Technical Note

Description:	Junction 3 Active Travel Early Funding Release	To:	Nathan Bunting, Emma White
Reference:		From:	Ross Percy-Jones
Date:	23/08/2022	cc:	Lewis Banks, Richard Jones, Tamara Lanoix, Sally Savage

Introduction

Peterborough City Council (PCC) is requesting the early release of part of the construction funding for the Junction 3 Improvement Scheme from the Cambridgeshire and Peterborough Combined Authority (CPCA).

This is to accelerate the construction of two active travel schemes, which form part of the Junction 3 project, ahead of the main highways works which are scheduled to commence in Spring 2023 (subject to CPCA Board approval in January 2023). The schemes identified for accelerated delivery are:

- Malborne Way Footpath
- Shrewsbury Avenue Cycleway.

Peterborough City Council and the CPCA have been considering opportunities to accelerate scheme delivery as the scheme is funded by the Transforming Cities Fund (TCF). The TCF is time limited and must be spent by 31st March 2024.

Including the Junction 3 project, there is approximately £17m of TCF funded transport infrastructure to deliver in the 2023 / 2024 financial year in Peterborough. Bringing forward some of the active travel schemes for delivery into the third and fourth quarters of the 2022 / 2023 financial year will reduce the pressure on the wider construction programme, and specifically reduce the risk to funding availability caused by any programme delays.

A Full Business Case (FBC) is required for the approval of construction funding by the CPCA Board. The Junction 3 Improvement Scheme FBC is due to be submitted in December 2022, ahead of the January 2023 Board meeting. This technical note provides a summary of the business case dimensions in relation to the two active travel schemes introduced above and demonstrates that the schemes offer very high value for money, and there is a strong strategic case for investment as well as the necessary measures in place to successfully deliver the schemes.

As stated in the Department for Transport (DfT) Cycle Infrastructure Design Local Transport Note 1/20 (LTN 1/20), funding for local highways investment where the main element is not cycling or walking will be provided where schemes deliver or improve cycling infrastructure to the standards in LTN 1/20.

Schemes

The Junction 3 active travel schemes are designed and are ready to be delivered.

The Malborne Way Footpath scheme, which completes a missing link along an existing route, consists of the following:

- 1.6m wide dropped crossing over the Saltmarsh approach to the Malborne Way / Saltmarsh priority junction
- 2.5m wide footway for 220m between the Malborne Way / Saltmarsh priority junction in the north and the footpath ramp adjacent to the Lime Academy Orton access junction.
- 1.2m wide dropped crossing over the Lime Academy Orton access junction.

The Shrewsbury Avenue Cycleway scheme consists of the following:

- A 3.5m wide cycleway for 450m from the southernmost point of Shrewsbury Avenue to the south-west corner of Stillwells Nature Reserve.
- Resurfacing to make the existing route more attractive, comfortable, and safer.

The scheme drawings for each scheme are available upon request.

Figure 1 overleaf shows the location of the schemes in the Junction 3 study area, which is situated between the Ortons and Hampton areas in the south of Peterborough.

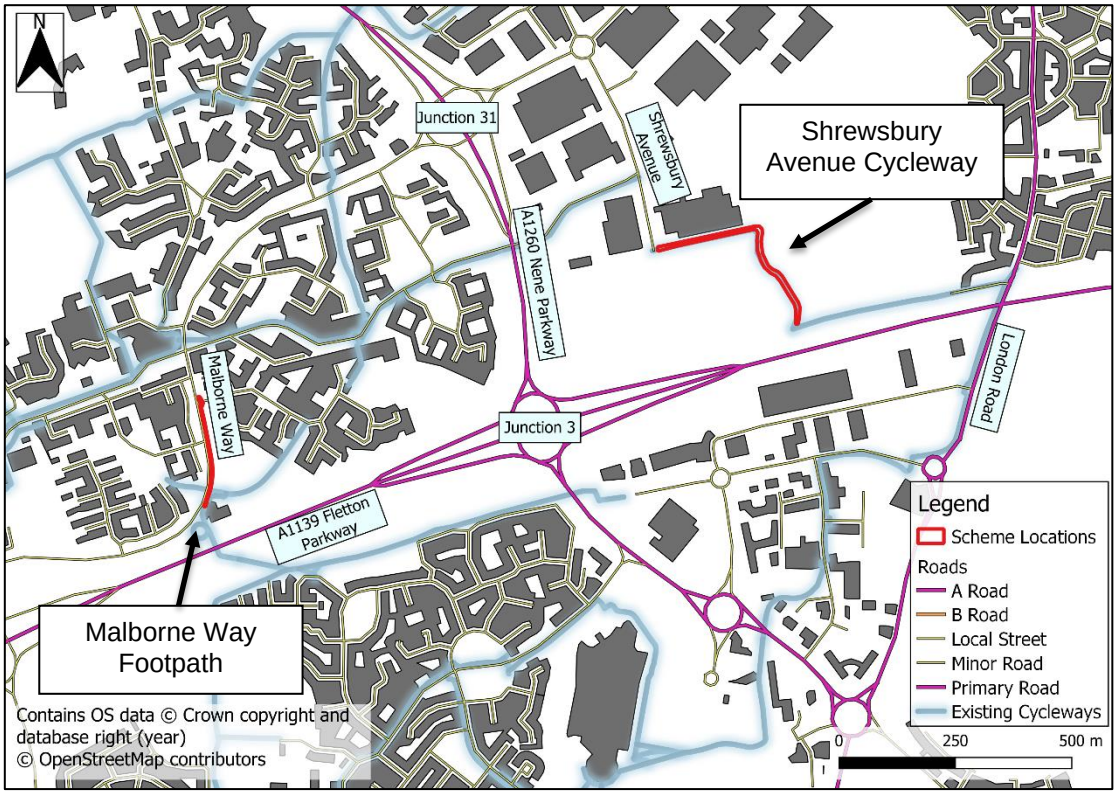

Figure 1: Junction 3 Active Travel Scheme Locations

Strategic Dimension

The Strategic Dimension considers the policy context in which the schemes have been developed. As well as policy, the need for intervention is explained, which includes the requirement to overcome the peak hour congestion and delay that compromises local growth aspirations.

Policy Context

A policy review of the following, in conjunction with a review of existing and future issues, has been undertaken as part of the Junction 3 FBC to identify scheme objectives:

- National:
    - Department for Transport Single Departmental Plan (June 2019)
    - Department for Transport Gear Change: One Year On (November 2020)
    - Department for Transport Cycle Infrastructure Design Local Transport Note 1/20 (LTN 1/20) (July 2020)
    - The Environment Act 2021
- Regional:
    - Combined Authority Annual Report & Business Plan 2021 / 22
    - Cambridgeshire and Peterborough Independent Economic Review (CPIER) (September 2018)
    - Mayor's Growth Ambition Strategy
    - Cambridgeshire and Peterborough Local Industrial Strategy (June 2019)
    - Cambridgeshire and Peterborough Combined Authority Local Transport Plan (January 2020)
    - Forthcoming Cambridgeshire and Peterborough Combined Authority Local Transport and Connectivity Plan
    - Natural Cambridgeshire Doubling Nature Vision
    - Cambridgeshire and Peterborough Independent Commission on Climate – Fairness, Nature and Communities: Addressing Climate Change in Cambridgeshire and Peterborough (October 2021)
- Local:
    - Peterborough City Council Strategic Priorities
    - Peterborough City Council Local Plan (July 2019)
    - Peterborough City Council – Trees and Woodland Strategy (2018)

Existing and Future Conditions

Evidence of existing and future conditions demonstrates the following issues that need to be overcome for growth to be realised:

- Extensive peak hour queues on the A1260 Nene Parkway
- Peak hour queueing on the A1260 The Serpentine
- High accident rate, particularly rear end shunts
- Poor pedestrian / cycle facilities and connectivity.

Pedestrian and cycle facilities within the immediate vicinity of Junction 3 are primarily situated to the south of Junction 3, with pathways and an underpass connecting the residential area of Hampton Hargate to the business park area along Phorpres Way (east of the A1260 The Serpentine).

A non-motorised user (NMU) audit was conducted as part of the Junction 3 FBC to inform active travel scheme designs. The audit included a review the quality of the walking and cycling facilities present at Junction 3 and the wider study area and identified any improvements that could be made alongside construction of the Junction 3 highway scheme. During the audit the following points were considered:

- Quality of the pedestrian / cycle footpaths
- Location of crossing points and the ease of crossing
- Extent of street lighting
- Perceived safety of the underpass.

Wider pedestrian and cycle facilities within the study area, such as the Malborne Way and Shrewsbury Avenue schemes, would help facilitate north-south active user trips across the A1139 Fletton Parkway.

It is expected that providing improved active travel infrastructure will encourage residents to travel by foot or bicycle instead of by car, and therefore help reduce existing and future year peak hour congestion and delay.

Local employment areas to the north, south, and east of Junctions 31 and 3 are particularly car-dependent, as shown in Figure 2 below. However, car availability for residents is lower in the Ortons and Hampton, where the schemes are located, than other areas of Peterborough as shown in Figure 3 overleaf. Improving the quality of strategic active travel corridors such as Malborne Way and the Shrewsbury Avenue Cycleway is expected to reduce the need to travel by car to local employment sites and increase the appeal of active travel.

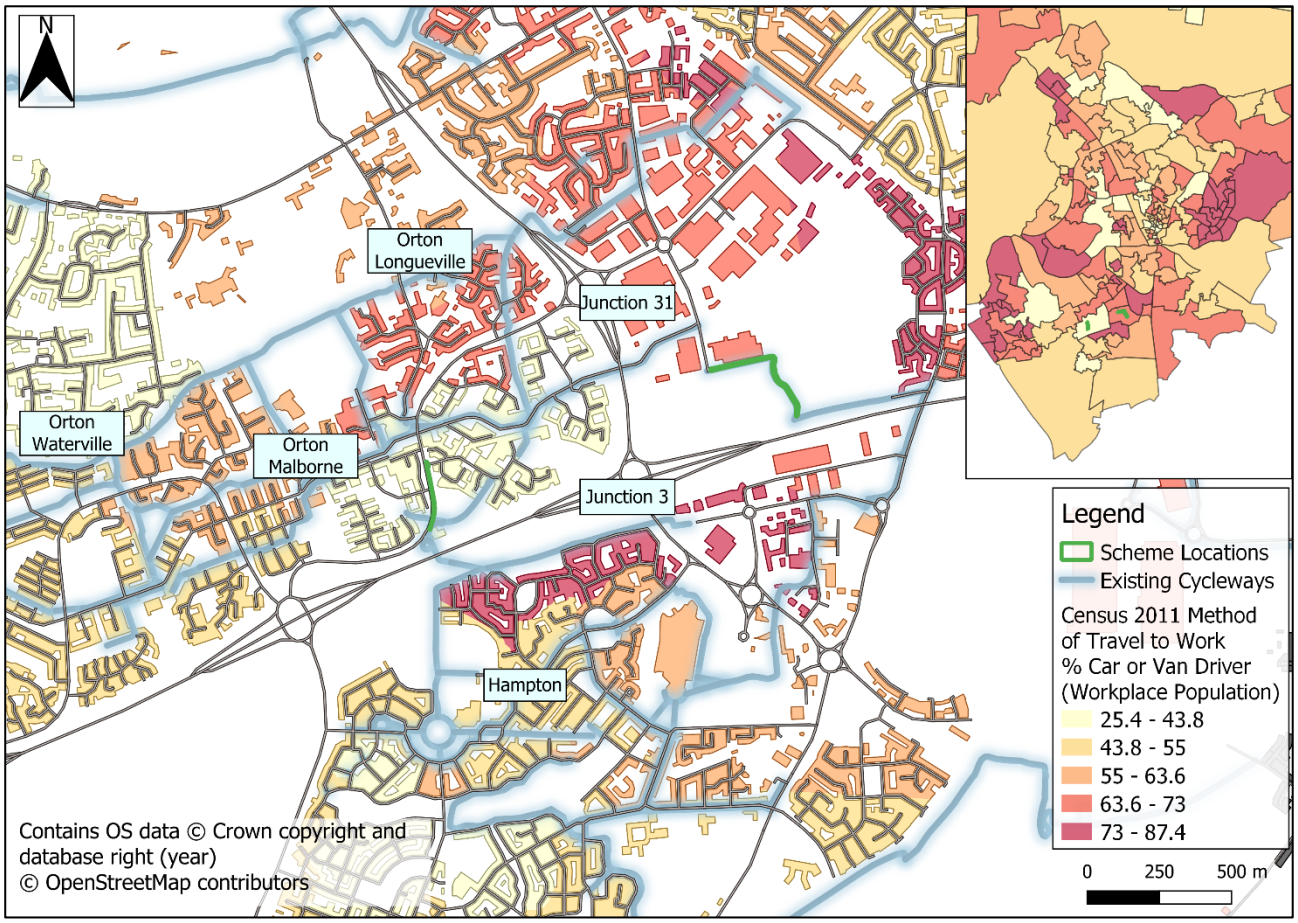

Figure 2: Census 2011 Method of Travel to Work – Percentage Car or Van Driver within Workplace Population

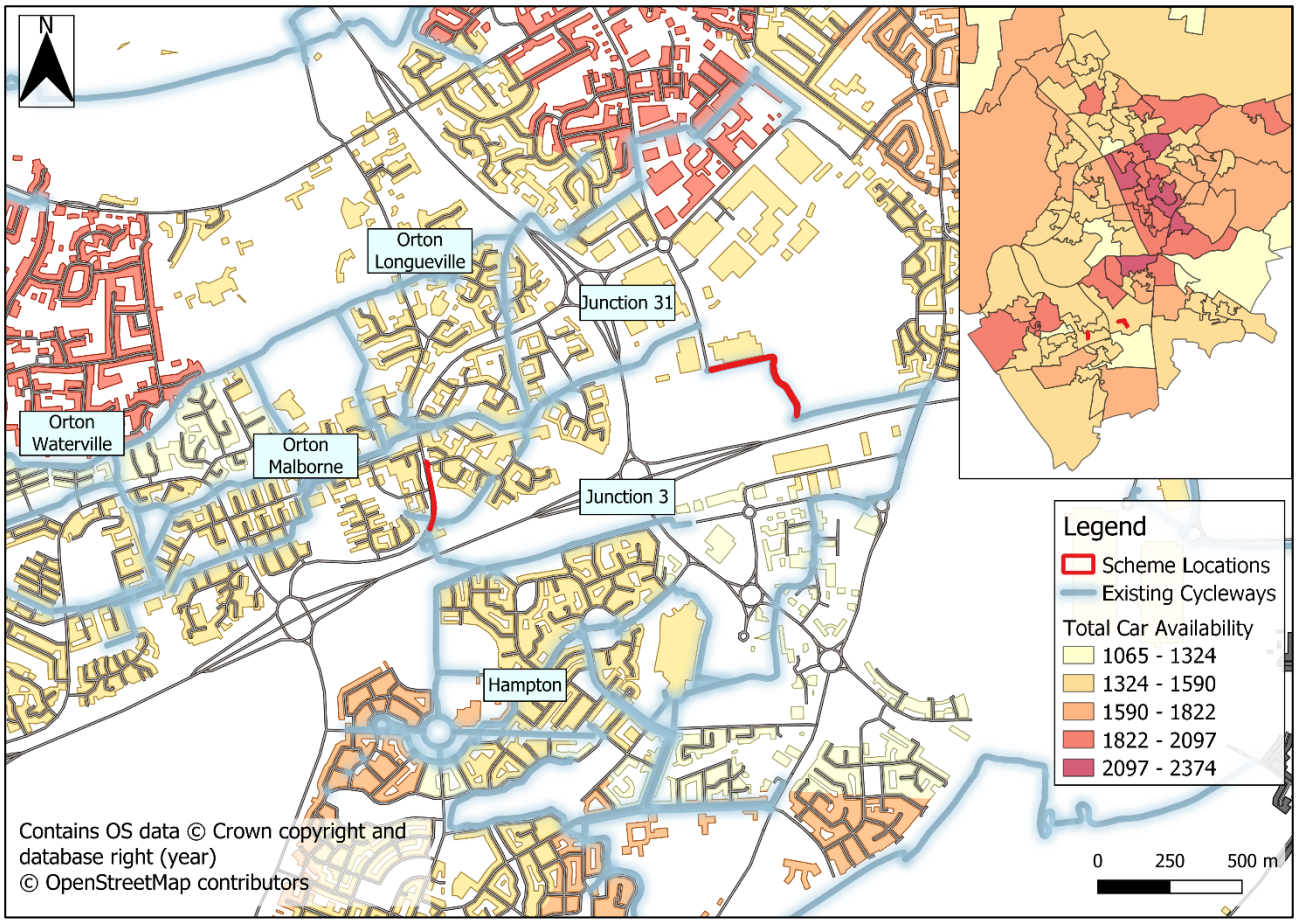

Figure 3: Census 2011 Total Car Availability by LSOA

The average car travel to work mode share for the Ortons and Hampton is 62%, whereas the whole of Peterborough is 61%. Whilst local car driver levels to workplaces are representative of overall Peterborough levels and local car availability is lower than the rest of the city, there is still potential to reduce car driver trips from local residential areas and increase the number of walking and cycling commuter trips.

Figure 4 shows the ratio of the local propensity to cycle under the Government Target Equality scenario of the Propensity to Cycle Tool (PCT) to Census 2011 cycle commuting levels.

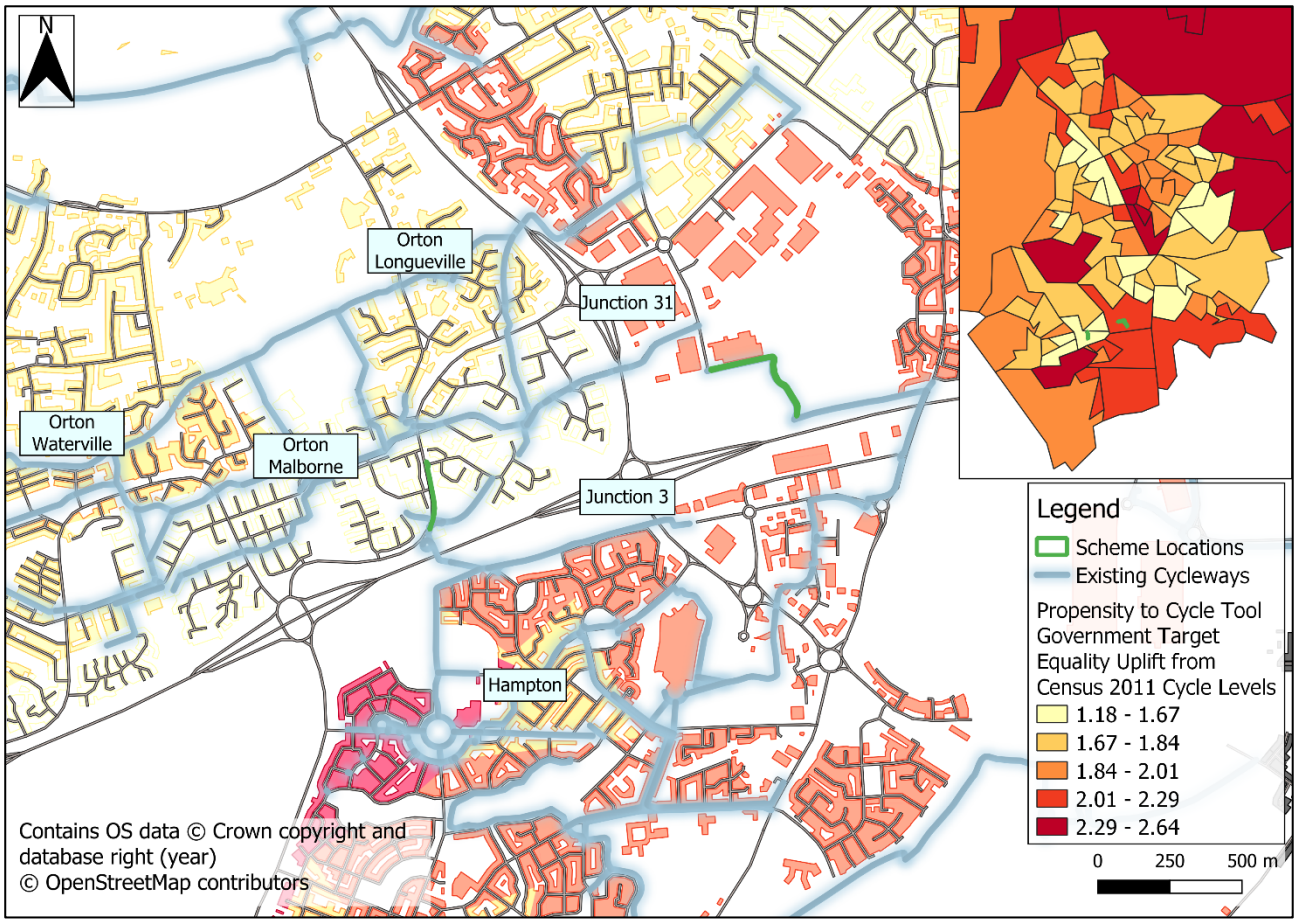

Figure 4: Ratio of Propensity to Cycle Tool Government Target Equality to Census 2011 Cycle Commuting Trips

There is the potential to uplift cycling from Census 2011 levels as follows:

- In the Ortons to the west of Junction 31 by a factor of between 1.18 and 1.67
- In Hampton by a minimum factor of 1.67 and a maximum factor of 2.64
- In the Ortons to the east of Junction 41 by a factor of between 2.01 and 2.29.

The Census 2011 Method of Travel to Work data has also been analysed to identify the number of car driver trips that are undertaken within a walkable distance through the study area and could feasibly use the routes that would be improved as shown in Figure 5 overleaf.

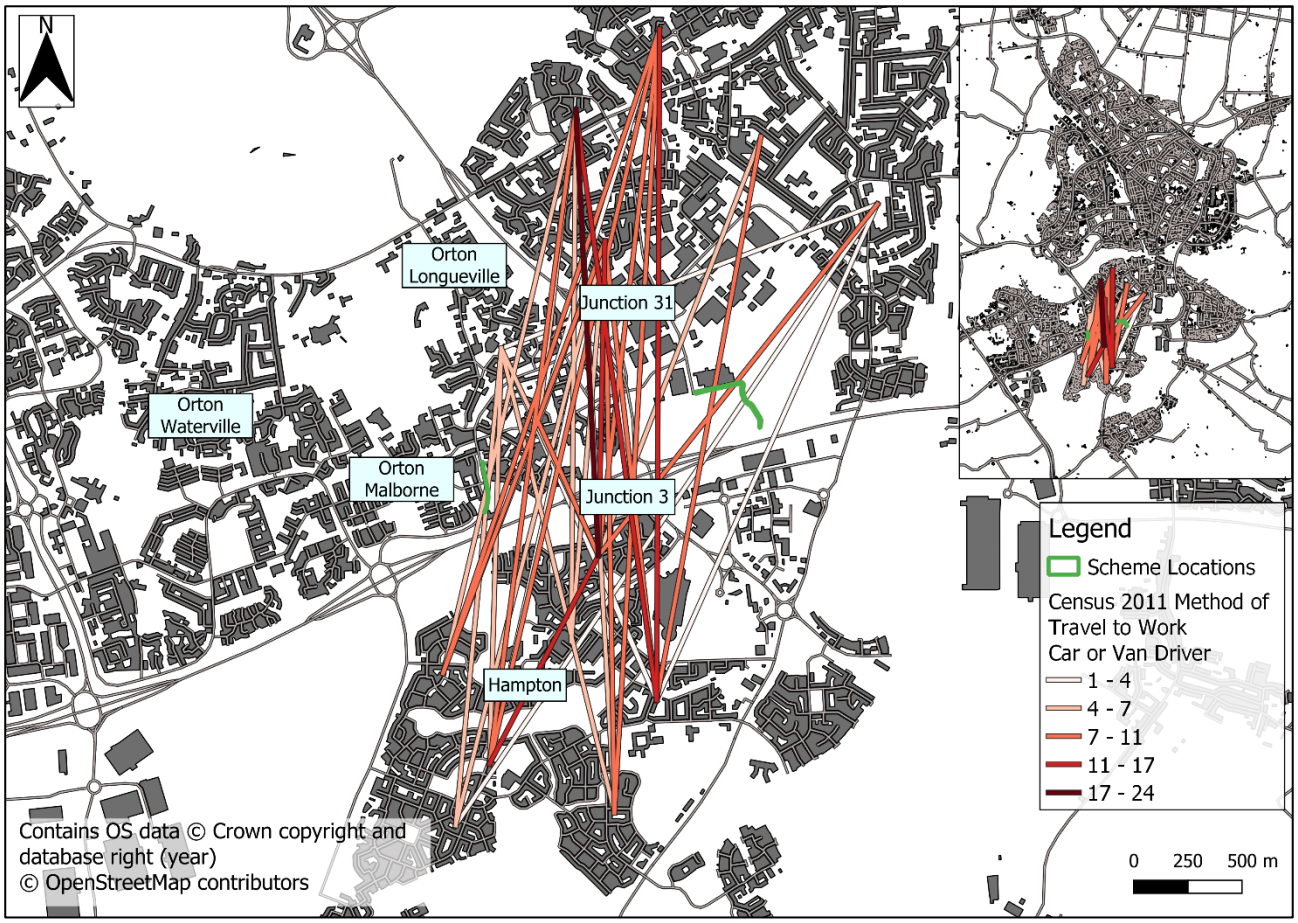

Figure 5: Census 2011 Method of Travel to Work - Car or Van Driver Trips Undertaken Over a Walkable Distance

There are 353 daily car or van driver home to work trips in 2011 that are undertaken within a walkable distance through the study area. If 10% of these car or van trips shifted to walking, the number of local home to work walking trips would increase to about 94 from 59 which equates to a ratio of 1.60. If 25% of these car or van trips shifted to walking, the number of local home to work walking trips would increase to about 147 which equates to a ratio of 2.50.

Without an improvement in active travel infrastructure, the study area will remain a car-dependent destination with untapped potential for walking and cycling.

Local Growth Aspirations

Peterborough is forecast to experience significant employment and population growth over the next few decades, reflecting a continuation of past trends. The Peterborough Local Plan (adopted July 2019) sets out the overall vision, priorities and objectives for Peterborough for the period up to 2036. The updated strategy identifies the required delivery of 19,440 new homes and 17,600 new jobs by 2036. This level of growth will in turn further strengthen the City's economy, contribute to regional growth, and increase the demand for travel on the local network.

Peterborough strives to become a 'destination of choice', to be continually recognised as a regional centre and economic partner with Cambridge. With the attractiveness of the City set to increase as a place to live, work and travel, this in turn creates pressure in relation to housing and employment growth, which in turn increases the strain on the transport infrastructure. Improving the transport infrastructure to enable Peterborough's strong history of growth to continue is the main internal driver for change at Junction 3.

The Local Transport Plan identifies Junction 3 as a key scheme for introducing infrastructure requirements that are needed to address existing capacity constraints on the network and those that are required to cater for the travel demand arising from the growth ambitions of the City.

Junction 3, London Road, and the A1139 Fletton Parkway footbridge are gateways to a large residential and employment area known as Hampton. The Hampton Township has been developed over the past 25 years and is identified for a significant proportion of residential and employment growth in the Local Plan for the next 15 years.

Table 1 shows the developments by land use that are proposed for the Hampton area, respectively.

Table 1: Development in the Hampton Area

Site Name	Residential Units	Employment (GFA m^2)	Retail (GFA m^2)	Leisure (GFA m^2)	Jobs
British Sugar Offices	-	6,922	-	-	590
Serpentine Green Extension	-	-	12,335	11,866	257
Great Haddon (Core + Employment)	5,350	324,500	11,500	-	10,686
Alwalton Gateway	-	17,200	-	-	2,250
Hampton Heights	350	-	-	-	-
Hampton Leys	1,700	-	-	-	-

Local residential and employment growth will be compromised if no changes are made to existing congestion and delay. An increase in local active travel within the Junction 3 study area and a reduction in car travel will alleviate congestion and delay.

The October 2021 Cambridgeshire and Peterborough Independent Commission on Climate report recommends a reduction in car miles driven by 15% to 2030 relative to baseline levels to help the region mitigate and adapt to the impacts of climate change. The schemes will provide quality active travel infrastructure that would encourage walking and cycling as a more sustainable alternative to car travel.

Scheme Objectives

The project scope is to construct schemes within the Junction 3 study area that achieve each of the primary objectives of the Junction 3 FBC.

The primary scheme objectives, as outlined in the Junction 3 FBC, are as follows:

- Tackle congestion and improve journey time reliability
- Support Peterborough's Growth Agenda
- Create wider economic benefits
- Protect and improve the biodiversity value within the study area
- Reduce dependence on car travel and increase travel by healthier, more sustainable modes.

The secondary scheme objectives, as outlined in the Junction 3 FBC, are as follows:

- Positively impact traffic conditions on the wider network
- Improve road safety.

The Junction 3 FBC schemes were developed and shortlisted against the scheme objectives using the DfT's Early Assessment and Sifting Tool (EAST) assessment. An option development workshop was held on 4th December 2018 and attended by representatives from various disciplines within Peterborough Highway Services (PHS). The workshop used EAST to review existing and future issues at Junction 3 and the surrounding network.

As stated in the Department for Transport (DfT) Cycle Infrastructure Design Local Transport Note 1/20 (LTN 1/20), funding for local highways investment where the main element is not cycling or walking will be provided where schemes deliver or improve cycling infrastructure to the standards in LTN 1/20.

The Benefits Realisation Plan for the Junction 3 FBC will measure the success of the schemes against the scheme objectives.

Key Risks

A project Risk Register is available as part of the Junction 3 FBC that identifies each of the key risks and mitigation measures. The Risk Register is a live document, which is managed by PCC and is reviewed regularly by the CPCA in monthly Project Board meetings.

A construction Risk Register for each scheme has been produced and is available upon request. The Risk Register is a live document and will be regularly updated throughout the ten-week construction period.

Economic Dimension

The Economic Dimension provides evidence of how the proposed improvements are predicted to perform in relation to the stated objectives, identified problems, and targeted outcomes. The Economic Dimension determines whether the proposed improvements are likely to provide good value for money, with benefits outweighing its costs.

This section sets out the approach taken to initially assess the Economic Dimension for the Junction 3 Active Travel schemes and demonstrates that the proposed schemes would offer Very High Value for Money.

The scheme appraisal in this report focuses on the impacts that can be monetised and these include:

- Mode Shift
- Health
- Journey Quality.

A full appraisal of other economic, environmental, social and distributional impacts that cannot be monetised will be assessed quantitatively and qualitatively within the FBC going to the CPCA January Board.

Present Value of Benefits

The active travel Present Value of Benefits (PVB) of each scheme has been assessed using the Active Mode Appraisal Toolkit (AMAT).

AMAT requires the following intervention-specific details for calculating active travel benefits:

- Appraisal year – 2022
- Intervention opening year – 2023
- Final year of funding – 2023
- Appraisal period – 20 years
- Area type – Other Urban
- Number of daily walking and / or cycling trips without the proposed intervention
- Number of daily walking and / or cycling trips with the proposed intervention
- Percentage of an average walking or cycling trip that will use the intervention
- Current walking and cycling infrastructure for the route
- Proposed walking and cycling infrastructure for the route.

The number of walking and cycling trips without the proposed interventions have been sourced from Strava Metro, Census 2011 Method of Travel to Work, Vivacity AI sensors, and historic Automatic Traffic Counts (ATC).

It was estimated in the Strategic Dimension that there is a potential for walking commuter trips to increase by a factor of 1.600 if 10% of short distance car or van driver trips that could use the proposed infrastructure made the switch to walking. However, the Transport for Quality of Life Overview of Evidence on Increasing Active Travel report (September 2019) identified that improvements to network and flagship routes could generate 18% new walking / cycling trips after only one year, which equates to an uplift factor of 1.180.

A separate exercise has been undertaken to estimate the potential uplift in walking trips from improving walking connectivity in an area such as Fengate where there is low footpath provision to match the level of provision along Shrewsbury Avenue in Orton Longueville. This was achieved by calculating the ratio of walking mode share along Shrewsbury Avenue to the walking mode share in Fengate. Shrewsbury Avenue was found to have a travel to work by walking mode share of 5.33%, whereas Fengate had a mode share of 4.45%. The uplift factor for walking would therefore be 1.198, which is similar to the new trip generation factor observed in the Transport for Quality of Life report.

An uplift factor of 1.198 has therefore been used as the core assumption to provide a conservative estimate of the number of walking trips with the proposed interventions.

A sensitivity test has also been undertaken that assesses the impact of using the Strategic Dimension uplift factor of 1.600.

The number of cycling trips with the proposed improvements to the Shrewsbury Avenue Cycleway has been calculated by:

- Identifying the PCT Government Target (Equality) Ratio (Scenario / Baseline) for the existing route at the scheme location
- Applying the ratio as an uplift factor to the number of cycling trips without the proposed intervention

Government Target (Equality) is the most conservative of all PCT scenarios and is representative of the Department for Transport's Cycling Delivery Plan (October 2014) target of doubling cycling from 2013 levels nationally. Nearly all PCT scenarios are calculated using a function based on trip distance and hilliness. Not all areas experience the same trip distances and hilliness, and this therefore results in increases that can be below or above a doubling of cycling nationally.

PCT is a measure of cycling potential and not an exact estimate of the impact of a specific scheme or intervention. However, a site visit to the Shrewsbury Avenue Cycleway has shown that the scheme is integral to delivering a better-connected network that improves safety and journey quality for cycling. Without any infrastructure improvements, the study area would not be appropriate for increased cycling.

TEMPro v8.0 Core Scenario 2019 to 2023 walk and cycle growth factors for Peterborough have been applied to the average weekday trips for all scenarios.

Table 2 overleaf shows the number of walking and cycling trips by scenario for each scheme.

Table 2: Do Nothing and Do Something Daily Walking Trips by Scheme

Scheme	Daily Walking Trips			Daily Cycling Trips		
	Without Scheme (2023)	With Scheme – Core (2023)	With Scheme – Sensitivity Test (2023)	Without Scheme (2023)	With Scheme – Core (2023)	With Scheme – Sensitivity Test (2023)
Shrewsbury Avenue Cycleway	156	186	249	159	266	
Malborne Way Footpath	233	280	376			

Table 4 below summarises the benefits for each scheme for the Core Scenario.

Table 3: Summary of Benefits by Scheme – Core Scenario

Benefit Type	Benefit Item	Benefits ('000s)		
		Shrewsbury Avenue Cycleway	Malborne Way Footpath	**Total**
Mode Shift	Congestion Benefit	£32.45	£2.98	£41.59
	Infrastructure Maintenance	£0.18	£0.02	£0.23
	Accident	£5.58	£0.51	£7.15
	Local Air Quality	£0.79	£0.07	£1.01
	Noise	£0.37	£0.03	£0.47
	Greenhouse Gases	£2.65	£0.24	£3.4
Health	Reduced Risk of Premature Death	£688.73	£108.29	£1,020.67
	Absenteeism	£91.56	£22.53	£160.62
Journey Quality	Journey Ambience	£2.24	£6.60	£10.06
Indirect Taxation	Indirect Taxation	£-3.33	£-0.31	£-4.27
Total		**£790.00**	**£140.96**	**£930.96**

The benefits over a 20-year appraisal period for the Shrewsbury Avenue and Malborne Way schemes are £790,000 and £140,960, respectively. Health forms most of the benefits for the Shrewsbury Avenue and Malborne Way schemes, with 95.0% and 92.8%, respectively.

Table 4 below summarises the benefits for each scheme for the Sensitivity Test.

Table 4: Summary of Benefits by Scheme – Sensitivity Test

Benefit Type	Benefit Item	Benefits ('000s)		
		Shrewsbury Avenue Cycleway	Malborne Way Footpath	**Total**
Mode Shift	Congestion Benefit	£36.53	£9.14	£45.67
	Infrastructure Maintenance	£0.21	£0.05	£0.26
	Accident	£6.28	£1.57	£7.85
	Local Air Quality	£0.89	£0.22	£1.11
	Noise	£0.42	£0.10	£0.52
	Greenhouse Gases	£2.98	£0.75	£3.73
Health	Reduced Risk of Premature Death	£837.04	£331.94	£1,168.98
	Absenteeism	£122.41	£69.06	£191.48
Journey Quality	Journey Ambience	£2.65	£7.82	£10.47
Indirect Taxation	Indirect Taxation	-£3.75	-£0.94	-£4.69
Total		**£977.35**	**£419.66**	**£1,397.01**

The benefits over a 20-year appraisal period for the Shrewsbury Avenue and Malborne Way schemes are £977,350 and £419,660, respectively. Health forms most of the benefits for the Shrewsbury Avenue and Malborne Way schemes, with 95.4% and 95.5%, respectively.

Present Value of Costs

The Present Value of Costs (PVC) used within the economic assessment are based on initial base investment costs and Optimism Bias (OB) that have been rebased and discounted to 2010 prices and adjusted to market prices using AMAT. No inflation has been applied because the scheme costs will be incurred within the same price year. A developer contribution of £50,000 for the Shrewsbury Avenue Cycleway has been included within the Economic Dimension costs.

The OB rate has been sourced from TAG Unit A1.2 Scheme Costs (May 2022) and uses the Stage 3 Road OB of 20% to reflect the final stage (FBC) that the Junction 3 Business Case is currently at.

The conversion to market prices is undertaken by applying a market price factor of 1.19 to the discounted costs.

Table 5 below shows the scheme costs used within the economic assessment.

Table 5: Economic Dimension Costs

Cost Type	Shrewsbury Avenue Cycleway	Malborne Way Footpath	Total
Base Investment Cost	£223,948	£227,305	£451,253
Base Cost and Optimism Bias	£268,738	£272,766	£541,504
Rebased and Discounted to 2010, and Adjusted to Market Prices (PVC)	**£135,547**	**£169,237**	**£304,784**

Net Present Value and Benefit Cost Ratio

The Net Present Value (NPV) has been calculated by subtracting the PVC from the PVB.

The Benefit Cost Ratio (BCR) has been calculated by dividing the PVB by the PVC.

The BCR is used to determine the Value for Money category that each scheme falls within, as shown in Table 6 overleaf. The Value for Money categories have been sourced from the Department for Transport Value for Money Framework: Moving Britain Ahead (2017) document.

Table 6: Value for Money Categories

Value for Money Category	Benefit Cost Ratio (BCR) Range
Very Poor	BCR <= 0.0
Poor	1.0 < BCR > 0.0
Low	1.5 < BCR >= 1.0
Medium	2.0 < BCR >= 1.5
High	4.0 < BCR >= 2.0
Very High	BCR >= 4.0

The scheme should provide a BCR of at least 1.5 (Medium Value for Money) to be considered of good value for money. It should be noted that the CPCA state in its Local Assurance Framework (2021) that a scheme with a BCR less favourable than other alternatives but best delivers on a project's strategic objectives may be the best value way of delivering a project. However, it is for the CPCA Board to judge whether the achievement of the strategic objectives is worth the cost to the CPCA.

Table 7 provides the Analysis of Monetised Costs and Benefits (AMCB) Table.

Table 7: Analysis of Monetised Costs and Benefits Table – Core Scenario

Benefit Item	Value (£'000s)		
	Shrewsbury Avenue	Malborne Way	Total
Noise	0.37	0.03	0.40
Local Air Quality	0.79	0.07	0.86
Greenhouse Gases	2.65	0.24	2.89
Journey Quality	2.24	6.60	8.84
Physical Activity (Health)	780.29	130.82	911.11
Accidents	5.58	0.51	6.09
Congestion Benefit	32.45	2.98	35.43
Infrastructure Maintenance	0.18	0.02	0.20
Indirect Taxation	-3.33	-0.31	-3.64
Present Value of Benefits (PVB)	**790.00**	**140.96**	**930.96**
Broad Transport Budget	135.55	169.24	304.79
Present Value of Costs (PVC)	**135.55**	**169.24**	**304.79**
Net Present Value (NPV)	**654.45**	**-28.28**	**626.17**
Initial Benefit to Cost Ratio (BCR)	**5.83**	**0.83**	**3.05**

The Shrewsbury Avenue scheme provides a PVB of £790,000, NPV of £654,450, and a BCR of 5.83, which equates to Very High Value for Money.

The Malborne Way scheme provides a PVB of £140,960, NPV of £-28,280, and a BCR of 0.83, which equates to Poor Value for Money.

Combining both schemes together provide a PVB of £930,960, NPV of £626,170, and a BCR of 3.05, which equates to High Value for Money.

A sensitivity test has also been undertaken that assesses the impact of using the Strategic Dimension uplift factor of 1.600. Applying the high uplift resulted in a combined PVB of £1,397,010, NPV of £1,092,280, and a BCR of 4.58, which equates to Very High Value for Money.

The most significant difference in the sensitivity test is that Malborne Way scheme goes from a BCR of 0.83 to 2.48, which is High Value for Money.

Non-monetised Impacts

Impacts that have not been monetised for active travel include:

- Journey time savings for active users (Social and Economy)
- Security (Social)
- Personal Affordability (Social)
- Accessibility (Social).

The distributional impacts of security and personal affordability have been quantitatively assessed. Accessibility has not been assessed on the basis that the guidance within TAG Unit A4.2 focuses solely on public transport.

The following environmental impacts are to be considered in full within the Junction 3 FBC:

- Landscape
- Townscape
- Historic Environment
- Biodiversity
- Water Environment.

Security

Security impact appraisal is recommended for road users, public transport passengers or freight, or a combination of these as stated in TAG Unit A4.1 Social Impact Appraisal. Whilst there is no specific guidance for the security of active mode users, the process as outlined within TAG Unit A4.2 Distributional Impact Appraisal has been used. Indicators such as surveillance, lighting and visibility, and landscaping were noted during site visits and used to inform the appraisal.

The security distributional impact appraisal found that each scheme would not deliver any change in terms of security for older people, females, or young people.

Personal Affordability

Personal Affordability appraisal considers how the monetary costs of travel can be a major barrier to mobility for certain groups of people and their ability to access key destinations. The more deprived groups of society typically spend less money on travel, but the cost of travel will account for a greater proportion of their income.

The most significant impacts of the costs of travel are on younger and older groups, and low-income households.

Figures 5 and 6 show the distribution of younger (0 to 15) and older (65 plus) age groups across Peterborough in relation to key services that would likely be used, respectively.

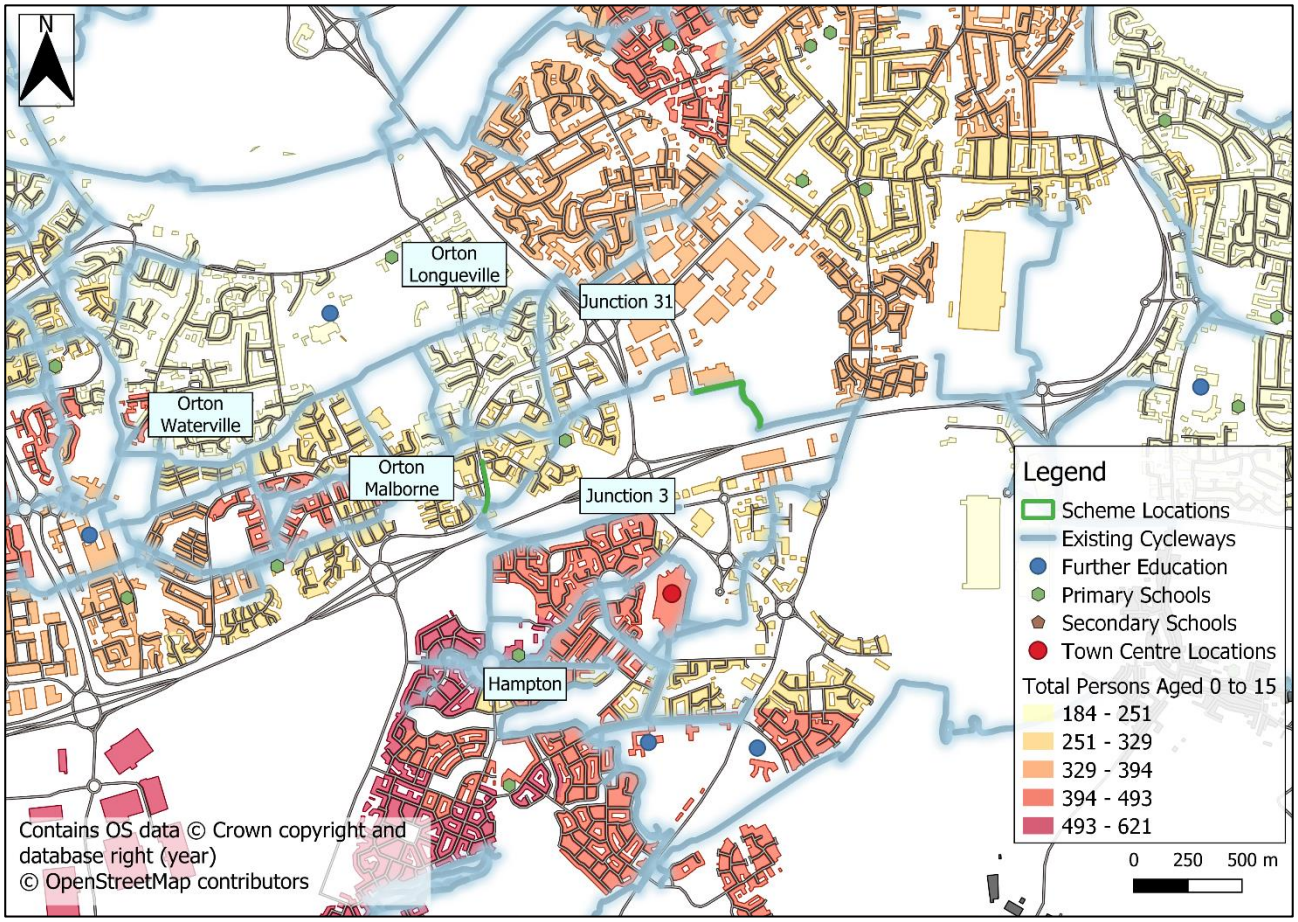

Figure 6: Number of Persons Aged 0 to 15 at LSOA Level across Peterborough in Relation to Key Services

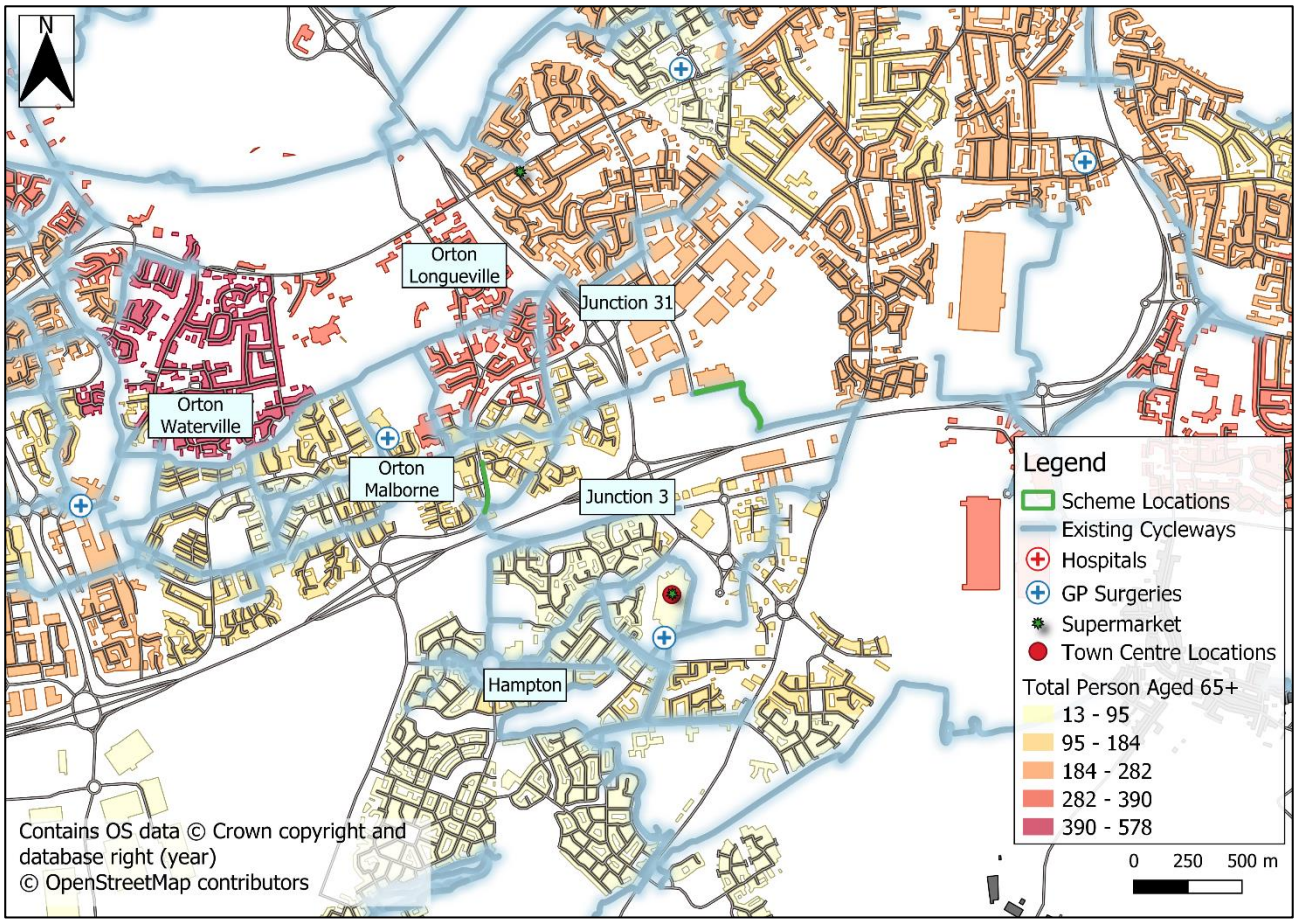

Figure 7: Number of Persons Aged 65+ at LSOA Level in Relation to Key Services

The Malborne Way Footpath will likely be used by young people travelling to Nene Park Academy and St. Botolph's C of E Primary School from residential areas in Orton Malborne and Hampton. There is a particularly high number of persons aged 0 to 15 in Hampton and would likely represent the greatest proportion of young people using the footpath. There is currently no marked footpath that connects the footbridge over Fletton Parkway and the footpath north of Saltmarsh. Without a footpath, the north-south route between Hampton and the schools in Orton Longueville will not be considered desirable for walking to school and will therefore encourage more costly escort education car driver trips.

The Malborne Way Footpath will likely be used by people aged 65 and above living in the Ortons and Hampton to and above travelling to GP surgeries in Orton Malborne and Hampton, and the retail outlets at Serpentine Green in Hampton. Whilst bus travel is free for senior citizens, there is no suitable bus between Hampton and

Orton Longueville or Orton Malborne. The lack of a quality footpath will make walking to local key services less desirable for senior citizens and overall travel less affordable.

Figure 7 shows the Income Deprivation Domain of the English Indices of Multiple Deprivation dataset for the study area.

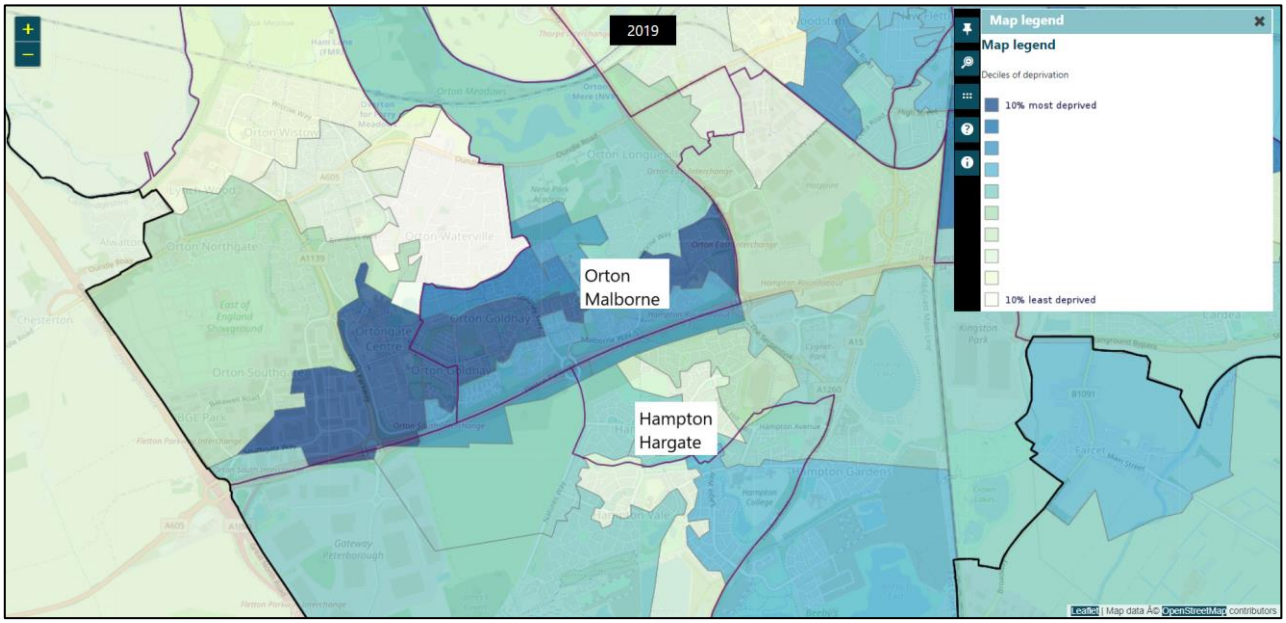

Figure 8: Income Deprivation Domain by LSOA

The Malborne Way and Shrewsbury Avenue study areas have LSOAs within the 10% most deprived deciles for England. An improvement in the walking and cycling infrastructure within the study area would help make walking to work or other local key services a more realistic alternative to car and bus travel for those in income deprived areas that are more greatly affected by the cost of travel for reaching work.

Areas along Malborne Way and Shrewsbury Avenue, and in Hampton are particularly car-dependent employment destinations, as previously shown in Figure 2 of the Strategic Dimension, and there is potential to improve the local walking and cycling network to a higher standard.

The average car travel to work mode share for the Ortons and Hampton is 62%, whereas the whole of Peterborough is 61%. Whilst local car driver levels to workplaces are representative of overall Peterborough levels and local car availability is lower than the rest of the city, there is still potential to reduce car driver trips from local residential areas and increase the number of walking and cycling commuter trips. This is particularly important in residential areas suffering with high income deprivation levels where residents will be struggling with the costs of travel.

Without an improvement in active travel infrastructure, the study area will remain a car dependent destination that is less accessible for those who cannot afford to travel by car.

Delivering the Shrewsbury Avenue Cycleway and Malborne Way Footpath active travel schemes together will provide an overall PVB of £961,980, NPV of £626,170, and a BCR of 3.05 (High Value for Money) based on physical activity, journey quality, accidents, noise, local air quality, greenhouse gases, and congestion benefits in the core scenario.

The schemes are not expected to deliver any change in security impacts for vulnerable active travel users.

The removal of a barrier to travel along Malborne Way is expected to make walking a more realistic and affordable alternative to car travel to key services within the study area for groups most affected by personal affordability. The schemes would also benefit nearby residential areas that are currently in the top 10% most income deprived deciles for England.

Financial Dimension

The Financial Dimension focuses on the affordability of the proposed schemes, funding arrangements, and technical accounting issues.

The scheme cost estimates for the Financial Dimension have been prepared in line with guidance set out in TAG Unit A1.2 Scheme Costs (May 2022).

The estimates have been costed based on a bill of quantities produced from the preliminary designs and a schedule of construction activities. These costs have been peer reviewed, and include:

- Detailed design costs and additional surveys where required
- Land acquisition and planning costs
- Ecology surveys, and specialist environmental advice
- Staff and legal fees, including local overheads and consultation costs
- Third party costs
- Construction costs, including mobilisation, supervision, and costs associated with statutory undertakers works
- Risk Allowance.

It should be noted that Optimism Bias is not applied within the Financial Dimension and is only for use within the Economic Dimension.

Project costs incurred to date have been omitted from the costs presented in this section as “sunk costs”, which is in line with TAG Unit A1.2.

The cost profile is based upon the milestone activities set out in the Management Dimension, and the dates used to calculate the scheme costs, including the application of inflation, are shown in Table 8.

Table 8: Milestone Activities

Timescale	Activity
August 2022	Present Active Travel Schemes Business Case Technical Note to CPCA
September 2022	CPCA Sponsors present papers to CPCA Board to request approval of funding. Raising Work Orders and mobilising works
October 2022 – December 2022	Malborne Way scheme construction undertaken
October 2022 – November 2022	Shrewsbury Avenue scheme construction undertaken
January 2023	CPCA Board to make funding decision for the main Junction 3 project. This was the original CPCA Board date for the Junction 3 active travel schemes.

Table 9 below shows the Financial Dimension Scheme Cost Estimates.

Table 9: Financial Dimension Scheme Cost Estimates

Description of Cost Type	Shrewsbury Avenue	Malborne Way
Base Investment Cost	£223,948	£227,305
Risk Adjusted Base Cost	£255,958	£263,029
Risk Adjusted Base Cost with Industry Inflation (**Outturn Cost**)	**£255,959**	**£263,029**
Inflated Risk Adjusted Costs Incorporating Whole Life Costs (60-year assessment period).	£255,958	£263,029

The costs calculated for use within the Economic Assessment are presented in the Economic Dimension.

The Outturn cost represents the amount required to deliver the scheme, and is the amount requested for early release.

The schemes will be delivered within the same year as the cost estimates and therefore inflation has not been applied. Therefore, the outturn costs for Shrewsbury Avenue and Malborne Way are £255,959 and £263,029, respectively.

Budgets and Funding Cover

It is anticipated that the full combined Outturn Cost of £518,988 will be funded from the Transforming Cities Fund (TCF). The TCF is time limited and must be spent by 31st March 2024.

A £50,000 developer contribution has been secured as a contribution towards the Shrewsbury Avenue Cycleway and must be paid prior first occupation of the development (currently under construction). Once received, this contribution will be used in the delivery of the Junction 3 project (which includes the Shrewsbury Avenue Cyclway scheme).

There are not known to be any financial constraints beyond the availability of funding from the TCF, which is currently considered adequate to cover the scheme costs.

Commercial Dimension

The Commercial Dimension serves to demonstrate that the Junction 3 active travel schemes can be reliably procured and implemented through existing channels whilst ensuring value for money in delivery of the scheme.

Construction and site supervision will be delivered by Peterborough Highway Services (PHS). All skills and competencies to deliver this scheme are available within the PHS contract and its supply chain.

The scheme construction will be procured using a Target Cost payment mechanism. This incentivises both parties to work together to reduce cost through a pain / gain mechanism. To ensure that the procurement remains commercially competitive and offers value for money, all subcontract packages will be subject to competitive tendering.

Management Dimension

The Management Dimension demonstrates that the Council, through the PHS Framework, has the necessary experience and governance structure to successfully manage the delivery of the Junction 3 active travel schemes.

PHS has successfully delivered the following active travel schemes in recent years:

- Pop-up cycleways:
    - Between Midland Road and Bourges Boulevard along Thorpe Road on the eastbound carriageway. Installed during the first COVID-19 lockdown in 2020.
    - Along the southbound side of Priestgate. Designed in 2020 and installed in late 2021, the cycleway consisted of a cycle lane delineated by 'Rediweld One Piece Wand Orca' units. Cones were taken down in 2022.
    - Between St. Johns Street and Cattle Market Road along City Road. Designed in 2020 and installed in late 2021, the cycleway consisted of a cycle lane delineated by 'Rediweld One Piece Wand Orca' units. Cones were taken down in 2022.
    - Westbound between the Junction 39 roundabout and Cattle Market Road. Designed in 2020 and installed in late 2021, the cycleway consisted of a cycle lane delineated by 'Rediweld One Piece Wand Orca' units. Cones were taken down in 2022.
    - In both directions along Broadway. Designed in 2020 and installed in late 2021, the cycleway consisted of a cycle lane delineated by 'Rediweld One Piece Wand Orca' units. Cones were taken down in 2022.
- Haddon Cycleway. Designed in 2021 and constructed in 2022, the scheme improved the footway / cycleway connection between Haddon Hill and Orton Goldhay.
- Toucan Crossings:

- Bishop's Road toucan crossing upgraded in 2019 to allow for cycle use.
- Oundle Road toucan crossing by Peterborough High School
- Lincoln Road / Manor House Road crossing improved to a toucan crossing between 2021 and 2022.

To date, the delivery of the scheme has been managed by a Project Team, led by a PCC Project Manager. The Project Team consists of all the key project delivery partners and has been responsible for the daily running of the project. The Project Team includes key stakeholders such as the CPCA.

The existing PHS Project Board has overseen the continued development and delivery of the schemes to date by the Project Team and has made key decisions relating to the delivery of the project. The Project Board has been supported by technical specialists, with key stakeholders invited to attend as necessary.

Key project milestones for progressing to scheme delivery are outlined in Table 10.

Table 10: Key Project Milestones

Timescale	Activity
August 2022	Present Active Travel Schemes Business Case Technical Note to CPCA
September 2022	CPCA Sponsors present papers to CPCA Board to request approval of funding. Raising Work Orders and mobilising works
October 2022 – December 2022	Malborne Way scheme construction undertaken
October 2022 – November 2022	Shrewsbury Avenue scheme construction undertaken
January 2023	CPCA Board to make funding decision for the main Junction 3 project. This was the original CPCA Board date for the Junction 3 active travel schemes.

Stakeholder engagement was undertaken by the Project Team following approval of the SOC and were in line with the timings of the Public Consultation (October 2020 to November 2020). All stakeholders were consulted via email or letter for comments on the Preferred Scheme of the Junction 3 business case prior to the completion of the designs.

Communication with stakeholders was maintained throughout the project and feedback from stakeholders largely centred on the environment, biodiversity, and sustainable travel elements of the Junction 3 preferred scheme. All feedback has been incorporated into the Detailed Design where appropriate.

A construction Risk Register for each scheme has been produced and is available upon request. The Risk Register is a live document and will be regularly updated throughout the ten-week construction period.

The schemes will be monitored and evaluated in line with the CPCA Assurance Framework and DfT guidance. The monitoring and evaluation will include a range of qualitative and quantitative data collection methods that will be undertaken one year and five years post scheme completion.

Outputs from the monitoring and evaluation stage will be summarised within a Scheme Evaluation Report to determine whether the schemes have been delivered as planned and justify the investment. Where outcomes differ from what is expected, data collected during the monitoring and evaluation phases will be used to form an evidence base that will assist in understanding the reasons for this and any lessons that can be learnt.