the industrial area.
- The road would include new junctions at key roads connecting into Whittlesey and Eastrea.



## Benefits

- Potential to divert up to 3,000 east/west bound vehicles away from Whittlesey, Eastrea and Coates per day. Providing improved capacity and resilience on the A605.
- Potential reduction of around 370 HGV vehicles per day traveling in and through Whittlesey (and villages).
- Provision of better routes to enable HGV access to the southern trading estate and western industrial areas via the relief road.
- Provides a new, safe, long distance active travel route along the relief road plus potential to release road space on A605 that could be used for active travel infrastructure or public transport improvements.

## Challenges

- The funding required for this scheme is expected to be significant. Options to fund a new road scheme of this scale may be limited as road building is currently a low priority across the country.
- A number of dykes, watercourses and the railway line will need to be crossed, requiring new infrastructure.
- Rail services could be temporarily impacted by the bridge construction.
- The scheme will have environmental impacts on local habitat and carbon emissions from its construction.



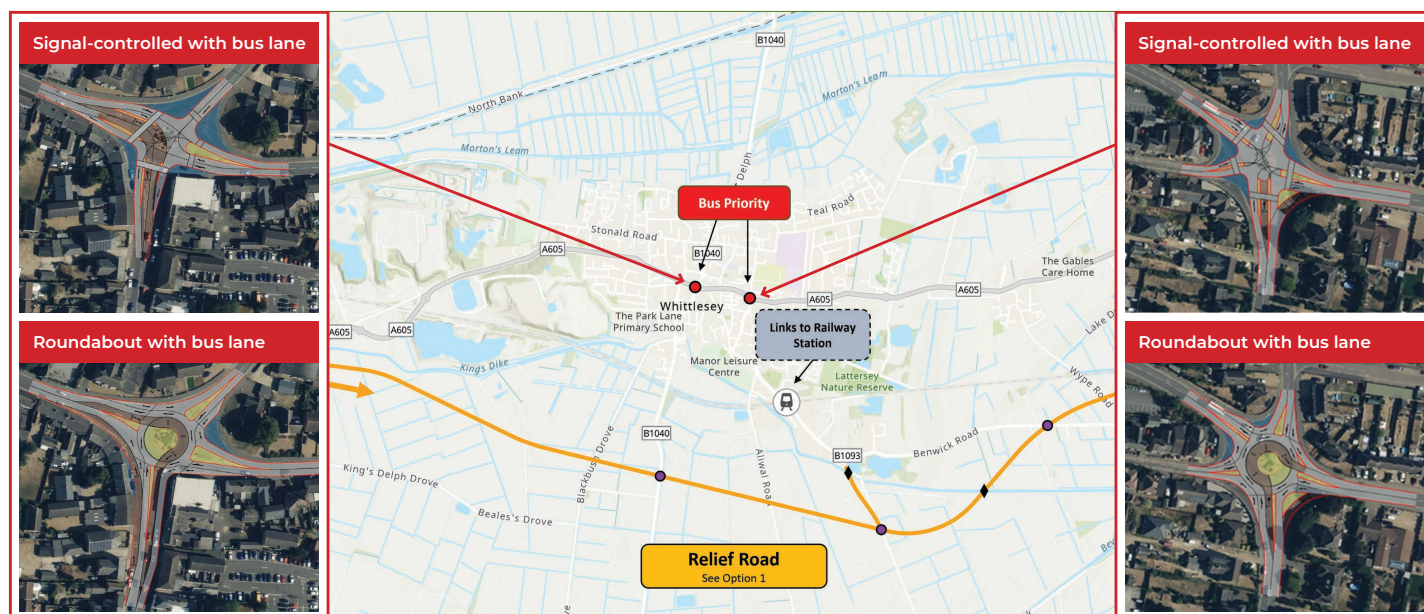


# Option 2 - Relief Road with HGV re-routing plus bus priority improvements



## Description

- Option 1 with the addition of new bus priority measures to the two main roundabouts on the A605. This combination would use the space created by the reduction of through traffic achieved by the relief road to provide better access for buses.
- Greater priority at the junctions between A605 and B1040, and the A605 and B1093 would be created, enabling buses easier access to and from Grosvenor Road bus station to the A605. This could be in the form of introducing bus lanes to the current roundabouts, or through the introduction of signal-controlled junctions that would allow for buses to be given priority.



## Benefits

- This option provides all the benefits of Option 1 plus better bus access and reliability, making bus travel more appealing for users and supporting opportunities for bus operators to provide new or more frequent services through Whittlesey. This could include services to Whittlesea Railway Station.
- The provision of bus priority measures links with the CPCA's Bus Service Improvement Strategy.
- Junction improvements would result in better crossing provision for pedestrians and cyclists on the two roundabouts.

## Challenges

- This option provides all the challenges of Option 1 plus additional funding will be needed to implement the junction upgrades.
- Construction work will create temporary disruption to the town and A605.
- Better bus frequency or new services would be dependent on bus operators and may require additional funding.
- Lane space on the two roundabouts would be reduced for general traffic, although it is expected that space released through the creation of the relief road would minimise the impact of this on journey times.

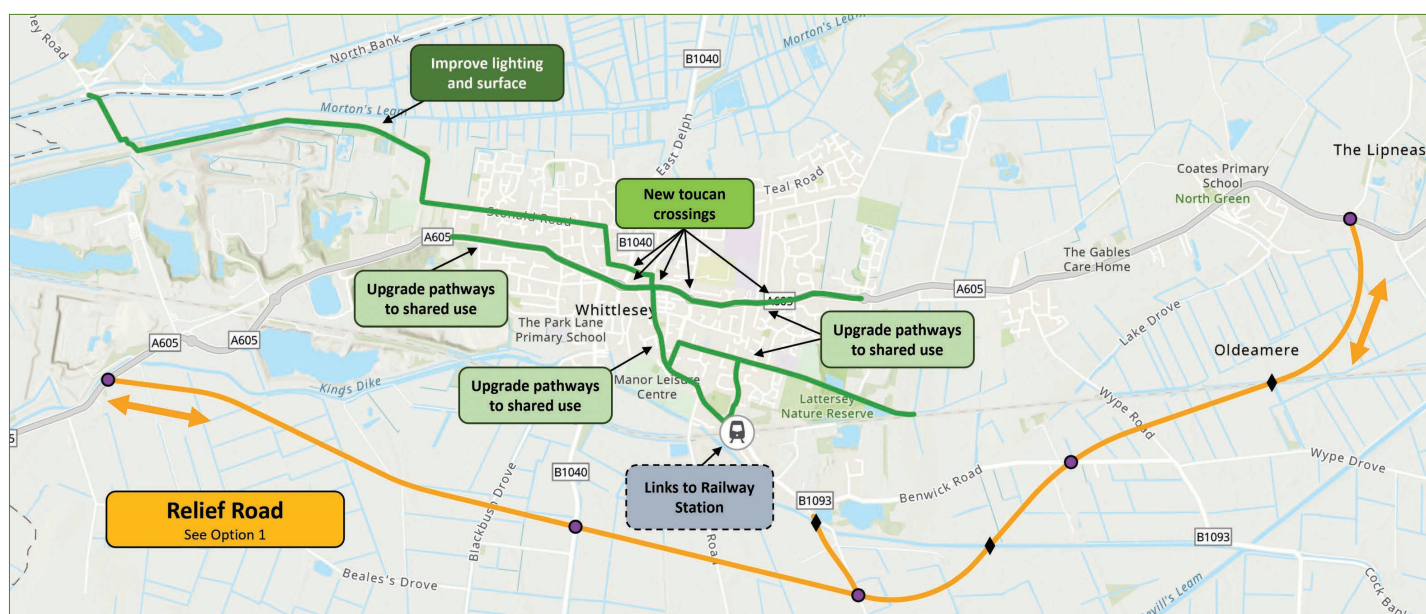


# Option 3 - Relief Road with HGV re-routing with active travel improvements



## Description

- Option 1 with the introduction of new active travel infrastructure along the A605 and through the town. Routes will focus on the National Cycle Network route 63 into and through Whittlesey and better walking and cycling links to the railway station.
- Improvements will include segregated active travel provision, where possible, improved junctions and crossing points, and better lighting, surfacing and safety.



## Benefits

- This option provides all the benefits of Option 1 plus improvements to active travel links along the A605 and through Whittlesey.
- Better walking and cycling provision will support more shorter journeys to be undertaken by active travel. Reducing car reliance and improvement people's health and wellbeing.
- Improvements to the NCN63 supports longer journeys by bicycle or e-bike and links to Whittlesea Railway Station supports multi modal active travel.
- The active travel improvements in this option link with the Fenland Cycling, Walking and Mobility Aid Improvement Strategy.

## Challenges

- This option provides all the challenges of Option 1 plus additional funding will be needed to deliver improvements to the walking and cycling network in Whittlesey. However, funding could be available through active travel initiatives to support some of this work.
- Limited road widths along some parts of the walking and cycling routes could impact the type and consistency of active travel improvements that could be delivered.
- Construction work will create temporary disruption to the town and A605.



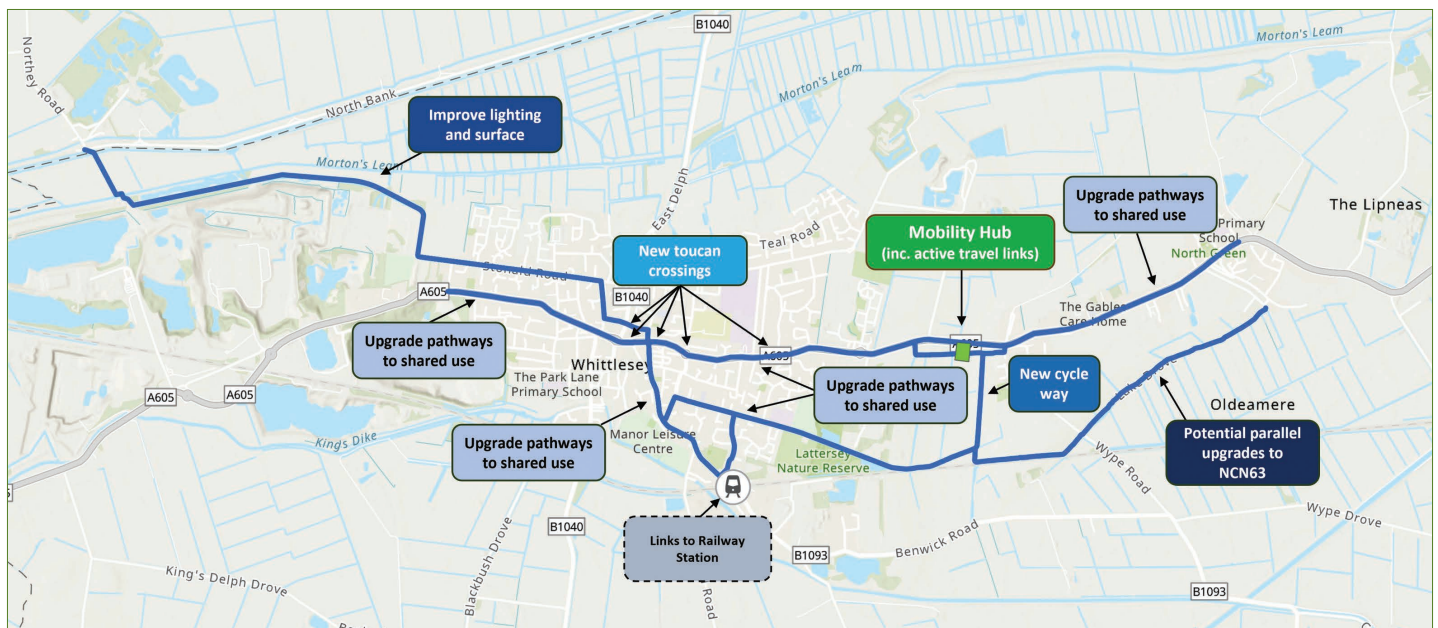


# Option 4 - Mobility Hub with active travel improvements



## Description

- A new mobility hub would be located to the east of the town to enable the introduction of new bus services linking into the town centre, Whittlesea Railway Station and through to Peterborough.
- The mobility hub may provide a range of facilities which could include parking for around 200 cars plus cycle storage and cycle pumps/repair stations, seating and waiting facilities, toilets and possibly showering facilities for commuters.
- In addition, active travel links into the new mobility hub would be improved to encourage local access without the use of a car. This would include the introduction of new active travel infrastructure along the A605 and through the town as set out in Option 3.



## Benefits

- This option provides all the benefits of Option 3 (excluding the relief road) and is a lower cost option by comparison.
- This option supports and encourages all forms of sustainable transport and links with the CPCA's Bus Service Improvement Strategy, FDC's Cycling, Walking and Mobility Aid Improvement Strategy and the CPCA's emerging Mobility Hub Strategy.

## Challenges

- This option provides the challenges of Option 3 excluding the relief road.
- No relief road means there would not be an alternative traffic route away from Whittlesea for HGVs nor would additional road space be released from redirected through traffic.
- Better bus frequency or new bus services would be dependent on bus operators or require additional funding.
- The location of the mobility hub may mean that residents west of Whittlesea might not utilise its facilities.



# Have we considered any other options?



The project identified a long list of 35 potential schemes, covering a wide range of solutions, these included:

- **Relief Roads** – various alignments, including to the north and south of the town.
- **Public transport enhancements** – both infrastructure provision and service enhancements for bus and rail.
- **Active travel enhancements** – including improved connections within the town and to Peterborough.
- **Parking management** – including Park & Ride solutions, and parking control measures within the town.
- **HGV re-routing** – based on both weight and time restrictions.
- **Alterations to the A605** – speed limit restrictions, junction enhancements, pedestrian crossing enhancements.

The process for identifying, sifting and assessing the options the project identified is shown on the table below:

Identifying the initial long list	Grouping of similar options	Pre-sift	Long list options assessment
<ul style="list-style-type: none"> <li>• Initial options identified during stakeholder workshop.</li> <li>• Further options added following workshop from project technical advisors.</li> <li>• <b>35 options</b> carried forward.</li> </ul>	<ul style="list-style-type: none"> <li>• Options grouped or merged where it was deemed that they were similar, or it made sense as one option rather than multiple.</li> <li>• <b>27 options</b> carried forward.</li> </ul>	<ul style="list-style-type: none"> <li>• A pre-sift was undertaken to discount options that were deemed highly unfeasible to deliver, or fell within the remit of other projects currently in development.</li> <li>• <b>15 options</b> carried forward.</li> </ul>	<ul style="list-style-type: none"> <li>• Options assessed using a multi-criteria assessment approach to determine how well they performed against scheme objectives.</li> <li>• Further options added following workshop from project technical advisors.</li> <li>• <b>4 options</b> recommended to carry forward.</li> </ul>

This work showed that different options scored well across different objectives, but no single option would achieve everything needed for the town. As a result, the options being developed are made up of a series of interventions that have been identified as having the greatest potential to best meet the needs of the town.



# Stakeholder engagement and consultation



## Stakeholders and Consultees

Stakeholder engagement and consultation is central to informing and understanding the issues and challenges Whittlesey faces.

Advice from technical experts in fields such as flooding, heritage and ecology has been sought as part of the development of the options included in this project. Alongside input from local residents, businesses and places of education, employers, healthcare providers, sustainable transport providers and active travel experts, we are able to develop a strong case for change and provide valuable feedback and views on potential solutions. These potential solutions are the subject of this consultation.

## Consultation period and events

This consultation will run from **Wednesday 23rd October to Friday 22nd November**.

All consultation materials, including these information boards are available online here [www.fenland.gov.uk/WRRConsultation](http://www.fenland.gov.uk/WRRConsultation).



Events where you can engage with the project team and members of the project board will be held on the following dates:

- **Friday 25th October**  
at Whittlesey Town Council Offices, Peel House, 8 Queen Street, Whittlesey, PE7 1AY.  
To attend this event please drop in any time between 8am and 12noon.
- **Saturday 9th November**  
at Aldi, Eastrea Road, Whittlesey, PE7 2AE.  
To attend this event please drop in any time between 10am and 3pm.
- **Tuesday 12th November**  
online via TEAMS.  
This event is open to all.  
Please contact the project team at [transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk) to book your place.





# Survey link and next steps



## Have your say!

We would like to know what you think about the options proposed in the Whittlesey Relief Road Consultation. This input will be used to inform final outcomes for the project and included in the final Strategic Outline Business Case. Please visit [www.fenland.gov.uk/WRRConsultation](http://www.fenland.gov.uk/WRRConsultation) to provide your feedback and comments.

Printed versions of the survey are available on request from Whittlesey Town Council, Peel House, Queen Street, Whittlesey. Opening hours: 09:30 – 13:00 Monday to Friday.

For any other enquiries please contact [transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk) or telephone 01354 622445 to leave your name and number for a callback from the project officer.

All responses and feedback must be received in full by no later than **Friday 22nd November.**

## What happens next?

A final version of the Strategic Outline Business Case for the Whittlesey Relief Road Project will be developed that presents the options being considered and will reflect the feedback we receive from this consultation.

The Strategic Outline Business Case will then be submitted to the Cambridge and Peterborough Combined Authority for an independent review (a requirement of the Combined Authority funding for the development of the business case).

Following the completion of this review, the Strategic Outline Business Case, and the recommendations within, will be put forward for adoption by the Combined Authority and Fenland District Council, and will form the basis for the next stages of scheme development.

The next stage of a business case is the Outline Business Case where the preferred scheme option will be developed in more detail. If you would like more details about business case development please visit Transport business case guidance - GOV.UK ([www.gov.uk](http://www.gov.uk))



# C. Consultation Advertisement Leaflet



# Whittlesey Relief Road Consultation

## 23rd October to 22nd November

The **Whittlesey Relief Road Project** is to examine a wide range of solutions to address the town's transport issues. Options that could achieve this have been identified and we would like to know what your views are about these options.



## How to find out more and have your say!



Visit [www.fenland.gov.uk/WRRConsultation](http://www.fenland.gov.uk/WRRConsultation) for details about the project and to access the consultation survey.

Or visit us in person at the following locations on these dates:

**Fri. 25th October**  
between 8am and 12noon

at Whittlesey Town Council Offices Peel House, 8 Queen Street, Whittlesey, PE7 1AY

**Sat. 9th November**  
between 10am and 3pm

at Aldi, Eastrea Road, Whittlesey, PE7 2AE

**Tues. 12th November**  
between 6pm and 8pm  
**online via TEAMS**

Contact: [transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk) to book your place.

### Project team contact details:

@ [transportandaccess@fenland.gov.uk](mailto:transportandaccess@fenland.gov.uk)  
☎ 01354 622 445

Printed surveys are available on request.

All consultation responses and feedback must be received in full by no later than midnight Friday 22nd November.



## **D. Consultation Questions and Responses**

# Online Consultation Questions

## Whittlesey Relief Road

**Project:** Whittlesey Relief Road

**Subject:** Online consultation questions and responses

**Q1 (Optional) Please tell us your views and experiences of the current traffic conditions in Whittlesey.**

Answered: 285

Skipped: 25

**Q2 (Optional) Please tell us your views and experiences of how the current traffic volumes in Whittlesey effect the town.**

Answered: 264

Skipped: 46

**Q3 (Optional) Please tell us your views and experiences of transport options available in Whittlesey.**

Answered: 244

Skipped: 66

**Q4 Do you agree with the core themes and issues that have been identified for Whittlesey on page 4 of the consultation information?**

Answered: 261

Skipped: 49

Answer choices	Responses
Agree	207 (79.31%)
Neither agree nor disagree	40 (15.33%)
Disagree	14 (5.36%)
<b>Total</b>	<b>261</b>

**Q5 Is there anything else you would like to highlight as an issue in Whittlesey?**

Answered: 240

Skipped: 70

Answer choices	Responses
Yes – please provide details in the comment box below	130 (54.17%)
No	112 (46.67%)

Answer choices	Responses
Total	240

**Q6 Do you agree with the objectives the options aim to resolve that are detailed on pages 5 and 6 of the consultation information?**

Answered: 261

Skipped: 49

Answer choices	Responses
Agree	189 (72.41%)
Neither agree nor disagree	59 (22.61%)
Disagree	13 (4.98%)
Total	261

**Q7 Please tell us your views on Option 1 (Relief Road and HGV re-routing) set out on page 7 of the consultation information. Do you support this option?**

Answered: 261

Skipped: 49

Answer choices	Responses
Yes	218 (83.52%)
No	43 (16.48%)
Total	261

**Q8 Please tell us your views on Option 2 (Relief Road & HGV re-routing with bus priority measures) set out on page 8 of the consultation information. Do you support this option?**

Answered: 261

Skipped: 49

Answer choices	Responses
Yes	127 (48.66%)
No	134 (51.34%)
Total	261

**Q9 Please tell us your views on Option 3 (Relief Road & HGV re-routing with active travel improvements) set out on page 9 of the consultation information. Do you support this option?**

Answered: 261

Skipped: 49

Answer choices	Responses
Yes	162 (62.07%)
No	99 (37.93%)

Answer choices	Responses
Total	261

**Q10 Please tell us your views on Option 4 (Mobility Hub with active travel improvements) set out on page 10 of the consultation information. Do you support this option?**

Answered: 261

Skipped: 49

Answer choices	Responses
Yes	67 (25.67%)
No	194 (74.33%)
Total	261

**Q11 Please rank the proposed options in order of your preference, i.e. please place the option you like the best as number 1, next best as number 2, etc. If there are any options you do not support please select n/a.**

Answered: 256

Skipped: 54

Option	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	N/A	Total	Score
Option 1: Relief Road with HGV Re-routing	129 (52.87%)	52 (21.31%)	37 (15.16%)	10 (4.10%)	16 (6.56%)	244	3.32
Option 2: Relief Road with HGV Re-routing and bus priority measures	36 (14.40%)	86 (34.40%)	58 (23.30%)	21 (8.40%)	49 (19.60%)	250	2.68
Option 3: Relief Road with HGV Re-routing and active travel improvements	59 (23.51%)	64 (25.50%)	76 (30.28%)	10 (3.98%)	42 (16.73%)	251	2.81
Option 4: Mobility Hub with active travel improvements	10 (3.97%)	13 (5.16%)	27 (10.71%)	123 (48.81%)	79 (31.35%)	252	1.48

**Q12 I am responding as:**

Answered: 257

Skipped: 53

Answer choices	Responses
An individual	252 (98.05%)

Answer choices	Responses
On behalf of a business or organisation Please provide the name, location and type in the text box below and skip to question 22.	5 (1.95%)
<b>Total</b>	<b>257</b>

**Q13 Where do you live? Please provide your postcode or the name of the place (e.g. village, town, city) you live closest to.**

Answered: 250

Skipped: 60

**Q14 Are you currently employed or do any work either unpaid or voluntary?**

Answered: 253

Skipped: 57

Answer choices	Responses
Yes - please provide the location of your workplace (e.g. village, town or city) or indicate whether you work from home in the comment box below.	186 (73.52%)
No (skip to question 5)	48 (18.97%)
Prefer not to say (skip to question 5)	19 (7.51%)
<b>Total</b>	<b>253</b>

**Q15 What mode of transport do you use to travel to work? Please select all that apply.**

Answered: 216

Skipped: 94

Answer choices	Responses
Private car or van	189 (87.50%)
Walk	23 (10.65%)
Bicycle	20 (9.26%)
Bus	12 (5.56%)
Train	19 (8.80%)
Community Transport	0 (0.00%)
Other (please specify)	12 (5.56%)
<b>Total</b>	<b>216</b>

**Q16 Do you own a business in or near Whittlesey?**

Answered: 244

Skipped: 66

Answer choices	Responses
Yes - please state where in the comment box below	23 (9.43%)
No	212 (86.89%)
Prefer not to say	9 (3.69%)
<b>Total</b>	<b>244</b>

#### Q17 Are you currently in full or part-time education?

Answered: 244

Skipped: 66

Answer choices	Responses
Yes - please state where and your means of transport in the comment box below	6 (2.46%)
No	235 (96.31%)
Prefer not to say	3 (1.23%)
<b>Total</b>	<b>244</b>

#### Q18 Do you have access to a car, van or other motor vehicle? This may be via others in your household.

Answered: 253

Skipped: 57

Answer choices	Responses
Yes	236 (93.28%)
No	16 (6.32%)
Prefer not to say	1 (0.40%)
<b>Total</b>	<b>253</b>

#### Q19 Are you able to ride a bicycle?

Answered: 251

Skipped: 59

Answer choices	Responses
Yes	183 (72.91%)
No	62 (24.70%)
Prefer not to say	6 (2.39%)
<b>Total</b>	<b>251</b>

#### Q20 Do you or have you used public or community transport in the past 12 months? By public or community transport we mean a scheduled bus or train service or dial-a-ride.

Answered: 253

Skipped: 57



Answer choices	Responses
Yes - please provide details in the comment box below.	143 (56.52%)
No	107 (42.29%)
Prefer not to say	3 (1.19%)
<b>Total</b>	<b>253</b>

### Q21 Which of these best represents your age group?

Answered: 251

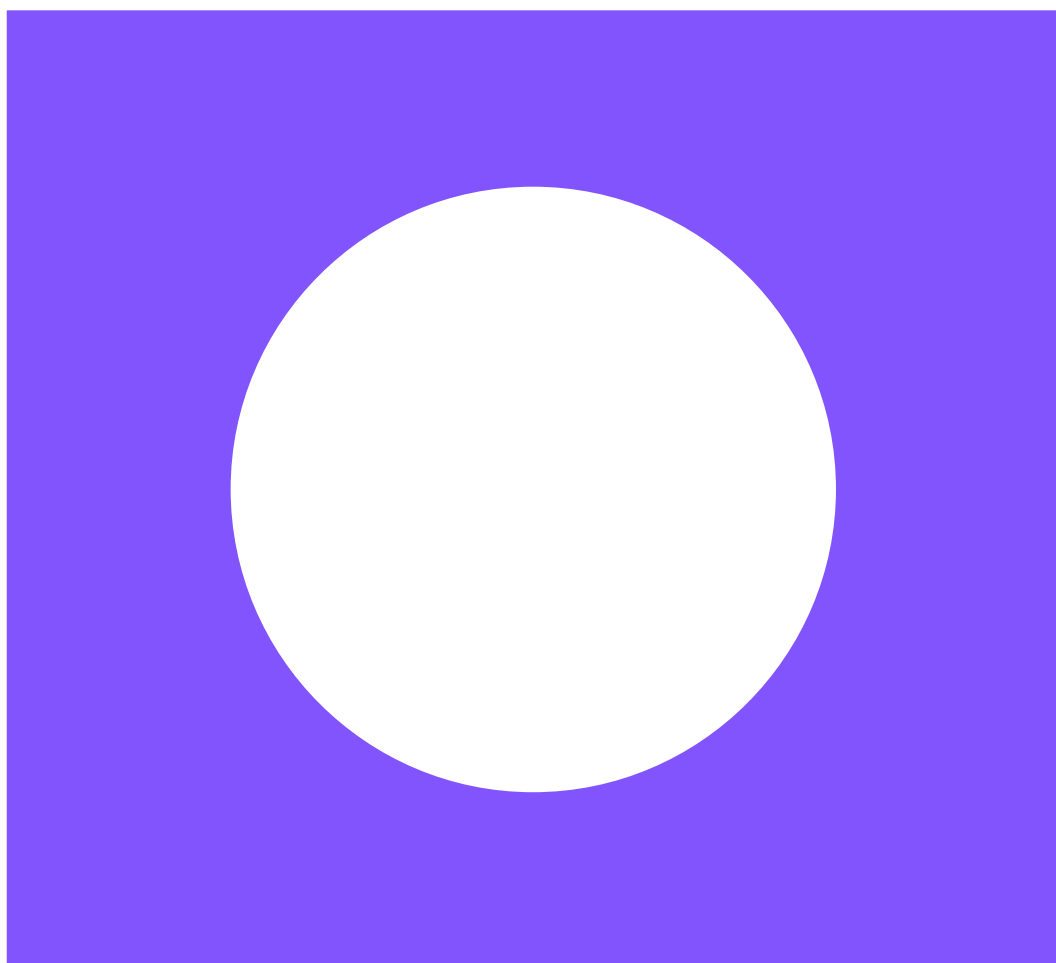
Skipped: 59

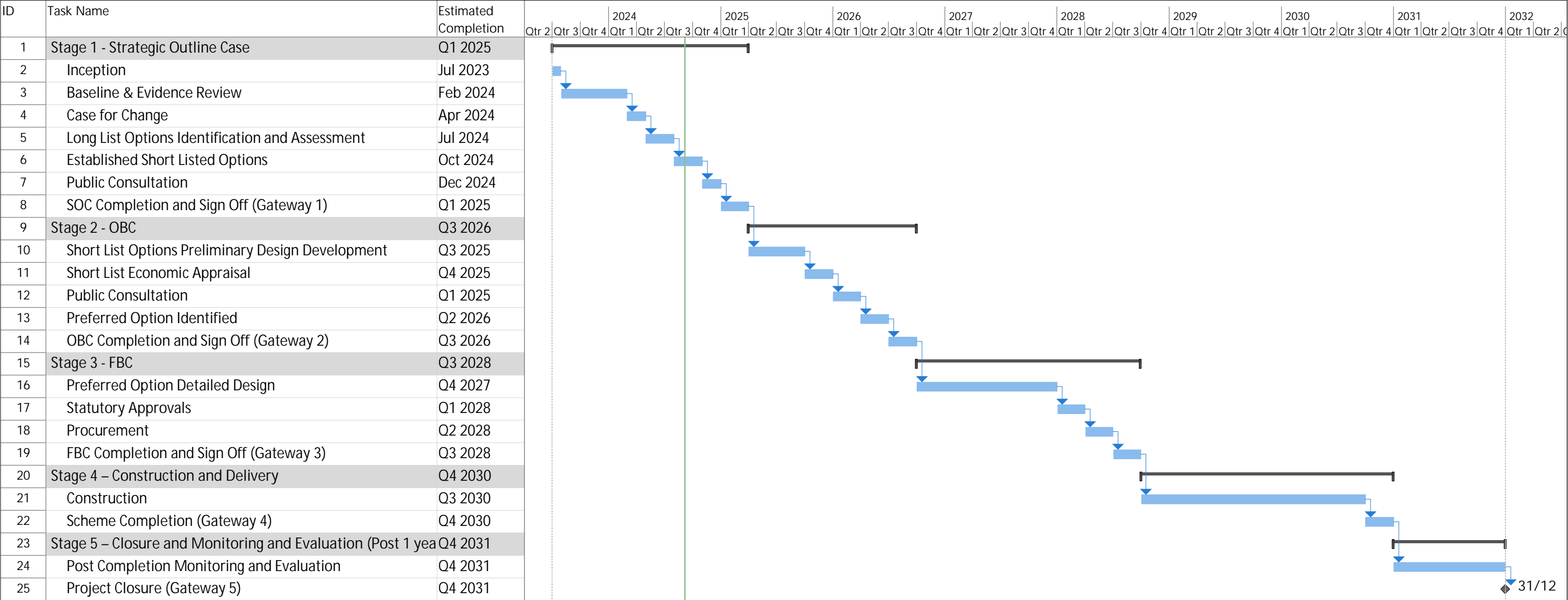
Answer choices	Responses
17 years and under	0 (0.00%)
Between 18 years and 25 years	1 (0.40%)
Between 26 years and 55 years	144 (57.37%)
Between 56 years and 68 years	73 (29.08%)
69 years and over	29 (11.55%)
Prefer not to say	5 (1.99%)
<b>Total</b>	<b>251</b>

### Q22 Optional - Please use this space to provide any further comments that you have not had an opportunity to state in any part of the earlier sections.

Answered: 58

Skipped: 252





Project: SOC Programme  
Date: Fri 06/09/24

Task

Split

Milestone

Summary

◆

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

◆

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

↓

Page 1

Risk Ref No.	Risk Category	Risk Description	Potential Impact on Project	Result	Likelihood	Impact	Initial Risk Score	Risk Owner	Risk Mitigation Measure	Adjusted Likelihood	Adjusted Impact	Total Risk (mitigated)	Mitigation Action Owner	Current Risk Status	Notes/Updates
5	Project Funding	Affordability of the shortlisted solutions identified as part of the SOBC. Lack of appropriate funding stream for shortlisted options.	Programme Delay, Cost	Viability of delivering a solution is affected and subsequent stages (OBC) not achievable.	5	5	25	FDC / MM	SOBC to explore a variety of options to resolve identified issues, including a low cost option.  Project board meetings used to gain confidence from board about alternative solutions.  CPCA need to be well engaged throughout the process to assess funding options.  Development of robust funding strategy in financial case.  Identify options to potentially reduce delivery costs and opportunities to link this project with other schemes in the local area.	5	5	25	MM	Open	As it stands the cost of a solution, including a relief road is likely to be deemed unaffordable even with mitigation. Therefore, the likelihood and impact of this risk remains unchanged.
7	Design	Shortlisted solutions may have an adverse impact on environmental matter (i.e. floodplains, biodiversity, visual, noise etc).	Programme Delay, Cost	Harder to deliver project, including securing statutory approvals.	5	5	25	FDC / MM	Early engagement with environmental professionals. Prior to consultation consider early engagement with potential land owners. Set out details of the proposed options sensitively in public consultation.	5	4	20	FDC / MM	Open	
3	Delivery	Suitable traffic modelling tools are not available or of high enough quality to test the scheme options.	Programme Delay, Cost, Quality Impacted	Unable to model options according to programme and unable to test options to understand their impacts and build the case for change and recommend a short list of options.	5	4	20	FDC / MM	Early review of LMVR. Keep in regular contact with the modelling team at CCC and Milestone to understand potential options and solutions.  Alternative means for testing and appraising options to be explored without use of models.	3	4	12	FDC / MM	Closed	Alternative modelling approach adopted for the scheme using spreadsheet approach built on TAG principles.
4	Delivery	Poor quality or limited data to support the understanding of the issues supporting the scheme.	Programme Delay, Cost	Poor evidence base, weakened case for change.	3	4	12	FDC / MM	Early review of available data. Modelling meeting held in Sept with all parties to understand possible paths with other meetings planned for appropriate stages of the project.  Data analysis activity has been undertaken to assess gaps. Traffic surveys are being explored to fill in any gaps.	2	2	4	FDC / MM	Closed	
1	Design	A strong economic case is not achievable for an intervention.	Programme Delay, Cost, Quality Impacted	Scheme objectives can't be met, funding unable to be secured and scheme can't be progressed.	5	5	25	FDC / MM	Identify and highlight wider non-monetised benefits of the scheme to build the case, including environmental, health, placemaking and social benefits.	5	3	15	FDC / MM	Open	Economic appraisal completed and included appraisal of environmental and social benefits. These are included in the final write up of the business case and inform the VIM assessment.
6	Design	Potential requirements for land to deliver a solution may hinder the delivery of the scheme.	Programme Delay, Cost	Extended programme to go through land acquisition processes. Increased costs, lengthened process, potential that land isn't acquired.	4	4	16	FDC / MM	Prior to consultation consider early engagement with potential land owners. Set out details of the proposed options sensitively in public consultation. Longer term issues of land acquisition will be looked at in subsequent stages.	4	3	12	FDC / MM	Open	Whilst it is unlikely that the scheme can avoid the need for land purchase, whether it can be done through negotiation, or has to be done via CPO is unknown at this stage. Negotiation would be the preferred approach. It is also unknown the exact amount of land required.
2	Stakeholder	Solutions and proposals for addressing identified issues are not supported by stakeholders.	Programme Delay, Cost	Solution is not progressed, or preferred option doesn't have public support.	4	5	20	FDC / MM	Early engagement with stakeholders to understand what problem they want resolving and to bring them on the journey of finding an array of appropriate solutions. Ensure stakeholder and public understand the scope of work (assessing various options). Ongoing programme of stakeholder engagement.	2	5	10	FDC / MM	Open	
31	Stakeholder	Lack of support from highways authority to deliver scheme beyond SOBC.	Programme delays	Project can't be delivered.	4	5	20	FDC	Discussions with highways authority to be held to discuss and agree.	2	5	10	FDC	Open	
13	Stakeholder	Failure to secure support from statutory bodies.	Programme Delay	Programme delay, and even risk that scheme can not progress.	3	5	15	FDC / MM	Stakeholder mapping and engagement to understand potential issues. Early identification of required approvals. Dedicated MM comms manager. Project will follow statutory processes to ensure it is compliant with requirements.	2	5	10	FDC / MM	Open	
21	Stakeholder	Delays or cost overruns due to interfaces with stakeholders/national bodies.	Additional costs and programme delays	National bodies could cause interfaces that require rework to incorporate them into the designs.	4	4	16	FDC	Enter and maintain discussions with key stakeholder/national bodies early in the SOBC process and take account of their requirements. Incorporate their feedback in the design evolution as best possible.	3	3	9	FDC	Open	Whilst this risk remains open for latter stages of work, for the SOBC stage this risk has reduced significantly.
25	Policy	Change of transport specific guidance.	Additional costs and programme delays	Policy/guidance changes after designs/sections of SOBC have been produced leading to rework and programme delay.	3	4	12	MM	Keep abreast of any potential changes to transport specific guidance and get early sight of what the changes could be.	3	3	9	MM	Open	Risk has been avoided at SOBC stage but remains unchanged for next stage of work.
12	Stakeholder	Stakeholders are not aligned in what they want from the scheme.	Abortive work / programme delay / additional cost	Competing interests/ambitions for the outcome of the SOBC and design options could lead to additional engagement and rework to come to an agreed design.	4	4	16	FDC / MM	Engage with stakeholders from early in the project to understand what they want from a scheme. Engage throughout the project and inform them of the design options.	2	4	8	FDC / MM	Open	Through continuous engagement and public consultation, views on the scheme do appear to be aligned.

32	Political	The Project Board requires significant changes to the SOBC report.	Additional costs and programme delays	There are requirements to rewrite/develop sections of the SOBC which delays its completion and submission to CPCA	4	4	16	FDC / MM	Hold regular Project Board meetings and get sign off on the components of the SOBC as its development and drafting progress.	2	4	8	FDC / MM	Open	
8	Design	Solutions being identified don't fully align with current national and local transport policy, in particular with regards to net zero.	Programme Delay, Cost	Optimal solution cannot be progressed.	3	4	12	FDC / MM	MM to ensure up to date guidance is followed throughout the design process and the design team are fully aware of standards.  Options that benefit net zero to be considered as part of the development of options.	2	4	8	MM	Open	While mitigation measures have been put in place, the options being considered still may still not fully meet net zero targets. Further work would be required at next stage to understand how options could be altered to better align.
22	Design	Change of national / regional policy or guidance.	Abortive work / programme delay / additional cost	Policy/guidance changes after designs/sections of SOBC have been produced leading to rework and programme delay.	3	4	12	MM	Keep abreast of changes to policy and raise at fortnightly progress meetings as to how could impact project.	2	4	8	MM	Open	
18	Design	Poor communication between MM and FDC client team/ stakeholders results in designs which are unacceptable.	Abortive work / programme delay	Miscommunication could lead to rework being necessary to bring designs to a point where they are aligned with expectations.	2	4	8	FDC / MM	Fortnightly progress meetings to be held between CCC and MM. Stakeholder engagement role to manage stakeholder inputs and expectations.	1	2	2	FDC / MM	Closed	Designs agreed and approved by FDC.
19	Design	Designs are not compliant with required standards.	Abortive work / programme delay	Rework would be necessary to align designs with required standards.	2	3	6	MM	Design team to adhere to MM checking and approval processes to ensure designs are of the required standard and any discrepancies are caught early.	1	3	3	MM	Closed	Designs of the short listed options have been completed. Designs are concept and will be developed further at next stage.
20	Design	Interface with other projects undermines viability.	Additional costs and programme delays	Emerging projects in the area could cause interfaces that require rework to incorporate them into the designs.	2	2	4	FDC	Engage early with other projects/potential projects in the area.  Look at linkages where we can support or be supported by other projects in the area (Whittlesea Station).	1	2	2	FDC	Closed	
14	Stakeholder	Change of local political administration resulting in changed priorities among elected members and officers as part of local government reform (Mayoral elections).	Abortive work / programme delay	Key stakeholders change along with views of the project.	2	4	8	Project Board	Ensure SOBC production continues on current programme.	2	4	8	Project Board	Open	Note - Mayoral and County elections to be held in May 2025
9	Project Funding	CPCA/Steer review and assurance process means changes are required to SOBC.	Abortive work / programme delay / additional cost	Rework is required in order to be approved by CPCA/Steer which will push delivery date back.	3	4	12	FDC / MM	Early identification of required processes/approvals. SOBC technical team to be aware of the requirements and assurance framework that the SOBC will go through.	2	3	6	FDC / MM	Open	
15	Delivery	Key members of Mott MacDonald staff become unavailable or changes in resource are necessary.	Programme delay	Additional time is required to complete tasks as new resources will need time to be onboarded and get up to speed with the project. Possible loss of scheme knowledge with departing resource.	3	4	12	FDC / MM	All work to be stored on project SharePoint site. Project Plan of Work to clearly state planned ways of working and key information. Mott MacDonald team arrangement has been set up to increase resilience of any unforeseen changes and have a wide resource pool with the relevant expertise. Handover between new resource and old resource to be held where possible.	3	2	6	MM	Open	
24	Design	ANPR surveys impacted by flooding and road closures.	Additional costs and programme delays	Additional surveys would need to be undertaken later in the programme to ensure data is robust which could impact critical path.	3	3	9	FDC	Ensure weather conditions and road closures are reviewed in the weeks and days leading up to the surveys to ensure results will be robust.	2	3	6	FDC	Closed	
17	Design	Programme slippage due to unforeseen issues or delays related to design and/or SOBC production.	Programme delay / additional cost	Unforeseen issues could cause delays to the design and/or SOBC production which could cause delay to SOBC delivery.	3	4	12	MM	Applying familiar methodology and using a team that are familiar working together to deliver projects using this approach. Diligent programme review and flagging or issues and delays as early as possible. Project Director and Project Manager to regularly monitor progress of tasks against the programme and provide regular progress updates to the client lead, supplemented where necessary by more regular email and phone calls. Project extension has been approved by CPCA - Jan 2025	2	3	6	MM	Open	
26	Political	Risk of general election during project lifetime.	Additional costs and programme delays	Pre-election period delays/stoppages could elongate programme.	5	5	25	Project Board	Keep abreast of political announcements to understand when general election and associated processes will be held and what the impacts will be on the programme/stages of work. Maintain open communication with funders and project board	5	4	20	Project Board	Closed	
27	Project Funding	SOBC funding constraints related to fixed budget.	Limited scope changes	Limited budget means that certain aspects, such as ANPR surveys, modelling or additional Steer assurance reviews are not able to be undertaken.	4	3	12	FDC	Keep track of project budget and aware of areas where additional spend could be necessary so that budget is only spent on vital aspects of the project.  Continue to seek options for additional funding if appropriate.	3	2	6	FDC	Open	
28	Political	Client enforced changes leading to prolongation.	Additional costs and programme delays	Effect on timeline and budget meaning the project doesn't meet completion dates of funder and could incur additional cost.	3	4	12	FDC	Agree and maintain scope of project. Closely monitoring potential changes to ensure early warning given. Any significant change to be agreed through the Project Board with clear understanding of affect to programme and budget.	3	2	6	FDC	Open	
29	Project Funding	Additional work may be needed to assess non relief road options (costs not included within current budget forecast).	Additional Costs	Limited budget means that assessment of non relief road options are not able to be undertaken.	5	4	20	FDC / MM	Explore low cost options to assess non relief road options. Explore options for additional funding.	3	3	9	FDC / MM	Closed	All options identified in the optioneering work for the SOBC have been considered at the long listing stage.
30	Consultation	Providing poor information for consultation.	Additional costs and programme delays	SOBC is weakened due to lack of support.	3	4	12	FDC / MM	Develop content for consultation earlier, collaborate within project group on designs and content (meeting to be held 09/08/24).	2	3	6	FDC / MM	Closed	Consultation completed.

16	Delivery	Absence of Mott MacDonald and/or Fenland District Council Project Manager.	Programme delay	PM is not available to initiate workstreams or give the go ahead on deliverables.	3	3	9	FDC / MM	Fenland District Council working closely with Transport Development Manager who will deputise if required. Mott MacDonald PM working closely with technical lead (TL) who will deputise if required. All communications to go via both PMs with support cc'd	3	2	6	FDC / MM	Open	
23	Design	Seasonality of traffic movements shown from ANPR surveys - agricultural movements and brickworks.	Additional costs and programme delays	Further surveys required for OBC at additional cost and could cause programme delays.	2	3	6	FDC	Review results against previous year's data to ensure results are robust.	2	3	6	FDC	Open	

**Risk Likelihood Ratings:**

Description	Descriptor	Scale
May only occur in exceptional circumstances, highly unlikely	Very Low	1
Is unlikely to occur in normal circumstances, but could occur at some time	Low	2
Likely to occur in some circumstances or at some time	Moderate	3
Is likely to occur at some time in normal circumstances	High	4
Is highly likely to occur at some time in normal circumstances	Very High	5





**Risk Impact Ratings:**

Description	Descriptor	Scale
Insignificant disruption to the project or service delivery Little or no delay to project programme or service delivery No environmental impact No reputational impact to Skanska or the Client Negligible financial impact to the project or service delivery (proportionate to budget involved)	Negligible	1
Minor disruption to the project or service delivery Minor delay to project programme or service delivery Minor environmental impact Minor reputational impact to Skanska or the Client Minor financial impact to the project or service delivery (proportionate to budget involved)	Marginal	2
Noticeable disruption to project or service delivery Moderate direct effect to project programme or service delivery Moderate damage to environment Some longer lasting reputational damage to Skanska or the Client Process compliance compromised or non conformance Moderate financial impact to the project or service delivery (proportionate to budget involved)	Significant	3
Major disruption or longer term impact to project or service delivery Significant reputational damage resulting in loss of client, repeat work, opportunities Major detriment to environment Process failure or major non-conformance Major financial impact (proportionate to budget involved)	Critical	4
Critical impact to project or service delivery which may not be manageable longer term Critical reputational impact resulting in major loss of workload which may not be manageable longer term Complete breakdown of process requiring restructure or new process Significant damage to environment Huge financial impact (proportionate to budget involved)	Catastrophic	5



			Likelihood				
			Very Low	Low	Medium	High	Very High
		Score	1	2	3	4	5
Negative Consequence	Very Low	1	1	2	3	4	5
	Low	2	2	4	6	8	10
	Medium	3	3	6	9	12	15
	High	4	4	8	12	16	20
	Very High	5	5	10	15	20	25

**Risk Key**

Major	RED		20 to 25
Significant	AMBER		10 to 16
Tolerable	YELLOW		5 to 9
Negligible / Trivial	GREEN		1 to 4

Whittlesey Relief Road - Benefits Realisation Plan													
ID	Benefit title	Benefit description	Link to Scheme Objectives			Who benefits?	Benefit Owner - who is accountable for delivery of the expected benefits	Dependencies - Activity/Trigger required to confirm realisation	Target realisation date	Risks to realisation	Link to Monitoring & Evaluation		
											How the benefit will be measured	When the benefit will be measured	
001	Reduced air and noise pollution within Whittlesey	Reduction in measurable levels of PM10 and NOx.  Reduction in road related noise levels.	3a	4a	4b	4c	Residents Healthcare providers Visitors	Fenland District Council	Reliance of the completion of the Scheme.  Successful design and implementation of new infrastructure that removes/reduces the causes of noise and air pollution i.e. vehicles.	5 years after scheme delivery.	Provision of alternative modes, such as the frequency of bus and rail services is reduced, or people are unable to access active travel modes, thereby reducing level of mode shift.  There is also a risk that a relief road may free up capacity on the A605 that is then used by local trips, thereby not achieving the reductions in air and noise pollution being targeted.	Air quality and noise level monitoring sites.	Pre-construction Year 1 Year 5
002	Increased physical activity and generated health benefits through an increase in active travel.	Increased levels of walking and cycling within Whittlesey.  Reduction of traffic within Whittlesey, easing issues around congestion, noise, air quality and safety.  Improved health and fitness of residents.	3a	3b	3c	4c	Residents Healthcare Commuters Visitors Businesses	Fenland District Council	Reliance of the completion of the Scheme and the successful design of new active travel infrastructure that meets the needs of users to attract them to using it.  Access to affordable bikes.  Effective marketing campaigns to encourage use of active travel.	5 years after scheme delivery.	Lack of mode shift from car use towards cycling and walking as car is still considered as first choice of travel.	Cycling and walking counts along the A605 within the town, along with general traffic counts.	Pre-construction Year 1 Year 5
003	Enhanced connectivity within the town and across the wider district.	Improved access to education, work and recreation opportunities.  Improved economic activity leading to growth.	1a	1b	2a	2b	Residents Commuters Visitors Businesses	Fenland District Council	Reliance of the completion of the Scheme.  Successful design of new infrastructure or successful implementation of new public transport services to meet the needs of users.	1 year after scheme delivery.	Key locations are not served by the Scheme.	Trip origin-destination surveys.	Pre-construction Year 1 Year 5
004	Reduced economic inactivity as people can access opportunities in the district efficiently.	Decreased levels of economic inactivity Whittlesey and Fenland.  Stimulus of jobs and land value uplift.	1a	2a	2b		Residents Businesses	Fenland District Council	Reliance of the completion of the Scheme.  Scheme links into current and planned opportunity locations.  New developments are built.  There isn't an economic downturn more broadly across the county i.e. recession.	5 years after scheme delivery.	External factors such as economic downturn.	Office for National Statistics - statistics held on economic inactivity	Pre-construction Year 1 Year 5
005	Decreased levels of congestion within Whittlesey, resulting in improved journey times.	Reduction in journey time variability and junction queues during peak times.  A reduction in noise and an increase in air quality along route due to lower levels of traffic.	1a/1b	2b/2c	3a	4a/4b/4c	Residents Commuters Visitors Businesses	Fenland District Council	Reliance of the completion of the Scheme.  Successful modal shift away from private vehicles to active travel or public transport as well as vehicles moving away from using the A605.  Dependant on capacity that is freed up on the A605 not being taken up again by new trips.  Effective marketing campaigns to encourage use of the Scheme.  Consideration around how the A605 is used following implementation of the scheme to prevent build up in congestion again.	5 years after scheme delivery.	Use of the Scheme not significant enough to meaningfully reduce congestion.  Any reduction in vehicles along the A605 is short term before growth in traffic results in re-emergence of congestion issues.	Traffic surveys (ATCs) along the A605.  TomTom road speed data.	Pre-construction Year 1 Year 5
006	Improved safety for pedestrians and cyclists.	Reduction in accidents involving pedestrians and cyclists.  Increase in walking and cycling within Whittlesey.	3b	3c			Residents Healthcare Visitors	Fenland District Council	Reliance of the completion of the Scheme.  Implementation of high quality segregated active travel infrastructure.	1 year after scheme delivery.	Scheme design does not improve infrastructure provision that enables safer journeys to be undertaken.	Numbers of Killed or Severely Injured (KSI) along the A605.	Pre-construction Year 1 Year 5
007	Decrease in private car use as a result of increased public transport use.	Increased bus and rail patronage, and public transport operator revenue.  Decrease in traffic and private vehicle use.	1a	2a	2b		Residents Commuters Visitors	Fenland District Council	Reliance of the completion of the Scheme.  Scheme to introduce substantial enough improvements to make public transport a viable and attractive alternative to private vehicles.  Cooperation of bus and train operators to run public transport services i.e. no reductions in current service provision.	5 years after scheme delivery.	Service cuts result in poorer service provision.	Local bus and rail patronage provided by operators. Where not available from operators, counts to be undertaken.	Pre-construction Year 1 Year 5
008	Improved levels of the public's satisfaction with public realm.	Improvement in local residents satisfaction within Whittlesey.  Whittlesey becomes a more attractive place to live, work and invest.	3c	4a	4b		Residents Visitors	Fenland District Council	Reliance of the completion of the Scheme to the satisfaction of local residents.  Wider improvements and enhancements to the town centre that complement the reduction in traffic i.e. place making schemes.	1 years after scheme delivery.	Quality of public realm improvements does not increase public satisfaction.	Public satisfaction surveys.	Pre-construction Year 1

## Analysis of Monetised Costs and Benefits - Option 1

		Source
Noise	1.5 (12)	AMAT
Local Air Quality	0.64 (13)	AMAT
Greenhouse Gases	8.31 (14)	AMAT
Journey Quality	785 (15)	AMAT
Physical Activity	1,428 (16)	AMAT
Accidents	3,273 (17)	COBALT + AMAT
Economic Efficiency: Consumer Users (Commuting)	2,983 (1a)	TEE + AMAT
Economic Efficiency: Consumer Users (Other)	5,867 (1b)	TEE
Economic Efficiency: Business Users and Providers	9,596 (5)	TEE
Wider Public Finances (Indirect Taxation Revenues)	-480 - (11) - sign changed from PA table, as PA table represents costs, not benefits	TEE + AMAT
Present Value of Benefits (see notes) (PVB)	23,462 (PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)	
Broad Transport Budget	122,988 (10)	
Present Value of Costs (see notes) (PVC)	122,988 (PVC) = (10)	
OVERALL IMPACTS		
<b>Net Present Value (NPV)</b>	-99,526 NPV=PVB-PVC	
<b>Benefit to Cost Ratio (BCR)</b>	0.19 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.

## Analysis of Monetised Costs and Benefits - Option 2

		Source
Noise	1.50 (12)	AMAT
Local Air Quality	0.64 (13)	AMAT
Greenhouse Gases	8.31 (14)	AMAT
Journey Quality	785 (15)	AMAT
Physical Activity	1428 (16)	AMAT
Accidents	3273 (17)	TUBA (Option 1) + AMAT
Economic Efficiency: Consumer Users (Commuting)	3004 (1a)	TEE (Option 1) + AMAT + Bus appraisal
Economic Efficiency: Consumer Users (Other)	5880 (1b)	TEE (Option 1) + Bus appraisal
Economic Efficiency: Business Users and Providers	9597 (5)	TEE (Option 1) + Bus appraisal
Wider Public Finances (Indirect Taxation Revenues)	-480 - (11) - sign changed from PA table, as PA table represents costs, not benefits	TEE (Option 1) + AMAT
Present Value of Benefits (see notes) (PVB)	23498 (PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)	
Broad Transport Budget	123806 (10)	
Present Value of Costs (see notes) (PVC)	123806 (PVC) = (10)	
OVERALL IMPACTS		
<b>Net Present Value (NPV)</b>	-100308 NPV=PVB-PVC	
<b>Benefit to Cost Ratio (BCR)</b>	0.19 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.

## Analysis of Monetised Costs and Benefits - Option 3

Noise	3.06	(12)	Source
Local Air Quality	1.30	(13)	AMAT
Greenhouse Gases	17	(14)	AMAT
Journey Quality	1178	(15)	AMAT
Physical Activity	2991	(16)	AMAT
Accidents	3297	(17)	TUBA (Option 1) + AMAT
Economic Efficiency: Consumer Users (Commuting)	3123	(1a)	TEE (Option 1) + AMAT
Economic Efficiency: Consumer Users (Other)	5867	(1b)	TEE (Option 1)
Economic Efficiency: Business Users and Providers	9596	(5)	TEE (Option 1)
Wider Public Finances (Indirect Taxation Revenues)	-478	- (11) - sign changed from PA table, as PA table represents costs, not benefits	TEE (Option 1) + AMAT
Present Value of Benefits (see notes) (PVB)	25596	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)	
Broad Transport Budget	127082	(10)	
Present Value of Costs (see notes) (PVC)	127082	(PVC) = (10)	
OVERALL IMPACTS			
<b>Net Present Value (NPV)</b>	-101486	NPV=PVB-PVC	
<b>Benefit to Cost Ratio (BCR)</b>	0.20	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.

## Analysis of Monetised Costs and Benefits - Option 4

Noise	£ 2.73	(12)	Source
Local Air Quality	£ 1.16	(13)	AMAT
Greenhouse Gases	£ 15	(14)	AMAT
Journey Quality	£ 1,136	(15)	AMAT
Physical Activity	£ 2,905	(16)	AMAT
Accidents	£ 41	(17)	AMAT
Economic Efficiency: Consumer Users (Commuting)	£ 4,378	(1a)	TEE
Economic Efficiency: Consumer Users (Other)	£ 1,320	(1b)	TEE
Economic Efficiency: Business Users and Providers	£ 159	(5)	TEE
Wider Public Finances (Indirect Taxation Revenues)	£ 93	- (11) - sign changed from PA table, as PA table represents costs, not benefits	PA Table
Present Value of Benefits (see notes) (PVB)	£ 10,051	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)	
Broad Transport Budget	£ 23,492	(10)	
Present Value of Costs (see notes) (PVC)	£ 23,492	(PVC) = (10)	
OVERALL IMPACTS			
<b>Net Present Value (NPV)</b>	-£ 13,441	NPV=PVB-PVC	
<b>Benefit to Cost Ratio (BCR)</b>	£ 0.43	BCR=PVB/PVC	0.43

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.



Appraisal Summary Table			Date produced:		Contact:			
Name of scheme:		Whittlesey Relief Road				Name		
Description of scheme:	•A new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track. •Coming from the west of the town, the new road would divert from the A605 to the south of King's Dike, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station. •The road would then continue to the east, crossing over Whittlesey Dike and the railway line, before connecting back into the A605 at Wisbech Road. •The road would include junctions at key intersects with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.					Organisation		
						Role	Promoter/Official	
Scenario:		Option 1 – Relief Road with HGV re-routing						
Impacts		Summary of key impacts		Assessment				
				Quantitative		Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Option 1 is expected to have a positive impact on business users due to the diverting of HGVs away from the narrow streets in Whittlesey on to the relief road and by providing a more appropriate route for HGVs to access the industrial area to the south of Whittlesey. The majority of the monetary benefit is a result of impacts to road freight, analysed through the TEE Table.		Value of journey time changes(£)			£9,596,000.00	
	Net journey time changes (£)							
	0 to 2min			2 to 5min	> 5min			
	Reliability impact on Business users	Option 1 is expected to have a positive impact on business user reliability due to the journey time savings for HGVs from the relief road, as well as providing an additional route east to west to the A605 around Whittlesey which is a dedicated National Highways diversion route.				Moderate beneficial		
Regeneration	Not assessed							
Wider Impacts	In addition to the quantified economic benefits, the relief road with HGV Re-routing will likely increase carrying capacity for future development, improve living standards and the quality of Whittlesey's public realm, and support local trade within the town. However, there is a potential the induced demand could negate some of the traffic reduction objectives, as the increased capacity generated by the relief road may then attract additional trips by car. In addition, the proposed parallel cycle track is unlikely to benefit the town itself, providing only a route around, rather than into Whittlesey and the businesses located there.				Slight beneficial			
Environmental	Noise	Under this option, there would likely be an opportunity to reduce traffic noise levels within the town centre by reducing traffic flows along the A605 and B1040, and re-routing heavy goods vehicles (HGVs) away from the centre of Whittlesey. This should directly benefit noise-sensitive receptors such as residences, schools, medical facilities, and community centres. However, the noise levels are likely to increase along and close to the proposed new route, bringing traffic noise to the area near King's Delph Drove and the B1093. A Noise Important Area (NIA ID 11393) is situated on the A605 east of Coates near the proposed roundabout junction at the end of the relief road, which may be affected by changes in traffic levels. Noise mitigation measures such as noise barriers or acoustic screens along the new relief road could help manage and minimise the impacts on nearby receptors.  It should be noted that the monetary benefits for noise relate to the active travel improvements only and does not account for the impact of the relief road or changes to road user behaviour on noise, analysed through the AMAT.				Slight beneficial	£1,497	
	Air Quality	The air quality baseline shows that existing air quality does not currently exceed relevant air quality objectives and limit values. Projections from the Pollution Climate Model (PCM) show declining NO2 concentrations due to cleaner vehicle technologies and air quality measures, suggesting that air quality is expected to continue improving in the future. The scheme could significantly reduce traffic congestion by diverting up to 3,000 vehicles per day, including 370 HGVs, away from Whittlesey's town centre. This could lead to lower vehicle idling and smoother traffic flows, which would improve air quality by reducing emissions associated with stop-start driving engines. The rerouting of HGVs away from the town centre is likely to decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area, but it will be introducing these emissions into the new area. Also, the new cycle lane that might change travel patterns and improve active travel could lead to decreased emissions and better air quality. However, construction activities will generate dust and increase emissions to air from construction vehicles, potentially affecting air quality in the vicinity, albeit temporarily.  It should be noted that the monetary benefits for air quality relate to the active travel improvements only and does not account for the impact of the relief road or changes to road user behaviour on air quality, analysed through the AMAT.				Moderate beneficial	£638.22	
	Greenhouse gases	This option has the potential to reduce greenhouse gas emissions by alleviating congestion, improving traffic flow and reducing emissions associated with stop-start driving engines, and encouraging active travel. However, these reductions in emissions may be partially offset by the increase in journey lengths for those using the relief road.  It should be noted that the monetary benefits for greenhouse gases relate to the active travel improvements only and does not account for the impact of the relief road or changes to road user behaviour on greenhouse gases, analysed through the AMAT.		Change in non-traded carbon over 60y (CO2e)		Slight beneficial	£8,308	
			Change in traded carbon over 60y (CO2e)					
	Landscape	The new road will alter the visual character of the landscape to the south of Whittlesey centre as it will replace existing fields with paved surfaces and infrastructure (bridges, junctions, roundabouts, etc.), significantly changing the natural landscape, especially if the new infrastructure contrasts sharply with the existing landscape.				Moderate adverse		
	Townscape	Diverting HGVs away from the town centre could reduce congestion and improve the overall appearance of the town centre. This option is also likely to make the area more pedestrian-friendly and attractive to residents and visitors, leading to an overall improvement in townscape character.				Slight beneficial		
	Historic Environment	Providing an alternative route for around 3000 vehicles, including diverting HGVs away, could reduce congestion within the centre of Whittlesey, and this would reduce associated noise, air pollution and vibration, and thereby improve the setting for listed buildings, and other heritage assets, within this historic market town. However, the new route may impact known archaeological sites, such as the Bronze Age Round Barrow Cemetery (National Heritage List for England reference: 1020844) situated south of Whittlesey, or the internationally important archaeological sites buried within paleochannels located to the west of Whittlesey; this could result in direct physical damage to these sites, which are of regional or national importance.				Neutral		
	Biodiversity	The proposed route for the relief road mostly runs across fields; building new crossings over dykes, watercourses, and the railway line might alter local hydrology and impact wetland habitats. This could disrupt habitats and affect species dependent on these water bodies, including the great crested newt. However, Whittlesey also has several important locations concerning biodiversity close to the centre of the town or the A605, which, by providing the new route to the south of Whittlesey centre, will have the potential to reduce the existing impacts from the highway network on ecological receptors.				Moderate adverse		
	Water Environment	The proposed relief road would be in flood zone 3a, increasing the risk of flooding for the road itself and potentially causing disruptions to transportation and access. It could also interfere with natural flood management processes and worsen flooding issues if not properly managed. The new road infrastructure and implementation of flood management features, such as improved drainage systems, flood barriers, and mitigation measures to protect the floodplain, will be considered as an opportunity to improve the water environment to withstand flooding events to avoid damage and ensure the continuity of the transport network.				Neutral		
	Social	Commuting and Other users	Option 1 offers benefits for commuters that are travelling to Peterborough from the east of Whittlesey as the relief road offers a route to bypass the town and avoid traffic on the A605. This also benefits commuters and other users in Whittlesey due to the reduction in traffic in the town. The majority of monetary benefits are derived from travel time savings from other users, analysed through the TEE Table and AMAT.		Value of journey time changes(£)		£8,849,628	
		Net journey time changes (£)						
0 to 2min		2 to 5min	> 5min					
Reliability impact on Commuting and Other users		Option 1 provides some reliability benefits for commuting by providing an additional route into Peterborough that avoids Whittlesey town centre.				Slight beneficial		
Physical activity		Option 1 is likely to reduce the number of vehicles travelling through Whittlesey town centre, improving safety and reducing severance for pedestrians and cyclists in Whittlesey. Option 1 also includes a cycle track that runs in parallel to the relief road that facilitates safe longer distance cycle journeys from east to west.  The monetary benefit for physical activity only accounts for the reduced risk of premature death and absenteeism from the cycle track, analysed through the AMAT.				Slight beneficial	£1,427,994	
Journey quality		Option 1 should improve journey quality for road users with the relief road diverting through-traffic out of Whittlesey town centre. This will reduce the frustration and uncertainty of congestion on travel times, as well as fear of accidents, reducing travel stress levels. The provision of safer and more reliable transport routes should contribute to positive impacts on journey quality for all road users in the town centre. The provision of a dedicated cycle tack alongside the relief road will improve journey quality for long-distance cycle trips. Journey quality may be temporarily impacted during construction phase, with potential road diversions or closures increasing route uncertainty.  It should be noted that the monetary benefits for journey quality relate to the active travel improvements only and does not account for the impact of the relief road or changes to road user behaviour on journey quality, analysed through the AMAT.				Moderate beneficial	£784,799	
Accidents		Option 1 will reduce the number of vehicles (up to 3,000 vehicles per day, including up to 370 HGVs) travelling through Whittlesey town centre, reducing the likelihood of collisions and improving safety for all road user in Whittlesey, the scheme will help reduce casualties in the town centre, as well as lower accident severity, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). It should be noted that the monetary benefits for accidents accounts for both the active travel and highway aspects of the Option from AMAT and COBALT analysis.				Moderate beneficial	£3,273,355	
Security		Option 1 provides an improved cycle track along the potential relief road, these improvements are unlikely to impact on perceived safety of non-motorised users from the perspective of reduced crime.				Neutral		
Access to services		Option 1 increase accessibility to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. However, Option 1 predominantly focuses on accessibility for motorised users, with minimal focus on active travel and public transport.				Slight beneficial		
Affordability		The proposed scheme option does not include measures that will change the affordability of public transport options for those living in the study area.				Neutral		
Public Accounts	Severance	Option 1 will reduce severance caused by high volumes of through traffic in Whittlesey by diverting traffic onto the relief road to the south. Additionally, the new cycle track parallel to the relief road will provide a new safe active travel route for long-distance cycle trips. The relief road does not impact upon any existing routes to the south of Whittlesey and all ProW will be maintained to ensure it does not increase severance.				Moderate beneficial		
	Option and non-use values	Option 1 does not include measures that will change the availability of public transport options for those living in the study area.				Neutral		
	Cost to Broad Transport Budget	The PVC for Option 1 is £122,988,152. This includes direct construction works, indirect construction works, and design and project management costs, but does not account for risk or inflation.					£122,988,152	
	Indirect Tax Revenues	Indirect tax has been calculated through AMAT and TEE Table.					-£479,809	

Appraisal Summary Table			Date produced:		Contact:		
Name of scheme:		Whittlesey Relief Road	Name				
Description of scheme:		<p>A new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track.</p> <p>Coming from the west of the town, the new road would divert from the A605 to the south of King's Dike, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station.</p> <p>The road would then continue to the east, crossing over Whittlesey Dike and the railway line, before connecting back into the A605 at Wisbech Road.</p> <p>The road would include junctions at key intersects with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.</p> <p>Includes the introduction of new bus priority measures through the town and along the A605 to Peterborough.</p> <p>Measures will be introduced at the junctions between A605 and B1040, and the A605 and B1093, that will provide priority for buses accessing these roundabouts. This could be in the form of either enhancing the current roundabouts to provide a bus lane through them, or through the introduction of signal-controlled junctions that would allow for buses to be given priority.</p> <p>Enhanced pedestrian crossing facilities are also introduced in the form of either islands or traffic lights.</p> <p>This option could see a downgrade in road space for cars at these junctions to provide bus priority.</p>	Organisation				
Scenario:		Option 2 – Relief Road with HGV re-routing with bus priority improvements	Role		Promoter/Official		
Impacts		Assessment					
		Summary of key impacts		Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Option 2 is expected to have a positive impact on business users due to the diverting of HGVs away from the narrow streets in Whittlesey on to the relief road and by providing a more appropriate route for HGVs to access the industrial area to the south of Whittlesey. The majority of the monetary benefit is a result of impacts to road freight, analysed through the TEE Table.	Value of journey time changes (£)			£9,596,785	
		It is not expected that the bus priority improvements will have an impact on business users.	Net journey time changes (£)				
			0 to 2min	2 to 5min	> 5min		
	Reliability impact on Business users	Option 2 is expected to have a positive impact on business user reliability due to the journey time savings for HGVs from the relief road, as well as providing an additional route east to west to the A605 around Whittlesey which is a dedicated National Highways diversion route. It is not expected that the bus priority improvements will have an impact on business user reliability.				Moderate beneficial	
	Regeneration	Not assessed					
	Wider Impacts	In addition to the quantified economic benefits, the relief road with HGV Re-routing will likely increase carrying capacity for future development, improve living standards and the quality of Whittlesey's public realm, and support local trade within the town. However, there is a potential the induced demand could negate some of the traffic reduction objectives, as the increased capacity generated by the relief road may then attract additional trips by car. In addition, the proposed parallel cycle track is unlikely to benefit the town itself, providing only a route around, rather than into Whittlesey and the businesses located there.					
		In addition to the benefits and disbenefits outlined in Option 1 this option benefits from a higher quality urban realm through the provision of bus priority improvements. Additionally, the public transport enhancements are a benefit for future development, however, improved provision of bus services would need to occur to maximise this benefit.				Slight beneficial	
Environmental	Noise	Assessment results indicate that there would likely be an opportunity to reduce traffic noise levels within the town centre by reducing traffic flows along the A605 and B1040, and re-routing heavy goods vehicles (HGVs) away from the centre of Whittlesey. This should directly benefit noise-sensitive receptors such as residences, schools, medical facilities, and community centres. However, the noise levels are likely to increase along and close to the proposed new route, bringing traffic noise to the area near King's Delpb Drive and the B1093. A Noise Important Area (NIA ID 11393) is situated on the A605 east of Coates near the proposed roundabout junction at the end of the relief road, which may be affected by changes in traffic levels. Noise mitigation measures such as noise barriers or acoustic screens along the new relief road could help manage and minimise the impacts on nearby receptors.				Slight beneficial	£1,497
		It should be noted that the monetary benefits for noise relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on noise, analysed through the AMAT.					
	Air Quality	The air quality baseline shows that existing air quality does not currently exceed relevant air quality objectives and limit values. Projections from the Pollution Climate Model (PCM) show declining NO2 concentrations due to cleaner vehicle technologies and air quality measures, suggesting that air quality is expected to continue improving in the future. With Option 2, improving bus priority measures could make public transport more attractive and efficient. Increased use of buses and a reduction in private car use can decrease the number of vehicles on the road, which may contribute to lower levels of NOx and particulate emissions. Also, by diverting up to 3,000 vehicles per day, including 370 HGVs, away from Whittlesey's town centre, the scheme could significantly reduce traffic congestion. This reduction can lead to lower vehicle idling and smoother traffic flows, which improves air quality in these heavily populated areas by reducing emissions associated with stop-start driving engines. The rerouting of HGVs away from the town centre will likely decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area, but it will introduce these emissions into the area of the proposed relief road. Also, the new cycle lane that might change travel patterns and improve active travel could lead to decreased emissions and better air quality. However, construction activities will generate dust and increase emissions to air from construction vehicles, potentially, affecting air quality in the vicinity, albeit temporarily. Overall, Option 2 has the potential to positively impact air quality in Whittlesey by reducing HGV traffic, promoting public transport, and encouraging cycling.				Moderate beneficial	£638
		It should be noted that the monetary benefits for air quality relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on air quality, analysed through the AMAT.					
	Greenhouse gases	This option has the potential to reduce greenhouse gas emissions by alleviating congestion, improving traffic flow and eventually reducing emissions associated with stop-start driving engines, promoting public transport, and encouraging active travel. However, these reductions in emissions may be partially offset by the increase in journey lengths for those using the relief road.		Change in non-traded carbon over 60y (CO2e)		Slight beneficial	£8,308
		It should be noted that the monetary benefits for greenhouse gases relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on greenhouse gases, analysed through the AMAT.		Change in traded carbon over 60y (CO2e)			
	Landscape	The new road will alter the visual character of the landscape to the south of Whittlesey centre as it will replace existing fields with paved surfaces and infrastructure (bridges, junctions, roundabouts, etc.), significantly changing the natural landscape, especially if the new infrastructure contrasts sharply with the existing landscape.				Moderate adverse	
	Townscape	Introducing signal-controlled junctions, bus priority lanes, and enhanced pedestrian crossings will alter the townscape. These modifications could improve the functionality of the town centre by making it more accessible and pedestrian-friendly, which could enhance the overall townscape environment. Diverting HGVs away from the town centre would reduce congestion and improve the overall appearance of the town centre. This option is also likely to make the area more pedestrian-friendly and attractive to residents and visitors, leading to an overall improvement in townscape character.				Moderate beneficial	
Historic Environment	Providing an alternative route for around 3000 vehicles, including diverting HGVs away, could reduce congestion within the centre of Whittlesey, and this would reduce associated noise, air pollution and vibration, and thereby improve the setting for listed buildings, and other heritage assets, within this historic market town. By improving bus services and reducing traffic congestion, Option 2 could also make Whittlesey more accessible to visitors. This could promote heritage tourism, increasing awareness and appreciation of Whittlesey's historic and archaeological significance. However, the new route may impact known archaeological sites, such as the Bronze Age Round Barrow Cemetery (National Heritage List for England reference: 1020844) situated south of Whittlesey, or the internationally important archaeological sites buried within paleochannels located to the west of Whittlesey; this could result in direct physical damage to these sites, which are of regional or national importance. Also, the Fen Causeway Roman Road is known to have passed near Whittlesey. Any development to enhance bus priority in this area has the potential to uncover or disturb remains related to this ancient route or associated settlements.				Neutral		
Biodiversity	Option 2 may positively impact biodiversity by reducing traffic through sensitive areas and improving access to public transport. The construction associated with the new bus priority measures and junction enhancements might temporarily disturb local habitats. This could impact species if activities encroach upon or near sensitive areas like Lattersley Field Local Nature Reserve.						
	The proposed route for the relief road mostly runs across fields; building new crossings over dykes, watercourses, and the railway line might alter local hydrology and impact wetland habitats. This could disrupt habitats and affect species dependent on these water bodies, including the great crested newt. However, Whittlesey also has several important locations concerning biodiversity close to the centre of the town or the A605, which, by providing the new route to the south of Whittlesey centre, will have the potential to reduce the existing impacts from the highway network on ecological receptors.				Moderate adverse		
Water Environment	The proposed relief road would be in flood zone 3a, increasing the risk of flooding for the road itself and potentially causing disruptions to transport and access. It could also interfere with natural flood management processes and worsen flooding issues if not properly managed. The new road infrastructure and implementation of flood management features, such as improved drainage systems, flood barriers, and mitigation measures to protect the floodplain, will be considered as an opportunity to improve the water environment to withstand flooding events to avoid damage and ensure the continuity of the transport network. The construction activities required for bus priority measures and other road improvements may temporarily disrupt local drainage patterns. Proper management and mitigation measures would need to be implemented to minimise potential adverse effects on the local water environment.				Neutral		
Social	Commuting and Other users	Option 2 offers benefits for commuters that are travelling to Peterborough from the east of Whittlesey as the relief road offers a route to bypass the town and avoid traffic on the A605. This also benefits commuters and other users in Whittlesey due to the reduction in traffic in the town. The majority of monetary benefits are derived from travel time savings from other users, analysed through the TEE Table and AMAT.	Value of journey time changes (£)			£8,884,260	
			Net journey time changes (£)				
			0 to 2min	2 to 5min	> 5min		
	Reliability impact on Commuting and Other users	Option 2 provides some reliability benefits for commuting by providing an additional route into Peterborough that avoids Whittlesey town centre. It is not expected that the bus priority improvements will have a significant impact on reliability.				Slight beneficial	
	Physical activity	Option 2 is likely to reduce the number of vehicles travelling through Whittlesey town centre, improving safety and reducing severance for pedestrians and cyclists in Whittlesey. Option 2 also includes a cycle track that runs in parallel to the relief road that facilitates safe longer distance cycle journeys from east to west. Option 2 includes enhanced pedestrian crossing facilities which is likely to improve safety and access for pedestrians in Whittlesey.				Moderate beneficial	£1,427,994
		The monetary benefit for physical activity only accounts for the reduced risk of premature death and absenteeism from the cycle track, analysed through the AMAT.					

Public Accounts	Journey quality	Option 2 should improve journey quality for road users with the relief road diverting through-traffic out of Whittlesey town centre. This will reduce the frustration and uncertainty of congestion on travel times, as well as fear of accidents, reducing travel stress levels. The provision of safer and more reliable transport routes should contribute to positive impacts on journey quality for all road users in the town centre. The provision of a dedicated cycle track alongside the relief road will improve journey quality for long-distance cycle trips. Journey quality may be temporarily impacted during construction phase, with potential road diversions or closures increasing route uncertainty. Journey quality for those using public transport is particularly likely to improve as a result of Option 2 which includes bus priority measures within Whittlesey which is anticipated to improve the journey reliability and reduce stress of users travelling through and accessing Whittlesey. Journey quality may be temporarily impacted during construction due to construction activities and potential road diversions or closures increasing route uncertainty. These disruptions to routes will no longer exist once the project is operational, and positive effects are envisaged. The provision of safer and more reliable transport networks should improve the overall quality of journey for all road users. It should be noted that the monetary benefits for journey quality relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on journey quality, analysed through the AMAT.		Large beneficial	£784,799	
	Accidents	Option 2 will reduce the number of vehicles (up to 3,000 vehicles per day, including up to 370 HGVs) travelling through Whittlesey town centre, reducing the likelihood of collisions and improving safety for all road user in Whittlesey, the scheme will help reduce casualties in the town centre, as well as lower accident severity, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). Option 2 includes enhanced pedestrian crossing facilities in the form of either islands or traffic lights, which is likely to improve safety and access for pedestrians in Whittlesey, reducing the likelihood of accidents involving pedestrians. All of these measures will ultimately contribute to reduced casualties, lower accident severity and a lower accident rate, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). It should be noted that the monetary benefits for accidents accounts for both the active travel and highway aspects of the Option from AMAT and COBALT analysis.		Moderate beneficial	£3,273,355	
	Security	Option 2 provides an improved cycle track along the potential relief road, these improvements are unlikely to impact on perceived safety of non-motorised users from the perspective of reduced crime.		Neutral		
	Access to services	Option 2 increase accessibility to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. Option 2 also includes bus priority measures which will reduce bus journey times and improve reliability, thus enhancing the bus offer for those travelling between Whittlesey, March and Peterborough. However, this is reliant on bus operators capitalising on these new improvements by running services. Option 2 also enhances pedestrian crossing facilities to improve safety and access for pedestrians.		Moderate beneficial		
	Affordability	The proposed scheme also does not include measures that will change the affordability of public transport options for those living in the study area.		Neutral		
	Severance	Option 2 will reduce severance caused by high volumes of through traffic in Whittlesey by diverting traffic onto the relief road to the south. Additionally, the new cycle track parallel to the relief road will provide a new safe active travel route for long-distance cycle trips. The relief road does not impact upon any existing routes to the south of Whittlesey and all PRow will be maintained to ensure it does not increase severance. Option 2 is also likely to discourage private vehicles travelling through Whittlesey town centre due to bus priority measures, further reducing severance along the A605.		Moderate beneficial		
	Option and non-use values	Option 2 does not include measures that will change the availability of public transport options for those living in the study area.		Neutral		
	Cost to Broad Transport Budget	The PVC for Option 2 is £123,805,557. This includes direct construction works, indirect construction works, and design and project management costs, but does not account for risk or inflation.			£123,805,557	
	Indirect Tax Revenues	Indirect tax has been calculated through AMAT and TEE Table.			-£479,809	

Appraisal Summary Table			Date produced:		Contact:		
Name of scheme:		Whittlesey Relief Road				Name	
Description of scheme:		<p>A new single carriageway road running to the south of Whittlesey town centre, that includes a parallel cycle track.</p> <p>•Coming from the west of the town, the new road would divert from the A605 to the south of King's Dike, running across fields to link into Turningtree Road, to the south of Station Road, enabling access to Whittlesea railway station.</p> <p>•The road would then continue to the east, crossing over Whittlesey Dike and the railway line, before connecting back into the A605 at Wisbech Road.</p> <p>•The road would include junctions at key intersections with roads connecting into Whittlesey, including the B1093 Turningtree Road to allow access to the railway station and industrial sites to the south of the town, and Wype Road to allow access to Eastrea.</p> <p>•Include the introduction of new active travel improvements through the town and along the A605.</p> <p>•This will include segregated active travel provision where possible along the A605 through the town, including enhanced junctions with greater priority for active travel to allow for safe and seamless connections across the town, and the A605.</p> <p>•Improvements will be made to National Cycle Network route 63 through the town, from the northwest outskirts of the town to Lattersey Nature Reserve.</p> <p>•This will also include an improved cycle link to the station along Station Road from the A605, New Road, and Hawthorne Drive.</p>				Organisation	
Scenario:		Option 3 – Relief Road with HGV re-routing with active travel improvements				Role	
Impacts		Summary of key impacts				Promoter/Official	
					Assessment		
		Quantitative			Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Option 3 is expected to have a positive impact on business users due to the diverting of HGVs away from the narrow streets in Whittlesey on to the relief road and by providing a more appropriate route for HGVs to access the industrial area to the south of Whittlesey. The majority of the monetary benefit is a result of impacts to road freight, analysed through the TEE Table. It is not expected that the active travel improvements will have an impact on business users.	Value of journey time changes (£)			£9,596,000	
			Net journey time changes (£)				
			0 to 2min	2 to 5min	> 5min		
Reliability impact on Business users	Option 3 is expected to have a positive impact on business user reliability due to the journey time savings for HGVs from the relief road, as well as providing an additional route east to west to the A605 around Whittlesey which is a dedicated National Highways diversion route. It is not expected that the active travel improvements will have an impact on business user reliability.				Moderate beneficial		
		Regeneration					
		Wider Impacts					
		In addition to the quantified economic benefits, the relief road with HGV Re-routing will likely increase carrying capacity for future development, improve living standards and the quality of Whittlesey's public realm, and support local trade within the town. However, there is a potential the induced demand could negate some of the traffic reduction objectives, as the increased capacity generated by the relief road may then attract additional trips by car. In addition, the proposed parallel cycle track is unlikely to benefit the town itself, providing only a route around, rather than into Whittlesey and the businesses located there.			Moderate beneficial		
Active travel improvements in Whittlesey enhance the benefits of the relief road by improving access for local journeys, improving the quality of the public realm, and better encouraging modal shift to improve health and potential growth. However, improvements remain constrained due to limited space along A605 and the surrounding road network.							
Environmental	Noise	By reducing traffic flows along the A605 and B1040 and diverting traffic, including HGVs, away from the town centre and improving the road infrastructure, Option 3 will likely reduce overall traffic noise levels within Whittlesey town centre. Also, developing new cycle lanes and improved active travel infrastructure and road surfaces may reduce short local car journeys, which may further reduce overall traffic noise in the town. This could directly benefit noise-sensitive receptors such as residences, schools, medical facilities, community centres and the NIAS situated along the A605 (ID 11392, ID 14085, and ID 11393). However, the noise levels are likely to increase along the proposed new route, bringing traffic noise to the area near King's Delfh Drive and the B1093. Noise mitigation measures such as noise barriers or acoustic screens along the new relief road could help manage and minimise the impact on nearby receptors.				Slight beneficial	£3,061
			It should be noted that the monetary benefits for noise relate to the active travel improvements only and does not account for the impact of the relief road or changes to road user behaviour on noise, analysed through the AMAT.				
			It should be noted that the monetary benefits for noise relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on noise.				
Air Quality	The air quality baseline shows that existing air quality does not currently exceed relevant air quality objectives and limit values. Projections from the Pollution Climate Model (PCM) show declining NO2 concentrations due to cleaner vehicle technologies and air quality measures, suggesting that air quality is expected to continue improving in the future. With Option 3, the new cycling provisions that might change travel patterns and improve active travel could lead to decreased emissions and better air quality. Increased active travel and a reduction in private car use can decrease the number of vehicles on the road, which may contribute to lower levels of NOx and particulate emissions. Also, by diverting up to 3,000 vehicles per day, including 370 HGVs, away from Whittlesey's town centre, the scheme could significantly reduce traffic congestion. This reduction can lead to lower vehicle idling and smoother traffic flows, which improves air quality in these heavily populated areas by reducing emissions associated with stop-start driving engines. The rerouting of HGVs away from the town centre will likely decrease emissions of nitrogen oxides and particulate matter (PM10 and PM2.5) in the area, but it will introduce these emissions into the area of the proposed relief road. Construction activities will generate dust and increase emissions to air from construction vehicles, potentially affecting air quality in the vicinity, albeit temporarily. Overall, Option 3 has the potential to positively impact air quality in Whittlesey by reducing HGV traffic, and promoting active travel.				Moderate beneficial	£1,305	
		It should be noted that the monetary benefits for air quality relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on air quality, analysed through the AMAT.					
Greenhouse gases	This option has the potential to reduce greenhouse gas emissions by alleviating congestion, improving traffic flow and eventually reducing emissions associated with stop-start driving engines, promoting public transport, and encouraging active travel. However, these reductions in emissions may be partially offset by the increase in journey lengths for those using the relief road.	Change in non-traded carbon over 60y (CO2e)			Slight beneficial	£16,986	
		Change in traded carbon over 60y (CO2e)					
		It should be noted that the monetary benefits for greenhouse gases relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on greenhouse gases, analysed through the AMAT.					
		Landscape	The new road will alter the visual character of the landscape to the south of Whittlesey centre as it will replace existing fields with paved surfaces and infrastructure (bridges, junctions, roundabouts, etc.), significantly changing the natural landscape, especially if the new infrastructure contrasts sharply with the existing landscape.				Moderate adverse
Townscape							
The enhanced active travel infrastructure within Whittlesey associated with Option 3, including segregated cycle lanes and improved pedestrian crossings, can significantly improve the townscape by making the town more pedestrian and cyclist-friendly, which will promote healthier lifestyles and improve the overall quality of life. However, the implementation of the new active travel infrastructure could cause temporary disruption and congestion in the town centre, impacting the daily experience of residents and businesses. As in Option 1 and 2, diverting HGVs away from the town centre would reduce congestion and improve the overall appearance of the town centre. This could make the area attractive to residents and visitors, leading to an overall improvement in townscape character.				Moderate beneficial			
Historic Environment	Providing an alternative route for around 3000 vehicles, including diverting HGVs away, could reduce congestion within the centre of Whittlesey, and this would reduce associated noise, air pollution and vibration, and thereby improve the setting for listed buildings, and other heritage assets, within this market town. With active travel improvements and reducing traffic congestion, Option 3 could make Whittlesey more accessible to visitors and enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling. This could promote heritage tourism, increasing awareness and appreciation of Whittlesey's historic and archaeological significance. However, the proposed relief road route may impact known archaeological sites, such as the Bronze Age Round Barrow Cemetery (National Heritage List for England reference: 1020844) situated south of Whittlesey, or the internationally important archaeological sites buried within paleochannels located to the west of Whittlesey; this could result in direct physical damage to these sites, which are of regional or national importance. Also, Fen Causeway Roman Road, known to have passed near Whittlesey, and the exceptional preservation of prehistoric landscapes, such as Flag Fen, have the potential to be affected by the infrastructure required to enhance active travel in the area.				Neutral		
Biodiversity	Option 3 may positively impact biodiversity by reducing traffic through sensitive areas and improving active travel infrastructure. The construction associated with the new active travel infrastructure and junction enhancements might temporarily disturb local habitats. This could impact species if activities encroach upon or are located near sensitive areas like Lattersey Field Local Nature Reserve, Kings Dyke Nature Reserve and Nene Washes Site of Special Scientific Interest. Also, the proposed route for the relief road runs across fields; building new crossings over dykes and the railway line might alter local hydrology and impact wetland habitats. This could disrupt habitats and affect species dependent on these water bodies, including great crested newts. Overall, Whittlesey has several important locations concerning biodiversity close to the town centre or A605, which, by providing the new relief road to the south of Whittlesey centre, will have the potential to reduce the existing impacts of the highway network on ecological receptors.				Moderate adverse		
Water Environment	The proposed relief road would be in flood zone 3a, increasing the risk of flooding for the road itself and potentially causing disruptions to transportation and access. It could also interfere with natural flood management processes and worsen flooding issues if not properly managed. The new road infrastructure and implementation of flood management features, such as improved drainage systems, flood barriers, and mitigation measures to protect the floodplain, will be considered as an opportunity to improve the water environment to withstand flooding events to avoid damage and ensure the continuity of the transport network. Also, the new road and active travel infrastructure could provide additional routes that remain accessible during flood events, reducing the overall impact on the local community and improving emergency response times. The construction activities required for the active travel improvements may temporarily disrupt local drainage patterns. Proper management and mitigation measures would need to be implemented to minimise potential adverse effects on the local water environment.				Neutral		
Social	Commuting and Other users	Option 3 offers benefits for commuters that are travelling to Peterborough from the east of Whittlesey as the relief road offers a route to bypass the town and avoid traffic on the A605. This also benefits commuters and other users in Whittlesey due to the reduction in traffic in the town. The majority of monetary benefits are derived from travel time savings from other users, analysed through the TEE Table and AMAT.	Value of journey time changes (£)			£8,990,232	
			Net journey time changes (£)				
			0 to 2min	2 to 5min	> 5min		
Reliability impact on Commuting and Other users	Option 3 provides some reliability benefits for commuting by providing an additional route into Peterborough that avoids Whittlesey town centre. It is not expected that the active travel improvements will have a significant impact on reliability.				Slight beneficial		
		Physical activity					
		Option 3 is likely to reduce the number of vehicles travelling through Whittlesey town centre, improving safety and reducing severance for pedestrians and cyclists in Whittlesey.					
		Option 3 includes the introduction of new active travel improvements through the town and along the A605 which is likely to enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling and reducing car use for shorter journeys. Option 3 also includes a cycle track that runs in parallel to the relief road that facilitates safer long distance cycle journeys from east to west.			Large beneficial	£2,990,844	
The monetary benefit for physical activity only accounts for the reduced risk of premature death and absenteeism from the active travel improvements and the cycle track parallel to the relief road, analysed through the AMAT.							
Journey quality	Option 3 should improve journey quality for road users with the relief road diverting through-traffic out of Whittlesey town centre. This will reduce the frustration and uncertainty of congestion on travel times, as well as fear of accidents, reducing travel stress levels. The provision of safer and more reliable transport routes should contribute to positive impacts on journey quality for all road users in the town centre. The provision of a dedicated cycle track alongside the relief road will improve journey quality for long-distance cycle trips. Journey quality may be temporarily impacted during construction phase, with potential road diversions or closures increasing road uncertainty.				Large beneficial	£1,178,220	
		It should be noted that the monetary benefits for journey quality relate to the active travel improvements only and does not account for the impact of the relief road, junction improvements or changes to road user behaviour on journey quality, analysed through the AMAT.					

Mott MacDonald Restricted

Public Accounts	Accidents	Option 3 will reduce the number of vehicles (up to 3,000 vehicles per day, including up to 370 HGVs) travelling through Whittlesey town centre, reducing the likelihood of collisions and improving safety for all road user in Whittlesey. The scheme will help reduce casualties in the town centre, as well as lower accident severity, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). Option 3 includes the introduction of new active travel improvements through the town and along the A605 which is likely to enable a greater level of local journeys around Whittlesey to be undertaken by walking or cycling, reducing car use for shorter journeys and subsequently congestion and likelihood of accidents. However, there may be an increase in accidents as a result of an increased number of pedestrians and cyclists. All of these measures will ultimately contribute to reduced casualties, lower accident severity and a lower accident rate, benefiting non-motorised users (pedestrians and cyclists), as well as motorised users (drivers). It should be noted that the monetary benefits for accidents accounts for both the active travel and highway aspects of the Option from AMAT and COBALT analysis.		Moderate beneficial	£3,296,808	
	Security	Option 3 provides improved active travel infrastructure, including segregation where possible, improved lighting and improved surfaces. This has the potential to increase feelings of security amongst vulnerable road users (VRU's) such as the elderly.		Slight beneficial		
	Access to services	Option 3 increase accessibility to local roads in Whittlesey by locating through traffic onto a relief road, providing a parallel cycle track and improving links to the railway station, increasing interconnectivity and accessibility within and around Whittlesey. Option 3 is likely to enable greater level of local journeys around Whittlesey to be undertaken by walking or cycling, reducing car use for shorter journeys. Improvements to National Cycle Network route 63 will improve the quality of longer distance journeys and improvements to active travel access to Whittlesea station, allowing for easier access to onwards journeys by rail. As well as more people orientated infrastructure in the town and the potential reduction in local car journeys which will enhance the public realm and experience for visitors.		Large beneficial		
	Affordability	The proposed scheme also does not include measures that will change the affordability of public transport options for those living in the study area.		Neutral		
	Severance	Option 3 will reduce severance caused by high volumes of through traffic in Whittlesey by diverting traffic onto the relief road to the south. Additionally, the new cycle track parallel to the relief road will provide a new safe active travel route for long-distance cycle trips. The relief road does not impact upon any existing routes to the south of Whittlesey and all PRow will be maintained to ensure it does not increase severance. Option 3 has the potential to further reduce severance in Whittlesey through the introduction of active travel improvements including shared use paths and toucan crossings.		Large beneficial		
	Option and non-use values	Option 3 does not include measures that will change the availability of public transport options for those living in the study area.		Neutral		
Public Accounts	Cost to Broad Transport Budget	The PVC for Option 3 is £127,081,880. This includes direct construction works, indirect construction works, and design and project management costs, but does not account for risk or inflation.			£127,081,880	
	Indirect Tax Revenues	Indirect tax has been calculated through AMAT and TEE Table.			-£477,520	

Appraisal Summary Table			Date produced:		Contact:			
Name of scheme:		Whittlesey Relief Road				Name		
Description of scheme:		•A new Mobility Hub located to the east of the town which can improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. •To include improved active travel provision from across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. •Mobility Hub Assumptions: •Provision for circa 200 spaces, including for blude badge holders, and cycle storage facilities. •Provision of seating and waiting facilities, with the potential also for bike pumps, toilets and showering facilities. •Assumed that in order to attract users the site would be served by either a dedicated services, or by existing services with higher frequency (circa 2 buses per hour), offering an express type service to Peterborough with limited stops i.e. Whittlesey town centre and Peterborough city centre.				Organisation		
						Role		
						Promoter/Official		
Scenario:		Option 4 – Mobility Hub with active travel improvements						
Impacts		Summary of key impacts		Assessment				
				Quantitative		Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	It is not expected that Option 4 will have much of an impact on business users. The majority of the monetary benefit is a result of impacts to passenger travel time, analysed through the TEE Table.		Value of journey time changes(£)			£159,337	
			Net journey time changes (£)					
			0 to 2min	2 to 5min	> 5min			
	Reliability impact on Business users	It is not expected that Option 4 will have much of an impact on business users reliability.				Neutral		
	Regeneration	Not assessed						
	Wider Impacts	Active travel improvements in Whittlesey enhance the benefits of the relief road by improving access for local journeys, improving the quality of the public realm, and better encouraging modal shift to improve health and potential growth. However, improvements remain constrained due to limited space along A605 and the surrounding road network. The Mobility Hub and associated active travel infrastructure will enhance benefits such as better health and wellbeing outcomes, and improved quality of the public realm.				Moderate beneficial		
Environmental	Noise	By enhancing active travel infrastructure and improving road surfaces, encouraging local journeys to be made by walking or cycling, and improving access to the existing public transport, there is likely to be a reduction in car use. This would lead to lower traffic volumes on local roads, which may reduce traffic noise levels at noise-sensitive receptors within Whittlesey. However, introducing shuttle bus-type express services linking into the town centre, Whittlesea station, and Peterborough could increase noise levels near the Mobility Hub and along bus routes. The impact would depend on the buses' frequency, type, and noise characteristics. The Mobility Hub itself, including facilities such as seating areas, bike storage, and additional amenities like toilets, might generate minor localised noise.  It should be noted that the monetary benefits for noise relate to the active travel improvements only and does not account for the impact of the Mobility Hub or changes to road user behaviour on noise, analysed through the AMAT analysis.				Neutral	£2,730	
	Air Quality	This option promotes public transport by improving access to existing bus services and introducing shuttle bus-type express services. It also promotes active travel by improving the infrastructure for walking and cycling, which is likely to reduce private car use, especially for shorter trips. This reduction can help lower nitrogen dioxide (NO2) emissions and particulate matter (PM10 and PM2.5), improving local air quality. However, the Mobility Hub does not address HGV traffic, which is considered to be a significant contributor to air emissions in Whittlesey. Since this option does not impact the movement of HGVs, it will not directly reduce emissions associated with this source. Overall, the effect of this option on air quality is likely to be modest compared to the other three options.  It should be noted that the monetary benefits for air quality relate to the active travel improvements only and does not account for the impact of the Mobility Hub or changes to road user behaviour on air quality, analysed through the AMAT analysis.				Neutral	£1,160	
	Greenhouse gases	This option has less potential to reduce greenhouse gas emissions than the other options as this option will not reduce the level of HGV movements in Whittlesey; however, encouraging active travel can reduce private car use, improve traffic flow and eventually reduce emissions associated with stop-start driving engines. Overall, the effect of this option on greenhouse gases might be modest compared to the other three options. It should be noted that the monetary benefits for greenhouse gases relate to the active travel improvements only and does not account for the impact of the Mobility Hub or changes to road user behaviour on greenhouse gases, analysed through the AMAT analysis.		Change in non-traded carbon over 60y (CO2e)			Neutral	£15,000
			Change in traded carbon over 60y (CO2a)					
	Landscape	The improvements in active travel infrastructure associated with Option 4, including the National Cycle Network route 63 and local cycle links, and promoting walking and cycling and public transport, may slightly reduce the visual impact of vehicular traffic and road infrastructure, contributing to a more pleasant and less cluttered landscape. However, the presence of the Mobility Hub itself, including parking facilities and bus infrastructure, may be visually intrusive and alter the character of the surrounding landscape.				Neutral		
	Townscape	By encouraging the use of public transport and improving the links into the town centre, Whittlesea station, and Peterborough, this option should reduce traffic congestion and improve the aesthetic quality of the town centre by reducing the visual and physical clutter associated with high traffic volumes. The enhanced active travel infrastructure within Whittlesey associated with Option 4, including segregated cycle lanes and improved pedestrian crossings, is likely to improve the townscape by making the town more pedestrian and cyclist-friendly, which will promote healthier lifestyles and improve the overall quality of life. However, the implementation of the new active travel infrastructure could cause temporary disruption such as visual disturbance, noise and dust.				Slight beneficial		
	Historic Environment	By encouraging the use of public transport and active travel modes and improving access and infrastructure, this option should reduce congestion caused by private cars within the centre of Whittlesey, which would reduce the impact of road traffic on the setting of historic assets in this market town. By reducing traffic and improving pedestrian and cycling routes, the historic environment, including listed buildings and conservation areas, could also become more accessible and attractive to visitors. However, the location of the Mobility Hub contains some Grade II listed buildings and is adjacent to a Scheduled Monument; new infrastructure at this location may harm these heritage assets. Also, the Fen Causeway Roman Road, which is known to have passed near Whittlesey, and the preservation of prehistoric landscapes, such as Flag Fen, have the potential to be affected by this option.				Slight beneficial		
	Biodiversity	Option 4 may positively impact biodiversity by reducing traffic through ecologically sensitive areas through improving active travel infrastructure. Whittlesey has several important locations regarding biodiversity close to the centre of the town or the A605, which need protecting. Enhancements to active travel infrastructure may reduce the pressure on these existing natural habitats by encouraging alternative transportation methods. This can lead to fewer disturbances in sensitive areas and can help protect habitats from being degraded by vehicle emissions and polluted road runoff. However, the construction associated with the new active travel infrastructure and junction enhancements might temporarily disturb local habitats. This could impact species if construction activities encroach upon or are located near sensitive areas such as Lattersay Field Local Nature Reserve, Nene Washes Site of Special Scientific Interest, and other County Wildlife Sites like Kings Dyke Nature Reserve, which is home to scarce breeding and wintering species and one of the largest populations of great crested newts in the UK.				Slight beneficial		
	Water Environment	The Fenland area surrounding Whittlesey is primarily within flood zone 3, which has a high probability of flooding. The new active travel infrastructure proposed under this option will need to be designed with the flood risk in mind. The construction required for active travel improvements may temporarily disrupt local drainage patterns. Proper management and mitigation measures would need to be implemented to minimise potential adverse effects on the local water environment.				Neutral		
Social	Commuting and Other users	Option 4 offers benefits for commuters that are travelling to Peterborough from Whittlesey via the Mobility Hub by providing new connections to a large employment centre, and also benefits for other users in Whittlesey through better connections elsewhere and to the town itself. The majority of monetary benefits are derived from travel time savings from commuting, analysed through the TEE Table.		Value of journey time changes(£)			£5,698,542	
			Net journey time changes (£)					
			0 to 2min	2 to 5min	> 5min			
	Reliability impact on Commuting and Other users	Option 4 will improve the reliability of bus services in Whittlesey, however, this is not expected to be significant.				Slight beneficial		
	Physical activity	Option 4 proposes improved active travel provision across the town to a new Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel.  The monetary benefit for physical activity only accounts for the reduced risk of premature death and absenteeism from the active travel improvements from AMAT analysis.				Moderate beneficial	£2,905,010	
	Journey quality	Journey quality for those using public transport is particularly likely to improve as a result of Option 4 which includes a Mobility Hub, which is anticipated to improve the journey reliability and reduce stress of users travelling through and accessing Whittlesey. Journey quality may be temporarily impacted during construction due to construction activities and potential road diversions or closures increasing route uncertainty. These disruptions to routes will no longer exist once the project is operational, and positive effects are envisaged. The provision of safer and more reliable transport networks should improve the overall quality of journey for all road users.  It should be noted that the monetary benefits for journey quality relate to the active travel improvements only through AMAT analysis and does not account for the impact of the Mobility Hub or changes to road user behaviour on journey quality.				Slight beneficial	£1,136,490	
	Accidents	Option 4 is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel, thus slightly reducing the number of vehicles and congestion on the local road network, and improve safety in the area for pedestrians. However Option 4 will not reduce the level of HGV movements in Whittlesey, and the Mobility Hub's location may mean that residents in the west of Whittlesey may not utilise its facilities. Additionally, Option 4 is reliant on bus operators capitalising on these new improvements by running services. It should be noted that the monetary benefits for accidents accounts for both the active travel interventions from AMAT analysis.				Slight beneficial	£123,097	
	Security	Option 3 provides improved active travel infrastructure, including segregation where possible, improved lighting and improved surfaces. This has the potential to increase feelings of security amongst vulnerable road users (VRU's) such as the elderly.				Slight beneficial		
	Access to services	Option 4 proposes a new Mobility Hub which could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. Option 4 will also include improved active travel provision across the town to both the Mobility Hub and Whittlesea station to encourage local trips to access bus and rail services without the use of a car. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport and active travel. However, Option 4 is unlikely to significantly reduce the levels of through traffic in Whittlesey and the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities. The option is also reliant on bus operators capitalising on these new improvements by running services.				Moderate beneficial		
	Affordability	The proposed scheme also does not include measures that will change the affordability of public transport options for those living in the study area.				Neutral		
	Severance	Option 4 has the potential to indirectly reduce severance by encouraging more public transport and active travel use through the provision of shared use spaces, toucan crossings, and a mobility hub. However this option will not reduce the number of HGVs travelling through Whittlesey, therefore the overall impact is assessed to be slight beneficial.				Slight beneficial		
	Option and non-use values	Option 4 proposes a new Mobility Hub which could improve access to existing bus services and enable the introduction of shuttle bus type express services linking into the town centre, Whittlesea station, and Peterborough. This is likely to encourage more bus services to serve Whittlesey, and a modal shift away from private car use and on to public transport. However, the Mobility Hubs location may mean that residents in the west of Whittlesey may not utilise its facilities and this option is reliant on bus operators capitalising on these new improvements by running services.				Slight beneficial		
Mott MacDonald Restricted								

Public Accounts	Cost to Broad Transport Budget	The PVC for Option 4 is £23,491,734. This includes direct construction works, indirect construction works, and design and project management costs, but does not account for risk or inflation.		£23,491,734	
	Indirect Tax Revenues	Indirect tax has been calculated through AMAT and TEE Table.		-£92,935	



Public Accounts (PA) Table - Option 1

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<u>Local Government Funding</u>	TOTAL	INFRASTRUCTURE			
Revenue	£ -				
Operating Costs	£ -				
Investment Costs	£ -				
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ - (7)				
<u>Central Government Funding: Transport</u>					
Revenue	£ -				
Operating costs	£ -				
Investment Costs	£ 122,988	122,988			
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ 122,988 (8)				
<u>Central Government Funding: Non-Transport</u>					
Indirect Tax Revenues	-£ 480 (9)	-480			
<u>TOTALS</u>					
<u>Broad Transport Budget</u>	£ 122,988 (10) = (7) + (8)				
<u>Wider Public Finances</u>	-£ 480 (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.					

Public Accounts (PA) Table - Option 2

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<u>Local Government Funding</u>	TOTAL	INFRASTRUCTURE			
Revenue	£ -				
Operating Costs	£ -				
Investment Costs	£ -				
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ - (7)				
<u>Central Government Funding: Transport</u>					
Revenue	£ -				
Operating costs	£ -				
Investment Costs	£ 123,806	123806			
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ 123,806 (8)				
<u>Central Government Funding: Non-Transport</u>					
Indirect Tax Revenues	-£ 480 (9)	-480			
<u>TOTALS</u>					
<u>Broad Transport Budget</u>	£ 123,806 (10) = (7) + (8)				
<u>Wider Public Finances</u>	-£ 480 (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.					

Public Accounts (PA) Table - Option 3

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<u>Local Government Funding</u>	TOTAL	INFRASTRUCTURE			
Revenue	£ -				
Operating Costs	£ -				
Investment Costs	£ -				
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ - (7)				
<u>Central Government Funding: Transport</u>					
Revenue	£ -				
Operating costs	£ -				
Investment Costs	£ 127,082	127082			
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ 127,082 (8)				
<u>Central Government Funding: Non-Transport</u>					
Indirect Tax Revenues	-£ 478 (9)	-478			
<u>TOTALS</u>					
<u>Broad Transport Budget</u>	£ 127,082 (10) = (7) + (8)				
<u>Wider Public Finances</u>	-£ 478 (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.					

Public Accounts (PA) Table - Option 4

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<u>Local Government Funding</u>	TOTAL	INFRASTRUCTURE			
Revenue	£ -				
Operating Costs	£ 17,140,159		-3441	17143600	
Investment Costs	£ 6,853,851			6853851	
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	£ 23,994,009 (7)				
<u>Central Government Funding: Transport</u>					
Revenue	-£ 502,275			-502275	
Operating costs	£ -				
Investment Costs	£ -				
Developer and Other Contributions	£ -				
Grant/Subsidy Payments	£ -				
NET IMPACT	-£ 502,275 (8)				
<u>Central Government Funding: Non-Transport</u>					
Indirect Tax Revenues	£ 92,935 (9)		-6498	95432	4000
<u>TOTALS</u>					
<u>Broad Transport Budget</u>	£ 23,491,734 (10) = (7) + (8)				
<u>Wider Public Finances</u>	£ 92,935 (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.					

# Whittlesey Relief Road

## Network Resilience Scenario Testing

<b>Project:</b>	Whittlesey Relief Road		
<b>Our reference:</b>	100114563-MMD-BCA-04-TN-BC-022		
<b>Prepared by:</b>	Jack Vickers Strutt	<b>Date:</b>	February 2025
<b>Approved by:</b>	Jon Bunney	<b>Checked by:</b>	Chris Payne
<b>Subject:</b>	Network Resilience Scenario Testing		

## 1 Introduction

This technical note sets out analysis of the Whittlesey Relief Road and how the scheme will support the resilience of the local road network in the event of B1040 road closures.

In order to examine how the scheme supports the resilience of the transport network, and how the economic appraisal presented within the Strategic Outline Business Case (SOC) would be impacted, further sensitivity tests have been carried out. These have looked at estimating the potential additional benefits from journey times savings for those impacted by road closures and diversions.

## 2 Background

### 2.1 What's the issue?

On average across the last 5 years, there are flood warnings within the Whittlesey area between 24 and 30 days of the year.<sup>1</sup> It is not uncommon for these flood warnings to impact the Whittlesey Washes, with these flood plains being allowed to flood, resulting in the B1040 having to close.

**Table 2.1: Whittlesey Flood Warnings – Number of days flood warnings in place**

Year	B1040 Thorney to Whittlesey Road to the South of the River Nene	North Bank Road alongside the River Nene, east of Peterborough and west of Dog in a Doublet Sluice
2024	54	41
2023	7	27
2022	0	10
2021	51	37
2020	20	23
2019	14	39
<b>Average</b>	<b>24</b>	<b>30</b>

Source: Environment Agency flood warning records 2019-2024

<sup>1</sup> Environment Agency flood warning records 2019-2024.

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More historical closure data suggests an even broader variation in annual closures, with a reported annual average of 16 days of closures of North Bank between 2013 and 2017<sup>2</sup>, whereas between 1st April 2012 and 1st April 2013 North Bank was reportedly closed on 11 separate occasions for 55 days<sup>3</sup>.

**Figure 2.1: Whittlesey (Nene) Washes flood storage area**



Source: Mott MacDonald

The closure of the B1040 can have a significant impact on the town, as it is the main route to the north, providing links to areas within the north east Peterborough. In situations where the road is closed, vehicles have to divert on longer trips to either the north via the A47 or continue through Whittlesey along the A605. When this occurs, it can increase conflicts of movement within Whittlesey Town Centre, adding to congestion.

Average journey times during the morning peak (8am-9am) for those travelling westbound through Whittlesey between the A605/Tayberry Way roundabout and Kings Dyke, can take in the region of 8 minutes on a normal day i.e. no road closures. However, this can double on a day when the B1040 is closed, with average journey times increasing to 16 minutes.<sup>4</sup>

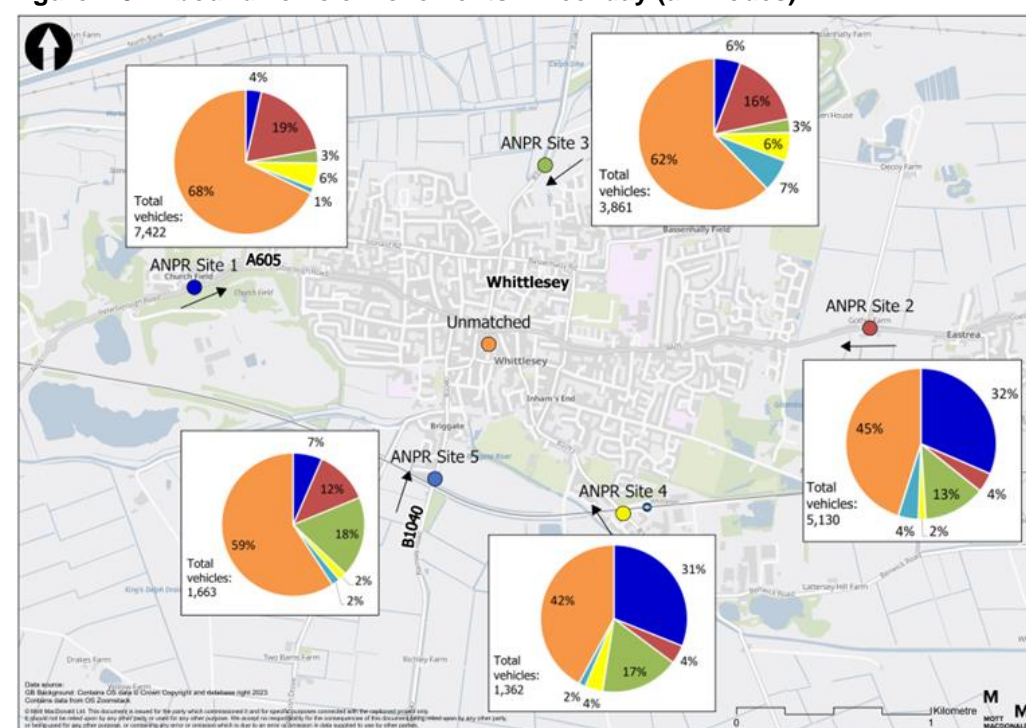
<sup>2</sup> Major Scheme Business Case Report | Version 3.0 | September 2018 (Skanska)

<sup>3</sup> Major Scheme Business Case Report | Version 1.0 | August 2015 (Skanska)

<sup>4</sup> TomTom data

**Figure 2.2: Average journey times through Whittlesey**

Currently in the region of 3,860 vehicles use the B1040 each day to travel into or through Whittlesey from the north, and 4,050 travel north out of Whittlesey along the same route, either originating from Whittlesey or as through traffic from various directions.<sup>5</sup> These vehicles are forced to divert to complete their journeys when the B1040 is closed adding further traffic to the A605 and compounding existing issues associated with the volume of traffic on the A605.

**Figure 2.3: Inbound vehicle movements - Weekday (all modes)**

Source: Automatic Number Plate Recognition (ANPR) surveys November 2023

<sup>5</sup> ANPR Surveys November 2023



## 2.2 How does a Relief Road help?

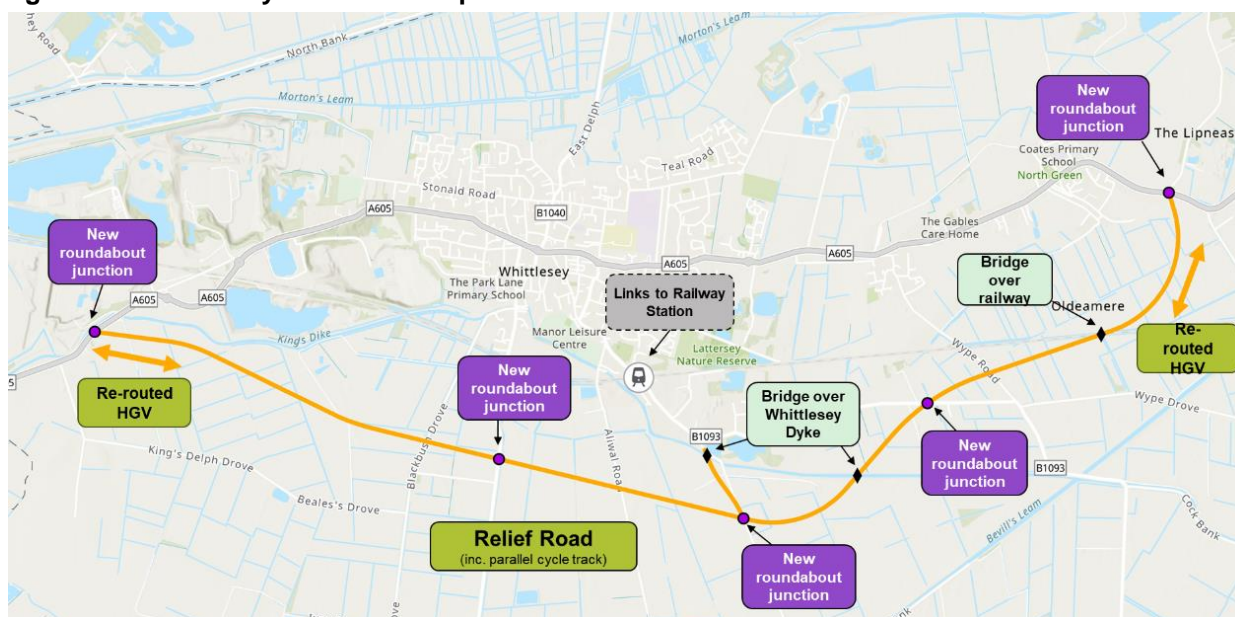
In the region of 30,900 vehicles move through Whittlesey on a weekday, either originating from the town, passing through the town, or completing their journey there.<sup>6</sup> Based on ANPR data from 2023 across a weekday there are about 7,400 trips along the A605 approaching Whittlesey from the west and about 5,100 trips approaching Whittlesey from the east. In each direction, around 1,900 of these trips are ‘through-trips’ that currently travel through Whittlesey’s urban centre but could shift to using the relief road. If they were to use the relief road, this would represent a 30% traffic reduction for the urban centre.

The through traffic volumes vary between about 550 vehicle trips in the AM and PM peak hours, and 380 vehicle trips during the interpeak, of which 10% and 15% are heavy goods vehicles (HGV’s) respectively.

The relief road, whilst not solving the issue of road closures on the B1040 and the need for traffic to divert, helps by taking traffic off the A605, thereby improving the capacity of the A605 to better handle diverted traffic. Traffic that is able to use the relief road, instead of travelling through Whittlesey, will avoid all additional delay caused by the closures of the B1040. By removing through traffic from Whittlesey Town Centre, there is a reduction in the level of conflict/congestion caused by B1040 closure, providing benefits to all town centre vehicle movements, e.g. if a vehicle incurs 8 mins delay in Whittlesey as a direct result of the congestion caused by the B1040 closure, this may be reduced as the A605 is less congested, so delay incurred would drop.

Appendix A provides a series of network maps that show the routes across Whittlesey under normal operation, how they are currently affected when the B1040 is closed, and how the proposed Relief Road would offer an alternative route when the B1040 is closed.

**Figure 2.4: Whittlesey Relief Road Option**



Source: Mott MacDonald

<sup>6</sup> ANPR Surveys November 2023

## 3 Scenario Appraisal

### 3.1 Core scheme benefits

The appraisal of the scheme for the SOC resulted in £25.6m in present value of benefits (PVB) over a 60 year period.<sup>7</sup> This included benefits associated with highway and active travel user, with further benefits resulting from accident savings, and environmental benefits. In this appraisal, all through-trips forecast for Whittlesey (other than those to and from the north, which will not directly benefit from the Relief Road) were assumed to benefit from the proposed Relief Road and are assumed to switch in their entirety to the scheme.

### 3.2 Approach

To assess the impact of the scheme under network operating conditions when the B1040 is closed requires additional data on the underlying impact of the B1040 road closure (e.g. the level of additional congestion and delay that is created, and where this congestion and delay occurs), as well as the frequency of occurrences (e.g. the number of times, on average, that the B1040 is closed in a typical year).

An additional consideration is the current partial closure / reduced operating capacity of the Ralph Butcher Causeway and the interaction this has upon the local transport network operating when the B1040 is also closed. It is important that the two effects (partial closure of Ralph Butcher Causeway and full closure of B1040) can be understood in isolation, as well as in unison, so that both impacts can be understood separately.

This requires additional TomTom average speed (average journey time) data for the A605 corridor, captured on days when the B1040 was closed. This is required when both the Ralph Butcher Causeway has been partially closed, but also when it was previously operating under normal network conditions.

Using road closure records that have been provided by Cambridgeshire County Council (CCC), the following time periods were selected for requesting additional TomTom data:

- **11<sup>th</sup> Dec – 15<sup>th</sup> Dec 2023** – B1040 was closed due to flooding
- **12<sup>th</sup> Feb – 16<sup>th</sup> Feb 2024** – B1040 was closed due to flooding
- **7<sup>th</sup> Oct – 11<sup>th</sup> Oct 2024** – B1040 was closed due to flooding and traffic restrictions were in place on the Ralph Butcher Causeway

These time periods have been validated against records of wider network issues, such as road closures on the A47 and major accidents on the A605, to ensure they are not distorted, and agreed with Fenland District Council (FDC).

The average number of days per annum when the B1040 is closed, which will be applied to the number of days the benefits of the relief road in relation to road closures will be experienced, has been taken from the Environmental Agency's records of flood warnings (Table 2.1). Taking an average of both closures on the B1040 and North Bank Road flood warnings, results in an average of 27 days a year when the B1040 may be closed (2019-2024). This value has been agreed with Fenland District Council (FDC) in advance of the sensitivity test being undertaken.

An additional test has also been undertaken utilising the 2012/13 North Bank closure data that provides a worst case scenario of 55 days of closure events every year. This worst case scenario has been taken from the Ralph Butcher Causeway Major Scheme Business Case Report published in 2018.<sup>8</sup>

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<sup>7</sup> Whittlesey Relief Road SOC, February 2025. Figures presented are for Option 3, Relief Road with HGV re-routing and active travel improvements.

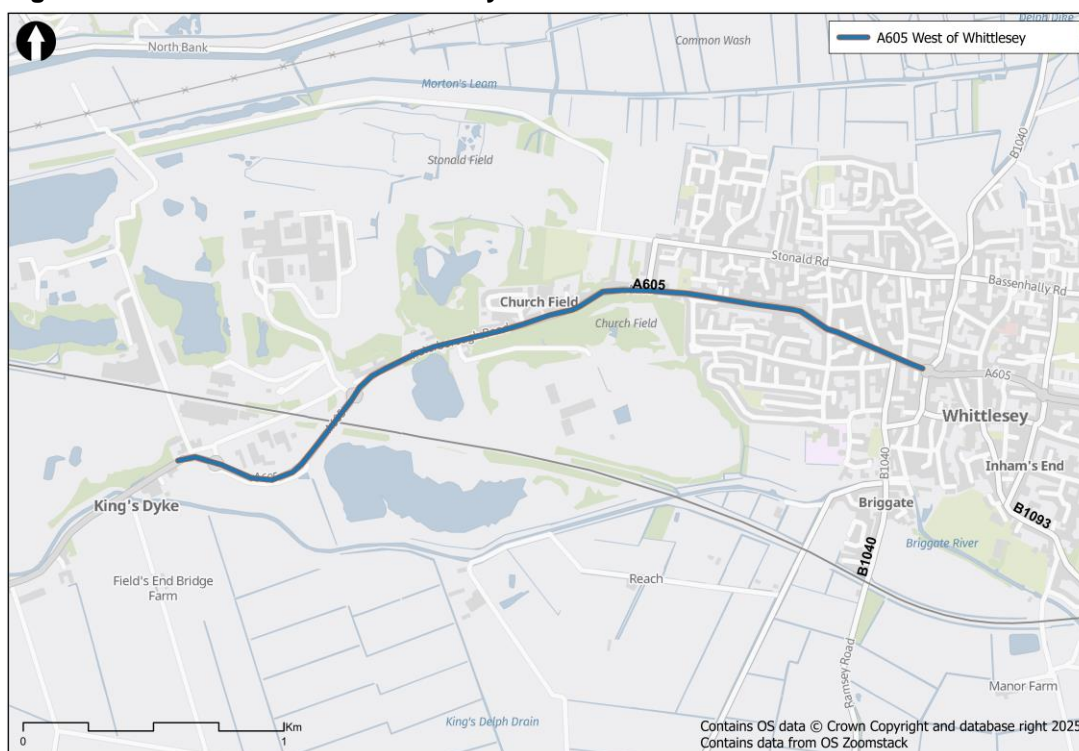
<sup>8</sup> Major Scheme Business Case Report | Version 3.0 | September 2018 (Skanska)

### 3.3 Analysis of TomTom data

To compare against the base data (October 2023), TomTom data has been provided for each of the three new date ranges, with one report per date range, and with each report including 24, 1-hour time periods. Each data range was an average over three days; Tuesday, Wednesday and Thursday. The data is provided for 'links'<sup>9</sup> along the road network and includes, amongst other things, average travel time (seconds); average speed (km/h); number of vehicles captured and 5<sup>th</sup> to 95<sup>th</sup> percentile speed.

To understand how traffic has been impacted by the closures of the B1040 and the restrictions on the Ralph Butcher Causeway (RBC), analysis has focused on the key section of the A605 between RBC and the A605/B1040 Roundabout shown in Figure 3.1, where delays have previously been identified.

**Figure 3.1: A605 section used for analysis**



Source: Mott MacDonald

This analysis has focused on average travel times, with the sum of links used to calculate an overall average travel time along the section for the AM (08:00-09:00) and PM (17:00-18:00) peak periods in both the eastbound and westbound directions. The results are shown in Table 3.1.

**Table 3.1: Average travel time (minutes) along the A605 west of Whittlesey**

Direction	Time Period	October 2023 (Normal conditions)	December 2023 (B1040 closed)	February 2024 (B1040 closed)	October 2024 (B1040 closed and restrictions on RBC)
Westbound	AM	4m 48s	10m 15s	10m 19s	12m 15s
	PM	4m 34s	4m 49s	5m 09s	11m 16s
Eastbound	AM	4m 51s	5m 15s	5m 14s	6m 49s
	PM	4m 54s	9m 05s	8m 48s	9m 12s

Source: TomTom data

<sup>9</sup> A road link refers to a segment of a road network that connects two nodes, such as intersections, junctions, or other significant points.

The data for the A605 to the west of the B1040 clearly demonstrates that the closures of the B1040 has a significant impact upon average journey times. This is particularly the case in a westbound direction in the AM peak, and the eastbound direction in the PM peak.

A similar analysis of average journey times on B1040 closure days along the section of the A605 to the east of the B1040 was also undertaken. This generally showed less variation in average journey times as a result of the B1040 closure, with the exception being for AM peak westbound movements where average journey times increase from 3 mins 30 secs under normal network operations to around 5 mins 45 secs when the B1040 is closed.

The variation between the October 2023 base data and the time periods when the B1040 was closed has been used to determine the level of delay experienced by users along the A605 during road closures of the B1040.

### 3.4 B1040 closures appraisal results

The outputs from the analysis of the TomTom data for periods when the B1040 is closed, along with the agreed frequency of the occurrences of closures, have been used to produce an estimate of the potential additional journey time savings that could result on these B1040 closure days through the delivery of the proposed Relief Road. This considered three different aspects of potential savings:

- A605 through trips that would be able to avoid Whittlesey town centre, and the additional congestion caused by the closure of the B1040, by diverting onto the new Relief Road.
- Trips between the A605 and the B1040 that would be able to avoid Whittlesey town centre, and the additional congestion caused by the closure of the B1040, by diverting onto the new Relief Road.
- Other trips originating, terminating, or both within Whittlesey that, whilst being unable to avoid travelling into Whittlesey, benefiting from a reduction in through traffic and, hence, the overall level of congestion that they experience.

The estimated average travel time savings for individual movements across Whittlesey that will result from the delivery of the proposed Relief Road are presented within Table 3.2 and 3.3.

**Table 3.2: Estimated average travel time savings (minutes:seconds) for movements across Whittlesey on B1040 closure days as a result of the Relief Road (AM Peak)**

To		1	2	3	4	5	6
From		A605 to west of Whittlesey	A605 to east of Whittlesey	B1040 to north of Whittlesey	B1093 to south of Whittlesey	B1040 to south of Whittlesey	Location within Whittlesey
1	A605 to west of Whittlesey	5:53	0:24	0:24	0:24	0:24	0:24
2	A605 to east of Whittlesey	7:44	2:15	7:44	1:24	2:15	1:24
3	B1040 to north of Whittlesey	7:44	0.00	0:24	0:24	0:24	0:24
4	B1093 to south of Whittlesey	6.36	0.00	6.36	1:08	0:51	1:08
5	B1040 to south of Whittlesey	5:53	0.00	5:53	0:51	1:08	1:08
6	Location within Whittlesey	5:53	0.00	5:53	0.00	0.00	2:30

Source: Mott MacDonald utilising TomTom data

**Table 3.3: Estimated average travel time savings (minutes:seconds) for movements across Whittlesey on B1040 closure days as a result of the Relief Road (PM Peak)**

To		1	2	3	4	5	6
From		A605 to west of Whittlesey	A605 to east of Whittlesey	B1040 to north of Whittlesey	B1093 to south of Whittlesey	B1040 to south of Whittlesey	Location within Whittlesey
1	A605 to west of Whittlesey	4:28	4:03	4:03	4:03	4:03	4:03
2	A605 to east of Whittlesey	0:25	0:00	0:00	0:00	0:00	0:00
3	B1040 to north of Whittlesey	0:25	0:00	4:03	4:03	4:03	4:03
4	B1093 to south of Whittlesey	0:25	0:00	0:25	0:00	0:00	0:00
5	B1040 to south of Whittlesey	0:25	0:00	0:25	0:00	0:00	0:00
6	Location within Whittlesey	0:25	0:00	0:25	0:00	0:00	1:34

Source: Mott MacDonald utilising TomTom data

Tables 3.2 and 3.3 indicate that the largest estimated average journey time savings are within the AM peak for those trips originating to the east of Whittlesey and travelling through to the west, or to the B1040 north on a normal day (7 minutes 44 seconds saving). Trips that would normally originate from the B1040 north and travel to the A605 west are also anticipated to save the same average journey time if they divert to the new relief road.

The relative volumes of trips for the matrix of movements (sourced from the previous ANPR survey) have been applied to calculate an estimate of total average journey time savings.

For the AM Peak period, the total estimated average journey time savings equate to around 430 vehicle hours, with the equivalent value for the PM peak of 250 vehicle hours.

This has been factored by an average occupancy value (1.2<sup>10</sup>) and then by the agreed average number of days per annum that the B1040 is closed (27 days). This generates an estimate of the additional annual journey time savings from the Relief Road when the B1040 is closed of around 22,000 hours.

These savings have then been monetised and projected across the 60-year appraisal period and discounted to produce an estimate of additional Present Value of Benefits (PVB) of £4.1m.

If a higher number of closure days of 55 is applied<sup>11</sup> the estimated PVB increases to £8.3m.

The analysis has focused upon the AM and PM peak periods as this is when the highest delays occur across the A605 corridor. Some additional delays will also occur during the inter-peak period, albeit at a lower level as underlying levels of delay on the network are much lower. As such, the relief road will only generate a relatively small additional proportion of benefits during the inter-peak period.

The overall impact of including the potential benefits associated with the relief road during closure of the B1040 on the scheme's PVB are presented in Table 3.4 below.

<sup>10</sup> NTS0905: Average car or van occupancy and lone driver rate by trip purpose: England, 2002 onwards: 2023 Commuter occupancy value

<sup>11</sup> 2012/13 data recorded 55 days of closure of North Bank



**Table 3.4: Network resilience impact on scheme PVB**

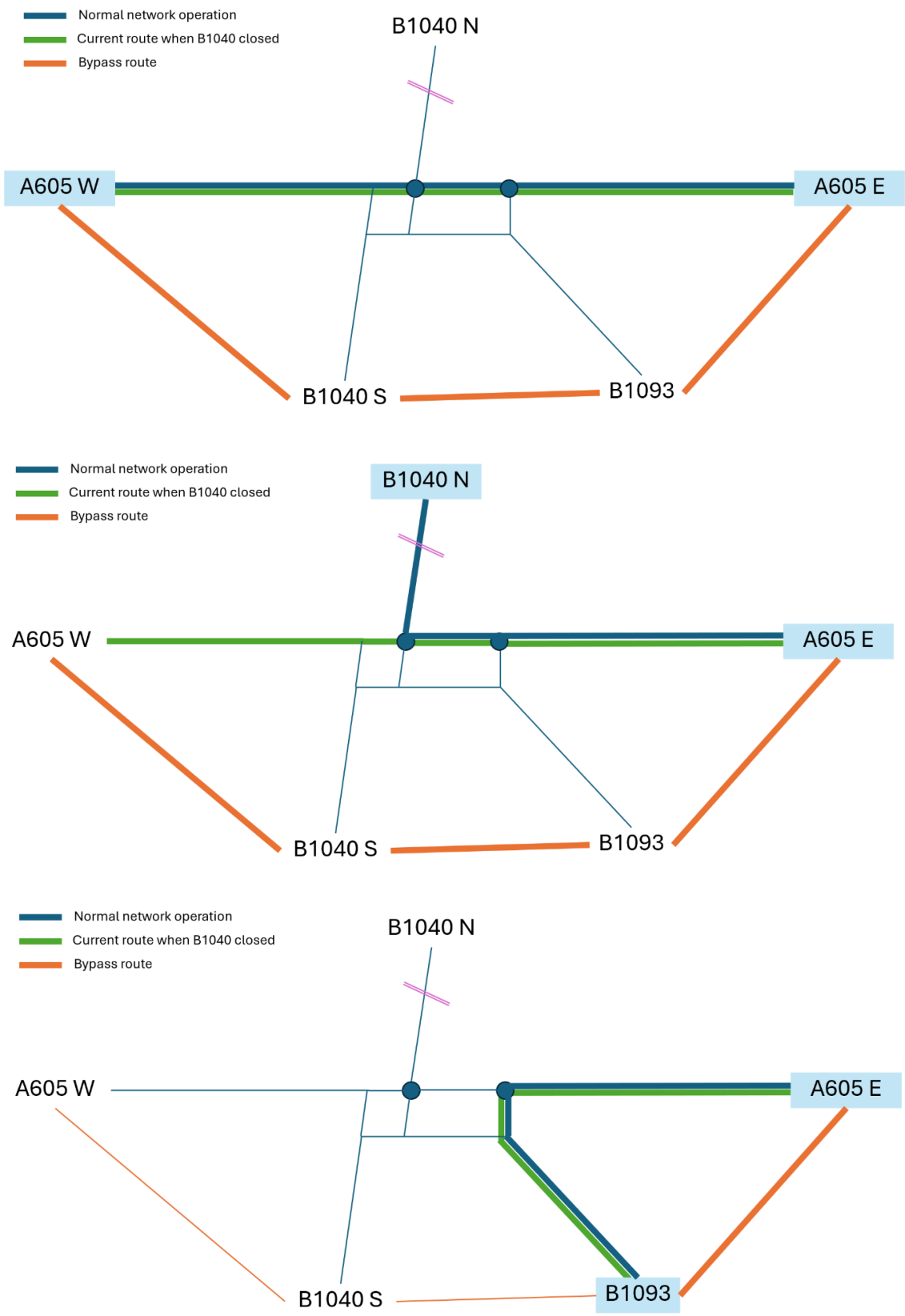
	PVB (£,000)	% increase
<b>PVB – reported in the SOC</b>	<b>£25.6m</b>	
Additional PVB – 27 days of road closures	£4.1m	
Additional PVB – 55 days of road closures	£8.3m	
Overall PVB inc. 27 days of road closures	£29.7m	+16%
Overall PVB inc. 55 days of road closures	£33.9m	+32%

### 3.5 Ralph Butcher Causeway Closures

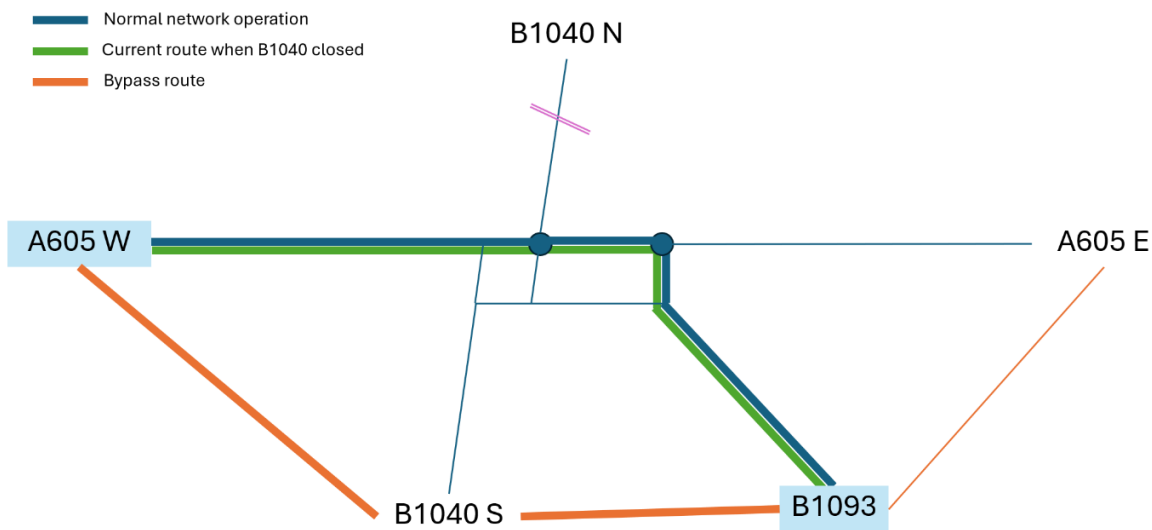
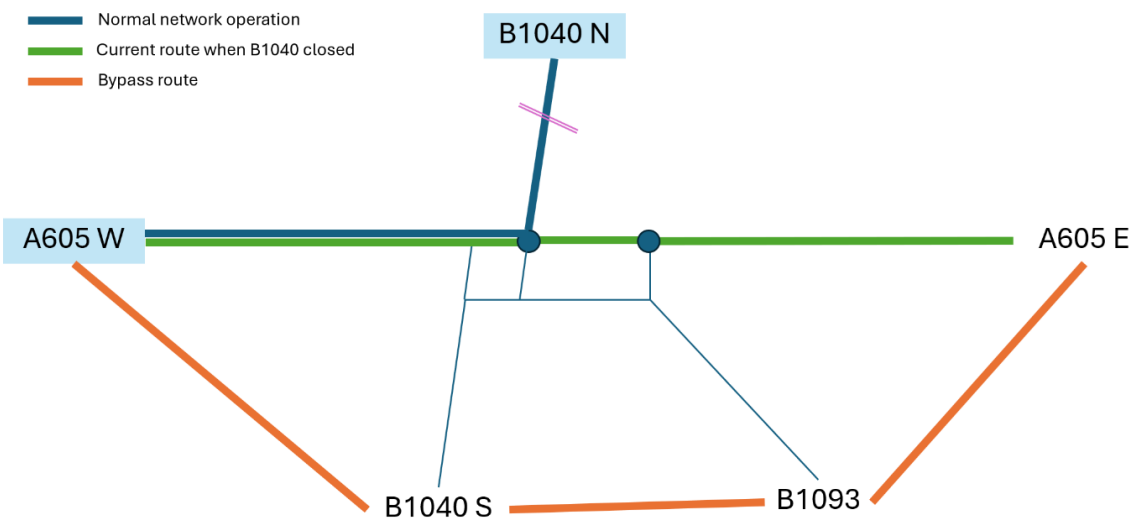
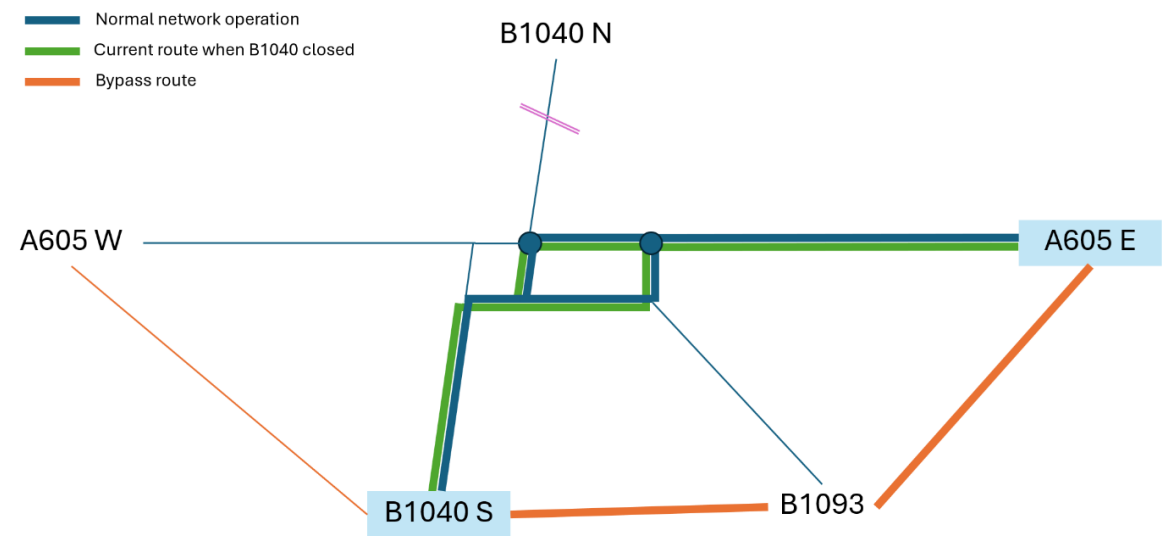
In addition to the issue of B1040 road closures, the recent restrictions on Ralph Butcher Causeway have further highlighted the impact of road closures on Whittlesey, and how there are limited options for alternative routes. Whilst there are plans to resolve the current challenges with the Causeway, the analysis further highlights the limitations in network resilience when there is an issue or incident on the A605 around Whittlesey. This is compounded when the B1040 is closed as well, with significant additional delays occurring across the A605 in and around Whittlesey.

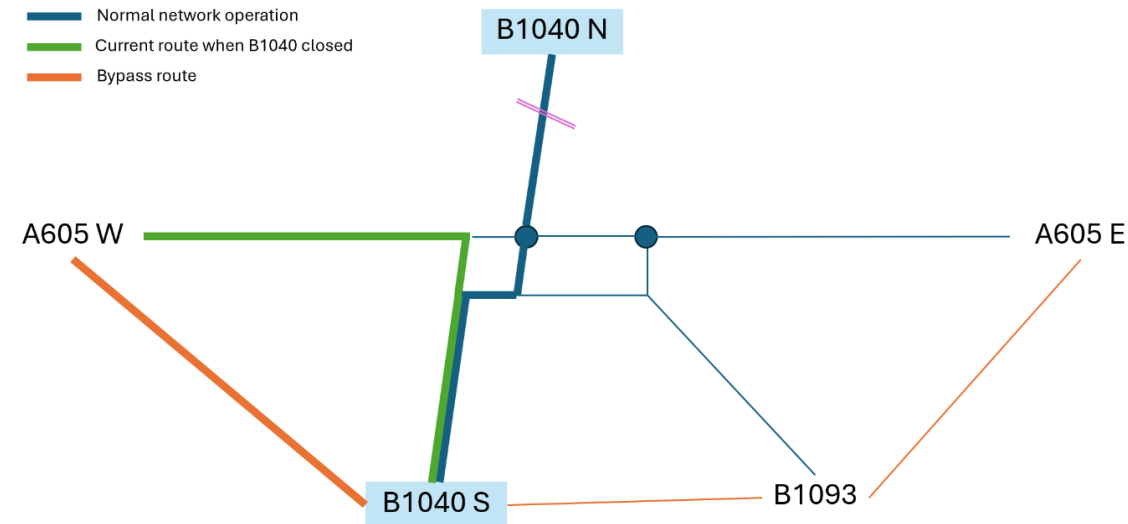
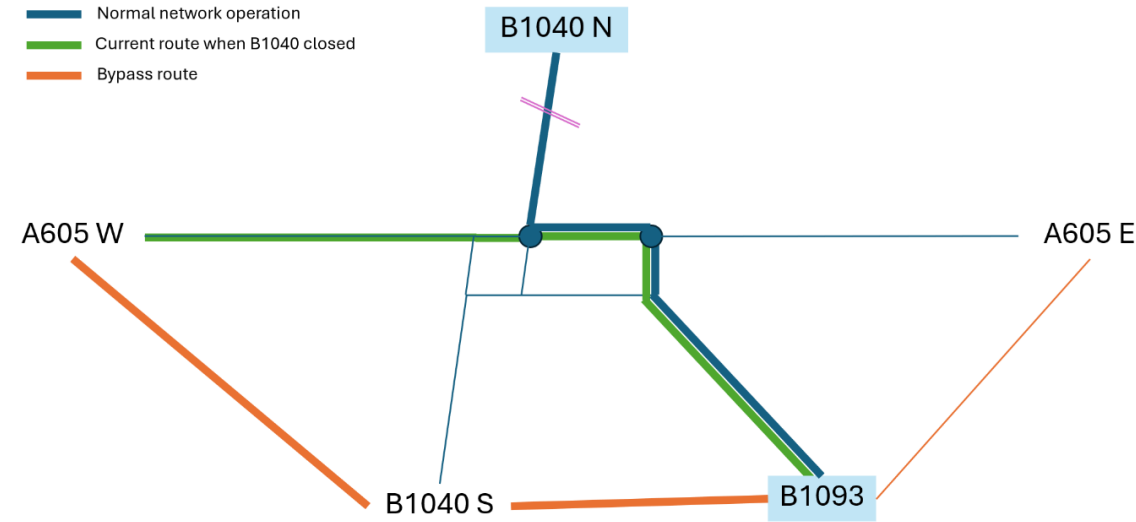
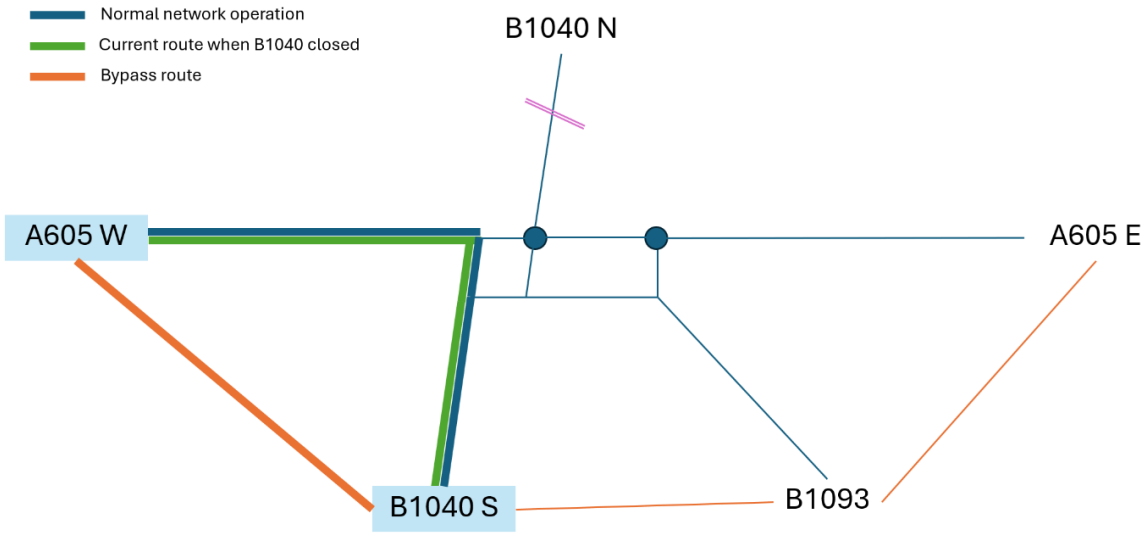
A relief road would be beneficial as it would provide an alternative route in the event of an incident on the A605, offering journey time improvements by reducing delays on the A605. This would particularly be the case in the event of a concurrent closure of the B1040.

# A. Network Maps

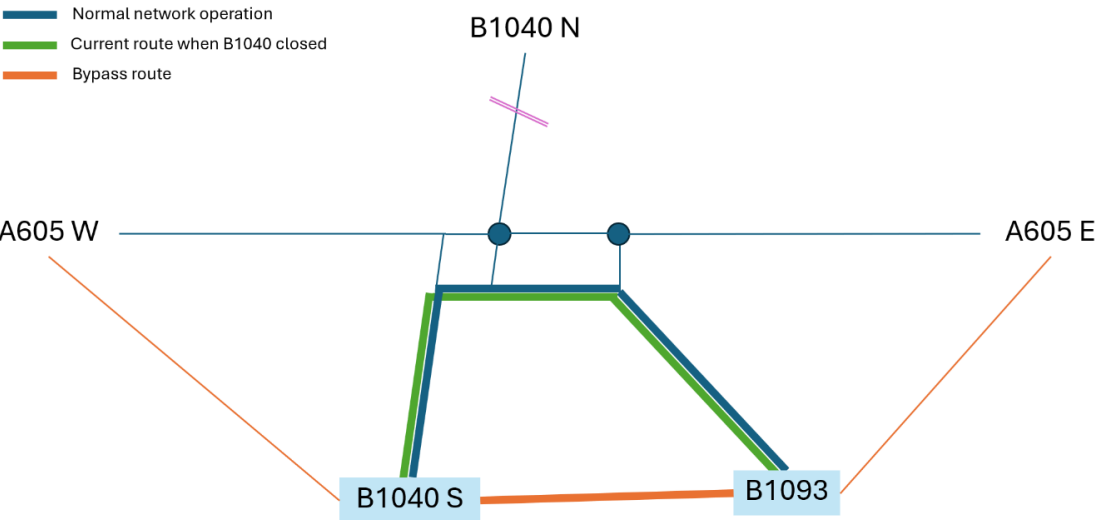




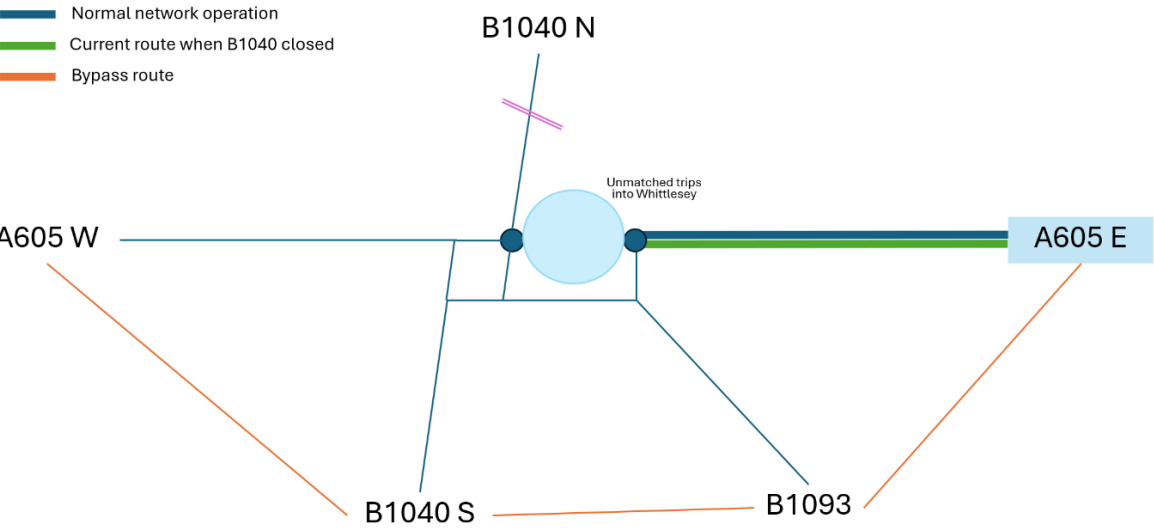




- Normal network operation
- Current route when B1040 closed
- Bypass route



- Normal network operation
- Current route when B1040 closed
- Bypass route



- Normal network operation
- Current route when B1040 closed
- Bypass route

