



# **March to Wisbech Transport Corridor**

Full Business Case

26 June 2020



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# Glossary

AMCB	Analysis of Monetised Costs and Benefits
APS	Annual population survey
AST	Appraisal summary table
BCIS	Building cost information services
BCR	Benefit cost ratio
BEIS	Department for Business, Energy & Industrial Strategy
BRES	Business register and employment survey
CapEx	Capital expenditure
CCC	Cambridgeshire County Council
CPCA	Cambridgeshire and Peterborough Combined Authority
CPIER	Cambridgeshire and Peterborough Independent Economic Review
DM	Do minimum
DS	Do something
EACE	Ely Area Capacity Enhancement Scheme
ECI	Early contractor involvement
ECML	East Coast Mainline
EIP	Equal instalments of principal
EMU	Electric multiple units
FBC	Full business case
FDC	Fenland District Council
GA	Greater Anglia
GC	Generalised cost
GC	Generalised cost
GCCP	Greater Cambridge Greater Peterborough
GDHI	Gross disposable household income
GHG	Greenhouse gas
GRIP	Governance for railway investment projects
GVA	Gross value added
HE	Highways England
HGS	High growth scenario
HIF	Housing infrastructure fund
HPSSA	House price statistics for small areas
IMD	Index of multiple deprivation
LC	Low cost
LoS	Level of service
LSOA	Lower-layer super output area
LTP	Local transport plan
LTTS	Long term transport strategy
M&E	Monitoring and evaluation
MEP	Monitoring and evaluation plan
MHCLG	Ministry of housing, Communities and Local Government

MRR	Maintenance, repair and renewal
NEET	Not in education, employment or training
NPPF	National planning policy framework
NTEM	National Trip End Model
NTEM	National trip end model
OAR	Options assessment report
OAR	Options assessment report
OB	Optimism bias
OBC	Outline business case
OpEx	Operating expenditure
ORR	Office for rail and road
PA	Public accounts
PDFH	Passenger demand forecasting handbook
PER	Post evaluation review
PIR	Post implementation review
PMO	Project management office
PVC	Present value of costs
PWLB	Public Works Loan Board
QRA	Quantified risk assessment
RNEP	Rail Network Enhancement Pipeline
ROC	Remote operating centre
RPA	Risk potential assessment
RPA	Risk potential assessment
RRF	Restoring your railways fund
SAR	Southern access road
SEP	Strategic economic plan
SRO	Senior responsible owner
SWOT	Strengths, weaknesses, opportunities, threats
TAG	Transport analysis guidance
TCPA	Town and country planning app
tph	Trains per hour
VFM	Value for money
WAS	Wisbech access strategy
WGT	Wisbech Garden Town

# Executive summary

## Introduction

The Cambridgeshire and Peterborough Combined Authority (CPCA) objective for the March to Wisbech Transport Corridor Scheme is to achieve sustainable growth by addressing inadequate transport connectivity between Cambridge and north Cambridgeshire. This Full Business Case (FBC) forms part of the business case development process for the Scheme. It has been commissioned by Cambridgeshire County Council on behalf of CPCA. The study builds upon previous work commissioned by Cambridgeshire authorities and Network Rail from 2015-2018. The FBC has been developed by Mott MacDonald.

While this report has been developed as far as possible to comply with the requirements set out by the Department for Transport (DfT) for a full business case<sup>1</sup> and Network Rail's GRIP process, in a limited number of areas further work will be required to be undertaken subsequent to its publication. This reflects the fact that the Scheme to date has been progressed as a "third-party" (i.e. non-Network Rail-led) rail project by CCC/CPCA with limited input to date from Network Rail (as asset owner and system operator) or DfT (as a potential funder of the Scheme) or other government departments.

In particular, the financial and commercial cases for the Scheme, and the identified delivery schedule, should be understood as a reference strategy for more detailed discussion and development as the Scheme progresses. There are also a number of technical and assurance areas which will need subsequent development to complete prior to achieving Network Rail GRIP stage 3<sup>2</sup> stage gate approval, including Inter Disciplinary Design Check (IDC)/ Inter Disciplinary Design Review (IDR) with Network Rail.

## The Strategic Case

The Strategic Case sets out the case for change and the process by which a preferred option has been identified for further development. It demonstrates the socio-economic need for enhanced connectivity to/from Wisbech and the wider Fenland area, particularly in the context of ambitious growth plans for the area.

## Background

The Cambridgeshire and Peterborough sub-regional economy has undergone a significant transformation since the closure of the March to Watlington, via Wisbech, branch line to passenger services in 1968. There is now a far greater emphasis on the major centres of Peterborough, Cambridge and other strategic, higher value, sites as hubs of economic activity, and their continued growth necessitates drawing on a wide travel-to-work area beyond the cities themselves. Towns and settlements which are brought within these areas are expected to see benefits from higher value employment, and increases in incomes and prosperity, both directly through access to the opportunities, and also indirectly, as they become more attractive places for living and development, helping to foster local growth in the places themselves.

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<sup>1</sup> As set out in Department for Transport, *The Transport Business Cases*, 2013 - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/879795/dft-transport-business-case-document.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/879795/dft-transport-business-case-document.pdf)

<sup>2</sup> GRIP Stage 3 is Option Selection, i/e. the point at which the investment decision is made via the business case process.

## The Case for Change and Context

Wisbech typifies the disconnect in the economic performance of north and south Cambridgeshire. North Cambridgeshire's economy, and particularly Fenland District (in which both March and Wisbech are located) underperforms on key economic indicators compared to CPCA and national averages. The greater Cambridge area, in contrast, has grown into a highly successful city region where economic success, high quality of life and quality of place are inextricably linked.

The Combined Authority seeks to double the size of the economy of Cambridgeshire and Peterborough over 25 years while ensuring all communities share in this increased prosperity. By better integrating north Cambridgeshire into the Cambridge labour market and opening it up for more inward investment, the public transport options assessed in this study will help to support sustainable and inclusive growth while also alleviating stress on Cambridge's overheated housing market.

The economies and the population of Cambridge and north Cambridgeshire are distinctive and have limited interaction. For example, analysis of travel-to-work journeys for Wisbech, central Cambridge and central Peterborough has identified their relatively polycentric labour markets, with fewer journeys from Wisbech to both Cambridge and Peterborough than would be expected given their proximity and their role as the CPCA area's main employment and urban centres.

Challenges in travelling between Fenland and the two major cities in the CPCA area appears to be a significant factor behind this, with transport corridors in the area being generally of limited capacity and often low quality. Wisbech, in particular, suffers from poor connectivity, as one of the largest towns in the country without a dedicated rail link. Journey times from Wisbech to other centres, particularly those to its south and east are long relative to their "crow flies" distance due to highway configuration and limited public transport options. As a result, travel by private vehicle from Wisbech to Cambridge takes over an hour (despite a distance of under 35 miles) and public transport between the two areas is not possible without interchange.

Addressing these transport challenges present a significant opportunity to improve access for residents of Wisbech and north Cambridgeshire in commuting to employment opportunities in the major cities and importantly may also support inward investment and with it more job opportunities into Wisbech and north Cambridgeshire more generally.

Improved access to Wisbech also supports the Combined Authority and Fenland District Council's ambitions to substantially grow the town via a major dedicated urban extension, known as Wisbech Garden Town (WGT). This planned development comprises 12,000 new homes in the town and plans for multiple employment sites including with a new Enterprise Zone to the south of the Wisbech, with further growth proposed to double its size over a 40-year period.

Making use of the existing Ely to Peterborough rail line offers the opportunity for faster journey speeds than by road between Fenland and the key employment centres of Cambridge and Peterborough, however infrequent service patterns currently make rail services less viable.

The CPCA's plans to reopen the public-transport corridor between Wisbech and March is one aspect of its wider strategy for the sub-region. The Combined Authority also has plans to

improve east-west connectivity to Wisbech via dualling the A47 corridor, along with a package of local measures to address congestion within Wisbech. In addition, the CPCA and Network Rail are developing a programme to address capacity constraints through Ely North Junction, which limit the number of train paths available between Peterborough and Ely. The Ely Area Capacity Enhancement (EACE) Scheme will potentially enable direct services between Wisbech and Cambridge, and is a key dependency for the March to Wisbech Transport Corridor Scheme.

### Scheme objectives and expected outcomes and impacts

The CPCA's objectives for the March to Wisbech Transport Corridor Scheme used for the purposes of option sifting are structured around the main impacts which DfT define for transport interventions, as set out in the table below.

**Table 1: March to Wisbech Transport Corridor Distilled Scheme Objectives**

ID	Impact	Detail
A	Economy	Improve access to key employment and education sites (Alconbury, Peterborough Centre, Ely, Cambridge Science Park, Cambridge Biomedical Campus & Cambridge Centre)
	Economy	Improved connectivity to major centres for inward investment to Wisbech (Cambridge, Peterborough, London and Stansted Airport)
	Economy	Support delivery of housing - Fenland Local Plan and Wisbech Garden Town which allows key employment locations to continue to grow
B	Environmental	Help to support economic growth in a sustainable manner by providing an attractive alternative to car travel, reducing associated externalities
C	Social	Improve local access to key services, e.g. medical facilities, colleges and universities (located in major centres, e.g. Cambridge, Huntingdon, King's Lynn and Peterborough)
	Social	Support the regeneration of the town centre and existing urban area
D	Financial	To minimise long term commitments for public revenue support

Source: Mott MacDonald, Options Assessment Report, see Appendix A

### Identifying a potential long list of options

In line with DfT Transport Analysis Guidance (TAG), the FBC process considered a wide variety of options to identify which best address the underlying challenges in the study area and the CPCA's objectives for the Scheme. Options were structured around three main variables:

- **Mode** – conventional National Rail options; a “hybrid” tram-train mode, able to run on both the dedicated extant rail corridor between Wisbech and March and on-street within Wisbech; and, in line with TAG, a lower cost alternative of a guided busway.
- **Service Pattern** – between one and three services per hour from Wisbech, with destinations considered that include a “shuttle” service to March only, and “through” services to Cambridge and Peterborough.
- **Station location** – a variety of locations for a new station or stations across Wisbech, including a parkway option, options of various degrees of proximity to the existing town centre, and options within the planned garden town urban extension.

These Scheme components were then packaged into a set of viable options. The results of this packaging was a ‘long list’ of 14 options. This long list was then then assessed against the Scheme objectives.

### Sifting the short list and selecting the preferred option

Following identification of this “long list”, Mott MacDonald undertook an initial sifting process based on a qualitative multicriteria assessment of their fit to the project's objectives. A short-list

of three core options and one core sensitivity around these core options, was taken forward for more detailed assessment. All short-listed options focused on provision of public transport services to Cambridge, noting the availability of the A47 trunk road from Wisbech to Peterborough, and the more dispersed nature of employment in Peterborough, to which public transport is less well suited.

These short-listed options comprised:

- Two core options (DS1 and DS2), both offering direct services to Cambridge from Wisbech;
- A Low Cost (LC) alternative in line with TAG (DS3), based on a guided busway and requiring interchange at March station; and
- A sensitivity test that took account of the Wisbech Garden Town proposals (DS5).

As well as economic and strategic considerations, the assessment of these short-listed options also took account of project feasibility, risk, procurement, funding and finance, and Scheme/service delivery to ensure a comprehensive appraisal was undertaken, in line with DfT's "5 Case" business case model.

A description of these options and a summary of findings from this appraisal are summarised in the table below.

**Table 2: March to Wisbech Transport Corridor: Core Options and Initial 5 Case Assessment**

ID	Mode	Service	Station Location	Initial 5 Case Assessment - Weighted Total	Rank
DS1	Tram-Train	Wisbech-Ely-Cambridge 2tph	Wisbech Town	27.0	3
DS2	National Rail	Wisbech-Ely-Cambridge 2tph	Wisbech Town	28.0	1
DS3 (LC)	Guided Busway	Wisbech-March 3bph	Wisbech Town	14.0	4
DS5 (sensitivity test)	Tram-Train	Wisbech-Ely-Cambridge 2tph	Wisbech Garden Town & Wisbech Town Centre	28.0	1

Source: Mott MacDonald analysis

The key finding from this analysis was the importance of offering direct and regular passenger transport services between Wisbech and Cambridge in order to provide a service that would attract significant patronage from commuter travellers. This finding means that only rail-based services (DS1 and DS5 - tram-train and DS2 - National Rail) are viable for delivering the desired outcomes and impacts for the March to Wisbech corridor.

The appraisal also showed that the National Rail option (DS2) presented fewer delivery risks than an option based on the less proven "tram train" technology.

The preferred option in this FBC therefore comprises:

- A station located as centrally in Wisbech as current land use permits;
- A two trains per hour service between Wisbech and Cambridge, calling additionally at March, Ely, Waterbeach, and Cambridge North.

## The Economic Case

This section of the FBC documents the expected impacts of the preferred option and the associated Value for Money (VfM) when compared against anticipated Scheme costs.

### Option Development

Two options were quantified in the economic appraisal, as shown below. The Low Cost option from the option short-listing process was appraised in line with DfT TAG guidance, despite the sifting process indicating it would not meet Scheme objectives.

**Table 3: March to Wisbech Corridor Economic Appraisal Options**

ID	Mode	Service	Station IDs	Station Name(s)
DS2	National Rail	Wisbech-Ely-Cambridge 2tph	1	Wisbech Town
DS3 (LC)	Guided Busway	Wisbech-March 3bph	1	Wisbech Town

Appraisal of options, or the Do Something (DS) scenario(s), need to be made against a 'without Scheme' scenario, the Do Minimum (DM) scenario, which is the most likely future scenario given the current situation and existing commitments, so that the incremental impacts can be correctly isolated.

The **DM scenario** entails a continued reliance on the private car and local bus services for the majority of non-local movements both within and to/from the corridor with a number of incremental enhancements to rail provision in the area where travel is likely to be affected by the Scheme. The context is strong local growth from new development, set against only limited DM changes to transport supply.

The **DS scenario(s)** overlay the change in transport supply from the Scheme (times and costs of travel) on the DM situation. There are no other changes in transport supply or land use. Wisbech Garden Town proposals are therefore excluded from the core economic appraisal, but included in sensitivity testing.

### Demand Modelling Methodology

To support the assessment of the DS options a new transport model of the area potentially impacted by the proposed investment was developed.

To reflect the future travel behaviour that the more transformative investment such as direct, rapid, links to Cambridge could stimulate requires consideration of multiple, concurrent, changes. This extends beyond mode choice to also consider changes in the location of activity or destination.

The model structure operates on a zone-to-zone basis with DM estimates of travel demand:

- By journey purpose and mode.
- Sensitive to changes in transport supply influencing the choice of:
  - Start and end station
  - Destination.
  - Mode and sub-mode choice.

The approach is an updated and more granular version of the modelling approach used at the OBC stage for the March to Wisbech Transport Corridor Scheme

Journey times between all stations have been subject to detailed operational analysis as part of the GRIP processes<sup>3</sup>. The changes are, where applicable, uniform across the options and there is therefore no material impact on the conclusions.

Fares to and from Wisbech have been estimated from those which already exist at March, with the addition of a further pence per km allowance to reflect the additional distance (circa 11km)<sup>4</sup>.

Changes in population and employment at the zonal level are controlled to National Trip End Model (NTEM v7.2) planning data totals across the core modelled area.

### DM and DS Demand Forecasts

The table below summarises base and future year total annual travel demand estimates in the core modelled area. Total travel demand is forecast to increase by approximately 14% between 2017 and 2039, with rail demand growing by 22%.

Table 4: Base and Do Minimum Travel Demand by Mode ('000s person trips per annum)

Year	Car	Rail	Bus	TOTAL
2017	248,700	10,700	34,700	294,100
2030	275,000	13,600	35,500	324,100
2039	287,100	13,100	35,700	335,900

The comparable forecasts with the DS2 Scheme in place, provided in the table below, show rail demand increasing by approximately 2.7 million trips in 2030 and 2039.

Table 5: Base and Do Something Travel Demand by Mode ('000s person trips per annum)

Year	Car	Rail	Bus	TOTAL
2017	248,700	10,700	34,700	294,100
2030	272,500	16,400	35,200	324,100
2039	284,600	15,800	35,400	335,800

### Scheme Costs

Costs assessment and accounted for in the Economic Case include:

- **Capital expenditure (CapEx):** estimates have been updated as part of the concurrent GRIP 3 study<sup>5</sup>. The principal components of the CapEx estimate are:
  - At March Station an additional operational platform is needed along with: revised track layout; a new lift; new signalling layout.
  - A single bi-directional line and signalling infrastructure between Whitemoor Junction and Wisbech with a passing loop at Coldham, plus signalling power supply.
  - A new Wisbech Station should be provided with a single platform.
  - Closure of the 22 existing level crossings through construction of 5 highway diversion schemes with 7 new bridges.
- **Contingency, Risk and Optimism Bias**
- **Land costs** relating to acquisition of agricultural land; other built land; residential properties.

<sup>3</sup> See: 398128-007-C Assessment of Rail Operations

<sup>4</sup> In line with current assumptions around governmental policy, all fares are assumed to rise at RPI+0% per annum until demand cap year (2039), after which they are frozen in real terms relative to the GDP deflator.

<sup>5</sup> See: '398128-009-A GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report'.

- **Operating expenditure:** Drawing on the GRIP operational analysis, rail operating expenditure (OpEx) estimates for the preferred option have been developed inclusive of: fuel and labour costs; Network Rail charges; and leasing and non-leasing charges for the additional rolling stock.
- **Revenue:** Prior to adjustments for economic appraisal, the total **revenue** gain is approximately £10 million per annum after full ramp-up effects. Across the 60 year appraisal period, revenue is forecast to marginally exceed OpEx in the core scenario. In line with TAG Unit A5-3, this surplus is treated as a negative Scheme cost.

### Appraisal Outputs (Benefit Cost Ratio)

The combined economic appraisal metrics from the **preferred option** (DS2 – National Rail, Wisbech-Ely-Cambridge 2tph) are shown in the table below. The “evolving impacts” analysis included Wider Economic Impacts (WEIs) generated by the Scheme, including impacts on agglomeration and labour supply.

**Table 6: Preferred Option (DS2 – National Rail, Wisbech-Ely-Cambridge 2tph) Analysis of Monetised Costs and Benefits – Summary (£000s in 2010 values and market prices, discounted to 2010)**

Item	
<b>Established Impacts, inclusive of Level 1 economic impacts only</b>	
PVB	309,477
PVC	181,942
Net Present Value (NPV: PVB - PVC)	127,535
<b>Benefit Cost Ratio (BCR: PVB / PVC)</b>	<b>1.70</b>
<b>Evolving Impacts, inclusive of Level 1 and 2 economic impacts</b>	
PVB	398,091
PVC	181,942
Net Present Value (NPV: PVB - PVC)	216,150
<b>Benefit Cost Ratio (BCR: PVB / PVC)</b>	<b>2.19</b>

The **low cost alternative** (DS3 – Guided Busway, Wisbech – March 3bph) of the construction of a guided busway between Wisbech and March currently offers much lower Value for Money (VfM) and a negative NPV.

**Table 7: Low Cost (DS3 – Guided Busway, Wisbech – March 3bph) Alternative Analysis of Monetised Costs and Benefits – Summary (£000s in 2010 values and market prices, discounted to 2010)**

Item	
PVB	62,084
PVC	85,051
Net Present Value (NPV: PVB - PVC)	-22,967
<b>Benefit Cost Ratio (BCR: PVB / PVC)</b>	<b>0.73</b>

### Value for Money Statement

The assessment of the preferred option's costs and benefits has been undertaken in line with the DfT's TAG suite, referencing both modelling and appraisal units. These benefits and costs result in a BCR of **1.70**, considerable of 'established' (primarily transport user) impacts only. The

Scheme is therefore '**Medium**' VfM<sup>6</sup>; however, this is exclusive of non-monetised impacts, excluding both national and sub-national WEIs.

When considerate of net UK WEIs, the BCR for the preferred option increases to **2.19**, and the Scheme therefore offers '**High**' VfM. Again, this is the net UK impact. As noted in the Strategic Case, and previously assessed at SOBC and OBC stages, the Scheme also offers substantial sub-national WEIs across Cambridgeshire and Peterborough, and the potential for significant regeneration opportunities within both Wisbech and March. These sub-national impacts have been excluded from the "core" economic appraisal set out in the FBC, in line with DfT TAG guidance.

A series of sensitivity tests was undertaken around the core assumptions and inputs, recognising critical uncertainties and risks. These demonstrate that the VfM assessment noted previously is likely to remain consistent under multiple future scenarios.

## The Commercial Case

The Commercial Case sets out a realistic and credible reference commercial strategy for progressing the Scheme. Potential delivery structures that could be used to progress the infrastructure elements of March to Wisbech Transport Corridor Scheme, as well as the passenger service delivery model are identified. This reference strategy will be developed further through detailed engagement with DfT, Network Rail and other industry stakeholders and, for the avoidance of doubt, does not represent an agreed position between CPCA and these other parties.

### Commercial Structure - Infrastructure Works

A variety of commercial structures for the infrastructure elements of the March to Wisbech Transport Corridor Scheme were considered in the Scheme Delivery Strategy, in Appendix C. These assessed conventional Network Rail-led structures, as well as third-party structures, such as delivery by CPCA or the private sector.

This assessment concluded that the reference commercial structure for the Scheme would be for CPCA to take the lead in the sponsorship and delivery, working closely where required with Network Rail. This approach reflected CPCA's role as sponsor of the Scheme to date (the corridor is not understood to be an investment priority for Network Rail, at the time of writing), the Scheme's integration with CPCA and Fenland District Council's regeneration objectives for Wisbech, and the expected "hybrid" funding arrangements for the project (set out in the Financial Case).

The proposed roles in the preferred Scheme commercial structure are as follows.

- *Sponsor:* CPCA lead, with a co-sponsor from Network Rail Eastern Region
- *Delivery Client:* CPCA
- *Design and Delivery Management:* CPCA or Network Rail Capital Delivery
- *Procurement:* CPCA or Network Rail Capital Delivery
- *Funding/Financing:* Hybrid approach combining self-generated sources and external grant funding from DfT and MHCLG (refer to the Financial Case).
- *Operations:* Network Rail

<sup>6</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/630704/value-for-money-framework.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/630704/value-for-money-framework.pdf)

CPCA will take the lead on specifying, designing developing, procuring and delivering the March to Wisbech Transport Corridor Scheme, working collaboratively with Network Rail, who will likely lead specification and procurement of works on parts of the operational railway (e.g. at March station). The approach will see CPCA handing over the railway to Network Rail to operate it post-construction and commissioning. Network Rail are better placed to manage the significant interface considerations presented by the Scheme with the wider railway network.

### Risk allocation

A key consideration for any infrastructure project is risk allocation between the different parties involved in the project. The following potential risk allocation was considered appropriate for the Scheme in the reference commercial strategy. Exact risk allocation will be subject to the commercial and contracting structure implemented for the project once its funding arrangements have been finalised.

**Table 8: Infrastructure works indicative risk allocation**

Select risk type	Example	Allocation
Land Availability	CPO of land requirement	CPCA
Design	Design approvals	Network Rail/CPCA
Construction	Cost/schedule overrun	Network Rail/CPCA
Consent	Delayed approvals	CPCA
Development Revenues	Shortfall in business rates / CIL	CPCA
Rail-related revenues	Shortfall in passenger demand	CPCA
Financing	Availability of financing	DfT/CPCA
Operational	Escalation in operation & maintenance costs	Network Rail

Source: Mott MacDonald, March Wisbech Transport Corridor Delivery Strategy

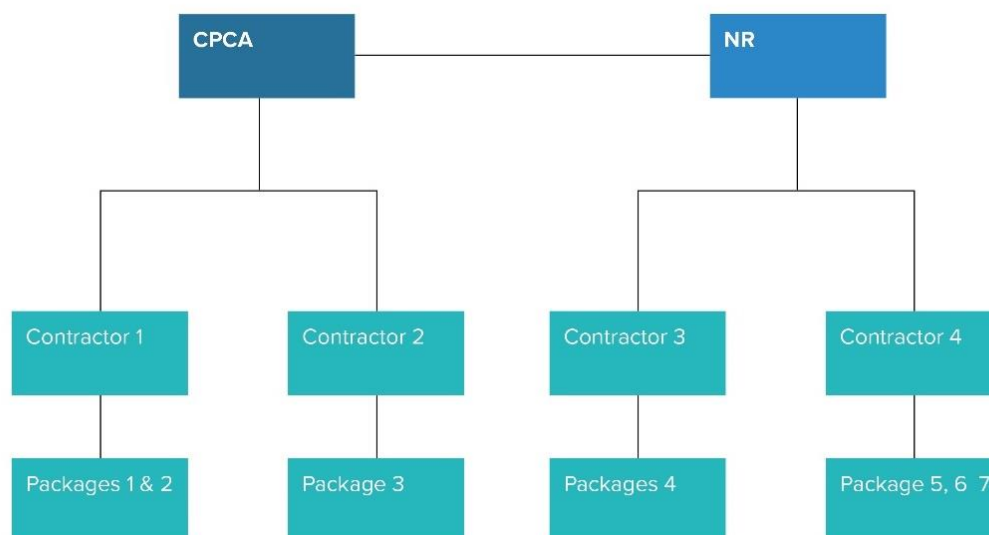
This “third party”-led approach presents a number of risks to CPCA that would not arise under a model where Network Rail were the sole delivery client, particularly around interface risks with the operational railway. However evidence from other similar schemes also shows that a third-party delivery client may be able to realise efficiencies on National Rail projects vs. conventional delivery approaches.

Under the reference commercial strategy, CPCA will look to transfer the risks through the contracting supply chain using its contracting strategy and take steps to minimise interface risks during project development and construction.

### Procurement Strategy

The March to Wisbech Transport Corridor Scheme will require the procurement of a significant number of work packages covering different assets. Of the three options for packaging of contracts, a Hybrid Model is recommended. CPCA would retain overall management control of all aspects of delivery, while some of the rail packages could be procured and managed directly by Network Rail Capital Delivery, particularly those on the operational railway.

**Figure 1: Hybrid Model (Network Rail delivers an element of Work on behalf of CPCA as main contractor)**



Source: Mott MacDonald, March Wisbech Transport Corridor Delivery Strategy

A procurement strategy based on Early Contractor Involvement (ECI) is likely to realise efficiencies versus conventional procurement options, although this will be more appropriate for some works packages over others. All procurement will follow the applicable procedures including procurement advertised in the Official Journal of the European Union (OJEU) under European Law (or alternative arrangements that might emerge through trade negotiations with the European Union) or Network Rail Frameworks for specialist work packages where resource can be scarce.

### Consents strategy

There are two key types of consents that will be required to deliver the March to Wisbech Transport Corridor Scheme. These are statutory, primarily relating to land requirements, and regulatory consents primarily relating to the future operation of the Scheme. An approach based on securing approval using a Transport and Works Act Order appears to be preferred as a better route for obtaining land acquisition and development rights, however the consents strategy will be developed in more detail in subsequent stages of the GRIP process.

### Service delivery

Passenger services on the March to Wisbech transport corridor (and beyond to Cambridge) are proposed, under the reference commercial strategy, to be provided via the East Anglia franchise rather than via an Open Access operator. This will realise economies of scale for the service in terms of rolling stock provision and operation. The specifics on how to proceed depend on the outcome of the Williams Rail Review, and no discussions have been undertaken to date with potential rail operators.

## The Financial Case

This Financial Case sets out the findings from financial analysis undertaken to assess how the infrastructure elements of the March to Wisbech Transport Corridor Scheme could be paid for, taking account of potential private sector and local authority funding sources, as well as more traditional rail funding options. It sets out a proposed reference strategy for funding and financing the Scheme. No funding or financing has been agreed for the Scheme at the time of writing

### Financial modelling approach

Mott MacDonald developed a cash flow financial model to assess the affordability of the March to Wisbech Transport Corridor Scheme.

Two scenarios were appraised using the Scheme financial model:

- *Core Scenario*. In this scenario, only committed housing and employment site development is included in the modelling of the scale of potential funding options.
- *Wisbech Garden Town Scenario*. In this scenario, development and costs associated with the proposed WGT urban extension was included in the modelling of the scale of potential funding options.

### Scheme costs

The scope of works for the core scenario is consistent with that of the Scheme preferred option from the Strategic Case (and appraised in the Economic Case). The WGT Scenario includes works associated with access to the station from the garden town.

The capital costs of each element of the Scheme are consistent in the Financial Case with those used in the Economic Case, but are presented in £2019. Consistent with DfT TAG guidance, optimism bias is excluded from the Financial Case<sup>7 8</sup>, but a risk allowance has been included in the capital cost estimate.

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<sup>7</sup> Consistent with DfT WebTAG guidance, this risk allowance differs from that applied in the economic case. Optimism bias reflects uncertainty (ie potential costs arising for which a probability cannot be applied at the time of the business case, "unknown unknowns") as well as risk and is generally therefore higher than the risk allowance applied in a project financial case.

<sup>8</sup> Combined Risk and Optimism Bias on the point estimate taken as 40% in line with DfT/Network Rail guidance in the Scheme FBC Economic Case. Optimism Bias of 18% applied in line with De Reyk et al 2015 and applied in line with TAG guidance unit A1-2 and A5-3. This leaves Contingency Risk estimated of c.19% for most project elements in line which is within the benchmark range for NR Cost Planning Procedure 2019. Formula for cost estimation is *contingency risk and optimism bias adjusted cost = (Base cost + risk) \* (1+Optimism bias)*. For a small number of elements (Highway Schemes 1 and 2 and Track Drainage), a higher risk allowance of 40% has been applied. This is discussed in more detail in the Grip 3 study. A quantitative risk assessment will be undertaken as part of GRIP 4 analysis.

**Table 9: Scheme Infrastructure Capital Cost Estimate - £m, 2019**

£m2019 / Nominal	Element	Core Scenario	WGT Scenario
<b>£m 2019</b>	Wisbech station	4.6	4.6
	Rail line upgrade and extension	71.9	71.9
	Highways works	75.6	75.6
	March station	8.1	8.1
	C3 Utility Costs	18.1	18.1
	Capex total	178.3	178.3
	Land acquisition	8.0	8.0
	Garden Town Access	N/A	19.0
	Risk allowance	44.2	51.8
	<b>TOTAL</b>	<b>230.5</b>	<b>257.1</b>

Source: Mott MacDonald

Maintenance and renewal costs of the Scheme rail and highway infrastructure were excluded from the financial appraisal set out in the Financial Case.

### Funding and financing

The March to Wisbech Transport Corridor Scheme is presently unfunded and no allocation has been earmarked for the Scheme in either national budgets or local budgets. The Financial Case considered a range of direct and indirect funding sources for the Scheme, and assessed how much revenue each option could raise. The shortlisted options are set out in the table below.

**Table 10: Short listed funding sources**

Funding option	Description	Precedent	Financing requirement	Included as funding source?
Farebox operating surplus	Operating surplus from passenger services enabled by the Scheme	Heathrow Express / Southend Airport Station	Yes	Yes
Developer contributions	Payments made by developers to Fenland District Council associated with planning permission.	Various, e.g. Worcester Parkway station	Yes	Yes – WGT Scenario
Business rates growth	Growth in Business Rates receipts accruing to Fenland District Council and HMT for development dependent in part or in total on the Scheme to proceed	Crossrail, HS2 stations (proposed)	Yes	Yes – WGT Scenario
DfT grant (Restoring Your Railways)	Grant funding from DfT through a new fund targeted at reopening closed regional railways.	Various, e.g. Metrowest (RNEP)	No	Yes
MHCLG grant (HIF)	Funding from MHCLG, e.g. from the Housing Infrastructure Fund, designed to encourage local economic development, especially housing.	Various, e.g. TfL Rail and DLR Schemes (HIF)	No	Yes – WGT Scenario

Source: Mott MacDonald

The financial appraisal concluded that the Scheme would need to be progressed by the public sector, as there was insufficient revenue for it to be progressed as a private-sector led Scheme, and that CPCA was the most likely entity to act as the overall Scheme funding client.

For each of the Scheme-generated funding sources, there will be a financing requirement to cover the timing mismatch between when capital costs are incurred and when these revenues arise. It has been assumed in the FBC that this financing will be provided by CPCA using its prudential borrowing powers, with funding from each funding source repaying this borrowing as it arises.

The financial appraisal also showed that the Scheme would not be viable without a significant grant funding contribution from the UK government.

For this Scheme, the best tailored national grant funding source would appear to be the Restoring Your Railways Fund (RRF), given the project's objectives around "levelling up" deprived parts of north Cambridgeshire. The strong strategic case for the Scheme also offers the possibility of funding from MHCLG. WGT, if realised, is at the same scale as some of the largest proposed urban extensions in the country.

A potential funding mix for the project based on a combination of the identified funding sources – grant, local contribution and user-funded – under the WGT Scenario is set out in Table 11 below. The WGT Scenario has been assumed as the preferred option for the Financial Case only (elsewhere in the FBC, WGT-related impacts are excluded in line with DfT TAG guidance). This reflects the WGT Scenario's fit to the overall Scheme objectives, and the expectation, consistent with other recent third-party rail Schemes, that the UK government will expect a local funding contribution for the Scheme.

**Table 11: Potential funding mix for March to Wisbech Scheme (WGT Scenario) – Present Values 2024 to 2053**

Cost/Revenue £m	PV <sup>9</sup>	% of total funding
<b>Cost item</b>		
DS2 Option costs including risk contingency	240.4	n/a
<b>Revenue (Local Contribution)</b>		
Business Rates revenue	5.8	2.4%
Developer Contributions	9.5	4.0%
<i>Sub-total, Local Contribution</i>	<i>15.4</i>	<i>6.4%</i>
<b>Revenue (User Funding)</b>		
Farebox surplus	9.0	3.8%
<b>Grant Funding</b>		
<i>Restoring Your Railways Fund</i>	<i>107.8</i>	<i>44.9%</i>
<i>MHCLG contribution</i>	<i>107.8</i>	<i>44.9%</i>

Source: Mott MacDonald, Delivery Strategy (Appendix C)

Should WGT not proceed to the development stage (ie the Core Scenario), the Scheme will require significantly higher grant funding from DfT. It is unlikely that MHCLG would be willing to

<sup>9</sup> Assuming nominal discount rate of 5.8%

fund the project without WGT proceeding. The Scheme will need to be largely funded by DfT, most likely from the RRF.

None of the identified funding sources are secured. CPCA will need to reach agreement with a number of parties to progress the Scheme along the lines outlined above including DfT (farebox surplus, RRF grant funding), MHCLG (grant funding for housing development), Fenland DC (remittance of local tax receipts), and the future service operator on the line.

## The Management Case

This section of the FBC outlines how the Scheme will successfully be delivered. The Management Case presents the governance, assurance, project planning, risk management, stakeholder management and benefits realisation arrangements for progressing the March to Wisbech Transport Corridor Scheme, consistent with the expectations of the Five Case Business Case model.

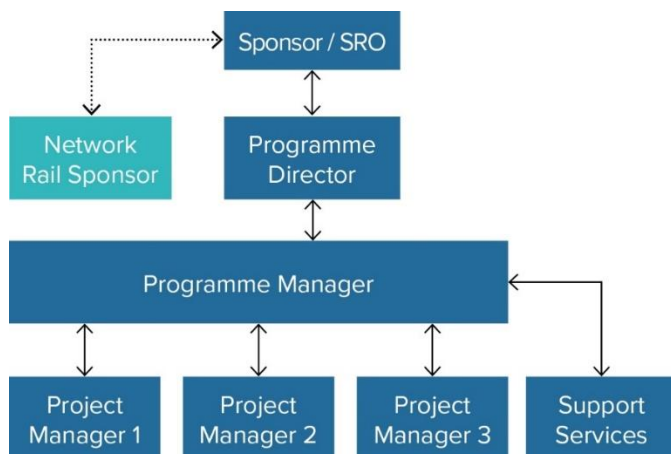
### Project management arrangements

The project will be managed according to best practice approaches to project management and the CPCA Assurance Framework (November 2019)<sup>10</sup>. As noted in the Commercial Case, the CPCA is the overall sponsor for the Scheme and a key CPCA individual will be named as the sponsor to ensure clarity of role and an escalation route.

Due to the number of interfaces with Network Rail on this Scheme, it is planned that a Sponsor also be appointed from within the current Network Rail Anglia Route. The appointment of a Network Rail Sponsor will facilitate the joint agreement of a Development Agreement and provide a single point of contact within the Route to drive delivery of agreed work packages.

The following figure presents the structure that will be used to deliver the Scheme.

**Figure 2: Proposed Management Structure**



Source: Mott MacDonald Delivery Strategy (Appendix C)

<sup>10</sup> CPCA (2019) 'Assurance Framework' <https://cambridgeshirepeterborough-ca.gov.uk/assets/Assurance-Framework-Publication-Nov-2019.pdf>

## Proposed governance structure

The high-level structure to be used for this is shown in the figure below. It delegates authority to the CPCA Programme Manager for day-to-day activities, while retaining clear escalation routes for managerial and strategic decision making.

**Figure 3: Proposed governance structure**



Source: Mott MacDonald Delivery Strategy (Appendix C)

The Sponsor will lead the Steering Group, with the Programme Manager leading the Working Group, including being responsible for the Communication and Stakeholder Management Plan for the Scheme.

## Project plan

A high-level outline of the project plan is shown in the table below, with the critical approval points included. The programme is presented as an achievable programme for delivery of the infrastructure, however it assumes a number of dependencies that are outside of the control of the Combined Authority. In particular, funding and commercial agreements will need to be progressed between CPCA, Network Rail, DfT and potentially other parties to meet this schedule.

It is also recognised that the operation of direct Wisbech to Cambridge services is dependent on other Network Rail projects (most notably the EACE Scheme). It is therefore unlikely that a direct service would run before 2028. The project schedule will be refined as the Scheme moves through its development cycle through future stages of the GRIP process.

**Table 12: High Level Programme**

Milestone Activity	Weeks No.
Overall programme	302 weeks - 09/20 – 06/26
GRIP 3C design and NR approvals	32 weeks – 09/20 – 04/21
GRIP 4 - Single Option Development	48 weeks – 04/21 – 03/22
Consultation	76 weeks – 09/20 – 02/22
TWAO Preparation	36 weeks – 09/21 – 06/22
GRIP 5 - Detailed Design	54 weeks – 01/22 – 01/23
TWAO Process / Land Acquisition	88 weeks – 03/22 – 11/23
Contract Procurement	24 weeks – 01/23 – 07/23

Milestone Activity	Weeks No.
GRIP 6 Construction Test & Commission	134 weeks – 11/23 – 06/26

Source: Mott MacDonald Delivery Strategy (Appendix C)

Appendix D presents this programme in greater detail.

### Communications and stakeholder management

Public and stakeholder consultation is essential to ensure that the various aspirations of the general public and key stakeholders are taken into account throughout development and delivery of the project and to manage the communication and flow of information relating to the Scheme.

DfT and MHCLG will be important stakeholders throughout. As prospective Scheme funders they will quality review the business case submissions to them as well as ensuring that best practice standards for monitoring and evaluation are maintained.

A workshop was held with stakeholders in London on 09 March 2020 where attendees included representatives Network Rail, the DfT, and the ORR, as well as Cambridge County Council and CPCA on the project sponsor side.

Further stakeholder engagement will be undertaken by CPCA as the project progresses. A public consultation strategy will be developed as part of the stakeholder management strategy to build understanding of the Scheme and to seek stakeholder feedback. A full Communication and Stakeholder Management Plan will be prepared during the GRIP 4 phase of the project covering its development and delivery lifecycle.

### Benefits realisation and monitoring and evaluation

The CPCA Assurance Framework states that monitoring arrangements should be sufficiently detailed to guide the collection of data from individual projects and be designed to ensure that they capture information required by both the CPCA and government.

The evaluation programme has been designed to meet the requirements of an Enhanced Evaluation (for Schemes which have an expected outturn cost of over £50m). This will enable assessment of the effectiveness and impact of investing public funds, and the identification of best practice and lessons learnt that can inform decisions about future delivery<sup>11</sup>. Using this rigorous and tested framework will allow other prospective partners to invest with confidence that there is plan in place to ensure projected benefits are delivered.

A full Monitoring and Evaluation Plan will be developed as part of GRIP 4, the remainder of this sub-section sets out the broad approach and anticipated indicators.

### Risk Management

Table 13 sets out the key Scheme risks identified during development of the FBC. The GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report contains more detailed risks for the Scheme.

<sup>11</sup> CPCA (2019), 'Devolution Deal Monitoring and Evaluation Framework' <https://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/ME-Framework-Mar-2019.pdf>

**Table 13: Risk identification and mitigation measures**

GRIP Stage	Area	Risk	Mitigation
4 onwards	Funding	External funders do not provide required funding	Progress discussions with multiple potential funders simultaneously, e.g. DfT/MHCLG.
4 onwards	Procurement	OJEU may be required – elongating timescales	Include within programme for GRIP 4 onwards – commence discussion with DfT / NR to confirm likelihood
4 onwards	Procurement	Availability / interest of suppliers within timescales	Commence supplier pre-engagement ASAP to prepare market, highlight any specialist resource requirements. Consider use of existing NR frameworks
4 onwards	Interfacing risks	Projects such as EACE or the A47 do not come forward as anticipated or to schedule, limiting the potential scope of this Scheme.	Maintain clear communication with stakeholders and interdependent Scheme project management teams (Network Rail and Highways England) to ensure requirements for Transport Corridor allowed for and to allow this Scheme to adapt if required
5 and 6	Critical Resources	Signal testing and data preparation resource may not be available	Ensure programme allows for completion 6 months prior to Entry into Service
5 and 6	Training	Availability and costs for driver, operations and maintenance training	Ensure programme allows for completion 3 months prior to Entry into Service. Signaller training may require additional simulators / data prep stages
All	Approvals	Network Rail do not approve designs etc... within 4 weeks	Ensure Development & delivery agreements are in place. Consider appointment of NR Sponsor.
4 Onwards	Local Support	Local stakeholders do not support the Scheme, delaying approvals / access / funding	CPCA to continue to work closely with local stakeholders as the programme develops.
4 onwards	Land Acquisition	Required land not acquired within required timescales / budgets	Commence process and liaison ASAP following design approval. Gain robust estimates for land acquisition to include within future business case submissions.
All	Project Management	CPCA lack capacity / capability to project manage Scheme through development, delivery and commissioning phases.	CPCA resourcing specialist, experienced transport project management expertise to manage Scheme. This will be supported by client-side technical and project management consultancy support as required.

Source: Mott MacDonald, Delivery Strategy (Appendix C)

The project is now at a GRIP 3 stage of development and no quantified risk assessment (QRA) has been undertaken. This is anticipated to follow as part of the early stage of a GRIP 4 study.

### Project assurance arrangements

This Scheme will be governed through the CPCA Assurance Framework as well as the Network Rail GRIP process.

This project is being undertaken in accordance with Network Rail's best practice GRIP process with its built-in process of checking and assurance, including sign-offs and gateway reviews.

Through their review of the business case submissions for grant funding, MHCLG and DfT will provide external due diligence of the quality of the Scheme FBC as well as reports submitted to the departments to fulfil funding requirements.

# 1 Introduction

The purpose of this Full Business Case (FBC) is to identify a single option design in accordance with Transport Appraisal Guidance requirements for the March to Wisbech Transport Corridor.

## 1.1 Background to this report

Building on the work that was undertaken in 2015 for the March to Wisbech OBC, this FBC reviews and updates the business case and further develops it. The development of the business case involves developing alternative options such as a non-rail alternative which will feed into the analysis forming the FBC.

This FBC has been carried out in conjunction with rail Scheme engineering feasibility and design to a level of detail commensurate with Network rail's Governance for Railway Investment Projects (GRIP) 3B Options Selection requirements with access planning work to define a single option design once the preferred option was identified. This work is provided in the appendices attached.

The format is the Five Case Model, which comprises:

- **The strategic case** section sets out the case for change, together with the supporting investment objectives for the Scheme.
- **The economic case** section demonstrates that the organisation has selected the most economically advantageous offer, which best meets the existing and future needs of the service and optimises value for money (VFM).
- **The commercial case** section sets out the content of the proposed deal.
- **The financial case section** confirms funding arrangements, affordability and the effect on the balance sheet of the organisation.
- **The management case** section which details the plans for the successful delivery of the Scheme to cost, time and quality.

The FBC builds upon the Outline Business Case (OBC) produced in July 2015 and has been developed over 2019-2020<sup>12</sup>.

## 1.2 Limitations

The forecasting, assessment and design work informing this report was carried out throughout 2019 and early 2020. The bulk of this work was completed before the COVID 19 pandemic affected the UK. The report and recommendations have not considered possible impacts of any societal changes resulting from the pandemic.

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<sup>12</sup> The OBC is available to view on the CCC website: <https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-funding-bids-and-studies/railway-between-march-and-wisbech>

## 2 The Strategic Case

### 2.1 Introduction

The Strategic Case sets out the case for change along the March to Wisbech Transport Corridor and the strategic role the corridor plays in wider Cambridgeshire and Peterborough. This Strategic Case demonstrates the socio-economic need for enhanced connectivity to/from Wisbech and the wider Fenland area, including the links to development proposals. Furthermore, this case outlines the process by which a preferred option has been identified for further development.

This section, the Strategic Case, considers:

- The socio-economic context of the March to Wisbech transport corridor;
- Existing connectivity to/from Wisbech and March;
- Local objectives, derived from the strategic objectives of local bodies, specific to the Scheme;
- The policy context of how the intervention aligns to, and integrates with, the growth ambitions and transport strategy objectives of CCC, Fenland District Council (FDC), and the Cambridge and Peterborough Combined Authority (CPCA);
- The challenges the intervention aims to address;
- The 'Do Minimum' scenario, without the intervention and the 'Do Something' scenario
- Drivers of change for the area;
- Constraints and interdependencies on the proposed options;
- The scope of the project;
- Scheme objectives and measures of success;
- Stakeholders in the project;
- The full 'long list' of options considered for meeting the Scheme objectives;
- Results of early sifting and appraisal to produce the 'short list' for further analysis in the Economic Case; and
- Main risks

### 2.2 Organisational overview

There are two organisations working collaboratively to make the case for investment into the March-Wisbech Transport Corridor; the Cambridgeshire and Peterborough Combined Authority (CPCA), and Cambridge County Council (CCC). The CPCA is the primary organisation making this case, funding this FBC study and associated technical work, while CCC is supporting the process. In addition, the CCC is the highways authority with responsibility for the road network in the area.

The CPCA was formed in 2017 with responsibilities for housing, transport, skills and public service reform. The CPCA are the Transport Authority for Cambridgeshire and Peterborough. It's vision for the Cambridgeshire and Peterborough area, including "*delivering outstanding and*

*much needed connectivity in terms of transport and digital links” and “Improving the quality of life by tackling areas of deprivation”<sup>13</sup>.*

The CPCA consists of eight local partner organisations. The eight bodies represented in the Combined Authority are:

- Cambridge City Council:
- Cambridgeshire County Council:
- East Cambridgeshire District Council:
- Fenland District Council:
- Huntingdonshire District Council:
- Peterborough City Council:
- South Cambridgeshire District Council: and
- The Business Board.

Each partner is represented by the leader of their respective organisation, together making up the CPCA. The Combined Authority takes on various duties within its boundaries, including responsibilities in housing development, skills development, and public service reform.

The CPCA has produced several aspirations for the future of the Cambridgeshire and Peterborough area, incorporated into its broader vision. These aspirations include: doubling the size of the local economy; providing the UK’s most technically skilled workforce; and improving the quality of life by tackling areas suffering from deprivation.

## 2.3 The case for change

The CPCA’s overarching objective for this project is to achieve sustainable growth by addressing inadequate transport connectivity between Cambridge and north Cambridgeshire. While Cambridge is one of the fastest growing and most highly skilled economies in the UK, Wisbech, and the wider north Cambridgeshire area, is a relatively low skilled and low wage economy, and it experiences high levels of socioeconomic deprivation.

The relative isolation of Wisbech and its surrounding settlements is a factor in both the lower earnings and productivity and the adverse socio-economic outcomes of this area. Improving connectivity to Cambridge offers the opportunity to transform Wisbech as a place for inward investment and provide much enhanced accessibility to key services and employment opportunities for its residents. Conversely, Cambridge is under significant labour supply pressure which may hinder potential employment growth, given constraints on local housing development.

Connecting Wisbech into the Cambridge economy could help to address these challenges. The evidence is that such a solution will require a rapid, direct service which will be attractive to commuters and businesses. Based on the indicative journey time assessments, only rail-based options offering direct services between Wisbech and Cambridge are consistent with the project objectives. This is explored further in the remainder of this report.

## 2.4 Strategic socio-economic context

Wisbech typifies the disconnect in the economic performance of North and South Cambridgeshire. North Cambridgeshire’s economy, and particularly Fenland District (in which both March and Wisbech are located) underperforms on key economic indicators compared to

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<sup>13</sup> See: <https://cambridgeshirepeterborough-ca.gov.uk/about-us/what-we-do/> [Accessed 14 April 2020]

CPCA and national averages. Greater Cambridge, to the south of the CPCA, in contrast, has grown into a highly successful city region where economic success, high quality of life and quality of place are inextricably linked. This is driven by a thriving hi-tech and biotech industry, which has developed since the 1960s and is known as the “Cambridge Phenomenon”. Today Cambridge is one of the UK’s fastest-growing and most productive cities and looks likely to continue to be a key hotspot for regional and national job creation should supply side constraints, such as labour market accessibility, be addressed.

Fenland accounts for 12% of CPCA’s total population, but just 8% of its employee jobs. Cambridge, in contrast, accounts for 15% of CPCA’s resident population and a significant 23% of its total employee population. It’s a similar picture when considering the economic contribution of Fenland and Cambridge. As shown in Table 2.1, Fenland is slightly behind Cambridge, Peterborough and the wider CPCA area in its contribution to the CPCA’s overall GVA and in its GVA per capita. When looking at the workplace wages and the resident wages, we can also see there to be key differences between Fenland and neighbouring areas. While Fenland’s workplace median annual pay is £21,900, c.£7,000 below the UK average, Cambridge’s median workplace pay is £33,199, more than £3,000 higher than the UK average, highlighting the difference between the two economies, despite their relative proximity<sup>14</sup>.

**Table 2.1: Key economic indicators**

	Fenland	Cambridge	South Cambridgeshire	Peterborough	CPCA	East	UK
Population, 000s, 2017	100.8	124.9	156.7	198.9	847.2	6,168.4	66,040.2
Employees, 000s, 2017	36.0	104.2	84.9	116.5	447.0	2,756.0	27,062.0*
GVA, £m, 2016	£2,288	£5,127	£4,591	£5,439	£23,743	£147,384	£1,729,092
Economic activity rate (16-64 population), %, 2018	80.0%	79.5%	85.5%	79.3%	82.2%	80.8%	78.3%
GVA per capita, £, 2016	£22,837	£38,900	£29,343	£27,595	£27,965	£24,041	£26,339
GVA per filled job, £, 2017	£52,587**	£52,587**	£52,587**	£45,528	£50,775	£50,398	£54,330
Resident median annual pay, £, 2018	£27,755	£33,173	£37,411	£25,301	£30,859	£31,033	£29,574
Workplace median annual pay, £, 2018	£21,900	£33,199	£ 35,349	£27,238	£28,704	£ 29,128	£29,574

Source: Population Estimates 2017, Annual Population Survey (APS) 2018, Business Register and Employment Survey (BRES) 2017, Annual Survey of Hours and Earnings 2018, Regional gross value added (balanced) by local authority in the UK, Regional gross value added (balanced) by Combined Authority in the UK, Sub regional productivity: labour productivity indices by UK NUTS2 and NUTS3 subregions, all ONS. \*Data for UK. \*\*Data for Cambridgeshire County Council.

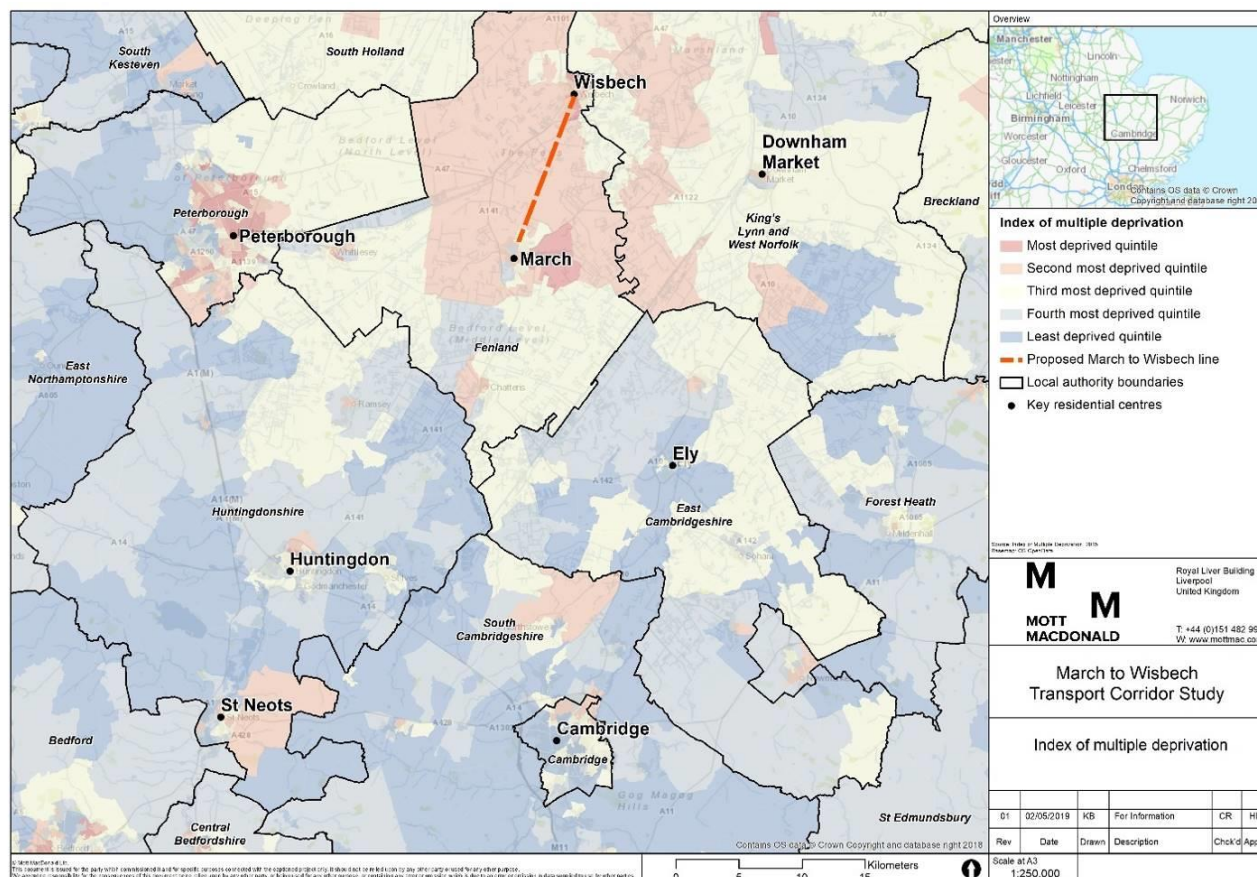
## Deprivation

Further disconnect between the north and south Cambridgeshire economies is reflected in Figure 2-1, which shows a clear transition in levels of deprivation experienced across the county. Generally, the most deprived areas are located in pockets in the north of the county as well as in and around Peterborough, with lower levels of deprivation more widespread across the south and west of Cambridgeshire. Fenland, in particular, has higher levels of deprivation

<sup>14</sup> Annual Survey of Hours and Earnings, ONS, 2018

and has 12 Lower-layer Super Output Areas (LSOAs)<sup>15</sup> in the 20% most deprived nationally. This compares to just two LSOAs in Cambridge City and two in Huntingdonshire in this category. Within Fenland there are pronounced clusters of deprivation in and around both Wisbech and March.

**Figure 2-1: Map of Index of Multiple Deprivation (IMD), 2015**



Source: Index of Multiple Deprivation (IMD), Ministry for Housing, Communities and Local Government (MHCLG)

## Employment

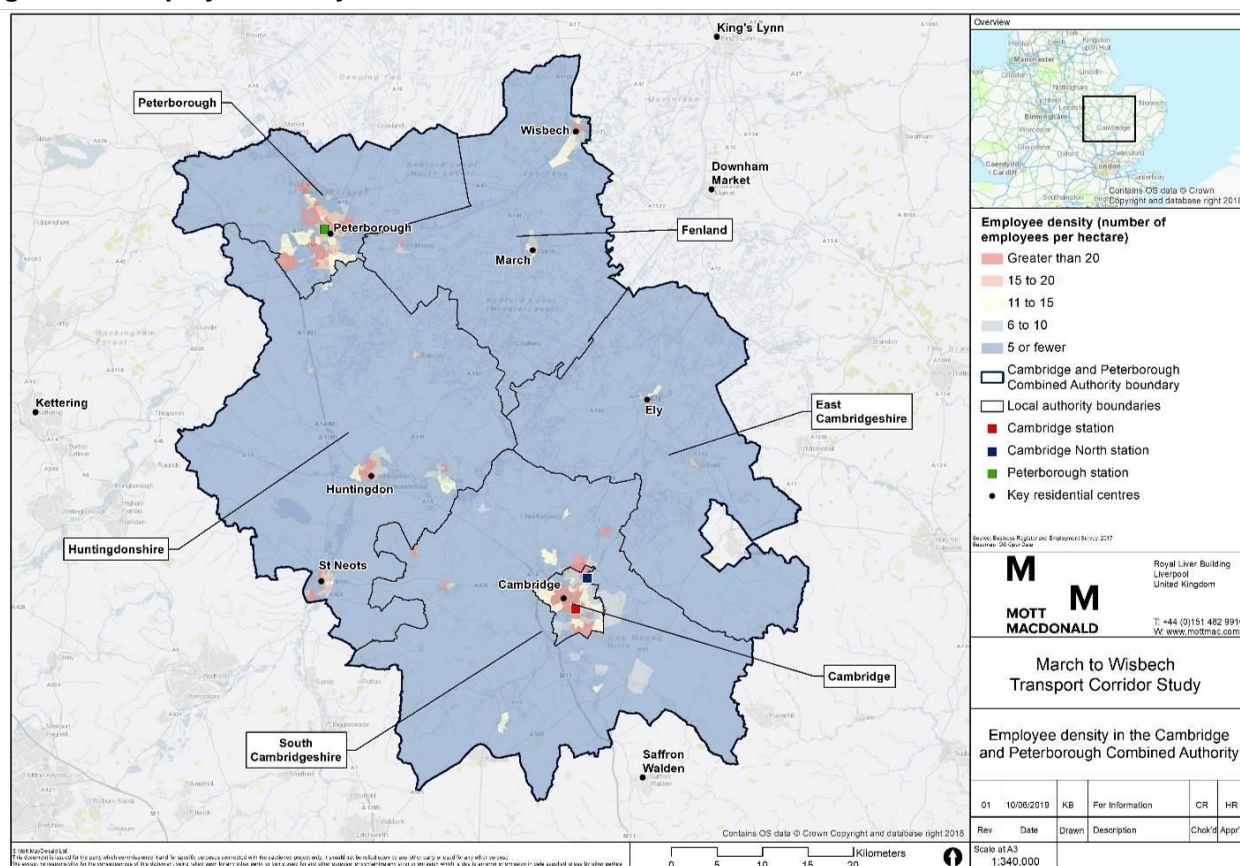
Figure 2-2 demonstrates the uneven spread of employee jobs across the CPCA area. The dominance of Cambridge and Peterborough as the primary employment centres for the area is clear to see, with much smaller pockets of medium-to-high density employment also evident in Huntingdon, St Neots, Cambourne, St Ives, Waterbeach, Ely, March and Wisbech. Whilst Cambridge and Peterborough form the primary urban and employment centres for the CPCA area, the spatial distribution of jobs within these two key cities is by no means uniform, as reflected through comparison of Figure 2-3 and Figure 2-4. Key employment locations in Cambridge are clustered in and around its compact city centre, along Hills Road toward Addenbrooke's Hospital and the Cambridge Biomedical Campus and to the north of the city at the Cambridge Science Park and close to Cambridge North Station (which opened in 2017).

In Peterborough, in contrast, its clusters of high-density employment are more dispersed. Whilst there is a central cluster of high density employment surrounding Peterborough railway station,

<sup>15</sup> Out of a total of 32,844 LSOAs.

other pockets of high density employment are located along the key arterial routes around the city, for example along the A47 to the north of the city, in and around Orton Longueville on the A1260 Nene Parkway, either side of Frank Perkins Parkway at Eastfield and Fengate to the east of the city, and in Orton Southgate at the A1(M) / Fletton Parkway junction to the southwest. The distribution of jobs and economic development in Peterborough today reflects the city's patterns of growth and the geography of its transport infrastructure. Whilst traditionally a 'railway town', home to a major rail junction on the East Coast Main Line, since its designation as a 'new town' in the late 1960s and the construction of the city's radial 'Parkway' network, economic development and growth has been supported around Peterborough, beyond its city centre core<sup>16</sup>.

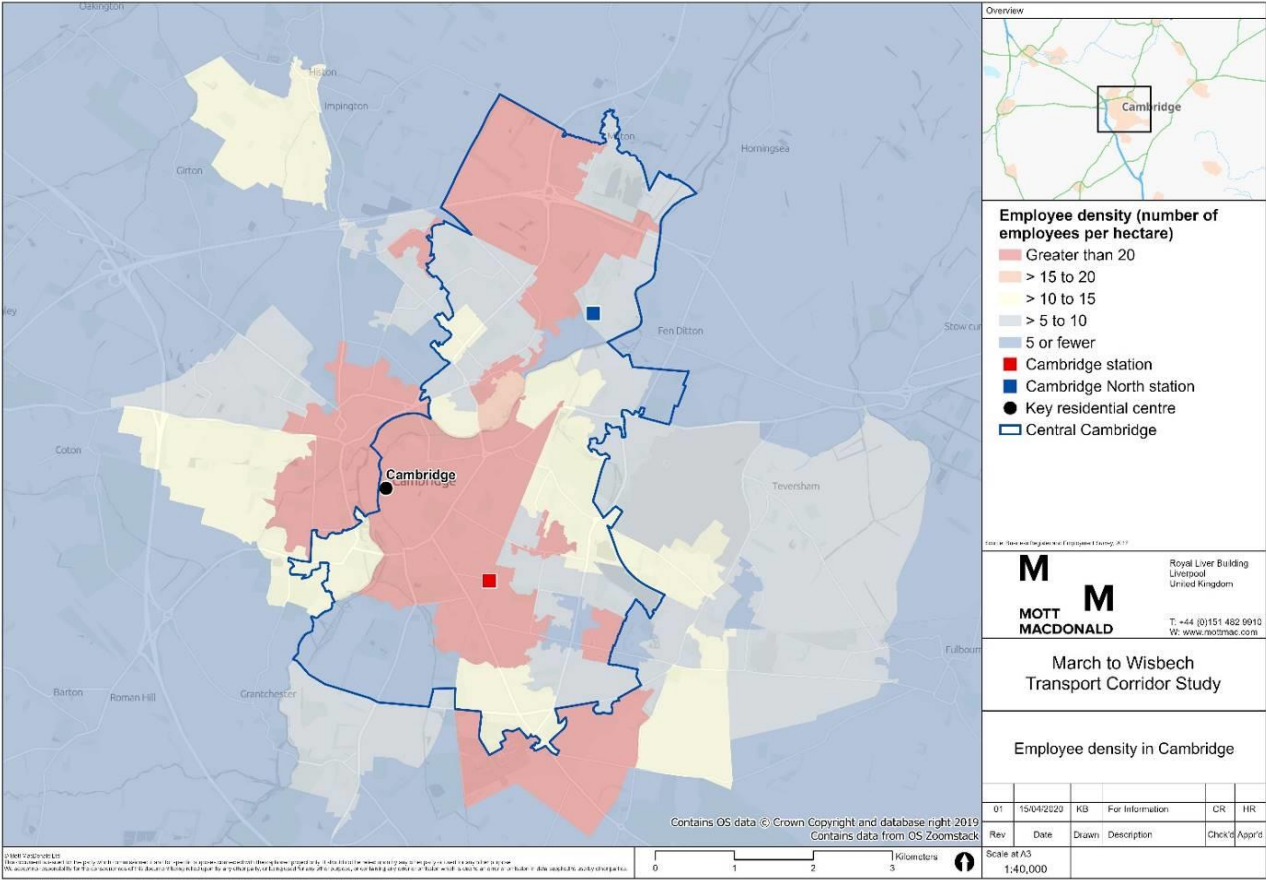
**Figure 2-2: Employee density – CPCA area**



Source: BRES 2017, ONS

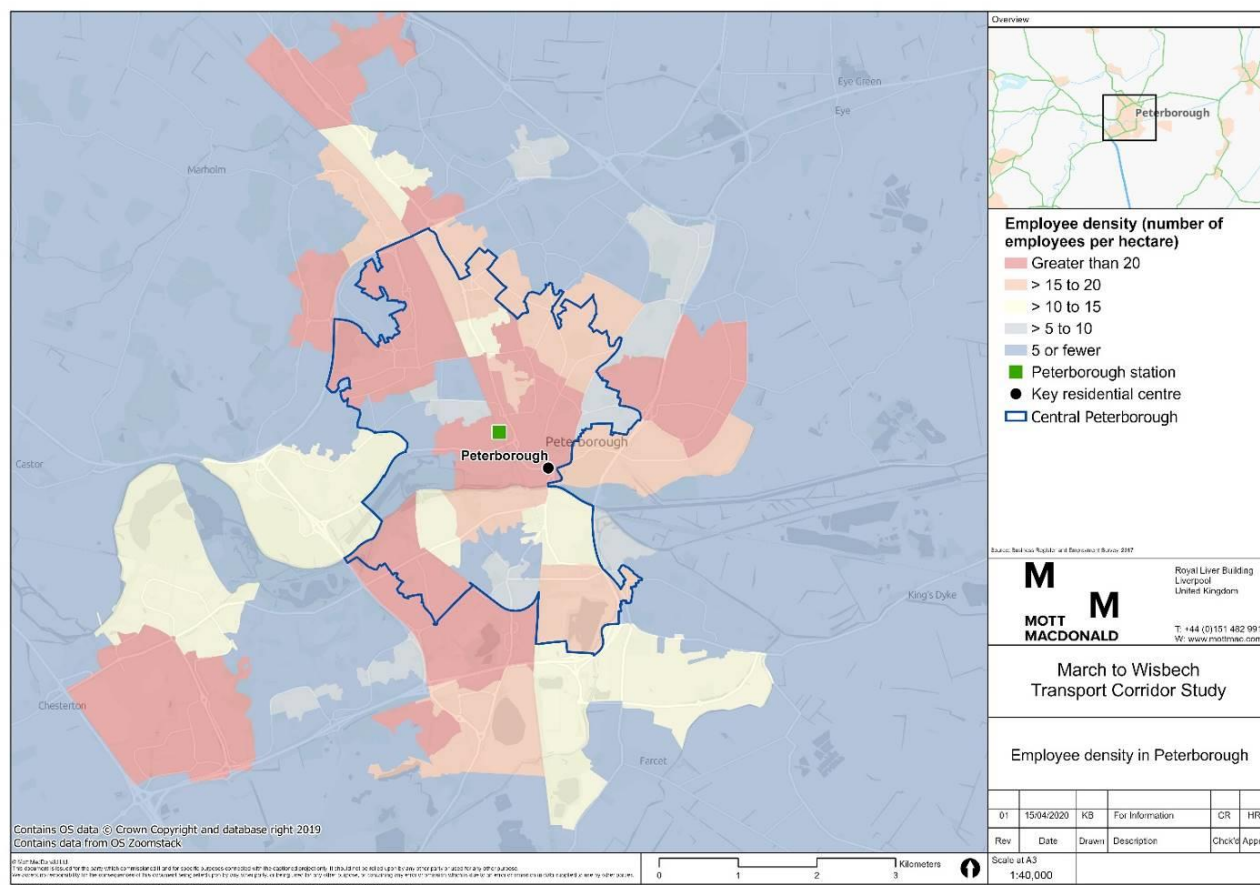
<sup>16</sup> Draft Cambridgeshire and Peterborough Local Transport Plan, prepared by Steer for the Cambridgeshire and Peterborough Combined Authority, 20 May 2019

Figure 2-3: Employee density – Cambridge



Source: BRES 2017, ONS

**Figure 2-4: Employee density – Peterborough**



Source: BRES 2017, ONS

Analysis of the relative contribution of key industry sectors to the labour markets of Fenland, Cambridge and Peterborough, summarised in Table 2.2, underlines the very different composition of these local economies within the CPCA area. Whilst the significance of the health sector is a relatively consistent feature across the national, regional, and local economies considered in Table 2.2, there is a large divergence in the relative contribution of the professional services, manufacturing, agriculture, education and business administration sectors to the districts' labour markets. This, in part, reflects the more rural versus urban nature of Fenland compared to the Cambridge and Peterborough economies, however it also reflects the unique sector strengths of greater Cambridge in the hi-tech and biotech industries associated with the 'Cambridge Phenomenon'. Across the CPCA area, higher value employment and overall jobs growth has become increasingly focused in the major regional centres in recent years, in line with wider national trends.

**Table 2.2: Proportion of total employees by industry, %, 2017**

	Fenland	Cambridge	South Cambridgeshire	Peterborough	CPCA	East	England and Wales
Agriculture, forestry & fishing (A)	6.2	-	1.2	0.2	1.1	1.0	0.6
Mining, quarrying & utilities (B,D and E)	0.7	0.8	0.6	1.1	1.1	0.9	1.2
Manufacturing (C)	16.7	1.9	13.1	6.8	8.9	8.0	8.2
Construction (F)	4.9	1.5	6.0	2.6	3.8	5.5	4.7
Motor trades (Part G)	1.4	0.9	2.1	2.6	1.8	2.1	1.7
Wholesale (Part G)	6.9	1.5	3.6	5.1	4.3	4.5	3.9
Retail (Part G)	8.3	8.7	4.8	12.0	8.5	10.3	9.5
Transport & storage (inc. postal) (H)	6.2	1.5	1.8	5.1	3.6	4.9	4.7
Accommodation & food services (I)	4.2	9.7	4.8	4.3	6.0	6.8	7.4
Information & communication (J)	0.8	6.8	7.1	4.3	5.1	3.6	4.5
Financial & insurance (K)	0.8	1.2	1.1	4.3	2.0	2.4	3.5
Property (L)	1.1	1.7	0.8	1.3	1.3	1.5	1.7
Professional, scientific & technical (M)	4.9	14.6	23.8	5.1	11.4	9.2	8.5
Business administration & support services (N)	11.1	5.8	6.0	18.8	10.3	10.4	9.2
Public administration & defence (O)	3.5	1.9	1.2	3.0	2.9	3.0	4.1
Education (P)	8.3	22.3	8.3	6.8	11.0	8.8	9.0
Health (Q)	11.1	15.5	11.9	12.8	12.8	12.5	13.0
Arts, entertainment, recreation & other services (R, S, T and U)	2.8	4.9	3.0	3.4	4.0	4.5	4.5

Source: BRES, ONS, 2017. Shading shows the three industry groupings that account for the largest proportions of total employees per area.

## Travel to work

Analysis of commuting trends across the CPCA and specifically between Wisbech to Cambridge and Wisbech to Peterborough provides further context for understanding the current disjointedness in these local economies.

Whilst Wisbech experiences a net inflow of workers (more people travel to work in Wisbech than the number of residents commuting elsewhere for work; see Table 2.3), as the map in Figure 2-5 shows, its in-commuting catchment is relatively small, being largely constrained to Fenland (accounting for 63% of travel to work journeys into Wisbech, including 39% from within Wisbech itself), and its neighbouring districts of King's Lynn and West Norfolk (22%) and South Holland (7%). Wisbech's out-commuting catchment is somewhat broader (Figure 2-6), however 68% of work destinations are still with Fenland (including 54% in Wisbech itself), and a further 11% of trips are to King's Lynn and West Norfolk, 5% to Peterborough City District and 4% to South Holland.

Existing commuting from Wisbech to some sectors in Cambridge and Peterborough, in contrast, is lower than distance and opportunities alone would suggest due to the low

accessibility/extended travel times and costs. This is also evident in Figure 2-7 and Figure 2-8, which map the travel to work trips to central Cambridge and central Peterborough<sup>17</sup>.

**Table 2.3: Travel to work summary**

	Wisbech	Fenland
Total journeys to work to	12,272	29,525
Total journeys to work from	8,710	35,786
Net commuting	3,562	-6,261
Live and Work	4,739	19,515
Self-containment (% of jobs filled by residents)	39%	66%

Source: Census 2011, ONS

The observed travel-to-work patterns to and from Wisbech will be symptomatic of a number of interdependent factors:

- Availability of local employment (with lower times and costs to access this than other further afield opportunities which may be of higher value);
- Alignment between local employment opportunities and the skills and qualifications of local residents;
- Connectivity to other employment opportunities, and the relative trade-off between accessing higher value opportunities versus the increased travel times and costs which are entailed. This will also affect residential location decisions for those employed in the higher value opportunities; and
- Connectivity also impacting on the propensity of businesses to locate in the area.

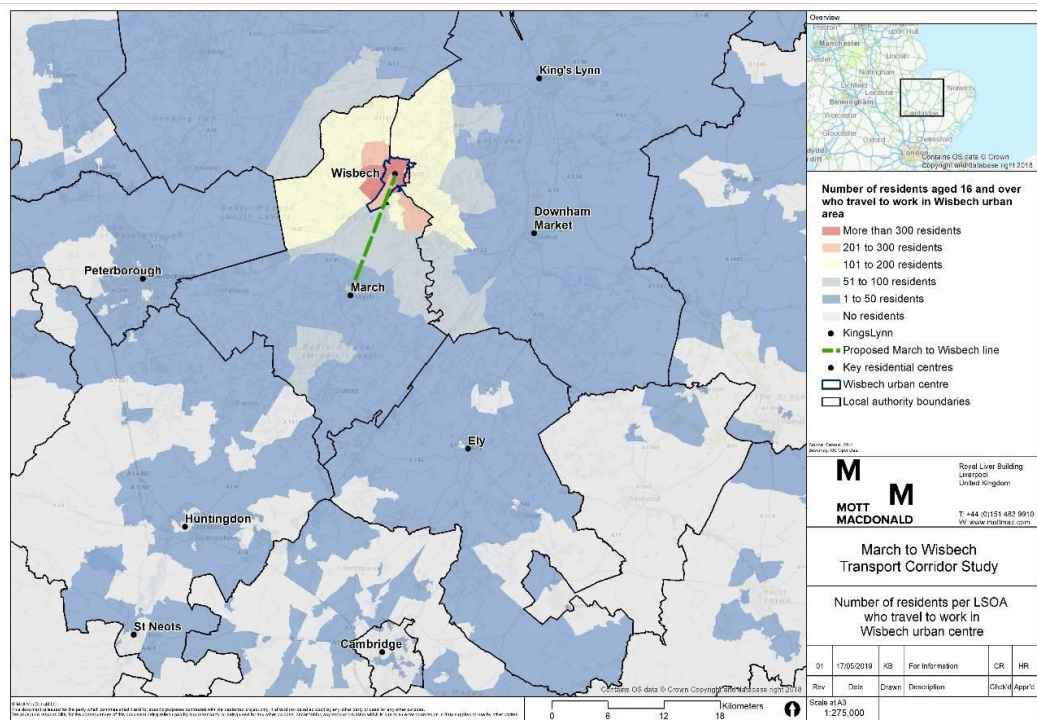
Direct causality between the travel-to-work patterns and residential or workplace pay levels is not possible (i.e. because the alignment between skills and opportunities is not a direct relationship); however, it is clear that:

- GVA per capita and wage levels are lower in Fenland;
- Local employment opportunities are clustered in specific sectors, and these, alongside productivity differentials created by lack of connectivity will be contributing to the lower GVA and wage levels; and
- Existing travel-to-work areas are constrained, with Wisbech and Fenland having very localised labour markets, with residents not able or willing to access higher value employment.

Consideration of connectivity, as one facet of the latter, is set out in Section 2.5.

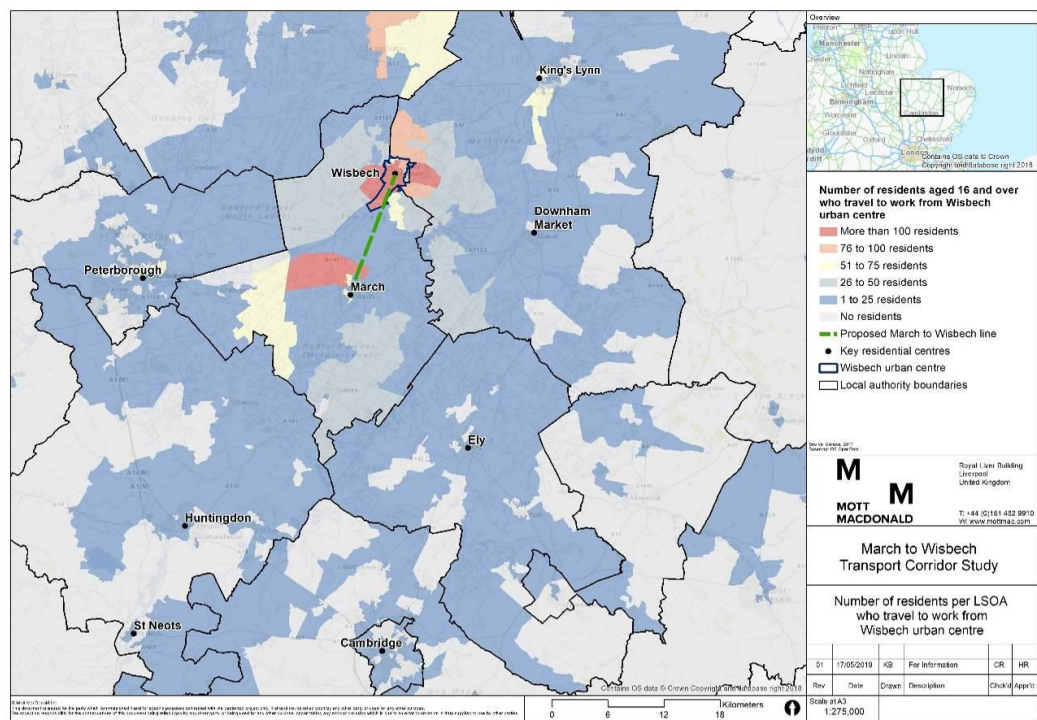
<sup>17</sup> For the purpose of this analysis, central Cambridge has been broadly defined as the LSOAs within/intersecting with a 2km buffer of Cambridge Station and Cambridge North Station and central Peterborough has been broadly defined as the LSOAs within a 2km buffer of Peterborough Station. LSOAs that are mostly rural in character have been excluded.

Figure 2-5: Wisbech in-commuting - travel to work trips to Wisbech



Source: Census 2011, ONS

Figure 2-6: Wisbech out-commuting - travel to work trips from Wisbech



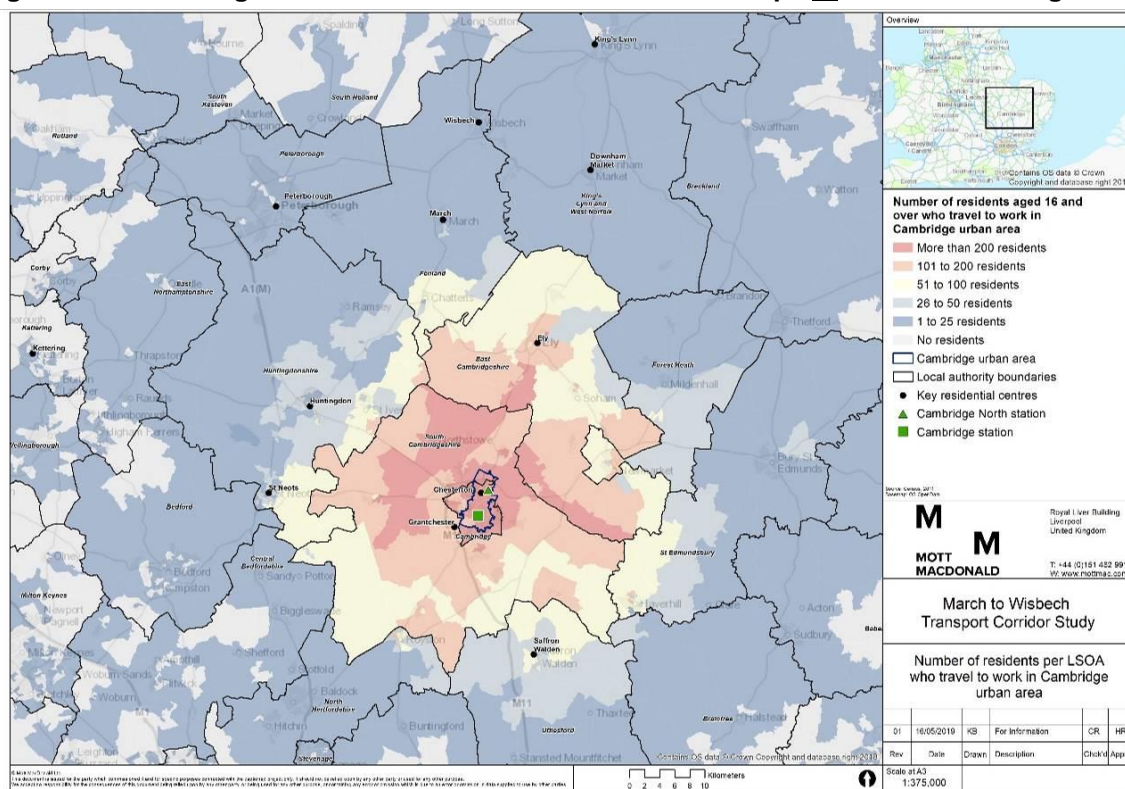
Source: Census 2011, ONS

Cambridge lies at the heart of a broad commuter belt and experiences high levels of net-in commuting. It's area of influence encompasses most of Cambridgeshire and parts of West Suffolk, Bedfordshire, Essex and North Hertfordshire<sup>18</sup>. As shown in Figure 2-7, there is a very high level of in-commuting to central Cambridge from surrounding South Cambridgeshire and East Cambridgeshire, which include established flows along the A10 and Cambridge-King's Lynn rail line up to Ely, as well as the various arterial roads from Cambridge into South Cambridgeshire, the guided busway to Huntingdonshire and the Cambridge Line to North Hertfordshire. Whilst Fenland falls within central Cambridge's commuting catchment, a higher number of travel-to-work trips into Cambridge are evident from the south of Fenland around Chatteris than further north in the district.

Peterborough's commuter catchment also extends eastwards into Fenland, though like Cambridge it is not evenly distributed across the district. A higher number of travel-to-work trips to central Peterborough are observed from more western parts of Fenland than elsewhere in the district.

In the cases of both Cambridge and Peterborough, the two principal economic centres, in the CA area, it is clear that the residents of Wisbech, and also March, are not currently connected to the opportunities available, and, vice versa, businesses in those centres cannot draw on the increased labour supply they can offer.

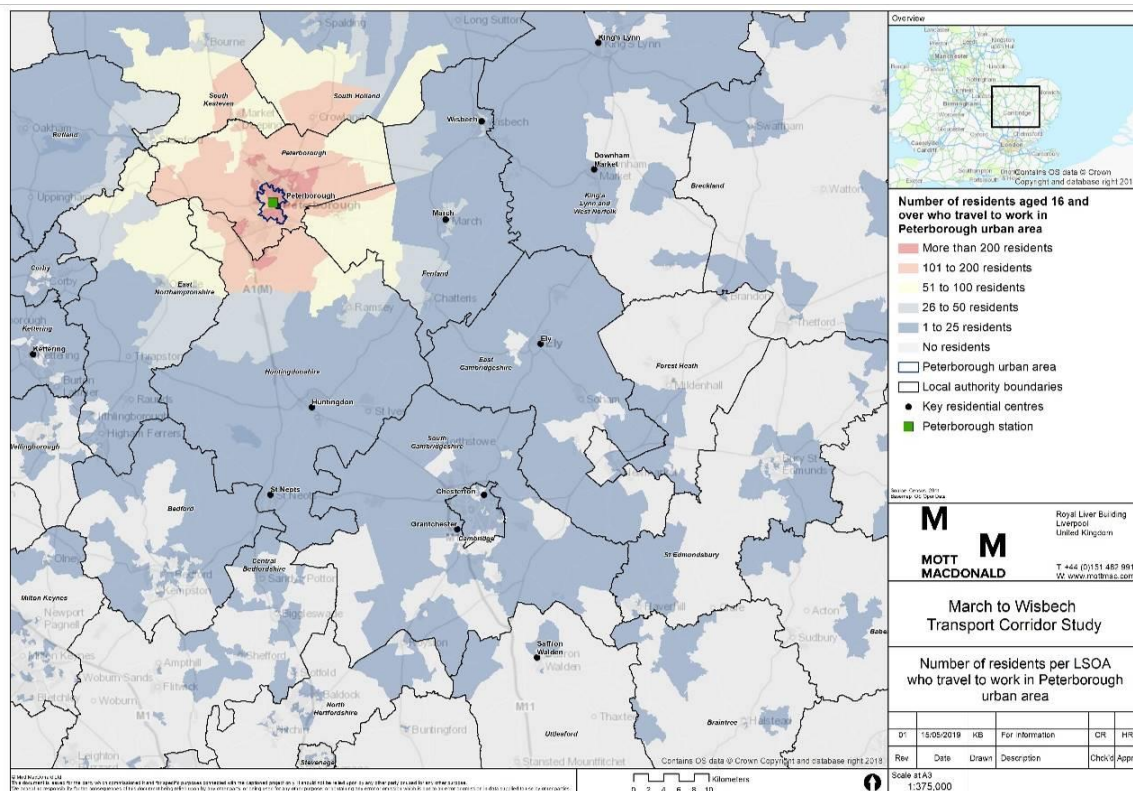
**Figure 2-7: Cambridge commuter catchment - travel to work trips to central Cambridge**



Source: Census 2011, ONS

<sup>18</sup> Cambridge City Council, Cambridge Local Plan, October 2018

**Figure 2-8: Peterborough commuter catchment - travel to work trips to central Peterborough**



Source: Census 2011, ONS

### Lack of Connectivity - the Implications for Wisbech

Wisbech is one of the largest towns in the UK without a rail connection, with an estimated population of 32,000 in the town itself from the 2011 Census, and a wider catchment, which views Wisbech as the main local centre, estimated at approximately 50,000 people<sup>19</sup>. Lack of intra-regional connectivity, and alternatives to the private car, is likely to be a contributory factor in a number of the observed outcomes for the area, as it will:

- Constrain access to employment, services and opportunities, particularly existing higher value jobs which are currently too distant to render them attractive alternatives;
- Diminish its attractiveness for inward investment;
- Stymie markets for businesses already located in the area; and
- Promotes a high degree of car dependency, with associated adverse externalities from car use, in an area where highway supply is also constrained and subject to a lack of resilience.

### Socio-economic context - implications for the March to Wisbech Transport corridor

- There is limited interaction between the economies of north and south Cambridgeshire, each displaying very different economic characteristics. Whilst greater Cambridge to the south of the county boasts a thriving hi-tech and biotech industry, high productivity and high levels of private sector jobs growth, all supporting high wages, north Cambridgeshire experiences lower average wages and lower GVA. This trend is also mirrored in socio-demographic measures and most clearly in levels of deprivation. Generally, the most deprived areas are located in pockets in the north of the county as

<sup>19</sup> Usual resident population, Census 2011, ONS

well as in and around Peterborough, with lower levels of deprivation more widespread across the south and west of Cambridgeshire.

- We note that The Cambridgeshire and Peterborough Independent Economic Review (CPIER)<sup>20</sup>, published in Autumn 2018, concluded that future employment growth in the CPCA area could be much higher than the levels set out in Local Plans (see Section 2.6.2 for more detail).
- Analysis of travel-to-work journeys for Wisbech, central Cambridge and central Peterborough has identified their relatively polycentric labour markets, with fewer journeys from Wisbech to both Cambridge and Peterborough than would be expected given their proximity and their role as the CPCA area's main employment and urban centres.
- The continued economic success of greater Cambridge and the "Cambridge phenomenon" presents a growth opportunity for Fenland and other areas in north Cambridgeshire to share in its success, however this is dependent on increased interaction between the north and south of the county – both from commuting and in attracting businesses with synergies which can help provide local higher value employment. Increased interaction may also help to ease some of greater Cambridge's housing and infrastructure burden (which is explored more in Section 2.7).
- Investment in infrastructure to better connect areas in north Cambridgeshire, such as enhancements to the March to Wisbech transport corridor, presents an opportunity to overcome current trends and extend Cambridge's core commuter belt further into north Cambridgeshire.

## 2.5 Local and regional connectivity

### 2.5.1 Within the corridor

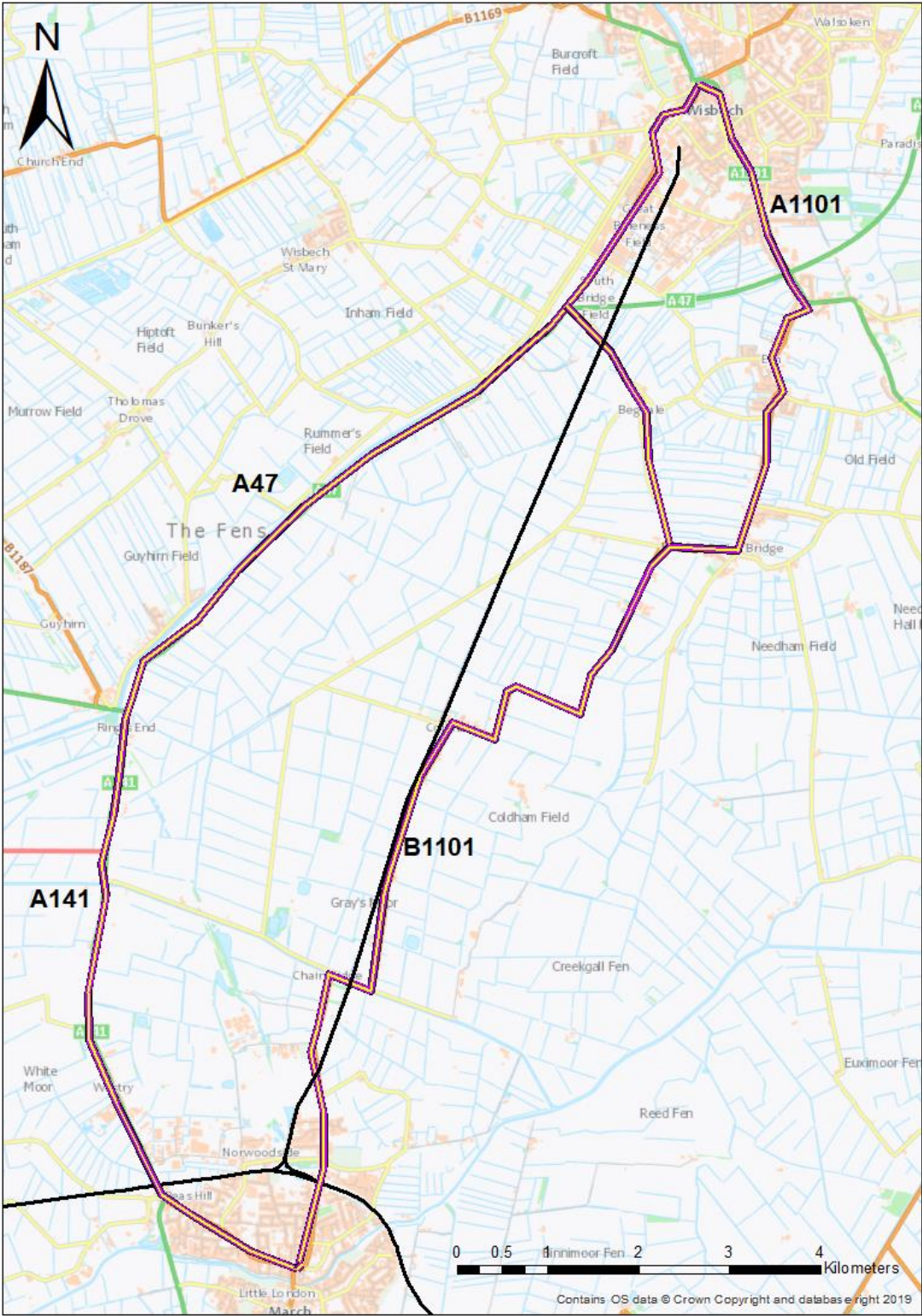
#### Highway network

March and Wisbech are approximately 8.5 miles (14km) apart. Multiple highway options exist between the two, shown in Figure 2-9 below, but these are less direct than the former rail alignment. Peak hour travel times from centre to centre are estimated at 20 to 35 minutes (average based on typical traffic conditions from Google Maps journey planning facility), implying an average speed of approximately 30km/h. By comparison, a segregated public transport alignment offers the opportunity for station-to-station journey times of 10 to 15 minutes<sup>21</sup> based on the standard segregated operational speeds for heavy or light rail operation.

<sup>20</sup> Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report, Cambridge and Peterborough Independent Economic Commission, September 2018

<sup>21</sup> The timing will be dependent on the location of the station(s) at the Wisbech end, alignment, mode, and the treatment of junctions with the local highway network.

Figure 2-9: March to Wisbech Highway Options



Source: Mott MacDonald

## Local buses

Service buses 46 and 56 connect March and Wisbech. Between the two centres, buses operate at approximately three services every two hours. As would be expected, the journey times are longer than those for highway (and up to two to three times longer than the potential route via the former rail alignment), due to dwell times at stops, and are likely to be elongated during the peaks due to traffic congestion on the A47 and radial routes into the towns.

**Table 2.4: March – Wisbech Bus Services**

Number	Route	Operator	Approximate Mon-Fri Weekday Headway (minutes)	Journey Time (minutes)
46	Wisbech – Wisbech St Mary - Guyhirn – Murrow - March	Stagecoach in Cambridge	90	34
56	Wisbech – Elm – Coldham - March	Stagecoach in Peterborough	60	35

Source: Cambridgeshire County Council

### 2.5.2 Regional connectivity

The regional highway network serving Wisbech is dominated by the A47, a Highways England maintained road connecting Norwich with Peterborough and the East Midlands. North-south connections are provided by the A141, to March, Chatteris and Huntingdon, and the A10 to Ely and Cambridge, accessed from Wisbech via the A1122. Table 2.5 summarises average peak hour travel times, distances and speeds from Wisbech to a set of major attractors within the CPCA area.

It is notable that average speeds from Wisbech to destinations in the south of Cambridgeshire are low at present given the low design speeds of existing highways and their indirect routing.

**Table 2.5: Wisbech Highway Journey Time Analysis**

Destination	Distance (km)	Time (minutes)	Speed (kilometres per hour)
Addenbrooke's	67.6	85	47.7
Cambridge	63.3	82	46.3
Cambridge Science Park	59.6	67	53.4
Chatteris	29.6	34	52.2
Downham Market	22.0	30	44.0
Ely	37.4	43	52.2
Huntingdon	52.0	60	52.0
March	16.8	21	48.0
Peterborough	36.3	48	45.4
Waterbeach	55.6	60	55.6

Source: Google Maps, July 2019

## March Rail Connectivity

March Station is on the Peterborough to Ely line. The former is on the East Coast Mainline (ECML) with onward connectivity towards London, the Midlands, and Northern England. Services to/from Ely operate to Norwich, Cambridge, Stansted Airport and/or Ipswich. It is currently served by approximately three trains per hour across both directions, or three trains

every two hours in each direction. The stylised two-hour service pattern, as of July 2019, is shown in Table 2.6 below. Ipswich services operate via Bury St Edmunds and Stowmarket (and do not serve Cambridge). The Cross Country service calls at Ely between March and Cambridge (with a peak period call at Manea), meaning interchange is required to access Waterbeach and Cambridge North (as it is for Downham Market). As part of the current Greater Anglia franchise, there is a commitment to enhance the Peterborough-Ipswich service to be hourly in each direction. This would provide two trains per hour in each direction between March and Peterborough but leave the current March and Cambridge level of service as hourly.

**Table 2.6: March Rail Services, across a standard two hours**

ID	From	To	Operator
1	Birmingham New Street	Stansted Airport	Cross Country
2	Ipswich	Peterborough	Greater Anglia
3	Birmingham New Street	Stansted Airport	Cross Country
4	Stansted Airport	Birmingham New Street	Cross Country
5	Peterborough	Ipswich	Greater Anglia
6	Stansted Airport	Birmingham New Street	Cross Country

Source: National Rail Enquiries

The implications for this current service pattern on access to other locations on the rail network in the CPCA area are shown in Table 2.7. Where interchanges are required, then timetabled connection times include this time. In these cases, a typical range is shown – outliers exist around this. The effects of frequency are reported separately. Rail speeds from March are comparable, or faster, than the highway journey times to/from Wisbech. However, network speeds ignore the connection times and include the distance effects of both indirectness in the network and any interchange requirement. As an example, the effective speeds using crow-fly distances for March to Downham Market is less than 20kph, and the speed to/from Cambridge North (for Science Park) drops from one which is directly comparable to highway from Wisbech to a lower value. However, rail still remains competitive, versus highway, on direct journey time alone for centre to centre (station-to-station) movements.

Frequencies will clearly play a role in diminishing this attractiveness though, as they are always less than two per hour due to the current underlying timetable at March. These impose significant disbenefits on passengers either through direct wait time at the station and/or constraints in scheduling activities. As an example, the UK rail industry's Passenger Demand Forecasting Handbook (PDFH) provides guidance that an hourly service imposes an additional time disbenefit to passengers which is, on average, equivalent to 30 to 35 minutes of travel time. Current frequencies at March therefore impose significant disbenefits, and deterrents, to use of rail.

**Table 2.7: March Station Level of Service Analysis**

Destination	Network Distance (km)	Crow-fly Distance (km)	Time (minutes)	Network Speed (kilometres per hour)	Direct Frequency (trains per hour)	Changes
Cambridge	48.0	40.9	33	87.3	1	-
Cambridge North (for Science Park)	45.0	37.6	50 to 55	51.4	- (change at Ely)	-
Downham Market	51.3	19.3	45 to 75	51.3	- (change at Ely)	1
Ely	25.0	22.4	18 to 22	75.0	1.5 <sup>22</sup>	-
Huntingdon	52.2	32.2	50 to 65	54.5	- (change at Peterborough)	1
Peterborough	24.0	23.2	18	80.0	1.5	-
Waterbeach	39.9	33.9	48 to 54	46.9	- (change at Ely)	1

Source: National Rail Enquiries and Mott MacDonald analysis

### Summary of Rail Provision

Direct comparison of station-to-station, as a proxy for centre-to-centre, journey times and speeds show that rail is generally competitive with the car from March:

- Average speeds are greater, and this is particularly true for access to Cambridge and Peterborough where lower average highway speeds on radial approaches help to provide rail with a competitive advantage;
- However, when frequencies of service are taken into account, through their associated wait times and constraints on preferred departure or arrival times, then rail's competitive advantage is dramatically reduced. As an example, for March to Cambridge, the single hourly service means that the journey time is effectively doubled and the speed is halved – bringing the highway and rail speeds to a comparable level;
- Requirements to interchange diminish the attractiveness of rail further, but March does offer direct connections to Cambridge and Peterborough – the principal centres in the CA area; and
- Access and egress to and from the stations is a critical factor, alongside monetary costs (fares and parking) in determining the overall demand between two localities and rail's mode share.

### Other Local Bus Provision

In addition to the local bus services within the corridor shown in Table 2.4, there are a number of other services which connect:

- Communities within Wisbech to the town centre;
- Wisbech to other non-rail connected settlements, e.g. Long Sutton; and
- Major centres.

From a Wisbech perspective, principal amongst the latter is the XL service operated by First Eastern Counties between Peterborough and Norwich via Wisbech and King's Lynn. The XL service is half hourly on Monday to Saturday daytimes. Journey times are approximately 45 to 50 minutes between Wisbech and both Peterborough and King's Lynn. Wisbech to/from

<sup>22</sup> 3 trains every two hours.

Peterborough is therefore already comparatively well served by public transport, especially when compared to the level of service which a rail-based alternative could offer.

March is also (separately) served by bus routes to Ely, Chatteris and Peterborough. These operate at less than hourly frequencies, in part due to the lack of competitiveness with rail for travel to/from Ely and Peterborough. This indicates that provision of direct rail services between Wisbech and Peterborough may, eventually, directly substitute for the existing bus services to other rail connected settlements.

#### Local and Regional Connectivity - implications for March to Wisbech Transport corridor

- Journey times from Wisbech to other centres, particularly those to its south and east are long relative to their “crow flies” distance due to highway configuration and limited public transport options.
- Making use of the existing Ely to Peterborough rail line offers the opportunity for faster journey speeds than by road between Fenland and the key employment centres of greater Cambridge and Peterborough, however infrequent service patterns currently make rail services less viable.

## 2.6 Policy context – Scheme alignment to local and regional policy and growth ambitions

### 2.6.1 Capacity for growth

As noted above, North Cambridgeshire lags behind the economic prosperity of south Cambridgeshire. Whilst the latter suffers from housing affordability (see Section 2.7.2) and labour supply issues (see Section 2.7.1) which may constrain growth, residents in Wisbech and north Cambridgeshire more broadly face challenges relating to labour market access with few employment opportunities locally and connectivity with constrained travel opportunities.

The Cambridgeshire and Peterborough Local Industrial Strategy recognises the importance of infrastructure development as a key requirement for both maintaining current positive growth trends in the area, as well as building upon those trends<sup>23</sup>. The strategy cites businesses that operate in Cambridgeshire and Peterborough as being concerned that recent growth may be hindered by the poor infrastructure in the area<sup>24</sup>:

*“The views of businesses surveyed and engaged in the development of place and sector strategies is that poor infrastructure is hampering growth and is set to increase as a problem over the next decade. Sustaining and de-risking the area’s full potential for economic growth relies on transforming the transport, housing and infrastructure capacity in Greater Cambridge and improving the transport system for market towns. Improving connectivity is vital if recent growth is not to stall and will contribute to addressing the Future of Mobility Grand Challenge.”*

<sup>23</sup> Cambridgeshire and Peterborough Local Industrial Strategy, Cambridgeshire and Peterborough Combined Authority, July 2019

<sup>24</sup> Cambridgeshire and Peterborough Local Industrial Strategy, Cambridgeshire and Peterborough Combined Authority, July 2019

## 2.6.2 Growth ambitions and spatial strategy

### Cambridgeshire and Peterborough Combined Authority Devolution Deal (2017)<sup>25</sup>

Cambridgeshire and Peterborough's role as a world-leader in science and technology and its contribution to the UK economy is explicitly documented in the Cambridgeshire and Peterborough Devolution Deal, published in March 2017<sup>26</sup>.

The Devolution Deal aims to enable significant economic growth, building on Cambridgeshire and Peterborough economic success to date, increasing economic output by nearly 100% over 25 years with GVA increasing from £22 billion to more than £40 billion. To support this, the CPCA received control of a £600 million investment fund over 30 years. The Deal also aims to accelerate the delivery of 72,000 new homes with £170 million investment.

The Devolution Deal outlines the importance of investing in transport and infrastructure to enable Cambridgeshire and Peterborough to realise its growth ambitions.

*"Cambridgeshire and Peterborough recognise that for the Combined Authority to meet and exceed its ambitious targets for growth and wealth creation it needs to connect people and places. Better connecting the whole of Cambridgeshire and Peterborough has the potential to reduce city pressures and give the Cambridge hub access to wider areas of housing growth."*

Source: Cambridgeshire and Peterborough Combined Authority Devolution Deal, Ministry of Housing, Communities & Local Government and Department for Business, Energy & Industrial Strategy, March 2017

Within the Devolution Deal, the CPCA commit to working with local areas' ambitions for new housing settlements, and unlock economic growth, with specific reference to potential rail connectivity from Wisbech to Cambridge as part of these ambitions. The Devolution Deal also cites a new Fenland settlement based on garden town principles which is aligned to improvements on the A47 for east-west connectivity and the rail connectivity to Cambridge. The Devolution Deal goes on to state its recognition of the importance of development at March and of associated transport and infrastructure investments to unlock commercial and housing growth in that part of Fenland.

### Cambridgeshire and Peterborough Strategic Spatial Framework (2018)

The CPCA has developed a non-statutory Strategic Spatial Framework for Cambridgeshire and Peterborough, which is divided into two phases. Phase 1 of the Framework, adopted in March 2018, defines the Authority's immediate priorities for sustainable growth to support the delivery of 100,000 new homes and over 90,000 jobs as set out in existing Combined Authority plans and Local Plans<sup>27</sup>. Phase 2 of the Framework, which is yet to be published, will take a longer-term view, setting out a growth strategy beyond the current Local Plan periods to 2031/36 and toward 2050.

The non-statutory Strategic Spatial Framework identifies the important contribution of Wisbech and March to the growth targets set out in the Fenland Local Plan (which is discussed below) and identifies both March and Wisbech as two of 22 identified 'strategic growth sites' for the CPCA area.

<sup>25</sup> Cambridgeshire and Peterborough Combined Authority Devolution Deal, Ministry of Housing, Communities & Local Government and Department for Business, Energy & Industrial Strategy, March 2017

<sup>26</sup> Cambridgeshire and Peterborough Combined Authority Devolution Deal, Ministry of Housing, Communities & Local Government and Department for Business, Energy & Industrial Strategy, March 2017

<sup>27</sup> Cambridgeshire and Peterborough Strategy Spatial Framework (Non-Statutory): Towards a sustainable growth strategy to 2050, Phase 1, 2018

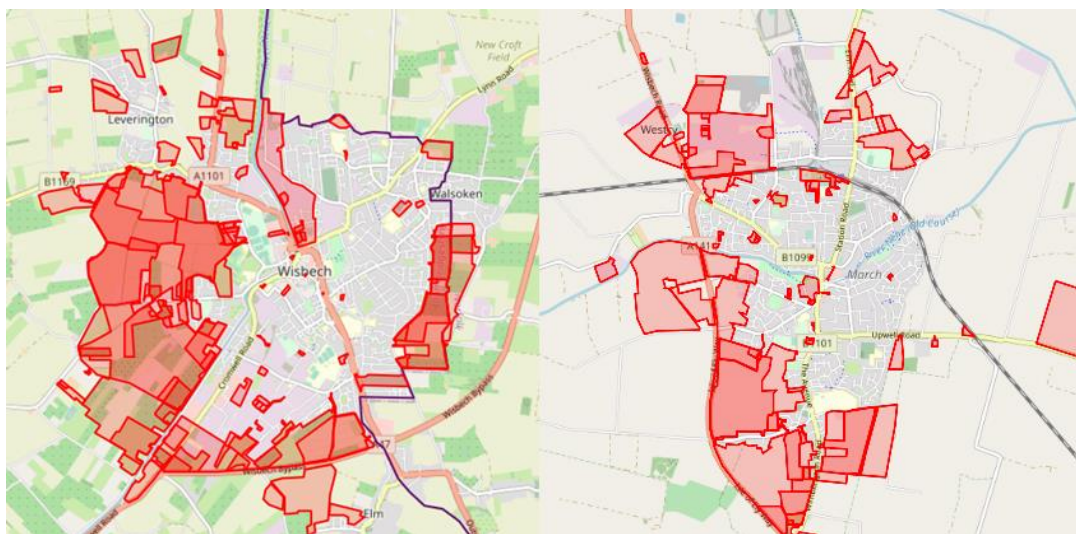
Furthermore, of particular relevance to this Scheme is the Phase 1 document's Strategic Spatial Priority 2, which aims to extend the Market Towns Masterplan for Growth initiative to other towns (this initiative was piloted in St Neots in 2017)<sup>28</sup>. The aim of this initiative is to stimulate economic growth and create employment opportunities in market towns, through providing an integrated investment and regeneration programme for education and skills, commercial and industrial development and supporting infrastructure.

### Fenland Local Plan

Fenland District Council's (FDC's) Local Plan was adopted in May 2014. In line with the revised National Planning Policy Framework (NPPF) published in July 2018, as the plan is now over five years old, the Local Plan 2019-2040 is currently being prepared<sup>29</sup>.

The February 2020 Strategic Housing & Economic Land Availability Assessment (Stage 1) Report (SHELAA) sets out all site submissions received during the FDC 'Call for Sites' exercise, and other available sites, such as existing Local Plan allocations and major sites with planning permission. A large quantity of available land has been identified, with the report presenting a total of 73 sites (c.1,200 hectares) in Wisbech Civil Parish (CP) predominantly to the west and south of the urban settlement (as shown in Figure 2-10. A further 74 sites (c.700 hectares) have been identified in March CP primarily to the south of the existing urban settlement<sup>30</sup>. This suggests significant potential for growth in housing and employment land in both towns. At this stage however, no assessment has been carried out to determine the suitability of submitted sites. All sites contained in the SHELAA report will be assessed in accordance with the Site Assessment Methodology Report<sup>31</sup>.

**Figure 2-10 Identified potential sites in Wisbech (left) and March (right)**



Source: Adapted from Strategic Housing & Economic Land Availability Assessment Stage 1, <https://www.fenland.gov.uk/article/14643> [Accessed 14 April 2020]

<sup>28</sup> Cambridgeshire and Peterborough Strategy Spatial Framework (Non-Statutory): Towards a sustainable growth strategy to 2050, Phase 1, 2018

<sup>29</sup> <https://www.fenland.gov.uk/newlocalplan> [Accessed 08 April 2020]

<sup>30</sup> Strategic Housing & Economic Land Availability Assessment Stage 1, FDC, February 2018  
[https://www.fenland.gov.uk/media/16499/SHELAA-Stage-1/pdf/SHELAA\\_main\\_report-Final.pdf](https://www.fenland.gov.uk/media/16499/SHELAA-Stage-1/pdf/SHELAA_main_report-Final.pdf) [Accessed 09 April 2020]

<sup>31</sup> <https://www.fenland.gov.uk/newlocalplan> [Accessed 08 April 2020]

FDC consulted on the Issues & Options Consultation Document from 11 October to 21 November 2019 and produced a Key Issues Report in February 2020 summarising the main issues raised which will inform the preparation of the draft Local Plan<sup>32</sup>. However, due to the COVID-19 crisis the draft Local Plan consultation scheduled to take place in summer 2020 has now been postponed until further notice<sup>33</sup>.

In addition to the Issues & Options Consultation Document, FDC's 2019 Five Year Housing Land Supply report offers further insight into the not-yet-released, revised local plan, though it seems to maintain alignment with the 2014 version. The plan remains based around the same broad locations for growth<sup>34</sup>.

CPCA awarded funding to Fenland District Council to create four town masterplans as part of a 'Growing Fenland' project, with the aim of maximising growth and regeneration locally in the market towns of March, Wisbech, Chatteris and Whittlesey. The recently published masterplan for Wisbech identifies eight "key asks", of which connectivity is listed as a top priority<sup>35</sup>:

- Provide immediate connectivity to key employment centres
- A Town Centre Improvement Initiative
- Support cohesion and community shared space
- Open up countryside access, and develop the Wisbech Country Park
- Develop a workplace health award Scheme
- Focus on Tourism
- Repair Derelict Buildings
- Commercialisation of Wisbech Port

The current adopted Local Plan from 2014 sets out targets for providing 11,000 new homes and 7,200 jobs during the plan period to 2031. The district's four market towns are the main contributors to this planned development, with March and Wisbech allocated 4,200 and 3,550 homes<sup>36</sup>, respectively. This proposed increase in homes for Wisbech does not include the proposed WGT for which estimates are discussed in Section 2.6.5 of this FBC<sup>37</sup>.

Key policies from the adopted Local Plan which are of relevance to this Scheme include:

- **Policy LP8** – Wisbech, which earmarks Wisbech (alongside March) as a 'main focus for housing, employment and retail growth' for the district and outlines the broad locations of new urban extensions to Wisbech; and,
- **Policy LP15** - Facilitating the Creation of a More Sustainable Transport Network in Fenland, which includes direct reference to the reopening the March to Wisbech rail line. Policy LP15 will be implemented through the on-going submission and determination of planning applications. Successful implementation of this policy is also reliant on the coherent partnership working of FDC, the CCC, public and private developers, and local public transport operators. A robust and up-to-date account of transport impact assessments and travel plans will also be kept.

<sup>32</sup> <https://www.fenland.gov.uk/newlocalplan.n> [Accessed 08 April 2020]

<sup>33</sup> <https://www.fenland.gov.uk/newlocalplan.n> [Accessed 08 April 2020]

<sup>34</sup> Five Year Housing Land Supply (2019) Fenland District Council

<sup>35</sup> [https://www.fenland.gov.uk/media/16603/Growing-Fenland---Wisbech-Final-Report/pdf/Growing\\_Fenland\\_-\\_Wisbech\\_Final\\_Report.pdf](https://www.fenland.gov.uk/media/16603/Growing-Fenland---Wisbech-Final-Report/pdf/Growing_Fenland_-_Wisbech_Final_Report.pdf)

<sup>36</sup> The 3,550 homes allocation for Wisbech comprises 3,000 new homes allocated in the Fenland Local Plan and 550 on the edge of Wisbech in the Kings Lynn and West Norfolk Local Plan.

<sup>37</sup> Fenland Local Plan (2014) Fenland District Council

Further population growth is planned for the market towns over the next decade, with the Fenland and King's Lynn and West Norfolk Local Plans together allocating 3,550 new homes in and around Wisbech for the period up to 2031<sup>38</sup>. More recently, a proposal for the development of WGT<sup>39</sup> outlines a plan for an even more significant increase in the town's housing levels compared to the Local Plan targets, with a further 8,450 new homes (in addition to those allocated in the Local Plans). If realised, the development of the Local Plan and WGT proposals would nearly double the population of Wisbech over a 40-year period. Updated forecasts in the emerging Fenland Local Plan have not yet been published. March also has smaller scale, but significant, residential development proposals.

### **The Cambridge and Peterborough Independent Economic Review (CPIER)<sup>40</sup>**

Whilst appreciating that Fenland's Local Plan is currently undergoing review and refresh, there is growing evidence that Local Plan targets across the wider CPCA area are pessimistic and that much higher growth is likely. This has been most clearly demonstrated in the Cambridge and Peterborough Independent Economic Review (CPIER), which was published in Autumn 2018.

Undertaken by an independent economic commission, the purpose of the review was to create a single strategic position to help Cambridgeshire and Peterborough *"consider the case for greater fiscal devolution and powers to unlock the delivery of major infrastructure, including showing how the area delivers benefits to the rest of UK"*<sup>41</sup>. The CPIER developed an evidence base on the economic performance and growth potential of Cambridgeshire and Peterborough, which has included consideration of a range of different growth scenarios beyond those set out in the Local Plans. Significantly, the CPIER<sup>42</sup> is clear that not only has historical growth been underplayed, but future employment growth in the CPCA area could be much higher than the levels set out in Local Plans (see Figure 2-11).

<sup>38</sup> Fenland Local Plan Adopted May 2014, Fenland District Council, 2014; Site Allocations and Development Management Policies Plan, Adopted September 2016, Borough Council of Kings Lynn and West Norfolk, 2016

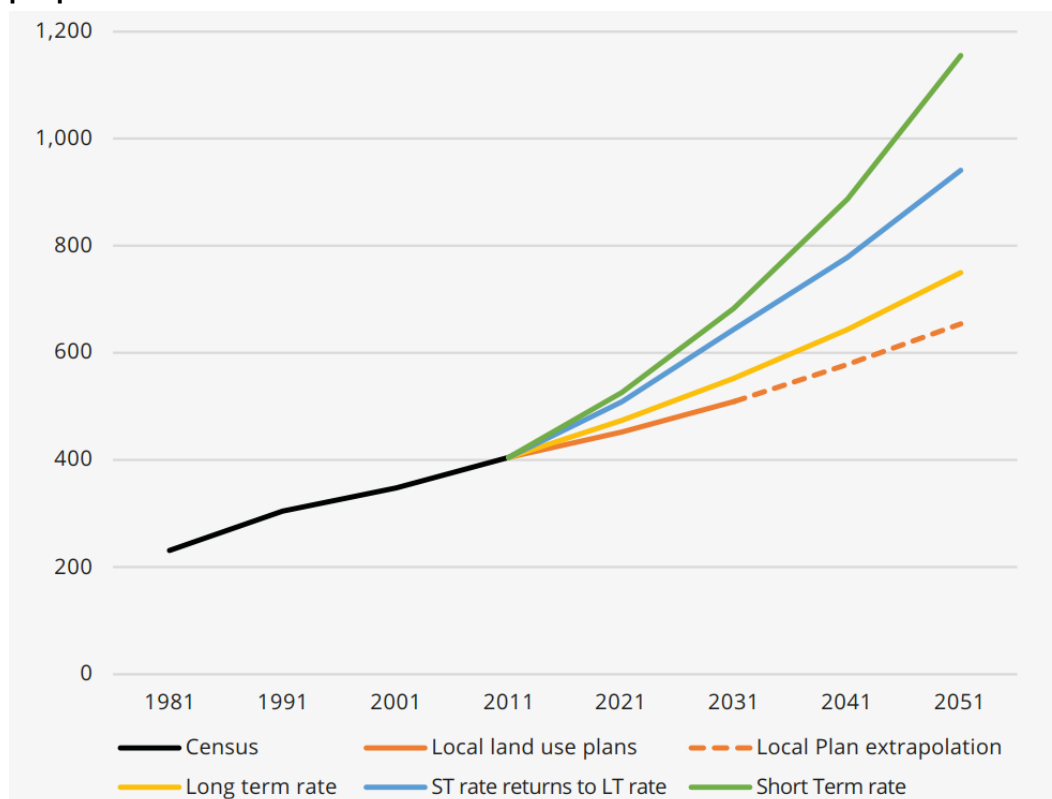
<sup>39</sup> Wisbech Garden Town, Report by URBED and TradeRisks for: Fenland District Council, Cambridgeshire County Council, Foster Property Developments Ltd. and Anglian Water, January 2017

<sup>40</sup> Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report, Cambridge and Peterborough Independent Economic Commission, September 2018

<sup>41</sup> See <https://www.cpier.org.uk/about-us/cpier/> [Accessed 10 May 2019]

<sup>42</sup> Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report, Cambridge and Peterborough Independent Economic Commission, September 2018

**Figure 2-11: Employment projections for Cambridgeshire and Peterborough – 000's of people**



Source: Dr Ying Jin, Department of Architecture, University of Cambridge, extracted from Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report, Cambridge and Peterborough Independent Economic Commission, September 2018

That future levels of employment growth may be higher than currently envisaged and planned for may have significant implications for the CPCA area and its housing and infrastructure needs over coming years. Critically, the CPIER identify that already house building and developments in infrastructure have not kept pace with employment growth in greater Cambridge. As a result, many people have been priced away from the city and journey times into work have risen significantly, causing many to endure longer commutes. The CPIER found there to be a large number of people in Cambridgeshire and Peterborough that commute over 60 minutes, some 90 minutes, one-way on a daily basis. It warns that this is unsustainable and could even risk future economic growth by making the city less attractive to even high-value businesses. Citing futures work by Dr Ying Jin and his Cities and Transport team of the University of Cambridge, the CPIER report describes a possible future whereby employment growth in Cambridge could even begin to slow by 2021, and actually go into reverse beyond 2031, with the city's high living and business costs, driven by high housing costs, leading to businesses moving away from the area. This is based on an inconsistency between current plans for infrastructure and housing development and the CPIER's hypothetical 'central projection' rate of employment growth (where recent high ONS employment growth rates gradually return to longer-term levels, shown by the blue line in Figure 2-11).

A central element of the Devolution Deal for the CPCA was the commitment to doubling the area's economic output (GVA) over the following 25 years (from £22bn to over £40bn) in return for new powers. Achieving this level of growth will depend largely on the economy of greater

Cambridge and it having sufficient capacity in its labour market, housing market and infrastructure to accommodate growth.

### 2.6.3 Business Board of the CPCA Strategic Economic Plan (SEP)<sup>43</sup>

The Business Board was constituted in September 2018, embracing the role that was previously fulfilled by the Greater Cambridge Greater Peterborough Local Enterprise Partnership. The Business Board is designed to *“give commerce a strong voice in strategy development and decision making relating to the Combined Authority”*<sup>44</sup>. The CPCA utilises the Business Board as an advisory group, working towards their commitment to make the area a leading place to work, live and learn.

Building on the analysis provided in Section 2.4 of this Strategic Case, the Greater Cambridge Greater Peterborough (GCCP) Local Enterprise Partnership SEP, published in 2014, several years prior to the Devolution Deal, provides important context on understanding the area's diverse economy. The 2014 SEP identifies a number of growth industries and hubs for the Cambridge and Peterborough area, and highlights the area's strengths in:

- Biotech and life sciences
- ICT and telecommunications
- Low carbon environmental goods and services
- Manufacturing, engineering and processing
- Agriculture, food and drink
- Logistics
- Water and energy
- Visitor economy

The SEP recognises the important role of the area's two cities, Peterborough and Cambridge, as major employment centres, both of which attract residents from surrounding districts who commute in. The SEP also identifies, however, that 69 per cent of employment is not in the two main urban centres but is more widely dispersed across the area's local economies.

The SEP recognised the important role of transport connectivity for the GCCP economy. Of relevance to this Scheme, rail links, frequency and capacity are identified in the SEP as one of the area's key transport problems and challenges.

The SEP set out a strategy for local sustainable transport programmes to *“develop a highly connected and efficient transport network which enables easy and reliable access to and between key employment clusters, growth areas and markets”*<sup>45</sup>. This strategy is captured within four main aims:

- An integrated and reliable transport network that enables efficient movement of goods and people.
- A highly connected and efficient rail network linking key destinations.
- Sustainable transport capacity to support and unlock growth along key corridors / hubs.
- Good and reliable access to and between the key economic clusters.

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<sup>43</sup> Strategic Economic Plan, Greater Cambridge and Greater Peterborough Enterprise Partnership, 2014

<sup>44</sup> <https://cambridgeshirepeterborough-ca.gov.uk/business-board> [Accessed 16 September 2019]

<sup>45</sup> Strategic Economic Plan, Greater Cambridge and Greater Peterborough Enterprise Partnership, 2014

The SEP stated the LEP's wish to see greater access to the rail network across Cambridge and Peterborough where a rail link or station could help unlock growth or regeneration. The SEP cites Mott MacDonald's previous work investigating the wider economic impacts of reconnecting Wisbech to the rail network through the reopening of the railway between March and Wisbech to passenger services<sup>46</sup>.

#### 2.6.4 Wisbech 2020 Vision

The Wisbech 2020 Vision project first emerged in 2012 and was formally launched in 2013 as a partnership between the leaders of Fenland District Council and Cambridgeshire County Council and the MP for North-East Cambridgeshire. The aim of Wisbech 2020 Vision is to regenerate the market town and surrounding area to make it "*a great place to work, live and visit*"<sup>47</sup>. In 2015, Wisbech 2020 Vision's original themes of 'live', 'work' and 'visit' were replaced with 'infrastructure and growth', 'town centre', 'skills' and 'education, health and wellbeing' and 'communication', reflecting a greater emphasis on the market town's social issues<sup>48</sup>.

Major initiatives, such as the idea of Wisbech Garden Town, have emerged from the Wisbech 2020 Vision project. Work on the Wisbech Garden Town project is now running separately, but in parallel, to wider Wisbech 2020 Vision initiatives.

#### 2.6.5 Wisbech Garden Town

Since the adoption of the Fenland Local Plan in 2014, proposals for extending Wisbech to create 'Wisbech Garden Town' have gained traction. A garden town is one which aims to extend an existing large town, rather than attempting to grow a new one. Evolving on from the Wisbech 2020 Vision project<sup>49</sup>, these proposals significantly exceed growth targets for new homes set out in the Fenland Local Plan. The ambition is to reverse the levels of deprivation found in the area, through the housing growth and the development of a stronger economy<sup>50</sup>.

A report by Urbed for FDC, CCC, Foster Property Developments and Anglian Water, published in 2017, sets out a future vision and strategy for Wisbech as a 'Garden Town', with plans to extend the existing footprint of the town and deliver radical improvements in the town's transport infrastructure and connectivity<sup>51</sup>. Initial proposals for the development of Wisbech Garden Town outlined in the report include 12,000 new homes (including existing allocations, see Figure 2-12), new primary schools and a second secondary school, a 170ha country park and multiple employment sites including a new Enterprise Zone to the south of the Wisbech bringing local employment opportunities. The impact of these proposals would be to nearly double the population of Wisbech over a 40 year period, with the town therefore becoming 'a major growth node for the Cambridgeshire/Peterborough Combined Authority'<sup>52</sup>.

<sup>46</sup> Wider Economic Benefits of a Rail Service Between March and Wisbech, Mott MacDonald, March 2014

<sup>47</sup> <http://www.wisbech2020vision.co.uk/>

<sup>48</sup> <http://www.wisbech2020vision.co.uk/>

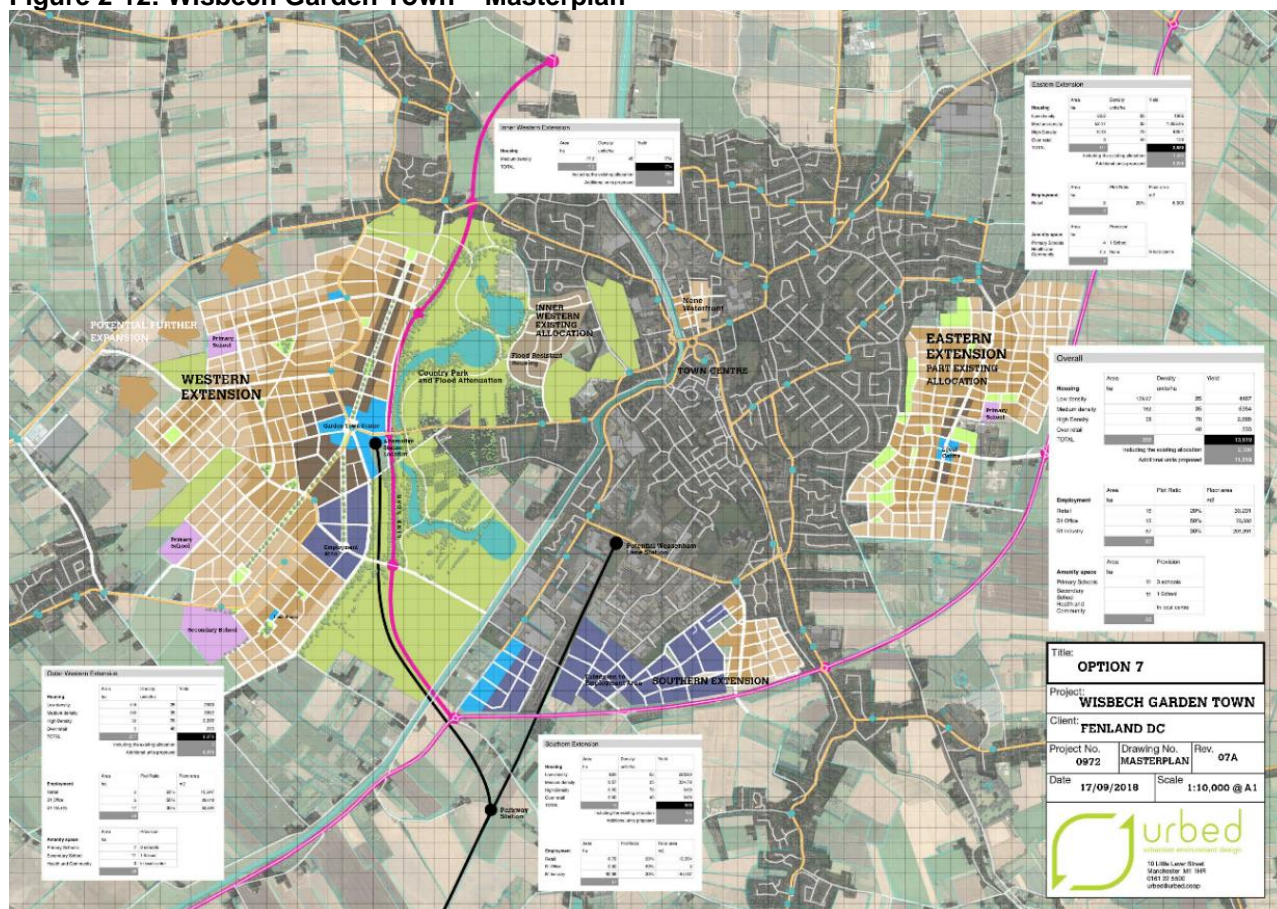
<sup>49</sup> See <http://www.wisbech2020vision.co.uk/gardentown>

<sup>50</sup> <http://www.wisbech2020vision.co.uk/gardentown> [Accessed 16 September 2019]

<sup>51</sup> The purpose of the Urbed report was to support Wisbech's bid to the Ministry for Housing, Communities and Local Government's (MHCLG) Locally Led Garden Villages, Towns and Cities prospectus.

<sup>52</sup> Wisbech Garden Town, Report by URBED and TradeRisks for: Fenland District Council, Cambridgeshire County Council, Foster Property Developments Ltd. and Anglian Water, January 2017

Figure 2-12: Wisbech Garden Town – Masterplan



Source: Urbed, September 2018

Throughout the Urbed report, the importance of the March to Wisbech transport link to Wisbech's economy is clearly articulated, both in terms of Wisbech's decline over the last half century and the necessity of its reinstatement if Wisbech is to realise ambitions for future growth and revival:

*"The key issue for the people of Wisbech is the loss its railway in 1968. A town that once had three railway stations, started to feel isolated and entered a long period of decline. There is a stark difference between the levels of affluence in the southern and eastern parts of Cambridgeshire and the deprivation of the isolated north. Bridging this divide lies at the heart of the Garden Town vision. Nowhere else is there a town with so little development pressure so close to an area of such high demand where all that is required to connect the two is 11 miles of railway."*

Source: Wisbech Garden Town, Report by URBED and TradeRisks for: Fenland District Council, Cambridgeshire County Council, Foster Property Developments Ltd. and Anglian Water, January 2017

Critically, the success of the Garden Town proposals set out by Urbed are, supported by the development of a rail link to and from Wisbech.

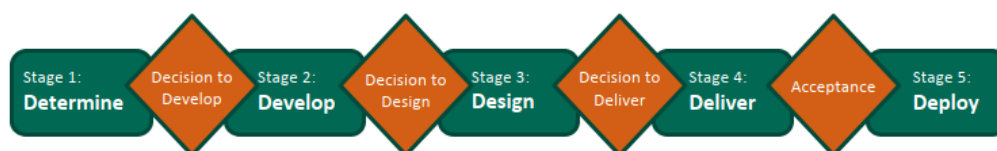
## 2.6.6 Transport strategy

### 2.6.6.1 Restoring your railway and the rail network enhancement pipeline

In January 2020, the DfT announced the opening of the 'Restoring your railway' fund<sup>53</sup>, focussing on restoring rail connectivity to communities who lost their lines and/or stations during the closures of the 1950s to 1970s, as was the case for Wisbech.

The first round of released funding is focussed on Schemes which are not at the same stage of development as proposals for reinstating rail connections to/from Wisbech. Set against the, separate but clearly related, DfT's Rail Network Enhancements Pipeline (RNEP) process<sup>54</sup>, shown conceptually in Figure 2-13, such Schemes are at Stage 1 and 2 with a key gateway around 'Decision to Develop'.

**Figure 2-13: Rail Network Enhancements Pipeline – Stages of Scheme Development**



By comparison, with this FBC, and the concurrent GRIP 3 multi-disciplinary design, proposals for the March to Wisbech Transport corridor are already advancing through Stage 3 towards the 'Decision to Deliver' gateway. Should a rail alternative emerge as the preferred option during the appraisals documented later in this FBC, then the proposals for the March to Wisbech corridor can be considered as a well developed opportunity for the 'restoring your railway' fund.

'Restoring your railway' funding is to be targeted based on:

- Socio-economic impact need (including potential housing development), and the enhanced journey opportunities created, and rail demand supported;
- Credible proposals on the services to be provided and the relationships with performance and capacity on the existing network; and
- An understanding of the delivery constraints.

This Strategic Case, and particularly Sections 2.3 and 2.7, demonstrate the socio-economic need for enhance connectivity to/from Wisbech and the wider Fenland area, including the links to development proposals. The potential journey opportunities are clear cut, with the aim of addressing the current disconnect between North and South Cambridgeshire. Potential rail demand is considered as part of the Economic Case in Section 3.4. Section 2.15.5 details proposed services, with the detailed operational analysis undertaken as part of the GRIP 3 study available as a standalone report<sup>55</sup>. While potential constraints are summarised in this FBC, a more detail analysis is provided in the accompanying GRIP 3 report<sup>56</sup>.

<sup>53</sup> Proposals for Wisbech Garden Town have since progressed to their next stage of development; the CPCA provided funding in June 2017 for the purpose of testing the viability and feasibility of the garden town proposals with an anticipated duration of two years for these feasibility studies

See: <https://www.gov.uk/government/publications/re-opening-beeching-era-lines-and-stations/re-opening-beeching-era-lines-and-stations>

<sup>54</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/877989/rail-network-enhancements-pipeline-document.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877989/rail-network-enhancements-pipeline-document.pdf)

<sup>55</sup> See: 398128-007-C-Assessment of Rail Operations

<sup>56</sup> See: 398128-009-A GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report

#### 2.6.6.2 The Cambridgeshire and Peterborough Local Transport Plan

In January 2020 the CPCA published its first Local Transport Plan (LTP) for Cambridgeshire and Peterborough. This document replaces the Combined Authority's Interim Local Transport plan that was published in June 2017.

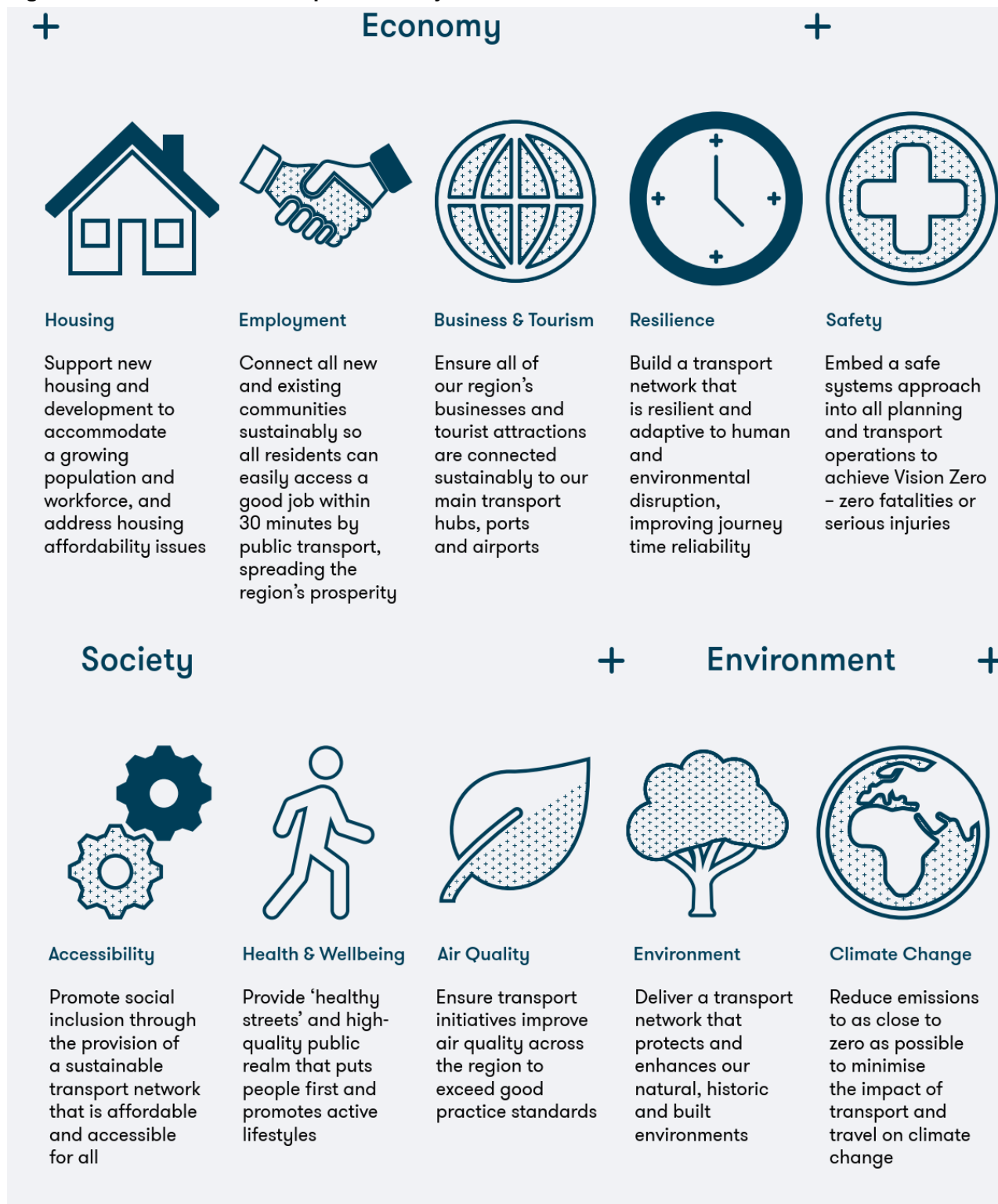
The LTP sets out the vision, goals and objectives that define how transport will support the Combined Authority's Growth Ambition, and the overarching, strategic approach to meeting these objectives. The Transport Delivery Plan summarises the projects that the Combined Authority – together with our partners – aim to deliver over the lifetime of the LTP, and the mechanisms through which they will be delivered. It describes how the Delivery Plan will be monitored, reviewed and updated over time. The LTP is also complemented by the following documents: Evidence Base; Strategic Environmental Assessment (SEA); Habitats Regulation Assessment (HRA); and Community Impact Assessment (CIA).

The Vision within the LTP is to provide:

- **A world-class transport network** – Cambridgeshire and Peterborough aspire toward a transport system of the highest quality on a global stage, which meets the needs of residents, businesses, and visitors.
- **Sustainable growth** – the network will support the delivery of future economic and housing growth across the region that enhances overall quality of life, supports the transition to a net zero carbon economy and protects or enhances the environment.
- **Opportunity for all** – the network should support access to jobs, services and education for all, irrespective of income, age, ability, location, or access to a car.

The LTP objectives are presented in Figure 2-14 below.

**Figure 2-14: CPCA Local Transport Plan objectives**



Source: Cambridgeshire and Peterborough Local Transport Plan, prepared by Steer for the Cambridgeshire and Peterborough Combined Authority, June 2019

The LTP outlines the Authority's priority transport Schemes, which are shown in Figure 2-15. The March to Wisbech transport corridor is clearly mapped as one of the priority Schemes which will transform accessibility for residents and businesses in the town.

*"Construction of a new link to Wisbech will transform accessibility to the town...Residents and businesses in Wisbech would benefit from being able to reach Cambridge directly, connecting them to the opportunities within Greater Cambridge, including well-paid, skilled roles in the knowledge economy, and education and training opportunities at The University of Cambridge, Anglia Ruskin University and Cambridge Regional College. It will also play a key role in supporting the ambition for Wisbech Garden Town, helping to secure the viability and delivery of additional development."*

Source: Cambridgeshire and Peterborough Local Transport Plan, prepared by Steer for the Cambridgeshire and Peterborough Combined Authority, June 2019, p.132

As shown in Figure 2-16 below, the March to Wisbech transport corridor is one of several complementary transport and infrastructure Schemes proposed in and around Wisbech which will help to realise the proposals and ambitions for WGT.

This map illustrates the proposed and existing rail network in the East of England, focusing on the area around Cambridge and Peterborough. The map shows various rail lines, including the A47 Corridor Improvement Programme, the A14 Cambridge to Huntingdon Improvement Scheme, and the A1 Baldock to Brampton Capacity Enhancements. Key stations and hubs are marked, such as Peterborough, March, Ely, Cambridge, and Stevenage. The map also highlights local plan allocated growth areas and infrastructure improvements like the Fenland Station Regeneration and the Ely Area Capacity Enhancements. A legend at the bottom explains the symbols for Mode (Highway, Public transport), Status (Under Construction, Committed, Proposed), and Routing (Indicative, Confirmed/existing). A scale bar indicates distances in kilometers and miles.

**Mode**

- Highway
- Public transport

**Status**

- Under Construction
- Committed
- Proposed

**Routing**

- Indicative
- Confirmed/ existing

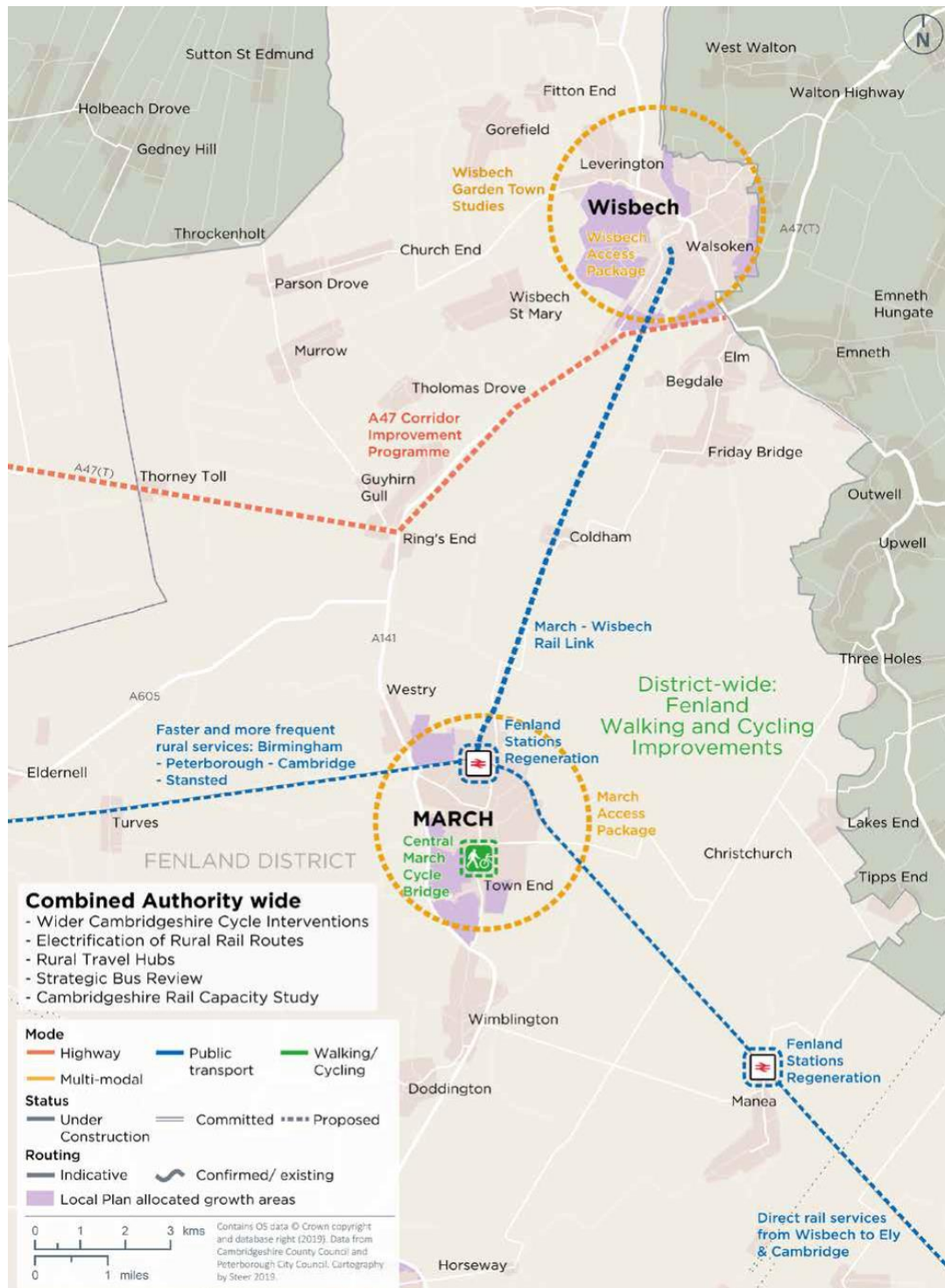
**Local Plan allocated growth areas**

0 5 10 kms  
0 5 miles

Contains OS data © Crown copyright and database right (2019). Data from Cambridgeshire County Council and Peterborough City Council. Cartography by Steer 2019.

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**Figure 2-16: Cambridgeshire and Peterborough Local Transport Plan - Summary of key project in Fenland**



Source: Cambridgeshire and Peterborough Local Transport Plan, prepared by Steer for the Cambridgeshire and Peterborough Combined Authority, June 2019

### 2.6.6.3 Long Term Transport Strategy 2011-2031

CCC, working in partnership with other agencies, including its constituent district and city councils and the CPCA, aims to provide efficient and reliable travel between key locations for its residents and employees, helping to support a thriving local economy.

This context is currently embodied in the Long Term Transport Strategy (LTTS) for the county, which covers the period 2011 to 2031 and which was last updated in November 2014. The LTTS was produced as part of the 3rd Local Transport Plan (LTP)<sup>57</sup> for the county. The LTTS sets the following strategic objectives for transport proposals:

- To ensure that the transport network supports sustainable growth and continued economic prosperity;
- To improve accessibility to employment and key services;
- To encourage sustainable alternatives to the private car, including rail, bus, guided bus, walking and cycling, car sharing and low emission vehicles;
- To encourage healthy and active travel, supporting improved well-being;
- To make the most efficient use of the transport network;
- To reduce the need to travel;
- To minimise the impact of travel on the environment; and
- To prioritise investment where it has the greatest impact.

Source: Cambridgeshire Local Transport Plan 2011-2031: Long Term Transport Strategy, Cambridgeshire County Council, July 2015

The re-instatement of the March to Wisbech rail line is identified in the LTTS as one of four locally promoted major Schemes across Cambridgeshire which is necessary to provide capacity for growth and address existing problems in the transport network.

#### Policy context - implications for the March to Wisbech Transport corridor

- National policy in the 'restoring your railways' funding recognises the adverse socio-economic impacts that the lack of rail connectivity can have on communities. Wisbech is one of the largest settlements without a rail connection in the UK and serves a significant wider hinterland. Restoring interurban public transport connectivity to the area offers a clear opportunity to connect North and South Cambridgeshire and address the socio-economic challenges in the former and growth pressures in the latter. Proposals for the March-Wisbech corridor therefore show a clear alignment with national policy and aims to rebalance growth and opportunity.
- The Devolution Deal states the importance of investing in transport and infrastructure to enable Cambridgeshire and Peterborough to realise its growth ambitions. The Deal includes direct reference to a new Fenland settlement based on garden town principles and which is aligned to improvements on the A47 and potential rail connectivity from Wisbech to Cambridge.
- The CPCA Devolution Deal aims to enable significant economic growth, building on Cambridgeshire and Peterborough economic success to date, increasing economic output by nearly 100% over 25 years with GVA increasing from £22 billion to more than £40 billion. The Deal also aims to accelerate the delivery of 72,000 new homes with £170 million investment.
- The Cambridgeshire and Peterborough Local Industrial Strategy states that demand for transportation into Cambridge has tripled since 1997/98. The future investment strategy currently in place outlines

<sup>57</sup>

See: Cambridgeshire Local Transport Plan 2011-2031: Policies and Strategy, Cambridgeshire County Council, July 2015

plans for c.£600m worth of transformative infrastructure in the area up to 2031, including Phase 1 of the CAM.

- At a more local level, Fenland's adopted Local Plan outlines targets for providing 11,000 new homes and 7,200 jobs during the plan period to 2031. 4,200 new homes are allocated in March and 3,550 homes in Wisbech. Wisbech is earmarked as a key growth area for both housing and jobs in Wisbech in the Local Plan. Like the Devolution Deal, the Local Plan also includes direct reference to the reopening the March to Wisbech rail line.
- Across the CPCA area, levels of employment could be higher than currently set out in Local Plans, as presented in a 2018 report by the CPIER. Higher levels of employment growth will add further pressure to housing markets and infrastructure, particularly in and around Cambridge. Investment in housing and infrastructure is critical to support future employment growth.
- Housing growth in Wisbech could significantly exceed current targets set out in Fenland's adopted Local Plan. Proposals for extending Wisbech to create 'Wisbech Garden Town' have gained traction since the Local Plan was adopted five years ago. Initial proposals for the development of Wisbech Garden Town set out plans for 12,000 new homes (including the existing allocations), new primary schools and a second secondary school, a 170ha country park and multiple employment sites including a new Enterprise Zone to the south of the Wisbech. If such development goes ahead, the population of Wisbech is set to double over a forty year period.

## 2.7 The Challenge

As set out in Section 2.4, north Cambridgeshire lags behind the economic prosperity of south Cambridgeshire. Whilst the latter suffers from housing affordability and labour supply issues which may constrain growth, residents in north Cambridgeshire face challenges relating to labour market access and connectivity with constrained travel opportunities. The main challenges which the Scheme aims to address are described in more detail below.

### 2.7.1 Wisbech labour market access and connectivity

Access to opportunities for Wisbech's local residents has been constrained, by limited inward business investment as well as both a lack of attractive public transport provision and increased congestion on the highway network, with the former helping to feed the deterioration in conditions on the latter. Set against this backdrop of constrained travel opportunities have been fundamental changes in the local and sub-regional (CPCA area) economies. As summarised in Section 2.4, this has entailed an increased focus of higher value employment and overall jobs growth in the major regional centres, and a concurrent lack of opportunities in the smaller settlements and more rural areas. The changes in economic patterns and accessibility constraints present a double-edged sword for certain areas of the county, constraining growth and fostering inequality.

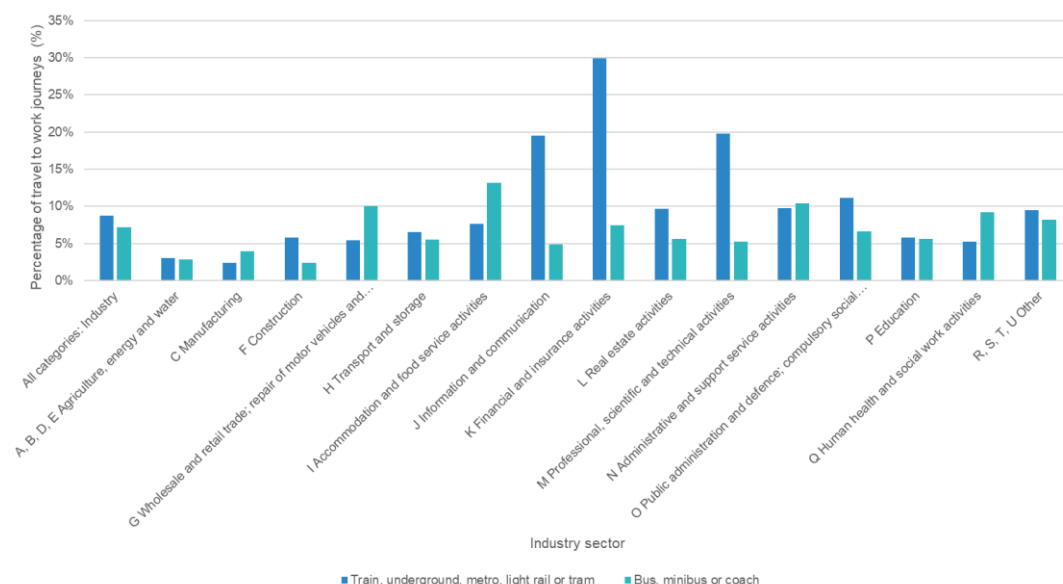
This Scheme presents the opportunity to address this challenge by supporting inward investment locally. Proposals for extending Wisbech include plans for multiple employment sites including with a new Enterprise Zone to the south of the Wisbech which could bring significant local employment opportunities. Such proposals would be supported by the development of a rail link to and from Wisbech.

This Scheme further presents the ability to improve labour market access to Cambridge and its high-growth economy. Whilst Peterborough is closer to Wisbech in physical proximity, and arguably the natural orientation of Wisbech is towards Peterborough and Kings Lynn, the employment sectors which predominate and are growing in Cambridge are more suited to rail and clustering in city centres. As shown in Figure 2-17, for example, based on 2011 census data for the Eastern region of England, 20% of people working in the professional, scientific and

technical activities (which accounts of 23.8% of Cambridge's total employees) travel to work by rail, compared to 10% in working in administrative and support service activities or just 5% in the wholesale and retail sector. The types of jobs Peterborough has, and is attracting, are more dispersed and better accessed by highway or bus. Peterborough's draft Local Plan, for example, which covers the period to 2036, identifies significant pressure for development from the logistics industry which aims to take advantage of the city's location beside key north-south and east-west road links (A1 and A47)<sup>58</sup>.

Re-establishing a transport corridor between March and Wisbech, and thereby facilitating better access from Wisbech to Cambridge, would help to draw Wisbech into Cambridge's labour market. This is enabled to a greater extent by some of the options proposed, which in addition to re-establishing a transport corridor between March and Wisbech could also strengthen the level of service provision from March and Ely to Cambridge and Peterborough. Furthermore, through improving access from Wisbech to Cambridge, the Scheme will help ease Cambridge's housing burden, as described in more detail below.

**Figure 2-17: Propensity to travel to work by public transport by industry – East region**



Source: Census 2011, ONS

## 2.7.2 Housing constraints

*“Greater Cambridge partners recognise that an appropriate mix of housing is vital to economic growth. The area's economic success and high quality of life have made it an attractive place to live and work. However, the shortage of available, and affordable, housing within a reasonable distance of key employment centres has driven an unsustainable increase in house prices, which in turn affects the recruitment and retention of talented employees.”*

Source: Greater Cambridge City Deal, Deputy Prime Minister's Office, June 2014

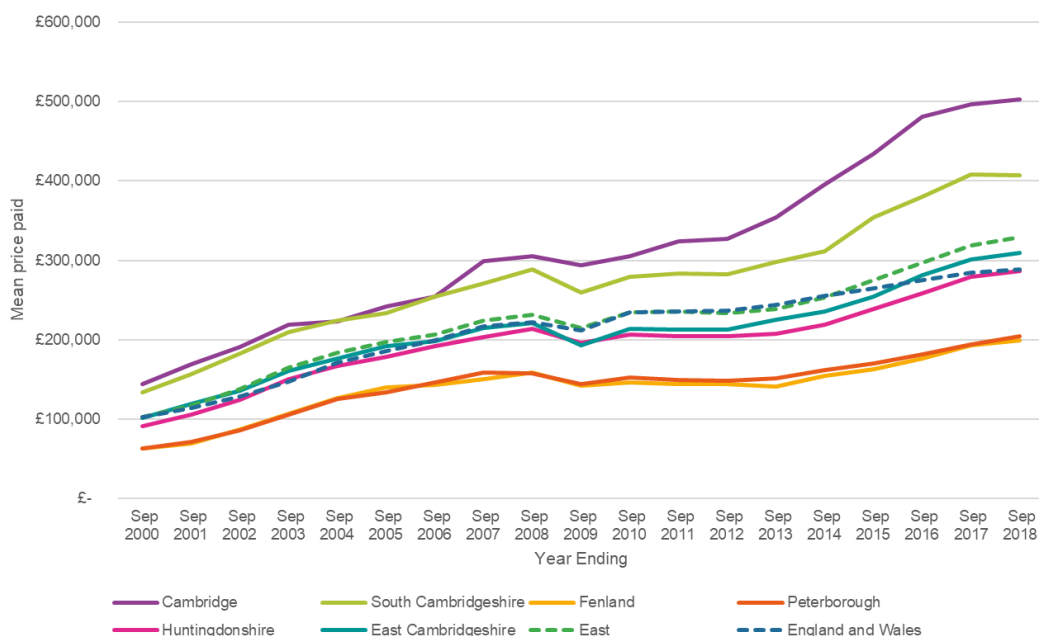
<sup>58</sup> Draft Peterborough Local Plan, Peterborough City Council, 2019

Cambridge's economic success and high average wages are reflected in the city's house prices. Cambridge was one of the UK's least affordable cities for housing in 2018, with a house price affordability ratio of 15.6, behind only London (17.3) and Oxford (16.7)<sup>59</sup>. Alongside its economic success and high wage economy, house prices are driven upwards by supply side constraints which stem from the city's tightly defined local authority boundaries and greenbelt.

Like Cambridge, surrounding South Cambridgeshire also has very high house prices, with both districts experiencing some of the fastest housing price growth in England and Wales over the last decade. House prices in Fenland and Peterborough, in contrast, have been consistently much lower (and below the England and Wales average), as shown in Figure 2-18, reflective of lower supply-side constraints and local labour market composition.

Cambridge and South Cambridgeshire's high house prices mean that people are increasingly travelling from further afield to work in the greater Cambridge labour market. This presents an opportunity for Wisbech and its Garden Town proposals to help meet some of this demand.

**Figure 2-18: Average house prices, 2000-2018**



Source: House Price Statistics for Small Areas (HPSSA) Dataset 14. Mean price paid for administrative geographies (existing dwellings), ONS, March 2019. Data is for year ending September 2000 to year ending September 2018.

<sup>59</sup> Centre for Cities, Cities Outlook 2019, 2019.

### Labour market access and housing constraints summary - what this means the March to Wisbech transport corridor

- Greater Cambridge's economic success is putting pressure on its housing market. Very high average house prices are in turn pushing its workforce further out of the city to more affordable housing and increasing levels of commuting into the city.
- Economic projections are by no means certain but there is growing evidence that Local Plan targets across the CPCA area are pessimistic and that much higher growth is likely. Much higher growth would add even more pressure on the area's housing supply and infrastructure. Investment in housing and infrastructure is critical to support future employment growth.
- Whilst house prices in Fenland are much lower than those in greater Cambridge, in theory making Wisbech an attractive option for commuters priced out of the Cambridge market, poor public transport provision and congestion on the highway network are already constraining access for existing Wisbech residents to employment opportunities in both Cambridge and Peterborough. These challenges mean that Wisbech, for many people, is not currently a viable option for commuting to Cambridge.
- The development of Wisbech Garden Town could also help to ease Greater Cambridge's housing burden with up to 12,000 new homes proposed in the market town which would be supported if Wisbech can be successfully integrated into Cambridge's commuter belt, enabled by improved infrastructure and transport connections.
- The March to Wisbech Transport Corridor Scheme presents the opportunity to re-connect Wisbech into the Greater Cambridge labour market.

## 2.8 Drivers of Change

There is a core need to improve the accessibility to employment and other key opportunities and services for existing local residents in the Wisbech area, helping to increase economic activity, incomes and well-being. It is considered extremely unlikely that improvements to the highway network alone will be capable of delivering this, due to low levels of car availability amongst some target groups and road traffic congestion on key routes to sub-regional hubs and centres.

In addition, as set out in section 2.6.2, substantial housing and employment growth is envisaged in the Fenland Local Plan for the period 2012 to 2031 and as part of Wisbech Garden Town proposals.

Regardless of the ability to provide a combination of more housing and corresponding local opportunities for employment, education etc., failures to improve local accessibility to and from these areas runs the risk of constraining this growth, and/or exacerbating congestion on the sub-regional highway network and the other adverse impacts associated with increased road traffic. Increases in highway capacity alone are unlikely to be sufficient to cater for the additional volume of travel demand produced by this scale of development.

Historic growth in employment across the sub-region, and future aspirations set out in the SEP and CPCA Spatial Plan, provides a clear picture on where economic opportunities currently, and will, lie. These include:

- Peterborough centre;
- Ely;
- Alconbury;
- Waterbeach and Cambridge Science Park;
- Cambridge Biomedical Campus (Addenbrooke's); and

- Cambridge centre (station area).

These centres and hubs require access to a suitably qualified, expanded, labour force, which in turn requires access to housing and services. This will necessitate an increase in their travel-to-work catchment areas; as such expansion cannot be accommodated within their existing boundaries without erosion of the green belt.

## 2.9 Interdependencies

There are a number of related proposals which will either have a direct influence on the proposal and/or generate interdependencies. Where these proposals are sufficiently committed they are incorporated in the DM scenario (see Section 3.3).

### 2.9.1 Rail proposals

Two potential enhancements are particularly relevant for rail-based options in the March to Wisbech corridor:

- Re-signalling of the Ely and Cambridge area. This will result in a number of crossing boxes and smaller signalboxes being closed, and authority for train movements transferred to Cambridge Power Signal Box. The current proposal is for the Scheme to be delivered during NR's Control Period (CP) 6 (2019 to 2024) or 7 (2024 to 2029). The exact details are pending confirmation from NR, but the working assumption is that the Scheme will involve the closure of March East and March South signalboxes. This Scheme is included in the DM scenario, and avoids costs associated with re-signalling at March east signalbox.
- The Ely Area Capacity Enhancement (EACE) Scheme. Network Rail, working with the DfT and local and sub-regional transport authorities, have been developing proposals for enhancing capacity and resilience in the Ely area<sup>60</sup>. Ely North junction is a critical constraint on the network, and services between Wisbech/March and Cambridge need to operate through the junction. In addition to this junction, the Scheme also seeks to address constraints across a wider area, including the level crossings between March and Cambridge. This Scheme is currently at the SOBC stage and enhancements have been provided which would increase the number of paths in each direction to 11 or 13/14 trains per hour (tph). Potential paths for Wisbech to Cambridge services would be likely to be constrained under the 11tph to a maximum of one, whereas the 13/14tph EACE proposal should permit 2tph between Wisbech and Cambridge in each direction. In all cases the proposals for the March to Wisbech corridor would need to be weighted against other passenger and freight pathing needs and requests. For the DM we have assumed that 2 paths are available through the Ely area.

Previous proposals have included electrification of the line between Ely and Peterborough, as part of the Felixstowe to Nuneaton Scheme. If a rail-based Scheme between March and Wisbech is advanced as a result of this study then there could be substantial efficiencies, and the potential for additional benefits from the type of stock deployed and increase in paths, if this link was also electrified and operated using Electric Multiple Units (EMUs). However, this proposal is not sufficiently committed to be included in the DM.

Potential rail services to/from Wisbech are only one of a number of proposed service enhancements on the Anglia rail network. Other proposals also exist to:

<sup>60</sup> <https://www.networkrail.co.uk/running-the-railway/our-routes/anglia/ely-area-capacity-enhancement-Scheme> [Accessed 28 April 2020]

- Provide a half hourly service in each direction between Norwich and Cambridge via Ely;
- Provide an hourly service between Ipswich and Peterborough (now committed and reinstated after the route was suspended in 2019 and included in the DM); and
- Enhance the Birmingham to Stansted service to half hourly in each direction.

As noted previously, given known pathing constraints in the area, all of the above conflict with options which involve services on the existing rail network beyond March.

Separately, proposals for a new station, Cambridge South, to serve the expanding Biomedical Campus (including Addenbrooke's Hospital) and new residential development, are also well advanced. Provisional funding was allocated by UK Government in the March 2020 budget, with opening programmed for 2025<sup>61</sup>. Pending outcomes of more detailed operational analysis to understand what services would eventually call at the station, this Scheme is considered likely to further enhance the attractiveness of rail and the potential for new links between March and Wisbech to provides a step change in accessibility to the major opportunities and services in South Cambridgeshire.

Sensitivity testing is set out in this business case (see Section 3.9.2) around options with interdependencies, i.e. in the form of reduced service patterns through Ely North Junction on the assumption that the desired number of paths may not be available.

## Freight Market

The potential market for freight services has been considered, with the line having been kept open for these purposes to 2000. A more detailed assessment of the freight market and its relevance to the March to Wisbech Transport Corridor is set out as part of the OAR in Appendix A. The OAR concluded that freight is not deemed financially viable. While sufficiently sized markets may emerge in the future, and the Scheme design should not, as far as reasonably practicable, preclude future provision of freight facilities at Wisbech, the current business case development processes has proceeded on the working assumption that rail freight services will not be delivered on the March-Wisbech corridor.

### 2.9.2 A47 proposals

There is a concurrent study into the A47(T) which is likely to identify enhancements to this route which run to the south of Wisbech. This would deliver journey time savings to car travel, and potentially bus travellers. However, for the purposes of this study these enhancements are not 'committed' and have therefore not been factored into the development of this business case.

There are a number of major Scheme interventions proposed on the A47 running from Great Yarmouth in the east to Sutton in the west<sup>62</sup>. The A47/A141 Guyhirn junction project between March and Wisbech is the most relevant for this Transport Corridor Scheme. The project is needed as the junction experiences heavy congestion during peak hours. The current issues are the roundabout capacity, the lack of lane space and poor visibility on the roads as drivers approach the roundabout. Proposed future developments in the area will exacerbate the capacity issues. Among a number of aims, the highways Scheme seeks to support and facilitate planned and future development growth. The Scheme is currently proposed to be open for traffic in 2022 with a cost estimate of up to £25m<sup>63</sup>.

<sup>61</sup> <https://www.networkrail.co.uk/running-the-railway/our-routes/anglia/cambridge-south-station> [Accessed 28 April 2020]

<sup>62</sup> A47 corridor improvement programme, Highways England - <https://highwaysengland.co.uk/programmes/a47-corridor-improvement-programme/> [Accessed 14 April 2020]

<sup>63</sup> A47 Guyhirn junction, Highways England - <https://highwaysengland.co.uk/projects/a47-guyhirn-junction/> [Accessed 14 April 2020]

### 2.9.3 Wisbech Access Strategy

The Wisbech Access Strategy<sup>64</sup> (WAS) is a package of Schemes aiming to enhance accessibility and support delivery of housing aspirations in the Fenland Local Plan. WAS objectives are to:

- Enable housing and employment growth in Wisbech;
- Enable and encourage sustainable modes;
- Provide an efficient, safe and secure network for all; and
- Sustain and enhance the environment.

Emerging proposals are split over three phases. Funds were provided by the Government Growth Fund to deliver a set of short-term Phase 1 Schemes and undertake more detailed design work on the Phase 2 and 3 Schemes.

The most pertinent project for the March to Wisbech Transport Corridor Scheme in the WAS proposals is for the Southern Access Road (SAR). Two outline designs have been progressed for SAR - both with (see Figure 2-19 below) and without the re-opening of the March to Wisbech Transport Corridor for a segregated public transport alignment. The SAR aims to enable the proposed industrial and commercial development in the south of Wisbech from the Fenland Local Plan. The 'with rail' plans would see the removal of the rail crossing at New Bridge Lane between the A47 and Weasenham Lane. In totality, both SAR proposals aim to reduce the pressure placed on Weasenham Lane by existing and development related traffic. With certain potential station location options for the March to Wisbech Transport Corridor Scheme, traffic in Weasenham Lane would reduce accessibility to new public transport services. Additionally, depending on the mode and associated requirement for level crossing works (or a new overbridge), traffic on Weasenham Lane may be subject to delays.

Given the early stage nature of these proposals, the SAR has not been included as a committed Scheme in this study.

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<sup>64</sup> See: <https://www.cambridgeshire.gov.uk/transport-funding-bids-and-studies/wisbech-access-strategy/>

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Overarching these are some policy objectives which align with one or more of the above.

**Table 2.8: March to Wisbech Transport Corridor Detailed Scheme Objectives**

ID	Impact	Objective	Source(s)
A(i)	Economic	Provide enhanced access to new employment and training opportunities, which will help to raise educational attainment, skills and average incomes/GVAs per capita in and around Wisbech; in particular Alconbury Weald Enterprise Campus, Local FE colleges, Higher Education establishments, and strategic employment sites in Peterborough centre, Ely, Alconbury, Waterbeach, Cambridge Science Park, Cambridge Biomedical Campus (Addenbrooke's) and Cambridge centre (station area), by reducing travel time(s) and cost(s)	GC&GP SEP; Cambridgeshire LTTS
A(ii)		Provide enhanced connections for new or future businesses (inward investment) in the Wisbech area, with respect to access to labour, supply chains, customers and supporting services, supporting inward investment, by reducing travel time(s) and cost(s) to the major regional centres	Fenland Local Plan 2014
A(iii)		Help regional employers gain access to an enlarged and suitably skilled workforce, specifically in the employment growth areas of Cambridge centre (station area), Cambridge Biomedical Campus (Addenbrooke's), Cambridge Science Park, Ely, Waterbeach, Peterborough and Alconbury in Greater Cambridge and Greater Peterborough area	GC&GP SEP; Wisbech 2020 Vision; Cambridgeshire LTTS
A(iv)		Support the delivery of housing and employment land in Wisbech and March as envisaged in the Fenland Local Plan, by attracting, and bringing forward, inward investment due to better connectivity	Fenland Local Plan 2014
A(v)		Address the current deficit in transport infrastructure across Cambridgeshire which is required to align with significant growth aspirations of the CA and prevent deterioration to the quality of life which will result if this growth is not matched by the means of achieving it in sustainable way through better infrastructure.	Cambridgeshire and Peterborough Independent Economic Review
A (vi)		Increase capacity for rail travel across Cambridgeshire and Peterborough and create better connectivity to meet the needs of travel demand which is expected to grow by 28% in Cambridge and 30% in Peterborough up to 2031.	CA Spatial Plan
B (i)	Environmental	Provide an attractive, sustainable, alternative to the private car on key local movements, helping to reduce current and future vehicle-kms, congestion and resulting emissions	Fenland Local Plan 2014; Cambridgeshire LTTS
C (i)	Societal	Provided enhanced access to key medical facilities, colleges, universities, and leisure/retail opportunities, through improved connectivity to major regional centres and facilities (e.g. Peterborough, Cambridge and King's Lynn)	Fenland Local Plan 2014; Cambridgeshire LTTS
C (ii)		Provide enhanced access for specific local groups; in particular young people Not in Education, Employment or Training (NEET), low income households, those with Level 2 qualifications or lower, and those on incapacity benefits	Fenland Local Plan 2014
D (i)	Policy	Enable the delivery of the Wisbech Garden town proposals which are enhanced by the provision of a rail link, and provide sustainable access to 11, 500 additional homes, 97 hectares of employment space and 4 new schools.	Wisbech Garden Town
D (ii)		Support the Town & Country Planning Act (TCPA) Garden Town Principles in relation to Wisbech Garden Town which states Garden Cities should be designed to encourage walking, cycling and low-carbon public transport and should be located 'only where there are existing rapid public transport links to major cities, or where plans are already in place for their provision.	Wisbech Garden Town
D (iii)		Support key components of the Wisbech Garden Town Vision to create:	Wisbech Garden Town

ID	Impact	Objective	Source(s)
		'A connected town' which is supported locally and generates the values needed to regenerate the town; and 'A sustainable community' that is not predicated on car use and has within it, an integrated system for public transport.	
D (iv)		Support the key recommendations outlined within the CPIER including: Increasing the level of infrastructure investment to create better places; and Developing a package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge which should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term.	CP CA Spatial Plan
D (v)		Support the aspirations and key principles of the Combined Authority Spatial Plan which include: Working with planning authorities, developers, Homes England and other agencies to ensure the effective delivery of the strategic housing sites; Developing and maintaining a long-term investment programme of infrastructure projects Working with local planning authorities to assess the need for and delivery of infrastructure to address future environmental sustainability; Taking a positive view of, and prioritising, investment that tackles deprivation and which increases sustainable, inclusive growth in disadvantaged areas of Cambridgeshire and Peterborough; Work with neighbouring authorities through their strategic partnerships and national initiatives to ensure a complementary, integrated approach to growth and to optimise investment opportunities to achieve mutually beneficial outcomes; Embrace positively the need to build new homes, create jobs, and improve infrastructure; Embrace positively the need to build new homes, create jobs, and improve infrastructure potentially along key dedicated public transport routes; Work with neighbouring authorities, Government, and other partners to develop strategic connections between areas; and Be an exemplar of low carbon living, efficient use of resources, sustainable development and green infrastructure.	CP CA Spatial Plan
E (i)	Financial	To minimise long term commitments for public revenue support	

Source: Mott MacDonald, OAR, see Appendix A

For the purposes of option sifting, these objectives have been distilled to those in Table 2.9.

**Table 2.9: March to Wisbech Transport Corridor Distilled Scheme Objectives**

ID	Impact	Detailed Objectives	Detail
A	Economy	A i), iii) and vi)	Improve access to key employment and education sites (Alconbury, Peterborough Centre, Ely, Cambridge Science Park, Cambridge Biomedical Campus & Cambridge Centre)
	Economy	A ii), v) and vi)	Improved connectivity to major centres for inward investment to Wisbech (Cambridge, Peterborough, London and Stansted Airport)
	Economy	A iv), v) and vi), D i), iv) and v)	Support delivery of housing - Fenland Local Plan and Wisbech Garden Town which allows key employment locations to continue to grow
B	Environmental	B i) and D ii), iii) and v)	Help to support economic growth in a sustainable manner by providing an attractive alternative to car travel, reducing associated externalities
C	Social	C i) and ii), and D v)	Improve local access to key services, e.g. medical facilities, colleges and universities (located in major

ID	Impact	Detailed Objectives	Detail
			centres, e.g. Cambridge, Huntingdon, King's Lynn and Peterborough)
	Social	D iii)	Support the regeneration of the town centre and existing urban area
D	Financial	E i)	To minimise long term commitments for public revenue support

Source: Mott MacDonald, OAR, see Appendix A

## 2.11 Critical Success Factors

There are a number of critical factors to the success of the Scheme, including that:

- Sufficient passengers are attracted to the service to deliver tangible 'on the ground' impacts and Value for Money (VfM). The attraction of passenger demand will be demonstrative of both greater connectivity to opportunities for March and Wisbech residents, and also enhanced capacity to and from the regional centres to support their growth;
- Construction scope and costs are controlled to ensure that the Scheme remains achievable and affordable and that VfM is maximised;
- The Scheme is feasible and deliverable given suppliers' capacities and capabilities, drawing in findings from parallel design and feasibility works;
- Interdependencies with other potential investment are recognised, ensuring that joint benefits are maximised and the Scheme is deliverable as part of wider enhancement programmes, including industry resources;
- If rail-based, that additional services do not create adverse performance impacts on the wider network;
- If rail-based, that the Scheme provides passengers with a perception that they are part of the National Rail network, including whether through ticketing is provided and the quality of the interchange at March Station;
- The Scheme maximises its visibility and accessibility to local residents and businesses. There have been significant changes in land use in and around Wisbech since the closure of the passenger rail line in the 1960s which make the successful reintegration of the line and a new station more difficult. Lack of visibility and accessibility are likely to diminish attractiveness and therefore success; and
- That the Scheme is, in the longer term, capable of supporting changes in the location of activity, in terms of both where people live and where they work, through its quality and level of service. Simply, the Scheme needs to provide an attractive enough level of service to help stimulate regeneration and economic development.

## 2.12 Measures for Success

Translating the Scheme objectives into tangible, measurable, measures would include long-term monitoring of trends in:

- **Traffic flows** in order to understand change in traffic flow on highways between March and Wisbech.
- **Journey times** to understand time saving benefits of new transport corridor for trips to March and Cambridge, including comparison of car and train times.
- **Stakeholder feedback** to understand views of stakeholders on Scheme delivery and impacts and understand some of the less quantified effects e.g. satisfaction.
- **Use of rail service** to understand the use of the new service from both March and Wisbech.

- **Mode share for journeys** to work to understand if the new rail service is being used for journeys to work.
- **Accessibility to key employment sites** to understand increase in population within journey time threshold of key employment sites.
- **Carbon impacts/noise/local air quality** to understand the environmental benefits that the Scheme brings to the area.
- **Social deprivation** to understand if deprivation levels have changed in Wisbech.
- **Accidents** to understand if the Scheme has had any impact on accidents in the vicinity of existing and new stations.
- **Level of financial subsidy** to ensure long term commitments for public revenue support are minimised.

The public transport intervention will only be one component in a host of factors which will determine future economic prosperity and social well-being in the study area, making attribution to the Scheme itself difficult in an objective manner. Stakeholder consultations will be critical to the evaluation programme for the Scheme, as well as the tracking of other major influences on the evaluation measures.

Based on the strategic importance of supporting local economic development, measures for quantifying success against the objectives in Table 2.8 could therefore include:

- Total rail demand to/from Wisbech, broken down by:
  - Purpose (particularly commuting and employer's business) – A(i), A(ii), and A(iii);
  - Attraction stations for commute journeys (has the Scheme supported expanded travel-to-work horizons amongst the resident population) – A(i);
  - Socio-demographic groups (are the services used by more/less/the same target groups) – C(ii);
- Road traffic levels on key routes affected by the Scheme, e.g. A47(T), A141, A1101, A141 and A10 – B(i);
- Delivery of local housing in Wisbech – A(iv);
- Delivery of local employment land in Wisbech – A(iv);
- Local GVA and GDHI statistics – A(i); and
- Changes in employment and NEET statistics, particularly in relation to young people – A(i), C(i) and C(ii).

## 2.13 Scheme stakeholders

### Promotion

The main local stakeholders are the CPCA as the Scheme promoters and the main strategic transport planning authority affected by the options, CCC, as the main strategic highway authority affected by the options, FDC, as the local district authority with planning powers, and local landowners and businesses. It is expected that the Scheme, subject to the gateway decisions on the FBC and the GRIP reports, would be taken forward through the emerging CPCA assurance framework and major Schemes programme.

Both CPCA and CCC have been engaged throughout the option generation, sifting and appraisal stages via a series of workshops.

The Office for Rail & Road (ORR) have also been engaged and contributed to the evidence base and assumptions for the study, particularly with regard to the status of the level crossings between March to Wisbech.

A stakeholder workshop was held in Wisbech on 7th January 2015 for the OBC to explain the process of Business Case development and discuss the options for the Scheme. Attendees were supportive of the objectives for the Scheme, with the focus of the discussion falling on the practicalities of the different station sites.

A second stakeholder workshop was held in London on 09 March 2020 for the FBC. Attendees included representatives from CCC and CPCA, Network Rail, the DfT, and the ORR. The presentation and discussion included a summary of the Scheme rationale, anticipated benefits, project interdependencies, option development and appraisal and the project funding and delivery options. The remit, timescales and next steps of the FBC and project cycle were also discussed.

## Delivery

Given the range of model options being considered, and the recent Hansford Review of the UK rail industry<sup>65</sup>, there are multiple paths to Scheme delivery:

- If a National Rail, or similar, option is progressed, Network Rail may be the delivery body. Other options for delivery for a heavy rail Scheme may exist, including CPCA taking the lead for the reinstatement works or a private-sector third party;
- Lighter rail, bus-based, and other options between these, would be led by CPCA and partners such as CCC; and
- Walk or cycle options may be most effectively progressed by CCC in partnership with FDC.

Regardless of whether Network Rail or another body delivered a reinstated rail option between March and Wisbech, there will be a need to engage with Network Rail regarding connections at March and any aspirations for onward operation on the existing network beyond this location.

Network Rail have been engaged during the FBC and concurrent GRIP3 study, including incorporation of latest outcomes from the EACE study.

Four franchises currently serve the area:

- Abellio Greater Anglia;
- Govia Thameslink
- East Midlands Trains; and
- Arriva Cross Country.

Abellio Greater Anglia are operators of March Station, albeit this is a function of geography rather than service levels, with Arriva Cross Country the main service provider. It is recognised though that delivery timescales mean that it would be the next incumbent at that franchise which would be affected.

For bus options, First Essex, Suffolk and Norfolk, the operator of the current XL service between Peterborough and Norwich, via Wisbech, has been informed of the study at OBC stage and contributed to the analysis.

The extension of the line to a site in close proximity to Wisbech town centre would necessitate crossing the A47(T). CPCA are undertaking a concurrent study for this route, and their

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<sup>65</sup> See: <http://www.cepa.co.uk/userfiles/The-Hansford-Review.pdf>

consultants and Highways England (HE), will be kept informed of the emerging findings from this study.

Discussions have also been held by the CPCA representatives promoting the Wisbech Garden Town concept.

A dedicated Delivery Strategy has been developed for the Scheme preferred option as part of this FBC (see Appendix C).

## 2.14 Scope of Project

This study has investigated options for improving accessibility by public transport to and from the town of Wisbech, Cambridgeshire, particularly in relation to the case for improved connectivity to, firstly, March, and from there, to the major regional centres of Cambridge and Peterborough and beyond to major destinations such as London and Stansted Airport. The options also, to varying extents, provide benefits to other settlements, as they would be served by the additional public transport provision. The focus is on passenger provision, but the market for freight is also considered in terms of the cost differential.

The study does not explicitly consider or appraise options for the highway network, although a strong degree of interaction with the concurrent study on the A47(T), which runs to the south of Wisbech, is noted. After detailing the options appraisal process, Section 2.15.5 presents the scope of the Scheme's Preferred Option.

## 2.15 Options Considered

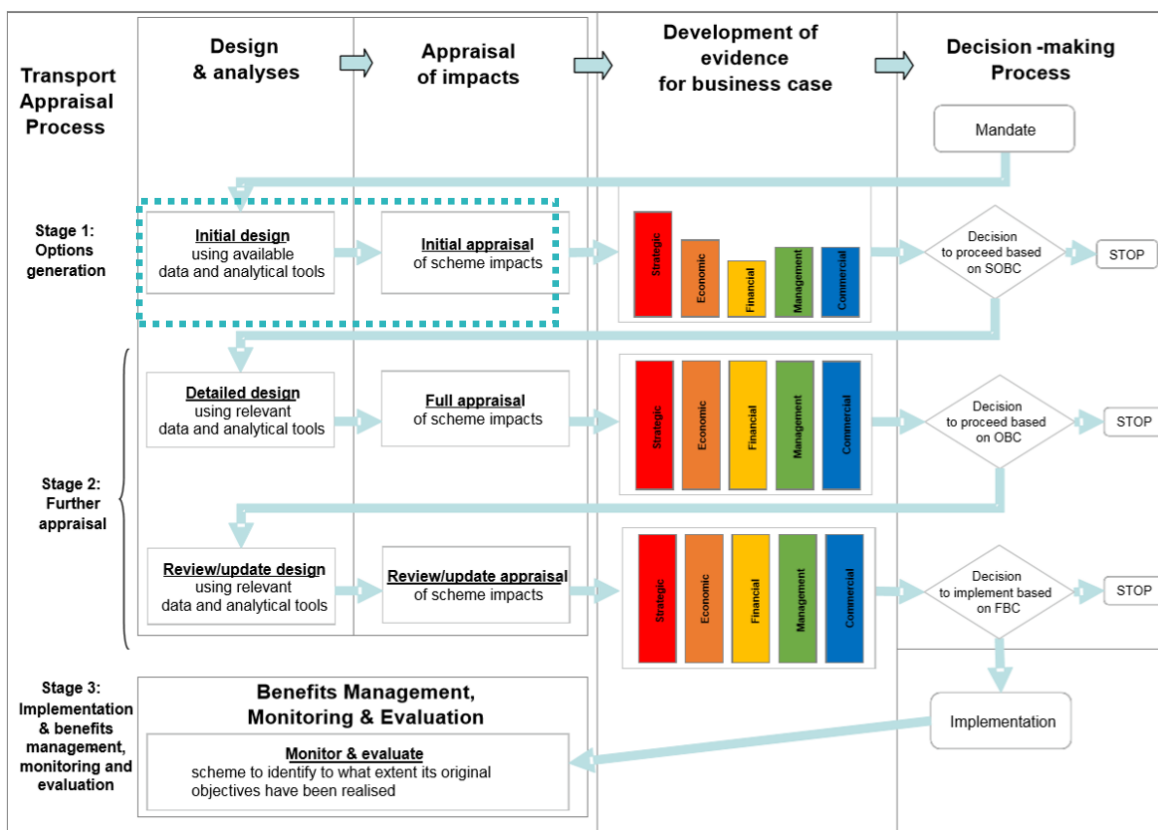
The Options Assessment Report (OAR), dated November 2019, documents the steps highlighted in Stage 1 of Figure 2-20. This is contained within Appendix A. Previous SOBC and OBC<sup>66</sup> stages had already undertaken an option generation, sifting and appraisal process. Given the lag between the OBC and this FBC, this process has been comprehensively refreshed.

This lag has necessitated the SOBC and OBC 'long list' to be revisited alongside the Scheme objectives (see Section 2.10), and pre-existing economic assessments. The OAR therefore advanced the option development to a comparable stage as would be expected at the end of the OBC, i.e. an economic assessment of a preferred option and other shortlisted alternatives, sensitivity testing around this to reflect key uncertainties, and a low-cost alternative.

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<sup>66</sup> See: [https://www.cambridgeshire.gov.uk/asset-library/imported-assets/March\\_to\\_Wisbech\\_Rail\\_Link\\_\\_\\_Outline\\_Business\\_Case\\_v1.3.pdf](https://www.cambridgeshire.gov.uk/asset-library/imported-assets/March_to_Wisbech_Rail_Link___Outline_Business_Case_v1.3.pdf)

**Figure 2-20: Transport Appraisal Process**



Source: Department for Transport, TAG for the Technical Project Manager

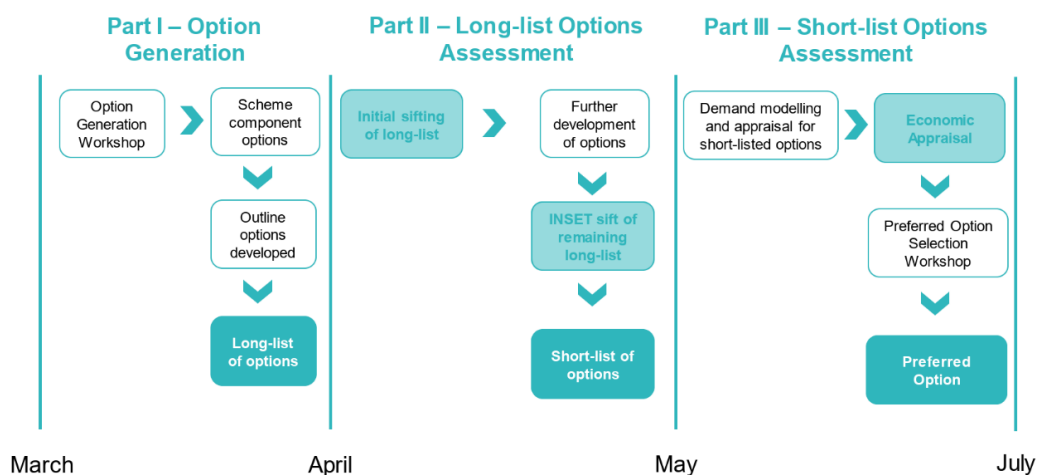
Further FBC stages evolved the appraisal of the preferred option(s), building on the complementary design workstreams<sup>67</sup>. This led to changes in the economic assessment as initially detailed within the OAR.

### 2.15.1 Option Appraisal Overview

The OAR undertook a detailed option appraisal approach (see Appendix A). An overview is provided in Figure 2-21.

<sup>67</sup> Governance for Railway Investment Projects (GRIP) stages for the National Rail alternative(s).

**Figure 2-21: March to Wisbech Corridor Study FBC – Option Assessment Process**



Source: Mott MacDonald. Part I option generation details are provided in Appendix A.

### 2.15.2 Sifting workshops

The option generating, sifting and appraisal has been led by Mott MacDonald. This included an initial workshop on 8<sup>th</sup> April 2019. The outcomes of this workshop were then reviewed as part of a client workshop, with representatives of the CPCA and CCC, on 29<sup>th</sup> April 2019.

Following additional analysis and Scheme development, a series of further workshops were held on:

- 8<sup>th</sup> July 2019;
- 16<sup>th</sup> July 2019; and
- 22<sup>nd</sup> July 2019.

These workshops focussed on the selection of the preferred mode, and in continuously updating levels of certainty around key assumptions and risks. Appendix A contains full details of these processes. A synopsis follows in subsequent sub-sections.

### 2.15.3 Part II – Long-list Options Assessment

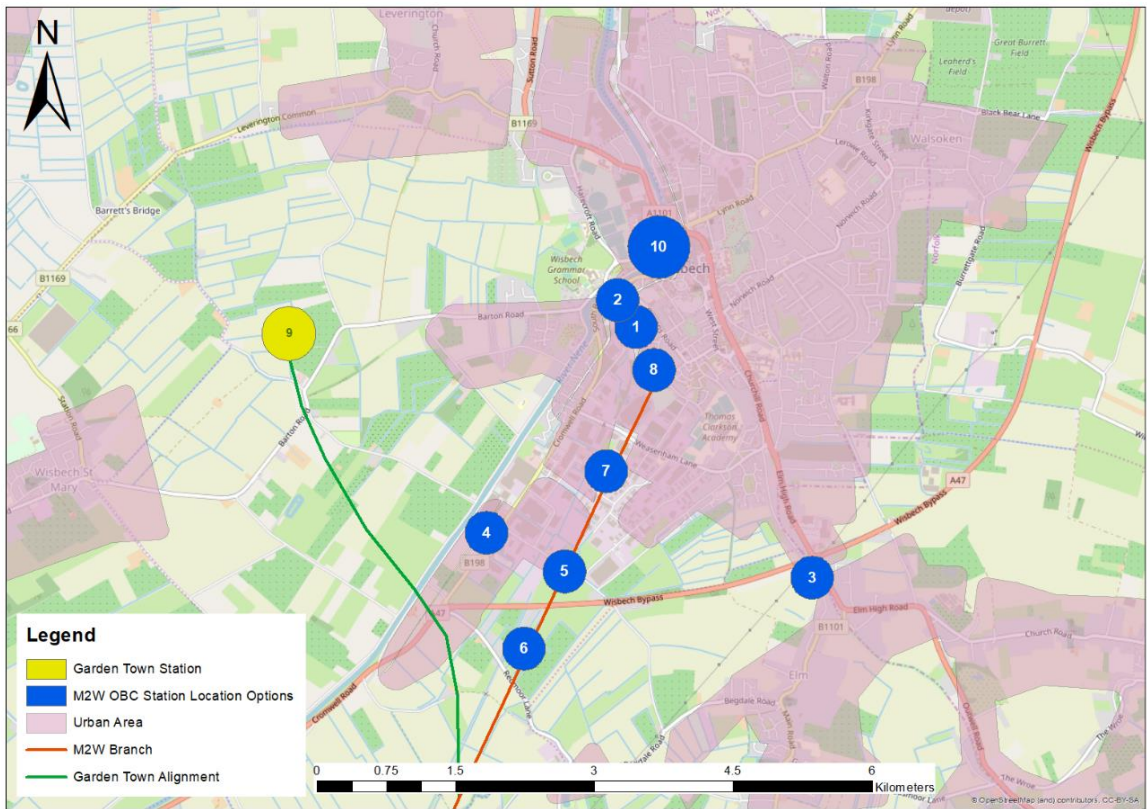
The initial Part I option generation left the potential combinations of Scheme components in Table 2.10 to Table 2.12 (IDs are non-continuous to reflect initial numbering in the long list), where their key merits are detailed. At this stage station or stop location, mode and service pattern were considered as separate components for the initial sift. Combinations of these components were then considered at the next stage once a short list of alternatives has been established. This recognises synergies which will create multiplier effects and also those combinations which are mutually exclusive.

**Table 2.10: March to Wisbech Corridor – Retained Station or Stop Locations for Option Shortlist (see below)**

ID	Location	Rationale for Inclusion
1	Town (currently available)	<ul style="list-style-type: none"> <li>Provides closest physical location to the town centre on the former rail alignment – supports regeneration, accessibility and demand, with lower levels of car travel</li> <li>Access could be provided by Oldfield Lane, Nestle Purina, Victory Road, and/or Kingsley Avenue</li> <li>Land likely to be available to provide P&amp;R provision</li> </ul>
6	South of A47	<ul style="list-style-type: none"> <li>Avoids highway overbridge for A47 and potential associated costs (depending on A47 proposals)</li> <li>Land likely to be available to provide P&amp;R provision, albeit there are significant flood risks in this area</li> </ul>
8	Town, NE of Weasenham Lane (slightly east of existing alignment at terminus)	<ul style="list-style-type: none"> <li>Potential alternative to Site 1 depending on station accessibility findings– supports regeneration, accessibility and demand, with lower levels of car travel</li> <li>Assumed small capital cost saving relative to Site 1 due to shorter length of reinstated track</li> <li>Would marginally improve accessibility to residential areas and destinations in south of town</li> </ul>
9	Garden Town	<ul style="list-style-type: none"> <li>Stop/station on new alignment to serve Garden Town</li> <li>Helps support higher quantum of development in Garden Town and more sustainable/transit orientated development</li> <li>By directly serving the Garden Town, in much closer proximity than other sites, new public transport demand would be significantly increased. Scheme revenue and economic impacts would increase accordingly</li> <li>Could be combined with extension to serve town centre station/stop in vicinity of Site 10 (mode dependent)</li> </ul>
10	Town centre	<ul style="list-style-type: none"> <li>Maximises accessibility, and therefore demand, for residents of, and visitors to, Wisbech – supports regeneration, accessibility and demand, with lower levels of car travel</li> <li>Most likely to support direct town centre regeneration ambitions</li> </ul>


Source: Mott MacDonald



Figure 2-22: Potential Station or Stop Locations in Wisbech Area



Source: Mott MacDonald

Table 2.11: March to Wisbech Corridor – Retained Modes for Option Shortlist

ID	Mode	Rationale for Inclusion
1	<div><div>National Rail</div><div></div></div>	<ul style="list-style-type: none"><li>• Diesel, electric or bi-mode traction – Greater Anglia TOC is currently introducing a new bi-mode fleet which would provide efficiencies for Wisbech-Cambridge services. Electric or bi-mode offer the potential for lower local and global emissions</li><li>• Easily integrated into existing franchise(s) and fares and ticketing</li><li>• Through running possibilities beyond March (capacity permitting at locations such as Ely North Junction)</li><li>• Technology well established</li><li>• Procurement and delivery routes well established</li><li>• High safety standards re level crossings etc.</li><li>• Potential for direct links to Ely, Cambridge North, Cambridge, and/or Peterborough, depending on Ely area capacity, with associated accessibility benefits to Fenland residents and businesses</li></ul>

ID	Mode	Rationale for Inclusion
2	Tram-Train 	<ul style="list-style-type: none"> <li>• Diesel, electric or hybrid alternatives, including battery for potential on-street running in Garden Town and town centre (DC required otherwise – National Rail between Ely and Cambridge is AC). Electric or hybrid offer the potential for lower local and global emissions</li> <li>• Through running possibilities beyond March (capacity permitting, e.g. at Ely North Junction), but this concept would need to be more thoroughly tested with Network Rail and the DfT</li> <li>• Would require high floor platforms on any on-street sections to integrate with existing National Rail network</li> <li>• Potential on-street running in Wisbech</li> <li>• Technology evolving</li> <li>• Potential for direct links to Ely, Cambridge North, Cambridge, and/or Peterborough, depending on Ely area capacity, with associated accessibility benefits to Fenland residents and businesses</li> <li>• Medium standards re level crossings etc., which are likely to result in cost efficiencies versus National Rail (except at the A47 where total segregation will be required)</li> </ul>
4	Guided Busway 	<ul style="list-style-type: none"> <li>• Diesel or hybrid alternatives available. The latter would assist in minimising adverse local and global environmental impacts</li> <li>• Different levels of segmentation possible on March-Wisbech existing rail alignment</li> <li>• Potential on-street running in Wisbech to enhance accessibility to the network</li> <li>• Technology well established – wide choice of vehicle and “track” specification to provide a ‘lower cost’ alternative</li> <li>• Medium standards re level crossings etc., which are likely to result in cost efficiencies versus National Rail (except at the A47 where total segregation will be required). This is assumed given the emerging nature of the technology</li> </ul>

Source: Mott MacDonald

**Table 2.12: March to Wisbech Corridor – Retained Service Patterns for Option Shortlist**

ID	Service Pattern	Rationale for Inclusion
2	<ul style="list-style-type: none"> <li>• Wisbech-Ely-Cambridge 2sph</li> </ul>	<ul style="list-style-type: none"> <li>• Provides desired accessibility to major centres and associated services and opportunities</li> <li>• Two direct services per hour deemed a desired minimum threshold for encouraging economic connections between Wisbech and Cambridge</li> </ul>
6	<ul style="list-style-type: none"> <li>• Wisbech-March 3sph</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative solution which, depending on mode, either avoids pathing constraints through Ely North Junction or reflects the lack of opportunities for segregated onward operation beyond March</li> <li>• Potential for integration with existing rail services at March Station (principally the hourly Arriva Cross Country services)</li> </ul>
9	<ul style="list-style-type: none"> <li>• Wisbech-Ely-Cambridge 2sph; Wisbech-March 1sph</li> </ul>	<ul style="list-style-type: none"> <li>• Provides desired accessibility to major centres and associated services and opportunities</li> <li>• Additional infill shuttle to integrate with hourly Arriva Cross Country service</li> </ul>
10	<ul style="list-style-type: none"> <li>• Wisbech-Ely-Cambridge 1sph; Wisbech-March 1sph</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative option which reflects potential for fewer paths being available through Ely North Junction, but maintains direct Cambridge connectivity</li> <li>• Infill hourly shuttle to integrate with hourly Arriva Cross Country service at March Station</li> </ul>
11	<ul style="list-style-type: none"> <li>• Wisbech-Ely-Cambridge 1sph; Wisbech-March 2sph</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative option which reflects potential for fewer paths being available through Ely North Junction</li> </ul>
12	<ul style="list-style-type: none"> <li>• Wisbech-Ely-Cambridge 1sph; Wisbech-Peterborough 1sph</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative option which reflects potential for fewer paths being available through Ely North Junction, but maintains direct Cambridge connectivity</li> <li>• Provides dual focus with connection to Peterborough with the associated onward connectivity opportunities this provides</li> </ul>

Source: Mott MacDonald

These remaining Scheme components were then packaged into a set of holistic viable options. The results of this packaging is the 'long list' shown in Table 2.13. This combines the modes, service patterns and station/stop locations into a set of discrete 'packages'. Flexibility remains, e.g. the potential station or stop locations for a tram-train mode will be determined through the parallel station location study.

Assessment of potential station locations was informed by a detailed piece of work on current accessibility. The final report from this is contained within Appendix E of the OAR (see Appendix A).

**Table 2.13: March to Wisbech Corridor Long List of Options**

ID	Mode	Service	Wisbech Stations	Station Names	Notes
1	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 2tph</li> </ul>	1	Town centre (currently available)	Option to iterate station to site 2 should it become available
2	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 2tph</li> </ul>	6	South of A47	Avoids A47(T) highway overbridge
3	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 2tph</li> </ul>	9	Garden Town	New alignment to west of town
4	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-March 1tph</li> </ul>	1	Town centre (currently available)	Iteration of Option 1 assuming only 1tph possible through Ely North Junction
5	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-March 1tph</li> </ul>	6	South of A47	Iteration of Option 2 assuming only 1tph possible through Ely North Junction
6	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-March 1tph</li> </ul>	9	Garden Town	Iteration of Option 3 assuming only 1tph possible through Ely North Junction
7	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-Peterborough 1tph</li> </ul>	1	Town centre (currently available)	Iteration of Option 1 assuming only 1tph possible through Ely North Junction
8	National Rail	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-Peterborough 1tph</li> </ul>	6	South of A47	Iteration of Option 2 assuming only 1tph possible through Ely North Junction
9	Tram-Train	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 2tph</li> </ul>	12	8, 9 and 10	Tram-Train alternative to Option 1
10	Tram-Train	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 2tph;</li> <li>Wisbech-March 1tph</li> </ul>	12	8, 9 and 10	Adds third March-Wisbech service due to local connectivity possibilities
11	Tram-Train	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-March 1tph</li> </ul>	12	8, 9 and 10	Tram-Train alternative to Option 4
12	Tram-Train	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-March 2tph</li> </ul>	12	8, 9 and 10	Adds March-Wisbech service due to local connectivity possibilities
13	Tram-Train	<ul style="list-style-type: none"> <li>Wisbech-Ely-Cambridge 1tph;</li> <li>Wisbech-Peterborough 1tph</li> </ul>	12	8, 9 and 10	Tram-Train alternative to Option 7
14	Guided Busway	<ul style="list-style-type: none"> <li>Wisbech-March 3tph</li> </ul>	12	8, 9 and 10	Low cost alternative – assumed maximum level of provision within financial constraints

Source: Mott MacDonald

The long-list of options in Table 2.13, made-up of each of the short-listed components, was then then assessed against Scheme objectives. Within this, each:

- Objective from Section 2.10 was given a weighting;
- Objective within a given impact was given equal weighting; and
- Option was scored on a scale of +3 to -3 against each objective.

Weighted scores and ranks were then produced. Weights for the four themes were agreed at the sifting workshop on 16th July 2019 and reflect the rationale for intervention detailed in Sections 2.3 to 2.8, which drove the objectives described in Section 2.10.1.

This places the greatest emphasis on the:

- Economy, seeking to twin address both the lower levels of earnings and productivity observed in Wisbech and the pressures which constrained labour supply are exerting on the potential expansion of Cambridge; followed by
- Environment, recognising that sustainable modes which maximise their effectiveness in reducing car-kms will provide contributions to reductions in local NOx and particulate emissions.

Consistent with TAG, major risks around feasibility, deliverability and constructability were noted, but do not form part of this stage of the appraisal. These risks were considered in greater detail as part of the subsequent economic appraisal of 'short listed' options and the parallel design studies. Table 2.14 details the outcomes of this weighting process.

**Table 2.14: March to Wisbech Objective Weighting**

Theme	Weight	Sub-Criteria	Sub-Weight
Economy	0.4	3	0.13
Environmental	0.3	1	0.30
Social	0.2	2	0.10
Financial	0.1	1	0.10

Source: Mott MacDonald

The results detailed in Table 2.15: Part II Long-list Options Assessment

were the result of an internal Mott MacDonald workshop, with results subsequently validated in a separate client workshop (where the weights to objectives were also applied). A more detailed version of this table can be found in the OAR in Appendix A.

As the options introduce a new mode, and an associated increase in connectivity, the options score positively on most objectives. Other key features of the scoring include:

- A greater number of employment and service related (e.g. health and education establishments) attractions for services to Cambridge, with direct services and higher frequencies to this location naturally scoring higher;
- Tram-Train options score higher due to their greater accessibility to existing and potential future populations around Wisbech, particularly with regard to town centre regeneration as they also offer opportunities for local travel; and
- Financial scores are negative as it is likely that, depending on the scale of new development, all options will require some degree of ongoing public subsidy. This will be tested further in the demand modelling, featuring in the Economic Case, and being explored further in the Financial Case.

**Table 2.15: Part II Long-list Options Assessment**

Options ID	Mode	Service	Station	Station Names	Improve access to key employment and education sites	Economy Improved connectivity to major centres for inward investment	Support delivery of housing	Environmental Providing an alternative to car travel, reducing externalities	Social Improve local access to key services	Financial Support regeneration	Minimise long term commitments for public revenue	Score	Rank	Economic Case Option
					0.13	0.13		0.30	0.10	0.10				
1	National Rail	Wisbech-Ely-Cambridge 2tph	i	Town centre (currently available)	3	3	2	2	3	2	-1	2.1	3	DS2
2	National Rail	Wisbech-Ely-Cambridge 2tph	vi	South of A47	2	2	1	1	2	0	-2	1.0	12	
3	National Rail	Wisbech-Ely-Cambridge 2tph	ix	Garden Town	1	2	3	2	1	0	-1	1.4	8	
4	National Rail	Wisbech-Ely-Cambridge 1tph; Wisbech-March 1tph	i	Town centre (currently available)	2	2	2	1	2	2	-1	1.4	8	
5	National Rail	Wisbech-Ely-Cambridge 1tph; Wisbech-March 1tph	vi	South of A47	1	1	1	1	1	0	-2	0.6	14	
6	National Rail	Wisbech-Ely-Cambridge 1tph; Wisbech-March 1tph	ix	Garden Town	1	2	3	1	1	0	-2	1.0	11	
7	National Rail	Wisbech-Ely-Cambridge 1tph; Wisbech-Peterborough 1tph	i	Town centre (currently available)	2	3	2	1	2	2	-2	1.4	7	DS2a
8	National Rail	Wisbech-Ely-Cambridge 1tph; Wisbech-Peterborough 1tph	vi	South of A47	1	2	1	1	1	0	-3	0.6	13	
9	Tram-Train	Wisbech-Ely-Cambridge 2tph	xii	VIII, X and IX	3	3	3	3	3	3	-1	2.6	1	DS1
10	Tram-Train	Wisbech-Ely-Cambridge 2tph; Wisbech-March 1tph	xii	VIII, X and IX	3	3	3	3	3	3	-1	2.6	1	DS1a
11	Tram-Train	Wisbech-Ely-Cambridge 1tph; Wisbech-March 1tph	xii	VIII, X and IX	2	2	3	2	2	3	-2	1.8	5	
12	Tram-Train	Wisbech-Ely-Cambridge 1tph; Wisbech-March 2tph	xii	VIII, X and IX	2	2	3	2	2	3	-2	1.8	5	
13	Tram-Train	Wisbech-Ely-Cambridge 1tph; Wisbech-	xii	VIII, X and IX	2	3	3	2	2	3	-2	2.0	4	
14	Guided busway	Wisbech-March 3tph	xii	VIII, X and IX	1	1	2	2	1	2	-1	1.3	10	LC

#### 2.15.4 Part III – Shortlist Option Assessment

The results of the Part II sifting and appraisal is the 'shortlist' shown in Table 2.16. This provides:

- Two core options – DS1 and DS2;
- A Low Cost (LC) alternative in line with TAG (DS3); and
- Integration with the Garden Town proposals (DS5). This has been subject to separate work – see the '*Tram-Train Feasibility Study*'. It should be noted that the Garden Town development is uncommitted development and DS5 cannot be advanced as the core preferred option as it only becomes a viable alternative with that demand driver in place. Section 2.6 contains details on the Garden Town proposition.

Details of some initial sensitivity testing around these shortlisted options is provided in Appendix A. More sensitivity tests are considered in Section 3.9, the Economic Case, e.g. on costs, development assumptions etc.

**Table 2.16: March to Wisbech Corridor Shortlist of Options**

ID	Mode	Service	Stations	Station Names
<b>Core options</b>				
DS1	Tram-Train	Wisbech-Ely-Cambridge 2tph	1	Wisbech Town
DS2	National Rail	Wisbech-Ely-Cambridge 2tph	1	Wisbech Town
DS3 (LC)	Guided Busway	Wisbech-March 3bph	1	Wisbech Town
<b>Options related to sensitivity tests</b>				
DS5	Tram-Train	Wisbech-Ely-Cambridge 2tph	9 and 10	Wisbech Garden Town & Wisbech Town Centre

Source: Mott MacDonald

### Assessment of shortlisted options

Having identified a shortlist of options, further outline design and economic assessment was undertaken to help determine a preferred mode and station location(s). Service patterns remained subject to further testing as the demand modelling, required designs, and operational assessment are progressed through FBC and GRIP, or GRIP equivalent, design stages.

Prior to the full demand modelling and economic appraisal, a strengths, weaknesses, opportunities, and threats (SWOT) analysis was undertaken of the three shortlisted modes, as described in the OAR within Appendix A. The aim of this process was to help inform mode selection as a primary consideration but being cognisant of the interrelated station location and service pattern considerations.

The key finding from this analysis was the importance of offering direct passenger transport services between Wisbech and Cambridge. This Scheme is closely interdependent with the outcome of the proposed EACE works and the ability to operate the desired frequency between Wisbech and Cambridge. The OAR (Appendix A) shows that even in a scenario where direct Wisbech to Cambridge services do not become possible for a decade after the March to Wisbech Scheme opening, the project retains a positive benefit cost ratio of 1.5-2.0.

Prior to the more detailed consideration for the preferred option within the Economic, Financial, Commercial and Management Cases, an initial appraisal was undertaken on key considerations to help sift the remaining options. This includes the initial Economic Case assessment using the proposed service patterns, designs and cost estimates at the GRIP 2 stage from June 2019.

### Shortlisted Options Five Case Assessment

To help inform the final sifting stage, the client workshop on 8<sup>th</sup> July 2019 included a wider (initial) consideration of all five cases in the FBC. The five cases were weighted based on discussions with the clients and stakeholders. This was necessary to draw in some of the considerations around feasibility, risk, procurement, funding and finance, and Scheme/service delivery which sit within the Financial, Commercial, and Management Cases. Table 2.17 shows the outcome of this assessment.

**Table 2.17: March to Wisbech Shortlisted Options ranking – Initial 5 Case Assessment**

Option	Strategic Case	Economic Case	Financial Case	Commercial Case	Management Case	Weighted Total	Rank
<u>Weight:</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>		
DS1: Hybrid 'Tram-Train'	4	4	3	2	2	27.0	3
DS2: National Rail	3	4	3	4	4	28.0	1
DS3: Guided Busway	2	0	1	3	4	14.0	4
DS5: Hybrid 'Tram-Train' with Garden Town extension	4	4	4	2	2	28.0	1

Source: Mott MacDonald

Scores across the five cases reflect:

- Prior Strategic Case findings coupled with initial Economic Case metrics from the OAR stage (see Appendix A). These latter metrics were based on the available information as of June 2019, and later results reflect the updates to service pattern, designs, and associated cost estimates from other studies.
- Financial Case metrics relate to differences in funding options, including revenue generation and the ability of this to cover ongoing operating costs. Revenue generation and operating cost estimates have both been completed as part of the early Economic Case assessment. DS1 has a lower capital cost than DS2 but this is judged to be offset by the potentially higher potential for ancillary revenue generation associated with a National Rail service of the same configuration (for example, from providing testing services for rolling stock manufacturers or, over the long-term with further investment, offering rail freight services on the corridor). DS5 scores higher than DS1 and DS2 due to its higher passenger demand levels and hence user revenues, linked to the Garden Town development and the ability to serve the catchments in closer proximity, and also ancillary funding possibilities linked to the development (such as from developer contributions or other forms of land value capture, which in other Schemes have been substantial), as well as synergies on costs with other infrastructure proposals;
- DS2 and DS3 score highest on the Commercial Case as there are clearer and more established procurement and delivery strategies and risk mitigation procedures for National Rail and Guided Busway alternatives. By contrast, the tram-train option in DS1 and DS5 has a less well-established set of processes to ensure successful delivery, potentially leading to greater risk of cost-overruns and/or delays. There is also a higher level of interface risk with tram-train options relative to National Rail options (even where the infrastructure for the latter is owned and operated under a third-party structure), relating to operating of a light rail service on National Rail infrastructure between Cambridge and March; and
- DS2 and DS3 score highest on the Management Case section as they are closest to current client experience and skillset, with Guided Busway proposals being considered akin to guided bus projects that have previously been delivered by CCC, and a National Rail solution clearly falling within a Network Rail Governance for Rail Investment Projects (GRIP) set of processes and the accompanying Rail Network Enhancement Pipeline (RNEP), or, if progressed under a third-party structure, via Network Rail's post-Hansford Review third-party investor framework. DS1 and DS5 score lower as there is no existing client knowledge and experience of delivering tram-train Schemes, plus the technology and delivery mechanisms are less proven.

### 2.15.5 Preferred Option

The assessment of shortlisted options identified that:

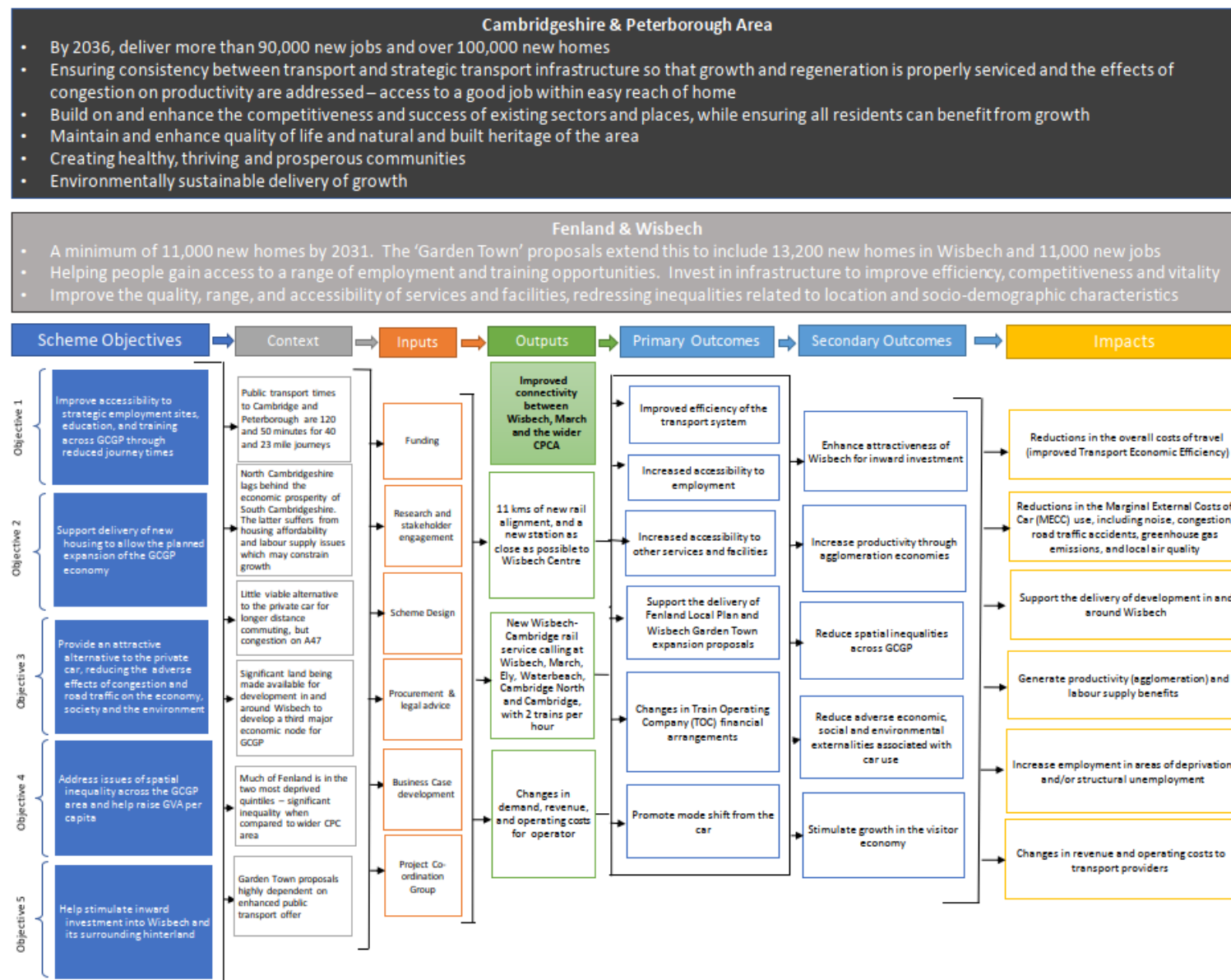
- A Guided Busway-based option in this corridor performs the worst of all the options due to its lower benefits. These are a result of the interchange requirement at March for passengers to/from Wisbech, coupled with little or no incremental improvements in level of service at March and beyond towards Cambridge due to the very long journey times;
- There are significant opportunities and risks/threats associated with the tram-train across aspects of all five cases. Capital costs for the core option (DS1) are estimated to be lower than the National Rail option (DS2), and the sensitivity test with a new alignment to serve the Garden Town (DS5) indicates that the capital cost for that option would be circa 5 to 10% higher than DS2;
- Benefits will be very similar for the National Rail and tram-train options, and the VfM for DS1, DS2 and DS5 is comparable;
- Five case assessment indicates that the National Rail to Wisbech Town (DS2) and the tram-train solution linked to the Garden Town (DS5) perform best. Tram-train solutions score highest on the Strategic Case due to their flexibility and cost, with DS5 boosted on the Financial Case by the additional revenue which would be expected from serving both the Garden Town and existing settlement more directly. Tram-train solutions score lower on the Commercial and Management Cases due to uncertainties regarding procurement and delivery, and the associated risks which are created; and
- The differentiation between the tram-train and National Rail options as preferred mode is not clear cut.

Based on this information, it was recommended that design stages and further modelling and economic appraisal focussed on **DS2** given its stronger commercial and management case. The preferred option therefore comprises:

- A station located as centrally in Wisbech as current land use permits (Site 1);
- A two trains per hour service between Wisbech and Cambridge, calling additionally at March, Ely, Waterbeach, and Cambridge North.

To understand how DS options would translate into outputs, outcomes and impacts, a live logic map was maintained through the Part I to III option appraisal, and was used to guide the Economic Case analysis. The final logic map for the preferred option is shown below.

Figure 2-23: March to Wisbech Transport Corridor Preferred Option Logic Map



Source: Mott MacDonald

## 3 The Economic Case

### 3.1 Introduction

In accordance with HM Treasury's Green Book and the DfT's Transport Analysis Guidance (TAG) and Business Case documentation, this section of the FBC documents the expected impacts of the preferred option and the associated VfM when compared against anticipated Scheme costs. Sensitivity testing is documented around key risks and assumptions to help demonstrate the robustness of the core VfM assessment.

### 3.2 Option Development Process

The options considered in the economic appraisal are shown in Table 3.1, the output of the sifting and appraisal detailed in Section 2.15. Early appraisals of these options, their principal alternatives, and sensitivity testing is provided in Appendix A.

**Table 3.1: March to Wisbech Corridor Economic Appraisal Options**

ID	Mode	Service	Station IDs	Station Name(s)
<b>Core options</b>				
DS2	National Rail	Wisbech-Ely-Cambridge 2tph	1	Wisbech Town
DS3 (LC)	Guided Busway	Wisbech-March 3bph	1	Wisbech Town

### 3.3 Scenarios

Appraisal of options needs to be made against a 'without Scheme' scenario so that the incremental impacts can be correctly isolated. That 'without Scheme' is the most likely future scenario given the current situation and existing commitments with their levels of certainty assessed. These commitments include consideration of both exogenous influences, such as land use change, and changes in transport supply – both for the preferred rail mode and other competing or complementary modes. These combine to form a Do Minimum (DM) scenario for transport supply and demand against which changes in Do Something (DS) options can be appraised.

#### 3.3.1 Do Minimum

The DM scenario entails a continued reliance on the private car and local bus services for the majority of non-local movements both within and to/from the corridor. There have been a number of incremental enhancements to rail provision in the area where travel is likely to be affected by the Scheme. These include a number of service revisions and the provision of the new station at Cambridge North. These are captured in either the base year (2017) demand estimates or, where they post-date 2017, as changes to the level of service offered by rail using the same modelling as subsequently deployed for the DS scenario.

Beyond the December 2019 timetable, the following changes are noted for the DM scenario:

- An increase in frequency on the Ipswich-Peterborough service, moving from two hourly to hourly operation. This service calls at March and Ely, but not Cambridge; and

- New bi-mode (Class 755) trains on the Greater Anglia franchise<sup>68,69</sup>. These could offer an incremental enhancement in rolling stock quality which would be expected to lead to a demand change. Assuming Class 755s are the most likely stock type for DS2, such a demand change has not currently been estimated. However, the impacts of bi-mode operation of the additional train-kms has been reflected in Operating Expenditure (OpEx) estimates and the associated Greenhouse Gas (GHG) emissions from additional train-kms.

These changes only affect the existing rail network in the DM and mean that current constraints on travel opportunities, particularly for those without access to a car, will largely persist, while economic growth in sub-regional centres and hubs will be hindered by a lack of access to labour. No changes have been assumed to the bus network, but the continuing pressures on operation from increases in running costs, and constraints of levels of local authority funding for tendered services should be noted. Continuation of current service levels is optimistic given recent historic trends.

Land use change is taken from local planning documents, e.g. the Fenland Local Plan (see Section 2.6), and is controlled to CPCA area totals from either the DfT's National Trip End Model (NTEM) or the local CCC High Growth Scenario (HGS). For the core assessment, the Wisbech Garden Town proposals are not at a sufficient stage of planning or commitment<sup>70</sup> for them to be included in the core tests. They are therefore included as part of sensitivity testing around applicable options.

The context is therefore strong local growth from new development, set against only limited DM changes to transport supply.

### 3.3.2 Do Something

The Do Something (DS) scenario(s) overlay the change in transport supply from the Scheme (times and costs of travel) on the DM situation. There are no other changes in transport supply or land use. Wisbech Garden Town proposals are included in sensitivity testing, and in some cases this may involve adaptation of the DS Schemes, and therefore changes in transport supply (e.g. changes to alignment and station location) relative to other DS scenarios. In all cases of additional development, the DM land use is also changed, and is therefore consistent between the DM and DS scenarios. Dependent development is considered further in Section 3.5.1.

## 3.4 Demand Modelling

### 3.4.1 Methodology

To support the assessment of the DS options a new transport model of the area potentially impacted by the proposed investment has been developed. A large proportion of the rail demand modelling undertaken in the UK is incremental in nature, pivoting off existing demand when forecasting the impacts of changes in supply<sup>71</sup>. Often the approach is also uni-modal

<sup>68</sup> See: <https://www.greateranglia.co.uk/newtrains>

<sup>69</sup> The alternative rolling stock, currently assumed for design purposes, is Class 170 two or three car Diesel Multiple Units (DMUs). These would carry additional environmental externalities when compared to hybrid Class 755s. The current GRIP 3 designs are based around Class 170 operation. Updates to the designs, and costs, may be required to accommodate Class 755s. This is explored in the sensitivity testing.

<sup>70</sup> See: <https://www.gov.uk/government/publications/tag-unit-m4-forecasting-and-uncertainty> for further details on the treatment of uncertainty in forecasting, particularly with regard to new development.

<sup>71</sup> The standard approach in the UK rail industry, where a passenger service already exists, is reflected in the Passenger Demand Forecasting Handbook (PDFH) and TAG Unit A5-3: <https://www.gov.uk/government/publications/webtag-tag-unit-a5-3-rail-appraisal-may-2018>

using demand elasticities. For the March to Wisbech Transport Corridor that is clearly not possible where there is no existing rail demand.

To reflect the future travel behaviour the more transformative investment such as direct, rapid, links to Cambridge could stimulate requires consideration of multiple, concurrent, changes. This extends beyond mode choice, between car, bus and rail, to also consider changes in the location of activity, also known as destination choice. At the more local level, there is also the potential that changes in the level of service at different stations will also stimulate alternative choices in the DS versus DM scenario. This type of model is known as a hierarchical or nested logit<sup>72</sup>, and is commonly used in large urban areas, such as Cambridge<sup>73</sup>. Logit models forecast the probability of choosing a given alternative based on its attractiveness. The nested, or hierarchical, structure combines similar alternatives into composites using their individual parameters and scaling parameters. For modes that is represented by the Generalised Cost<sup>74</sup> (GC) of travel, while for destinations it is a combination of the GC to access them coupled with their attractiveness (e.g. employment levels). The model structure is illustrated diagrammatically in **Figure 3-1**. It operates on a zone-to-zone basis with DM estimates of travel demand:

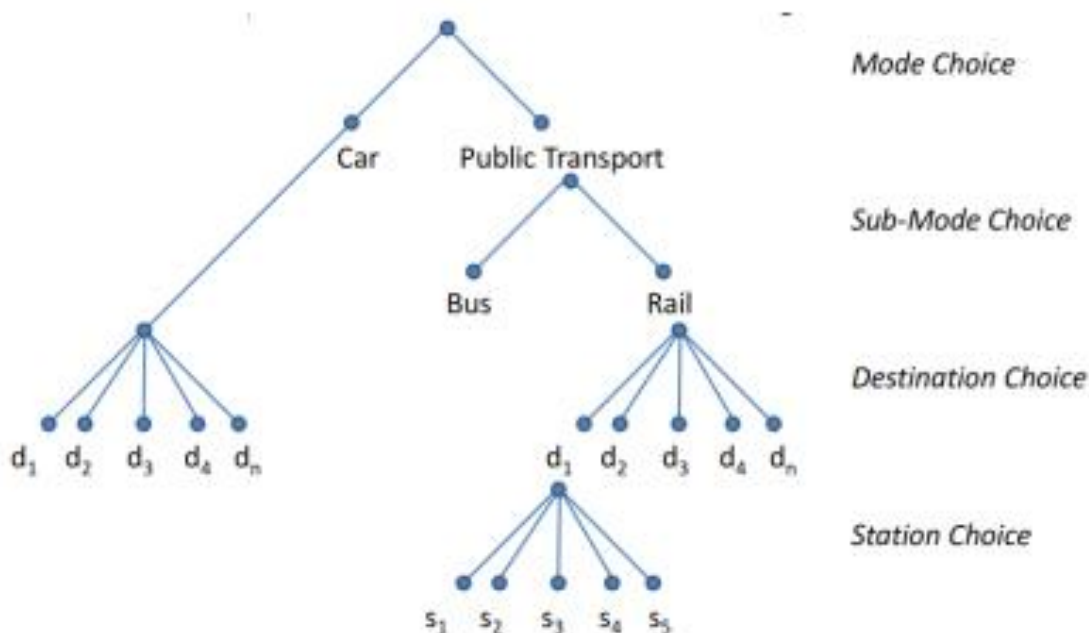
- By journey purpose and mode. Due to the nature of the study, the model focuses on mechanised modes – car and public transport. Other modes are considered for access and egress to and from stations;
- Sensitive to changes in transport supply influencing the choice of:
  - Start and end station
  - Destination. All else being equal, a reduction in the GC of travel between a pair of zones will stimulate additional total travel demand
  - Mode and sub-mode choice. Bus and rail form a sub-mode choice and the composite GC of the two is used to forecast the (main) mode choice between car and public transport.

<sup>72</sup> More detail on logit models is provided in TAG Unit M2: <https://www.gov.uk/government/publications/tag-unit-m2-variable-demand-modelling>

<sup>73</sup> The Cambridge Sub-Regional Model (CSRM) is a relevant example, but this does not extend in detail out to Fenland and the March-Wisbech corridor. Its use was not therefore a possibility for this study.

<sup>74</sup> Generalised Cost (GC) is typically measured in minutes and combines the readily quantifiable components of travel, e.g. time and monetary costs, with weights reflecting their relative disutility or value in comparison to one another. Constants or factors are used to represent unmodelled/unobserved/unknown factors and to help calibrate the model to ensure that the base year modelled demand closely replicates observed demand.

**Figure 3-1: March to Wisbech Corridor Demand Model Structure**



The approach is consistent with that used at the OBC, but has been updated in a number of areas:

- The base year is now 2017 – demand and supply have been updated using the best available estimates on changes since the OBC’s base year of 2013;
- Zoning has been refined to provide greater spatial detail (N = 1,045). This enhances station choice and access/egress time and cost estimates to and from stations, and also provides greater fidelity for considering future development and land use change; and
- Forecasting data, with updated inputs on land use, changes in transport supply (times and costs), and the values and parameters used in the model. This latter aspect draws on latest TAG units and the associated ‘Databook’ (May 2019 release).

### 3.4.2 Changes in Rail Service Provision

The preferred option comprises introduces two additional trains per hour in each direction between Wisbech and Cambridge. The net effects in number of services per peak hour between the DM and DS for Wisbech, March, Ely, Waterbeach and Cambridge North both to and from Cambridge are shown in Table 3.2.

**Table 3.2: DM and DS Trains per Peak Hour to Cambridge**

From	DM	DS
Wisbech	-	2
March	1	3
Ely	5	7
Waterbeach	2	4
Cambridge North	5	7

Journey times between all stations have been subject to detailed operational analysis as part of the GRIP processes<sup>75</sup>. This included the interfaces between Wisbech and Cambridge services and all DM services on the existing network. In the peak period there is requirement for additional journey time to ensure the network continues to operate in a safe and efficient manner (due to the higher level of usage on the existing network). Analysis has shown journey times of 50 minutes between Wisbech and Cambridge, and 54 minutes in the opposite direction. Shorter journey times are possible outside of the peaks due to greater spare network capacity. To provide a conservative input into the demand modelling, the average value of end-to-end journey time of 52 minutes has been used throughout the day. These timetable assumptions have been updated relative to the original assessment described in the OAR within Appendix A, with a longer end-to-end journey time now modelled. The changes are, where applicable, uniform across the OAR options and there is no material impact on the conclusions of the OAR (previously summarised in Section 2.15).

The current analysis shows the requirement for five trains to operate the two tph timetable, inclusive of sufficient turnaround times at Cambridge (25 minutes in current Platform 6) and Wisbech (16 minutes) to maintain operational robustness. This resource requirement is reflected in the Operating Expenditure (OpEx) estimates detailed within Section 3.6.2.

Fares to and from Wisbech have been estimated from those which already exist at March, with the addition of a further pence per km allowance to reflect the additional distance (circa 11km). In line with current assumptions around governmental policy, all fares are assumed to rise at RPI+0% per annum until demand cap year (2039), after which they are frozen in real terms relative to the GDP deflator.

### 3.4.3 Changes in Land Use

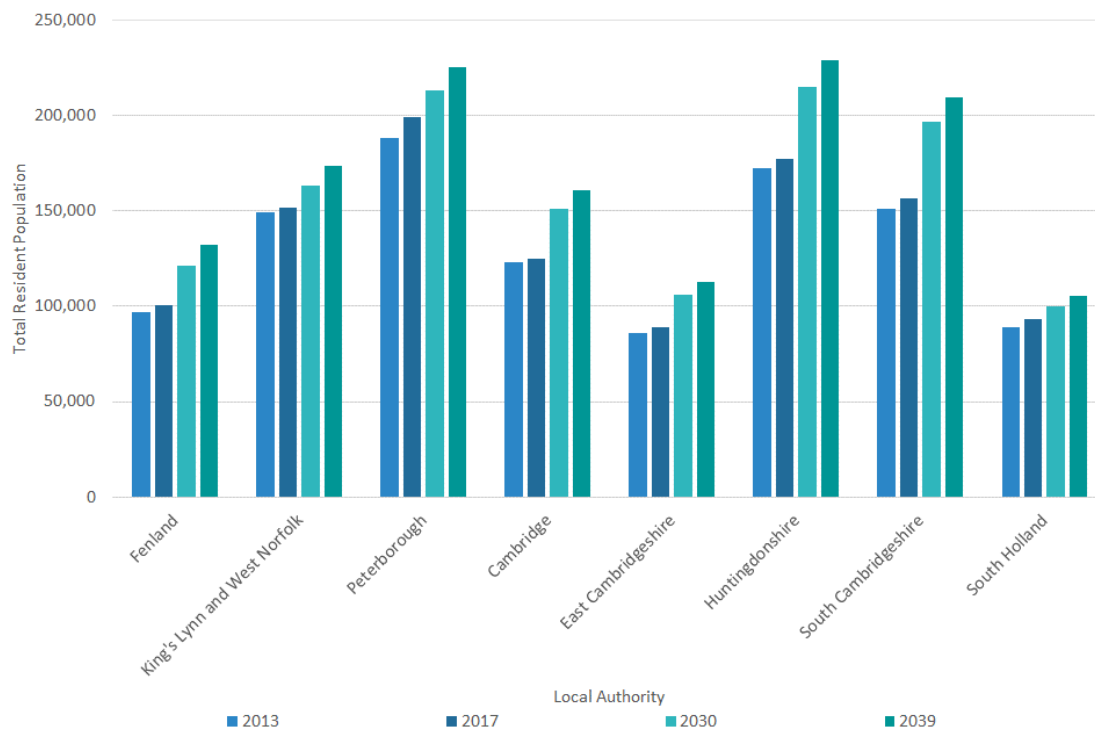
Changes in population and employment at the zonal level are controlled to NTEM v7.2 planning data totals across the core modelled area. Within this latest development within the Fenland Local Plan is applied for 'near certain' or 'more than likely' proposals which have planning status. Figures 3-2 and 3-3 summarise these projections by district for selected years – the OBC base, FBC base, and two future modelled years of 2030 and 2039. While the processes behind NTEM are designed to limit and, to some extent, normalise growth across authorities, it can be seen that the:

- Between 2013 and 2039, greatest percentage growth in population is forecast for South Cambridgeshire (39%) and Fenland (37%). Absolute change is highest in Huntingdonshire and South Cambridgeshire, each with projected growth of between 55,000 and 60,000 over the same period. Fenland population growth is forecast to be approximately 36,000; and
- Between 2013 and 2017 there was particularly strong growth in jobs in South Cambridgeshire (+31%), Peterborough (+19%) and East Cambridgeshire (+15%). These three authorities remain the fast growing to 2039, which is unsurprising given that NTEM is based, to a large extent, on the extrapolation of past trends (albeit from historic data dating back to around the last Census). Fenland is forecast to add approximately 2,500 jobs between 2017 and 2039, compared to total (all ages) population growth of over 30,000.

These changes in land use are used to forecast corresponding changes in total travel demand both produced in (e.g. resident population) and attracted to (e.g. employment) a given zone. The demand modelling then forecasts where these trips will travel to and from, and by what mode.

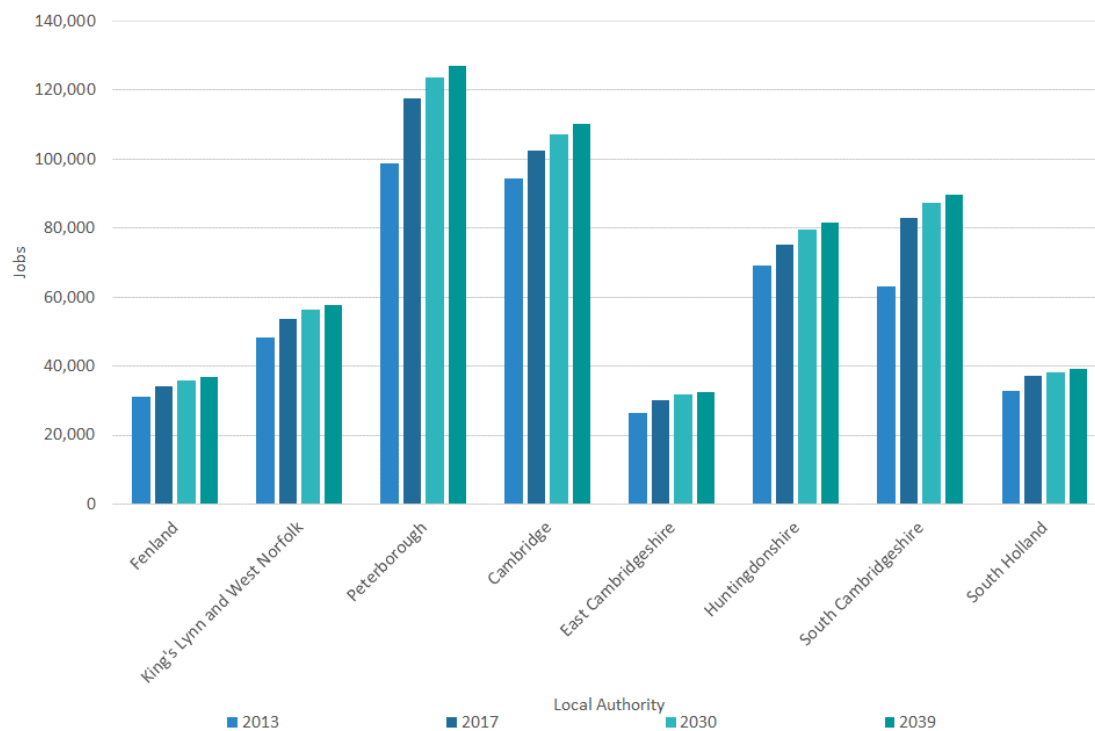
<sup>75</sup> See: 398128-007-C Assessment of Rail Operations

**Figure 3-2: Changes in Resident Population by Local Authority**



Source: Mott MacDonald..

**Figure 3-3: Changes in Employment by Local Authority**



Source: Mott MacDonald.

### 3.4.4 DM and DS Demand Forecasts

Table 3.3 summarises base and future year total annual travel demand estimates in the core modelled area. Total travel demand is forecast to increase by approximately 14% between 2017 and 2039, with rail demand growing by 22%. Consistent with national trends, bus demand growth is low (+3%) despite the significant overall growth in travel demand. Between 2030 and 2039, projected changes in fuel costs and efficiency play a significant role in driving increased car use, partly at the expense of public transport.

**Table 3.3: Base and Do Minimum Travel Demand by Mode ('000s person trips per annum)**

Year	Car	Rail	Bus	TOTAL
2017	248,700	10,700	34,700	294,100
2030	275,000	13,600	35,500	324,100
2039	287,100	13,100	35,700	335,900

The comparable forecasts with the DS2 Scheme in place are provided in Table 3.4. In the DS, rail demand increases by approximately 2.7 million trips in both 2030 and 2039, sufficient to raise total mode share by 1% (4 to 5% from the DM to the DS).

**Table 3.4: Base and Do Something Travel Demand by Mode ('000s person trips per annum)**

Year	Car	Rail	Bus	TOTAL
2017	248,700	10,700	34,700	294,100
2030	272,500	16,400	35,200	324,100
2039	284,600	15,800	35,400	335,800

Demand changes by station in the core modelled area are shown in Table 3.5. In this tabulation the DS increase in rail demand shown in preceding tables is doubled as, for example, a trip between Wisbech and Cambridge, is counted in both station totals. Preceding totals are also for all rail demand, whereas Table 3.5, focuses on the core modelled area only. These exclude selected flows which will not be affected by the Scheme, so the total trips do not align with other published statistics such as the Office for Rail & Road (ORR) station usage. Changes are driven by:

- Existing DM commitments (see Section 3.3.1), including land use change, e.g. at Waterbeach. Modelled growth at Cambridge North also includes a degree of continued demand ramp-up;
- Trends in competing modes, particularly TAG fuel cost and efficiency assumptions for car competition which suppresses DM (and therefore DS) rail demand, particularly between 2030 and 2039;
- Changes in mode, destination and station between the DM and DS:
  - The reductions in travel times in the core modelled area promotes more trips to be made within it at the expense of a trip with an “end” outside of it. For example, a March to Norwich rail trip may now become a March to Cambridge trip due to the increased Level of Service (LoS);
  - Significant DS increases for existing stations who benefit from the LoS enhancement – March, Ely, Waterbeach and Cambridge North who are no all provided with a much more attractive alternative to Cambridge promoting changes in mode and destination; and
  - Some abstraction between stations due to the incremental enhancements in LoS between the DM and DS.

- Increase in demand to and from Cambridge as the main trip attractor served by the additional services.

**Table 3.5: Base, Do Minimum and Do Something Demand by Station ('000s person trips per annum)**

Station	2017	2030			2039		
		DM	DS2	Δ (DS – DM)	DM	DS2	Δ (DS – DM)
Cambridge	6,167	8,326	11,380	3,054	8,108	11,096	2,988
Cambridge North	1,119	1,365	1,730	365	1,358	1,737	378
Downham Market	491	701	661	-40	687	650	-37
Ely	1,803	2,689	4,168	1,478	2,572	4,013	1,441
Kings Lynn	849	1,024	1,016	-	998	992	-7
Littleport	190	298	384	86	299	383	84
Manea	48	152	150	-2	146	145	-1
March	509	650	1,175	524	608	1,102	495
Peterborough	3,080	3,037	3,002	-35	2,805	2,773	-32
Waterbeach	256	719	1,676	957	705	1,642	937
Watlington	144	144	148	4	144	14	0
Wisbech Town	0	0	451	451	0	428	428

Notes: Only demand with both trip ends within the core modelled area is included within the above totals. Total demand at the stations will be higher, particularly in the case of Cambridge and Peterborough where there are significant volumes of trips to/from other major centres in the external area.

The DM and DS results show the considerable impacts of the latter on rail demand in the core modelled area, and that while March and Wisbech are naturally significant beneficiaries, the impacts are also highly significant at Ely, Waterbeach, Cambridge North, and Cambridge. This emphasises the importance of the proposed service to the region as a whole, and that how, in addition to fulfilling the core remit of addressing connectivity issues in North Cambridgeshire it can also fill a significant role in addressing the labour supply constraints facing Cambridge through the provision of additional capacity and connectivity from existing markets.

To help validate the estimated annual demand at Wisbech, of between 400,000 and 450,000<sup>76</sup> trips, depending on future year, initial trip rate modelling was undertaken using PDFH v6 evidence and selected comparator stations<sup>77</sup>. This produced an annual current estimate of between 300,000 and 800,000 depending on station location, with the extremes being Sites 6 and 10 from Figure 2-22 – the Parkway and the Town Centre alternatives. These estimates are for a station in Wisbech as if open in 2017. The corresponding Site 1 estimate was circa 550,000 trips per annum. The results shown in Table 3.5 advance the trip rate modelling by consideration of actual access/egress times and costs, the level of service to be provided, and increased competition from March due to the higher level of service, i.e. some demand forecast to use Wisbech in the trip rate modelling would instead use March due to the enhanced level of

<sup>76</sup> Comparing these 2030 and 2039 estimates against present day 2018-19 estimates from the Office for Rail & Road (ORR) 2018-19 station usage statistics, comparable stations serving standalone towns with hinterland catchments include Accrington (420,000 trips; 40,000 pop'n), Burnley Manchester Road (420,000 trips; 85,000 pop'n), Dumfries (400,000 trips; 30,000 pop'n), Knaresborough, North Yorkshire (410,000 trips; 15,000 pop'n), Lowestoft (440,000 trips; 70,000 pop'n), Mansfield (400,000 trips; 110,000 pop'n), Morpeth (475,000 trips; 15,000 pop'n), Scunthorpe (420,000 trips; 80,000 pop'n) and Widnes (440,000 trips; 60,000 pop'n). Clearly much is dependent on the rail LoS, proximity to major attractors, economic activity, station choice and serving a wider catchment, and competition from other modes, but these comparators indicate that the expected demand at Wisbech is consistent with other similar geographic locations throughout Great Britain.

<sup>77</sup> Downham Market, Littleport, March and Watlington.

service the in the DS scenario. The existing constraints on access/egress to/from Site 1, and possibilities for ameliorating them are discussed further in Appendix B .

### 3.4.5 DS versus DM Incremental Revenue

The net changes in demand between the DS and DM are forecast to lead to significant changes in revenue. Table 3.6 presents the incremental farebox revenue (only) in 2017 prices, prior to discounting and market price adjustment for the economic appraisal. The impact is inclusive of demand ramp-up – discussed further in Section 3.5.3.

**Table 3.6: DS versus DM Rail Passenger Revenue (£'000s; 2017 undiscounted prices)**

Year	Commute	Employer's Business	Other	TOTAL
2030	4,300	2,400	3,350	10,000
2039	4,150	2,450	3,450	10,050

### 3.4.6 DS versus DM Changes in Passenger-kms by Mode

Incremental changes in rail passenger-kms are estimated directly on a flow by flow basis from the demand modelling. To estimate corresponding changes in car-kms and bus passenger-kms due to mode shift, standard diversion factor evidence is applied from the May 2019 TAG Databook. The average rail trip length for the new trips is approximately 25km.

**Table 3.7: DS versus DM km changes per annum by mode ('000s)**

Year	Rail passenger-kms	Car-kms	Bus passenger-kms
2030	49,700	-15,400	-3,900
2039	52,400	-16,300	-4,100

## 3.5 Impacts of the Investment

The logic map at Figure 2-23 shows how investment in the potential Scheme could, through its primary and secondary outcomes, impact on the economy, society, and the environment in a beneficial manner. Table 3.8 highlights the expected impacts from the logic mapping to the recognised impacts of transport investment from the DfT's VfM guidance<sup>78</sup>. Induced investment impacts are considered separately in the next sub-section.

<sup>78</sup> See: <https://www.gov.uk/government/publications/dft-value-for-money-framework>

**Table 3.8: March to Wisbech Corridor Preferred Option – Expected Impacts adapting DfT framework**

Established Monetised Impacts	Evolving Monetised Impacts	Indicative Monetised Impacts	Non-monetised Impacts
<i>Included in initial and adjusted metrics</i>	<i>Included in adjusted metric</i>	<i>Considered after metric using switching values approach</i>	
<div>Journey time savings</div> <div>Vehicle operating costs</div> <div>Accidents</div> <div>Physical activity</div> <div> <div>Journey quality</div> <div>Noise</div> <div>Air quality</div> <div>Greenhouse gases</div> <div>Indirect tax</div> </div>	<div>Reliability</div> <div>Static clustering</div> <div>Output in imperfectly competitive markets</div> <div>Labour supply</div>	<div>Moves to more/less productive jobs</div> <div>Dynamic clustering</div> <div>Induced investment</div> <div>Supplementary Economy Modelling*</div>	<div>Security</div> <div> <div>Severance</div> <div>Accessibility</div> <div>Townscape</div> <div>Historic environment</div> <div>Landscape**</div> <div>Biodiversity</div> <div>Water environment</div> </div> <div>Affordability</div> <div> <div>Access to services</div> <div>Option and non-use values</div> </div>

*\*These are a class of models rather than a specific economic impact*

*\*\* A widely-used methodology for monetisation exists, but this is not included in WebTAG guidance because of concerns about its robustness. Detailed guidance is found in the Supplementary Guidance on Landscape.*

Source: Department for Transport, Value for Money Framework, 2015, Box 4.4: Typical impacts of a transport model.

The principal expected impacts therefore occur through:

- Journey time savings to existing and new travellers from the additional services, with new users subject to the 'rule of a half' as per TAG Unit A1-3;
- Additional 'established' monetised impacts generated by changes in mode choice and the diversion of car-kms to rail passenger-kms. Additionally, greenhouse gas emissions are also included from the net increase in rail service-kms;
- Wider Economic Impacts – static clustering, labour supply, and move to more/less productive jobs created by reductions in the GC of travel between zones; and
- Non-monetised impacts from the construction of the new infrastructure itself and the additional services provided. These are assessed qualitatively and combined with monetised impacts in the Appraisal Summary table (AST).

### 3.5.1 Dependent Development

TAG Unit A2-2<sup>79</sup> considers ‘induced investment’, i.e. changes in the scale and location of economic activity as a result of changes in transport supply (dynamic land uses, including clustering effects). It is expected that existing allocations in the Fenland Local Plan and other localities experiencing significant changes in level of service, e.g. Waterbeach and Cambridge North, will be brought forward independently of any changes in rail services along the corridor.

The most significant development with a potential degree of dependency on the DS options are the proposals for Wisbech Garden Town (see Section 2.6.5), and the significant components which sit outside the allocations in the Fenland Local Plan. Delivering development on the scale envisaged will require a host of complementary interventions across multiple sectors. Within transport alone there will be a need to provide for both local accessibility within the new communities themselves and to/from the existing settlement, coupled with wider connectivity enhancements, of which the preferred DS option would be a part. The Garden Town proposals are at a very early stage of development and cannot be considered committed (first two levels of certainty in TAG Unit M4). It is possible that planning approval may, in part, be linked to complementary transport investment such as the DS option as existing networks would be unable to accommodate additional demand. However, as it cannot be part of the core scenario due to low levels of certainty, and any quantification of the degree of dependency would require much larger multi-modal modelling, we do not consider this potential impact further at this stage. The standard ‘established’ impacts from Table 3.8 from a scenario with the Garden Town development in place are considered as part of a sensitivity test.

### 3.5.2 Greenhouse Gas Emissions

In addition to the impacts of diverting car-kms to rail (estimated using the MECC approach from TAG Unit A5-4<sup>80</sup>), the assessment also includes an estimate of the additional Greenhouse Gas (GHG) Emissions from operating the additional rail-kms. These have been estimated based on the following inputs and assumptions:

- Total annual-kms as estimated from the OpEx analysis (see Section 3.6.2);
- Estimated diesel usage of 2.7 litres per km;
- Application of the latest kg CO<sub>2</sub>/litre from TAG Databook Table A3.3 – approximately 2.7 kg of CO<sub>2</sub> per litre in 2020; and
- Application of the non-traded values for CO<sub>2</sub> from TAG Databook Table A3.4 – approximately £60 per tonne.

These disbenefits amount to approximately £300,000 in the year of opening (2010 market prices, discounted to 2010). These outweigh the corresponding benefits from the reduction in car-kms, monetised using the standard MECC approach. In totality the Scheme therefore generates GHG disbenefits.

Passive provision has been made in the GRIP 3 design for electrification of the March to Wisbech rail corridor. This would most likely occur as part of a wider electrification programme in Network Rail’s Eastern Region. Should this occur during the model period, greenhouse gas emissions from the additional passenger services supported by the Scheme could be expected to be lower than forecast in this section.

<sup>79</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a2-2-induced-investment-may-2018>

<sup>80</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a5-4-marginal-external-costs-may-2018>

### 3.5.3 Assumptions

The following assumptions have been applied in the economic appraisal and, where applicable, to the demand and revenue results described in preceding sub-sections:

- The assumed year of opening is 2028, based on an assessment of likely timescales to progress GRIP stages and alignment with the RNEP pipeline;
- A 60-year appraisal period is considered to 2087, recognising the lifespan of the assets with a single major renewal after 30 years;
- All monetary values have been sourced from the May 2019 TAG Databook<sup>81</sup>, which was current at the time of the appraisal;
- Discount rates of 3.5% per annum apply for zero to 30 years, 3.0% per annum thereafter to the end of the appraisal period;
- Where necessary, all price bases have been standardised to 2010 using the latest GDP Deflator series from the TAG Databook;
- All costs and revenue are expressed in market prices, with adjustments applied where necessary using the 1.19 market price adjuster from the TAG Databook;
- Risk, contingency, and Optimism Bias (OB) have all been considered as part of the cost inputs;
- Construction inflation between the final point estimates and actual year of work has been considered as detailed in Section 3.6.1;
- Fares are assumed to rise at RPI+0% from 2021, and the real terms impact is reflected relative to the GDP Deflator series from the May 2019 TAG Databook; and
- In line with recommendations in TAG Unit A5.3<sup>82</sup>, rail demand growth is capped 20 years after the appraisal year (2019), in 2039. After this data demand and revenue grow in line with regional population projections from NTEM v7.2 and an extrapolated trend of this beyond 2051.

#### Demand Ramp-Up

Travel behaviour and patterns will not change instantaneously in response to a change in transport supply. The application of demand ramp-ups from the UK rail industry's PDFH v6 is there appropriate. Demand, and thus revenue and economic impacts, ramp-up has been taken for 'major new services', with the estimated profile shown in Table 3.9. These provide the average values for the mid-point of the year. Alternative demand ramp-up assumptions are considered in sensitivity testing (see Section 3.9.2).

**Table 3.9: Demand Ramp-Up Assumptions**

Year	Ramp-Up
1 (2028)	35%
2 (2029)	78%
3 (2030)	90%
4 (2031)	98%

<sup>81</sup> See: <https://www.gov.uk/government/publications/tag-data-book>

<sup>82</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a5-3-rail-appraisal-may-2018>

## Sectorised Analysis

Analysis was undertaken of sectorised<sup>83</sup> demand, revenue, and monetised impacts. This identified some significant impacts on flows between Cambridge North and Cambridge, and vice versa. These impacts have been excluded from the following analysis for two reasons:

- The spatial detail in the core modelled area diminishes further away from the core March-Wisbech corridor, i.e. the average size of zone increases and the amount of detail regarding available options diminishes, e.g. with respect to bus services – in the urban area of Cambridge bus is likely to be a comparatively attractive alternative when compared to Waterbeach, Ely etc. The analysis may therefore be overstating the benefits of additional rail services between Cambridge North and Cambridge (and vice versa); and
- Realisation of the forecast impacts is likely to require additional access and egress enhancements at Cambridge North to help accommodate demand, spanning active modes, P&R, and, potentially, feeder bus services. There may also be a need for additional rail capacity to accommodate peak demand. These have not been costed for as the station-to-station flows lie well outside the focus of the overall study. It would therefore be inappropriate to include the impacts.

For these reasons, the additional revenue and monetised benefits from these sector pairs has been excluded. A sensitivity test is provided where the impacts for only the immediate zone containing Cambridge North Station. All other flows to/from Cambridge North are included in the analysis as it is clear that rail does provide the most attractive public transport alternative for such movements, and the impacts in the modelling are truly reflective of the service frequency enhancements.

### 3.5.4 Established Impacts

The core, or 'established', impacts of the preferred option are shown in Table 3.10, presented in 2010 values and market prices and discounted to 2010 present values. In line with the TAG Analysis of Monetised Costs and Benefits (AMCB) table, the total PVB is inclusive of the reduction in indirect taxation receipts to HM Treasury due to:

- Reduction in fuel duty and VAT; and
- Purchase of rail fares which are zero rated.

Employer's business impacts are inclusive of the reduction in bus revenue to private sector operators. They also the monetised benefit from land sales as a negative developer contribution – see Section 3.6.3.

The Marginal External Costs of Car (MECC) impacts, which include the change in highway decongestion due to mode shift (economic efficiency for non-users) and indirect taxation, are taken from the May 2019 TAG Databook. It has been assumed that 50% of the abstracted car-kms are from 'Inner and Outer Conurbations' A Roads and Other Roads respectively. A standard TAG Databook diversion factor 31% is used to estimate the reduction in car-kms from the increase in rail-kms. This reflects both the direct mode shift and the greater average trip length for rail versus car travel (as car travel is used for a wider variety of trip purposes than rail travel).

<sup>83</sup> Each sector is a group of zones. In this analysis they are focussed around the stations within the core modelled area.

**Table 3.10: Preferred Option Present Value of Benefits Estimate (£000s in 2010 values and market prices, discounted to 2010)**

Impact	Present Value of Benefits (£000s)
Noise	1,020
Local Air Quality	346
Greenhouse Gases	-17,663
Accidents	15,288
Economic Efficiency - Commuters	147,497
Economic Efficiency – Other Users	147,725
Economic Efficiency – Employer's Business	43,117
Indirect Taxation	-27,852
<b>Present Value of Benefits (Established / Level 1)</b>	<b>309,477</b>

### 3.5.5 Wider Economic Impacts

Wider Economic Impacts (WEIs) encompass a set of additional impacts from transport investment where there is evidence of market failure or distortion, resulting in economic efficiencies. The Strategic Case above discusses the issues and challenges facing Cambridgeshire, both the constrained access to markets and opportunities in the north, and the restrictions in access to labour and suppliers in the south due to connectivity constraints. An assessment of WEIs is therefore appropriate.

For WEIs to be added to the 'established' PVB in Table 3.10 they must be net additional at the UK level, including considerations of displacement from other locations.

WEIs can be assessed under either static or dynamic land uses, with the latter considering how development responds to the transport investment, e.g. through the clustering of activity at locations which benefit from the connectivity enhancements. 'Evolving' impacts of transport investment (see Table 3.8) only consider static land uses, and these are termed 'Level 2' impacts. Impacts involving dynamic land uses, e.g. clustering or land value uplift, are termed as 'indicative' or Level 3.

For the purpose of this assessment, our analysis is constrained to static land uses only, and the WEIs are therefore 'evolving' Level 2 impacts only. A screening exercise identified the need to focus on employment and productivity impacts:

- Net changes in labour supply occur where connectivity is a barrier to employment, including high real or perceived costs. Impacts are typically small at the UK level, even though the impacts at the sub-national (regional or local) level may be large; and
- Productivity gains occur through agglomeration effects, where reductions in travel times and costs mean that activities can be completed with fewer resources due to greater densities. Where these impacts occur to businesses, they manifest themselves as direct gains to productivity and overall economic performance;

The calculation of the labour supply and agglomeration impacts follows TAG Units A2-3<sup>84</sup> and A2-4<sup>85</sup>. The inputs draw on the same changes in transport times and costs as for the 'established' Level 1 impacts.

<sup>84</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a2-3-employment-effects-may-2018>

<sup>85</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a2-4-productivity-impacts-may-2018>

**Table 3.11: Preferred Option WEIs PVB Estimate (£000s in 2010 values and market prices, discounted to 2010)**

Impact	Present Value of Benefits (£000s)
Agglomeration	86,177
Labour Supply	2,437
<b>Present Value of Benefits (Established + Evolving, including Level 2 economic impacts)</b>	<b>398,091</b>

### 3.5.6 Non-Monetised Impacts

An initial screening of non-monetised impacts was undertaken using TAG Units A3<sup>86</sup>, A4-1<sup>87</sup> and A4-2<sup>88</sup>, drawing on the evidence assembled for the Strategic Case, and analysis from the GRIP 3 study, including the standalone Environmental Report. Table 3.12 summarises the likely Scheme considerations, previously highlighted in Table 3.8, and provides initial consideration of whether these are likely to be a net disbenefit, neutral, or a benefit.

**Table 3.12: Preferred Option Non-Monetised Impacts – Assessment**

Impact	Scheme Considerations	Assessment
Severance	<ul style="list-style-type: none"> <li>Localised severance in south of Wisbech due to new infrastructure</li> <li>Potential for improved local connectivity in south of Wisbech with complementary station accessibility measures, including integration with Wisbech Access Strategy</li> <li>Rail operations may increase</li> </ul>	Neutral (Zero) – design proposals involve grade separation of railway, and station accessibility proposals in Wisbech may offer potential to reduce severance as part of Scheme
Accessibility to Services	<ul style="list-style-type: none"> <li>Addition of new mode for non-car available travellers, and much enhanced connectivity to jobs, services and other opportunities across the CA area</li> <li>A significant number of further and higher education opportunities, and key medical services are located in the major centres, e.g. Cambridge</li> <li>Wisbech already has a number of key services – the new services would provide choice and additional services and opportunities</li> </ul>	Moderate Beneficial (+2) – the addition of new public transport services to/from Wisbech, plus the enhancements for March and Waterbeach will significantly enhance accessibility to a range of services and opportunities. This is particularly true for selected groups at risk of social exclusion without access to a car
Townscape	<ul style="list-style-type: none"> <li>The northern end is located in a predominantly commercial area, with the proposed Wisbech Station abutting residential neighbourhoods</li> <li>Wisbech contains a number of important cultural assets and visually attractive urban forms around the town centre and River Nene</li> </ul>	Neutral (Zero) – the preferred option does not have a significant impact on the townscape of Wisbech, and complementary measures are being proposed to ensure the Scheme blends in with surrounding land use in Wisbech
Historic Environment	<ul style="list-style-type: none"> <li>2 x Grade II listed buildings long corridor</li> <li>Brink area alongside river Nene in Wisbech</li> </ul>	Neutral (Zero) – preferred option not visible from historic assets and has no appreciable impacts
Landscape	<ul style="list-style-type: none"> <li>Corridor is predominantly rural agriculture land with trees along it</li> <li>Significant new highway infrastructure to remove need for level crossings along alignment</li> <li>Highway overbridges likely to be visible for significant distance</li> </ul>	Slight adverse (negative) effect (-1). The Scheme is not very visually intrusive, but new infrastructure will impact on selected views given the flat rural terrain in the area

<sup>86</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf)

<sup>87</sup> See: <https://www.gov.uk/government/publications/tag-unit-a4-1-social-impact-appraisal>

<sup>88</sup> See: <https://www.gov.uk/government/publications/webtag-tag-unit-a4-2-distributional-impact-appraisal-december-2015>

Impact	Scheme Considerations	Assessment
Biodiversity	<ul style="list-style-type: none"> <li>• Presence of non-native species (Japanese knotweed) along existing alignment</li> <li>• Southern end of corridor crosses two non-statutory designated sites (Norwood Nature Reserve and Whitemoor Marshalling Yard)</li> <li>• Corridor crosses traditional orchard habitat. Deciduous woodland and lowland fens habitats are located near the disused corridor</li> <li>• Protected species records have identified the presence of breeding birds, bats, otters, water voles, and great created newts within zone of influence</li> </ul>	Slight adverse (-1) – construction of both rail and highway infrastructure is likely to have a minor negative effect on biodiversity, including local designated sites. This is partly offset by opportunity to remove invasive species which have become prevalent along the rail alignment. Mitigation measures will be included in Scheme design
Water Environment	<ul style="list-style-type: none"> <li>• Most of the corridor is located within Flood Zone 3<sup>89</sup></li> <li>• Crosses Twenty Foot River (Drain) and is located just 500m from River Nene at its closest point</li> <li>• There are many field drains along the corridor and ponds near the southern end of the corridor</li> </ul>	Slight adverse (-1) – potential for adverse impacts from rail operations, although these could be mitigated by hybrid or electric power options
Option & Non-Use Values	<ul style="list-style-type: none"> <li>• The Scheme will introduce a new mode for residents of Wisbech and its hinterland, with connectivity to several destinations that cannot currently be conveniently reached, particularly for those without access to a car. This will provide impact over and above those current to use it through option and non-use values</li> </ul>	Strong beneficial (+3) – new mode and connections for significant proportion of Fenland district (>1,000 households now likely to have a 'new mode' available)

## 3.6 Costs

### 3.6.1 Capital Expenditure

Capital Expenditure (CapEx) estimates have been updated as part of the concurrent GRIP 3 study<sup>90</sup>. The 2019 Q4 point estimates are summarised by broad cost item in Table 3.13. **Error! Reference source not found..** These values are prior to consideration of contingency, risk, and Optimism Bias (OB), covered in Section 3.6.2.

The principal components of the CapEx estimate are:

- At March Station, an additional operational platform is needed. A new operational platform at the West End of the old platform 3 is recommended, with an available capacity for a 2-Car Class 170 train. These costs will be updated to the Class 755 assumption used in this FBC at the next GRIP stage;
- A revised track layout at March is required to serve the reinstated platform 3. The preferred option is to re-open a bi-directional platform 3 with the track diverging from the Up Main at the approximate location of the existing March East level crossing;
- To maintain step free access at March, a new station footbridge with lifts is required;
- A new signalling layout at March is required, including provision of nine new signals;
- A single bi-directional line should be provided between Whitemoor Junction and Wisbech;
- A passing loop at Coldham, approximately 350m long, should be provided;
- New signalling infrastructure between Whitemoor Junction and Wisbech is required, including provision of eight new signals;
- A single end fed signalling power supply should be provided;

<sup>89</sup> Flood Zone 3 is land assessed as having a greater than 1% (1 in 100) chance of flooding in a given year.

<sup>90</sup> See: '398128-009-A GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report'.

- A new Wisbech Station should be provided with a single platform to accommodate a 2-car Class 170 train. As for March, the GRIP study will be updated to assume Class 755 operation at the next stage; and
- Closure of the 22 existing level crossings should be carried out through construction of 5 highway diversion Schemes. These schemes include 7 new bridges.

**Table 3.13: Preferred Option Capital Expenditure Estimate (£000s in 2019 Q4 prices)**

Capital Expenditure Item	2019 Q4 point estimate
Highways infrastructure (to avoid at-grade crossings)	75,600
Station works	12,700
Rail infrastructure	71,900
Utilities	18,100
<b>Total Point Estimate</b>	<b>178,300</b>

Costs by type are shown in Table 3.14.

**Table 3.14: Preferred Option Capital Expenditure Estimate by Type (£000s in 2019 Q4 prices)**

Capital Expenditure Item	2019 Q4 point estimate
Direct Construction Costs	94,600
Indirect Construction Costs	46,100
Design Costs	17,500
Project Management Costs	16,200
Other Projects Costs	3,900
<b>Total Point Estimate</b>	<b>178,300</b>

Costs have been phased using the following profile:

- 2024 – 8%;
- 2025 – 12%;
- 2026 – 45%; and
- 2027 – 35%.

## Exclusions

The GRIP 3 Report<sup>91</sup> notes a series of exclusions for the CapEx estimates:

1. Base date of the estimate is 4Q19
2. Works generally expected to be carried out in normal working hours 08:00 to 18:00, Monday to Friday. Possession working has been allowed for any items associated with connecting to the existing infrastructure and on operational station platforms
3. Allowances have been included where sufficient information is not currently available to allow us to estimate the works. These have been clearly identified in the estimate and will require validation when further information becomes available
4. All excavated and disposed material is assumed as inert unless noted otherwise
5. Land deemed relatively flat

<sup>91</sup> See: '398128-009-A GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report'.

6. No hard excavation required for any element of the Scheme
7. Topsoil can be reused - no imported topsoil needed
8. Where possible budget quotations have been used from specialist subcontractors
9. Allowance (2.5% of the Base Cost Estimate) for environmental mitigation measures is included
10. Initial construction start date is not known. No inflation has therefore been applied. This will need to be revisited when schedule information becomes available. This assumption has been updated for the Economic Case with the assumed opening date and the application of real terms construction inflation using the latest BCIS series
11. Unless noted otherwise, desktop data such as OS and Google maps has been used to assess the existing site assets. This information may be out of date
12. All Civils works including Rail Systems to be self-delivered by the Main Contractor (no sub-contractor preliminary or OH&P costs allowed)
13. Quantities have been provided by the design team for the major elements of the work and a spot check has been made to high value items. A full measurement has been undertaken by the estimating team for the bridge structures, March Station footbridge, March and Wisbech Station car parks, drainage to the highway works, signalling and permanent way
14. The costs for the remedial works to Chain Bridge WIG 2314, Mulbary Drain WIG 2315, Waldersey Drain WIG 2317 and Redmoor Drain WIG 2319 have been provided by the Mott MacDonald Design team. The remedial costs for the deck replacement to Chain Bridge WIG 2314 includes for works to the abutments with mini piles
15. 10% of the direct works cost has been included to cover all temporary works
16. Legal fees and compensation, including business relocation, associated with land are excluded at this stage
17. Planning consent costs are excluded at this stage
18. Highways England or Cambridgeshire County Council third party design checks for highways assets are excluded at this stage
19. The costs of archaeological digs are excluded at this stage
20. The costs of any tree planting are excluded at this stage
21. Costs associated with taxes, levies and licences are excluded at this stage
22. Costs associated with any changes in legislation and any form of applicable standards are excluded at this stage.

### 3.6.2 Contingency, Risk and Optimism Bias

TAG Unit A1-2, TAG Unit A5-3, and the most recent DfT study into OB<sup>92</sup> have been used to provide appropriate adjustments to the point estimate in order to account for:

- Risk, i.e. quantifiable events with known probabilities of occurrence; and
- OB, which is the historical tendency for projects to underestimate costs, partly based on missed considerations and also 'unknowns' at the time of estimation.

The project is now at a GRIP 3 stage of development but no Quantified Risk Assessment (QRA) has been undertaken. This is anticipated to follow as part of the early stage of a GRIP 4 study.

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<sup>92</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/576976/dft-optimism-bias-study.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/576976/dft-optimism-bias-study.pdf)

TAG Units A1-2 and A5-3 recommend an OB value of 18% at GRIP 3 to be applied to the P(mean) risk adjusted estimate from QRA. In the absence of the QRA, a joint 40% risk and OB uplift is applied (recognising that this conflates two separate considerations<sup>93</sup>) to all scheme components except for:

- Highway schemes 1 and 2, Elm Road and Coldham Grade. The Road Safety Audit (RSA) for these schemes identified significant unresolved issues which could not be addressed within the existing GRIP 3 programme. Updates to address the RSA comments are underway (June 2020); and
- Track drainage. The Spring 2020 visual survey of the disused rail corridor identified significant third party coordination risks affecting track drainage design. Further work is required through the GRIP process to address these issues and a higher risk allowance is therefore justified.

For all of these scheme components, a joint risk and OB allowance of 64% has therefore been applied.

### 3.6.3 Land Costs

Land acquisition requirements have been estimated from the latest GRIP 3 drawings and comprise the following quantum:

- 39.4 hectares of agricultural land;
- 9 hectares of other built land; and
- 19 residential properties.

CCC supplied the following 2017 local point estimates for the three land uses:

- £37,500 per hectare for agricultural land;
- £125,500 per hectare for other built land; and
- £277,500 per residential property.

Total land acquisition costs are therefore estimated at approximately £7.7 million (2017 prices). No risk or OB adjustment is required to this total, also excludes any provision for compensation.

For economic appraisal purposes all of these land costs are a transfer of monies between the public accounts and the private sector. The same totals are therefore added to the PVC as a Scheme cost and to the PVB as a private sector benefit from the land and/or property sale. Following conversion to a 2010 price base, and discounting to 2010 present values the total added to both the PVC and PVB is £4.5 million (2010 values and prices, discounted to 2010).

The following assumptions were applied:

- All land within NR freehold assumed to be transferred for zero charge;
- All land within highway authority ownership assumed to be transferred for zero charge; and
- Excludes legal and compensation costs (e.g. costs for acquiring businesses).

<sup>93</sup> Combined Risk and Optimism Bias on the point estimate taken as 40% in line with DfT/Network Rail guidance. For the purposes of separating risk and Optimism Bias, Optimism Bias can be considered at 18% applied in line with De Reyk et al 2015 and applied in line with TAG guidance unit A1-2 and A5-3. This leaves Contingency Risk estimated of c.19% in line which is within the benchmark range for NR Cost Planning Procedure 2019. Formula for cost estimation is *contingency risk and optimism bias adjusted cost* = *(Base cost + risk) \* (1 + Optimism bias)*. A QRA will be undertaken as part of GRIP 4 analysis.

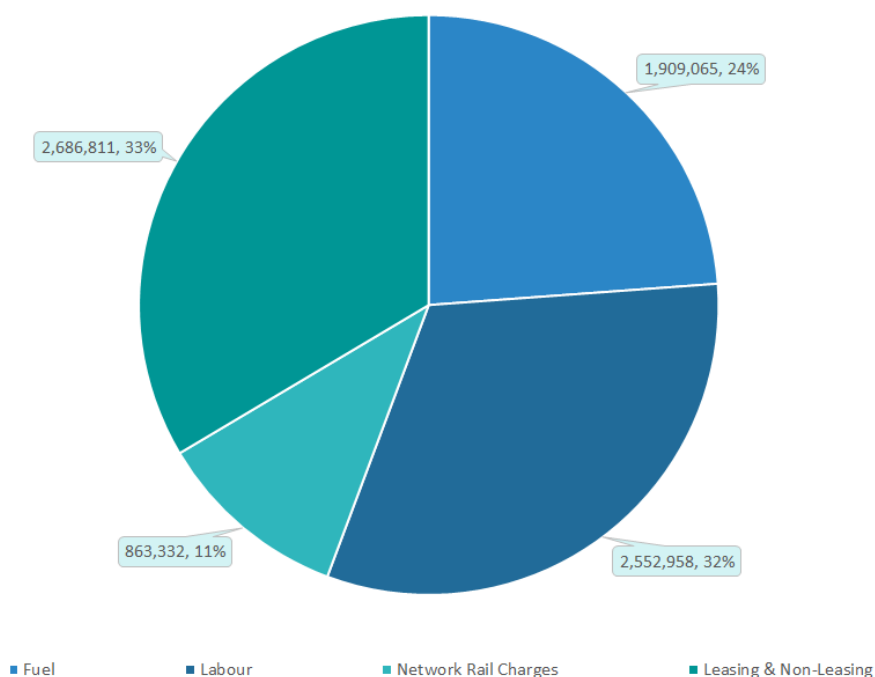
### 3.6.4 Operating Expenditure

Drawing on the GRIP 3 operational analysis, rail Operating Expenditure (OpEx) estimates for the preferred option have been developed inclusive of:

- Fuel costs;
- Labour costs;
- Network Rail charges, to cover ongoing maintenance and day-to-day OpEx for infrastructure (major renewals are considered separately); and
- Leasing and non-leasing charges for the additional rolling stock.

Cost inputs have been standardised to a 2017 base year, ensuring consistency with the demand modelling. The estimates have drawn on the latest Network Rail charge list, local labour estimates for the additional rail staff, and fuel cost values from the TAG Databook. Leasing and non-leasing charges are taken from the latest ORR financial statistics for all TOCs. Real terms changes have been applied in line with the TAG Databook and guidance in TAG Unit A5-3. Figure 3-4 shows the OpEx estimate split across the four grouped items for the opening year of 2028.

**Figure 3-4: 2028 Rail Operating Expenditure Estimate (2017 prices)**



Source: Mott MacDonald..

As shown in Table 3.15, there are significant highway works associated with the preferred option. These principally relate to the replacement and consolidation of the level crossings along the route, with the associated provision of highway overbridges and the realignment of local highways. Full details of the works are available in the GRIP 3 report<sup>94</sup>. As these works generate net additional assets to be monitored and maintained by the highway authorities,

<sup>94</sup> See: See: '398128-009-A GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report'.

these will require additional OpEx. Wholesale renewal of assets is considered separately as part of the CapEx estimate.

To estimate this incremental OpEx between the DM and DS scenarios, the tools provided by the Association of Directors of Environment, Economy, Planning & Transport (ADEPT) have been used to estimate the 'commuted sums' for the proposed highway works. These works are heavily backloaded across the 60-year appraisal period, recognising that new assets will mainly require monitoring during the first 10 to 20 years, and that costs will then increase exponentially across the period until all assets have been subject to significant maintenance. Assumed to be approximately 45 years into the appraisal period. With the application of discounting in the economic appraisal, the present value of these costs is therefore lower much lower than the actual outturn values.

The incremental highway OpEx for the full 60 years has been estimated at approximately:

- £12.5 million in 2010 undiscounted prices; and
- £1.9 million following discounting to 2010 prices.

### 3.6.5 Revenue

Incremental revenue was detailed in Section 3.4.5. Prior to adjustments for economic appraisal, the total revenue gain is approximately £10 million per annum after full ramp-up effects. Across the full 60 years, revenue is forecast to marginally exceed OpEx. In line with TAG Unit A5-3, this surplus is treated as a reduction in subsidy to the rail industry, with the revenue gain exactly offset in the PVB estimate by a transfer to the public accounts. The reduction in subsidy is then counted in the TAG Public Accounts (PA) table as a negative Scheme cost.

### 3.6.6 Present Value of Costs Estimate

For the economic appraisal all items are, where applicable:

- Converted to a common 2010 price base using the GDP deflator series;
- Converted to market prices using the 1.19 market price adjuster;
- Converted to 2010 present values using the latest HM Treasury discount rates;
- Subject to real terms construction inflation assumptions using the latest Building Cost Information Services (BCIS) series; and
- Subject to risk adjustment and OB.

Following these adjustments, the summary of the Present Value of Costs (PVC) estimate for the preferred option is shown in Table 3.15.

**Table 3.15: Preferred Option Present Value of Costs Estimate (£000s in 2010 values and market prices, discounted to 2010)**

Cost	Present Value of Costs (£000s)
Investment Costs	155,014
Land Costs	4,482
Rail Operating Expenditure	138,356
Rail Revenue (negative cost)	-142,020
Highway Operating Expenditure	1,490
<b>Broad Transport Budget</b>	<b>166,024</b>

## 3.7 Economic Appraisal

### 3.7.1 Preferred Option

The combined economic appraisal metrics from preceding sections are shown in Table 3.16. The full set of TAG economic tables are contained in Appendix E.

**Table 3.16: Preferred Option Analysis of Monetised Costs and Benefits – Summary (£000s in 2010 values and market prices, discounted to 2010)**

Item	
<b>Established Impacts, inclusive of Level 1 economic impacts only</b>	
PVB	309,477
PVC	181,942
Net Present Value (NPV: PVB - PVC)	127,535
Benefit Cost Ratio (BCR: PVB / PVC)	1.70
<b>Evolving Impacts, inclusive of Level 1 and 2 economic impacts</b>	
PVB	398,091
PVC	181,942
Net Present Value (NPV: PVB - PVC)	216,150
Benefit Cost Ratio (BCR: PVB / PVC)	2.19

### 3.7.2 Low Cost Alternative

The low cost alternative of the construction of a guided busway between Wisbech and March was identified at the OAR stage (see Appendix A). The analysis for this is largely unchanged (whereas the preferred option has been updated to reflect outputs from the GRIP 3 study). The low cost alternative currently offers much lower Value for Money (VfM) and a negative NPV.

**Table 3.17: Low Cost Alternative Analysis of Monetised Costs and Benefits – Summary (£000s in 2010 values and market prices, discounted to 2010)**

Item	
PVB	62,084
PVC	85,051
Net Present Value (NPV: PVB - PVC)	-22,967
Benefit Cost Ratio (BCR: PVB / PVC)	0.73

## 3.8 Appraisal Summary Table

The full Appraisal Summary Table (AST), combining quantified and qualitative impacts, for the preferred option is provided in the table below.

**Table 3.18: Preferred Option Appraisal Summary Table**

Appraisal Summary Table				Date produced:		3 June 2020		Contact:	
Name of scheme:		March to Wisbech Transport Corridor Study						Name	Jon Crockett
Description of scheme:		Introduction of a new two train per hour service between Wisbech and Cambridge, also calling at March, Ely, Waterbeach and Cambridge North						Organisation	Mott MacDonald
								Role	Scheme Consultant
Impacts		Summary of key impacts		Assessment					
				Quantitative			Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Enhancements in efficiency through reduced time and cost of travel, particularly for Fenland businesses connecting to Cambridge, London and other significant regional and national destinations. Contribution to decongestion through mode shift, particularly for travel into the Cambridge urban area.		Value of journey time changes(£)			£ 43,117,126		
	Net journey time changes (£)								
	0 to 2min			2 to 5min	> 5min				
		Reliability impact on Business users	Enhancements due to new alternative which avoids highway congestion. Timetable optimisation undertaken to minimise disruption to existing rail services.					Slight beneficial	
	Regeneration	The scheme is expected to generate significant regeneration impacts for Fenland, focussed around March and Wisbech. The new connection will help stimulate local economic activity and the attractiveness and productivity of the area for businesses. Potential for scheme to support Garden Town proposals for Wisbech as been identified					Large beneficial		
	Wider Impacts	The scheme aims to remove the disconnect between the Noth and South Cambridgeshire economies, addressing productivity and employment issues in the north, and access to labour supply in the south. The reductions in travel times and costs is forecast to lead to significant agglomeration economies and labour supply.					£ 88,614,133		
Environmental	Noise	Reduction of road traffic noise from mode shift, partially offset by increased noise from additional rail operations.					Slight beneficial	£ 1,019,182	
	Air Quality	Reduction in road traffic emissions, particularly in sensitive areas such as routes into and out of Cambridge. Additional emissions from rail operations, but these are further from receptors.					Slight beneficial	£ 346,304	
	Greenhouse gases	Reduction in emissions from road traffic due to mode shift; however, TAG quantification estimates disbenefit will be generated due to current fuel efficiency for additional rail services.		Change in non-traded carbon over 60y (CO2e)			-£ 17,662,752		
				Change in traded carbon over 60y (CO2e)					
	Landscape	The scheme is not very visually intrusive, but new infrastructure will impact on selected views given the flat rural terrain in the area					Slight adverse		
	Townscape	The preferred option does not have a significant impact on the townscape of Wisbech, and complementary measures are being proposed to ensure the scheme blends in with surrounding land use in Wisbech					Neutral		
	Historic Environment	Preferred option not visible from historic assets and has no appreciable impacts					Neutral		
	Biodiversity	Construction of both rail and highway infrastructure is likely to have a minor negative effect on biodiversity, including local designated sites. This is partly offset by opportunity to remove invasive species which have become prevalent along the rail alignment. Mitigation measures will be included in scheme design					Slight adverse		
	Water Environment	Potential for adverse impacts from rail operations, although these could be mitigated by hybrid or electric power options					Slight adverse		
Social	Commuting and Other users	Enhancements in efficiency through reduced time and cost of travel, particularly for Fenland residents connecting to Cambridge, London and other significant regional and national destinations, and, vice versa, other travellers into Fenland. Contribution to decongestion through mode shift, particularly for travel into the Cambridge urban area.		Value of journey time changes(£)			£ 295,221,810		
	Net journey time changes (£)								
	0 to 2min			2 to 5min	> 5min				
		Reliability impact on Commuting and Other users	Enhancements due to new alternative which avoids highway congestion. Timetable optimisation undertaken to minimise disruption to existing rail services.						
		Physical activity	Negligible, although active mode travel encouraged for station access and egress in Wisbech						
		Journey quality	N/A						
		Accidents	Reduction in road traffic accidents due to mode shift from road to rail					£ 15,287,732	
		Security	N/A						
		Access to services	The addition of new public transport services to/from Wisbech, plus the enhancements for March and Waterbeach will significantly enhance accessibility to a range of services and opportunities. This is particularly true for selected groups at risk of social exclusion without access to a car					Moderate beneficial	
		Affordability	N/A						
	Severance	Design proposals involve grade separation of railway, and station accessibility proposals in Wisbech may offer potential to reduce severance as part of scheme					Neutral		
	Option and non-use values	New mode and connections for significant proportion of Fenland district (>1,000 households now likely to have a 'new mode' available)					Large beneficial		
Public Accounts	Cost to Broad Transport Budget						£ 181,941,722		
	Indirect Tax Revenues						£ 27,852,207		

### 3.9 Risks, Uncertainties & Sensitivity Analysis

#### 3.9.1 Principal Project Risks

Table 3.19 presents a summary of some of the, Scheme specific, key risks affecting the potential impacts and likely costs of the preferred option. They include consideration of those identified in the GRIP 3 study. A number are also considered as part of the uncertainty log (see Appendix F) for the demand modelling and economic appraisal, and are subject to sensitivity testing (see Section 3.9.2).

**Table 3.19: Preferred Option – Key Risks and Related Assumptions**

ID	Risk	Assumption(s)
1	Availability of paths through Ely North Junction to support 2tph to Cambridge, including the likely need for these train paths to be secured as part of the EACE	Assumed capacity is available following the EACE.
2	Recontrol of the existing signalling infrastructure in the March area. March East Jn Signal Box and March South Signal Box will be closed, under a re-signalling project with re-control to a Central location (e.g. Cambridge PSB) by the end of CP7 2029. Source Network Rail Anglia Route Strategic Plan, March 2019. If the existing Signal Boxes remain, it risks the ability to integrate the proposed new signalling with existing electro-mechanical signalling at March and re-opened the Wisbech line.	This study assumes that the ageing signal control infrastructure at March is recontrolled to Cambridge under a separate NR project and that signal control for the reinstated March to Wisbech line can be accommodated at Cambridge
3	All existing level crossings between March and Wisbech are closed – construction of new grade separated crossings required	Assumed all level crossings must be removed with associated grade separated crossings or diversions
4	<b>A47 Scheme:</b> <ul style="list-style-type: none"> <li>The overall Scheme is for dualling the remaining sections of the A47 between Peterborough and Kings Lynn</li> <li>The plans include three potential routes at Wisbech. One of the three proposals would see 'online' dualling of the existing A47. The other two proposals would see a new A47 dual carriageway take an alternative route around Wisbech.</li> <li>The existing single carriageway A47 intersects the March to Wisbech line at a level crossing. Under this study it is proposed to close the existing A47 level crossing and construct a new road over rail bridge (refer to Highway Scheme 4 in section 5 of this report)</li> </ul>	Assumed that rail Scheme bears cost for grade separation, i.e. no A47 Scheme advanced prior to rail opening
5	<b>Wisbech Access Strategy:</b> <ul style="list-style-type: none"> <li>The Wisbech Access Strategy (WAS) is a package of individual transport Schemes that aim to improve the transport network in Wisbech. This includes proposed highway improvement Schemes on New Bridge Lane, Cromwell Road, Weasenham Lane and the A47.</li> <li>The following elements of infrastructure are proposed under this study and would interface with WAS highway Schemes: –Highways Scheme 4 (A47)–Highways Scheme 5 (Weasenham Lane)–Wisbech Station</li> <li>At this stage the two projects are developing independently, and no attempt has been made to integrate the WAS Schemes with the GRIP 3 proposals for the March to Wisbech line</li> </ul>	Assumed station accessibility proposals in Appendix B can be successfully integrated into final plans for the WAS.
6	Possible requirements for enhancement of existing Network Rail infrastructure between March and Cambridge (due to increase in rail traffic to accommodate Wisbech - Cambridge services) – costs excluded	Any incremental costs for the line between March and Cambridge are excluded

ID	Risk	Assumption(s)
7	Increased level crossing risk on the 39 level crossings of various types between March and Cambridge.	This study assumes that all necessary upgrades to these existing level crossings are provided by other Schemes (principally the Ely Area Capacity Enhancement Scheme).
8	Approval of tight radius track curvature around March station by Network Rail. Rejection of the proposed layout would require major changes to the track design and March station platforms, with additional project costs	Assume Network rail approval granted
9	The location of the proposed Weasenham Lane bridge raises concerns in terms of constructability and maintainability, as it is less than five metres from adjacent industrial buildings in places. These hazards are in addition to the project risks of this bridge due to the severance of access to at least three businesses. Changes to the alignment design or bridge configuration could incur additional project costs	Additional costs associated with redesign or access costs for businesses are excluded
10	Fluvial/tidal hydraulic modelling has not been undertaken at this stage of design and thus a design flood level has not been agreed. The flood level could impact the design and location of the proposed infrastructure. This may lead to additional project costs	No costs included
11	Current speed for March station to Whitemoor Yard is 10mph. To meet the project operational requirements, the speed needs to be increased to improve running times. Initial speed calculations have indicated that the track geometry is capable of 20mph and this has been briefed to Operations. It is noted that due to the tight track curvature there may be increased noise, vibration and wear as a result of raising the speed.	Increase in speed accepted by Network Rail
12	The Scheme aims to relocate the turnout to the east of March Platforms as far east as possible to maximise a signalling overlap and then add a crossover. This offers operational benefits, increasing ability to reliably run March to Wisbech service with 2tph. The closure of March East level crossing will be highly beneficial to this opportunity.	March East level crossing closed as part of EACE
13	Badgeney Road LC and Horsemoor LC proposed for closure under EACE project (source: info from CCC project manager). If these crossing remain opening the detailed design phase will need to consider alterations to crossing controls.	Assumed crossings closed
14	One train working at Wisbech end of line	No signals required at Wisbech.
15	Highway alignments from GRIP 2 may not be the most appropriate solution.	It is assumed that the Scheme 1, 2, 4 and 5 highways design should be developed directly from the GRIP 2 design provided by NR.
16	Ground conditions to be confirmed following GI at the next phase and may require additional location specific ground models	Ground conditions and groundwater profile assumed based on limited historical boreholes located at the centre of the Scheme and within Wisbech
17	Resilience of existing flood defences	Existing defences against fluvial flooding are adequate up to 1 in 200-year return period. No interventions required to increase resilience of the proposed infrastructure against fluvial/tidal flooding.

ID	Risk	Assumption(s)
18	<p>Fenland District Council – March Station Masterplan:</p> <ul style="list-style-type: none"> <li>Fenland District Council are developing proposals for improvements at March Station, these include a new car park area</li> <li>At this stage the two projects are developing independently</li> </ul> <p>The two projects should provide integrated benefits.</p>	Assumed the two proposals have mutual synergies and can be developed to be mutually beneficial. There may be additional benefits, but to be conservative we assume no interaction at this stage (given level of certainty of current proposals).
19	Unknown ground conditions throughout the site. Ground models and characteristic parameters for design may change resulting in design being re-worked. This could result in additional project cost.	N/A

Source: Mott MacDonald

### 3.9.2 Sensitivity Testing

The uncertainty log is contained in Appendix F. This is, in part, linked to key risks and assumptions described in Table 3.19, which principally relate to design and operational considerations from the GRIP analyses, and also draws on other critical inputs and assumptions for the demand modelling and economic appraisal. Table 3.20 details the sensitivity tests completed as a result of this analysis. Results are presented for the 'established' impacts only, exclusive of WEIs.

The analysis shows that the expected VfM of the Scheme remains in the 'medium' category across the majority of sensitivity tests. Inclusion of higher background growth (ID#6), through the application of the GJT trend reduction of 1% per annum to 2030<sup>95</sup>, results in much stronger background rail demand growth and therefore more beneficiaries and greater revenue reducing the PVC. Under this scenario, the BCR increases to above 2.0, representing 'high' VfM. A sensitivity whereby an apportionment is made to the Scheme of some of the costs associated with the EACE (ID#16), linked to level crossings works between March and Cambridge, reduces the BCR to below 1.5, representing 'low' VfM.

Other observations include:

- Increasing the destination choice sensitivity (ID#2) allows greater change in the location of where people live, work etc. in response to changes in transport supply. In totality this has promoted more rail demand but these are shorter in length as they are closer to Cambridge;
- As destination choice is significantly more sensitive than mode choice, changes in fuel cost (IDS#3 and 4) also have a greater proportionate impact on where people live, work etc. compared to choice between rail and car. Lower fuel costs promote longer trips in totality, i.e. a greater distance between home and work etc., which favours the choice of rail for some of those trips;
- Direct modal interactions with the proposals for the A47(T) are limited as they serve two different travel markets (ID#7). However, enhancements to east-west connectivity will make these more attractive through destination choice, diminishing the market for north-south travel which the preferred rail option focuses on. The A47(T) proposals also interact by enhancing connectivity to and from the proposed Wisbech station;
- Two tests (IDs 9 and 14) look at lower levels of service to and from Wisbech due to capacity constraints from possible delays in interdependent schemes. Both naturally reduce the PVB estimate. The BCR is marginally increased under the test with 1tph between Wisbech and

<sup>95</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/805256/tag-unit-m4-forecasting-and-uncertainty.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805256/tag-unit-m4-forecasting-and-uncertainty.pdf)

Cambridge supported by a 1tph Wisbech – March shuttle, driven by the associated OpEx savings from fewer trains being required. However, the NPV is lower than for the preferred option and the strategic disbenefits for regeneration in both Wisbech and March of only offering one additional direct service to Cambridge are significant. The impacts of the Wisbech-March service are also very dependent on its ability to provide efficient links to the Birmingham – Stansted services at March (and the performance of that service);

- Due to the relative sparsity of the rail network, alternative growth scenario services are heavily dependent on the location of potential development and its proximity to stations. It can be seen in IDs#12 and 13 that changes in aggregate growth across the area do not have a significant bearing on the economics;
- Potential additional scheme costs (IDs#15 to 17) naturally increase the PVC and lower the BCR and NPV. However, even with significant cost increases, the BCR remains above 1.3;
- More general sensitivity testing around the Scheme costs (IDs#18 and 19) indicate that changes of +/-20% are required to move the VfM category; and
- In a similar manner to the fuel cost testing, the possible increase in journey time due to a lower permissible speed through March Station has its main impact through changes in destination. The change in rail demand is naturally lower, albeit one additional minute is not a significant changes for the overall GJT of rail travel between Wisbech and destinations such as Cambridge and London<sup>96</sup>; however, the changes in destination mean that across all rail demand, higher trip lengths, and average revenues per journey are marginally increased. The combined effect of a reduction in the PVB and PVC (due to revenue increase) offsets. The 'rule of a half' in transport appraisal also has an effect as the vast majority of rail travellers to/from Wisbech are new users and only receive half of the incremental time savings.

**Table 3.20: Sensitivity Testing – Economic Metrics**

Test ID	Description	PVB	PVC	NPV	BCR
Core		309,477	181,942	127,535	1.70
1	Destination choice sensitivity – minimum values from TAG Unit M2.1	307,756	178,814	128,941	1.72
2	Demand ramp-up – behavioural change is slower. A 10-year ramp-up is applied instead of 5 years	294,206	191,095	103,111	1.54
3	Fuel costs – 10% increase on existing TAG Databook values by 2039	308,524	178,468	130,056	1.73
4	Fuel costs – 10% decrease on existing TAG Databook values by 2039	310,527	178,403	132,123	1.74
5	Rail fares policy – RPI+1%	279,449	183,948	95,501	1.52
6	GJT trend at -1% per annum to 2030 (TAG Unit M4)	351,908	158,176	193,733	2.22
7	Enhancements to A47(T) implemented. 2% reduction in highway journey times to/from all Wisbech zones in 2030 and 2039	307,896	181,846	126,050	1.69
8	Bridge costs for A47(T) split between highway and rail scheme (50:50)	307,896	175,888	132,009	1.75
9	EACE only permits lower level of service – 1tph WIS-CBG and 1tph WIS-MAR	254,504	142,156	112,348	1.79

<sup>96</sup> In this example, the increase in the attractiveness of rail to/from March etc. (all flows except those to/from Wisbech) is the same as the core scenario. The destination choice component of the modelling therefore supports increased rail demand to/from these stations as the attractiveness of Wisbech as a destination (or place to live) has diminished. This, in part, offsets the lower rail demand to/from Wisbech when looking at the net impacts.

Test ID	Description	PVB	PVC	NPV	BCR
10	Class 755 – additional rolling stock quality and costs at Wisbech Station to accommodate three car formations	313,417	181,665	131,752	1.73
11	Garden Town development, inclusive of station access package costs	342,938	191,257	151,680	1.79
12	High growth scenario	310,129	164,375	145,754	1.89
13	Low growth scenario	305,618	181,738	123,881	1.68
14	Delays in remote operation of signalling mean only a reduced service until 2039, with 1 tph WIS-CBG and 1tph WIS-MAR (instead of 2tph WIS-CBG).	294,351	187,182	107,169	1.57
15	Costs of re-signalling at March East signalbox included, i.e. no areawide re-signalling scheme implemented	309,477	195,949	113,528	1.58
16	Portion of EACE borne by scheme, related to the level crossing works between March and Cambridge to enable additional train paths through the wider Ely area (£53.4 Million in 2018 prices)	309,477	233,698	75,780	1.32
17	Inclusion of station access package costs, linked to Wisbech Access Strategy	309,477	183,571	125,906	1.69
18	Lower level of risk and OB adjustment (25%)	309,477	156,507	152,970	1.98
19	Higher level of risk and OB adjustment (64%)	309,477	204,618	104,860	1.51
20	Permissible speed through March Station is only 10mph instead of assumed 20mph. Additional one minute of IVT for trips to/from Wisbech	309,017	180,261	128,757	1.71

### 3.10 Value for Money Statement

This section has considered the Value for Money (VfM) offered by the proposed construction of a new rail line between March and Wisbech, the preferred connectivity option for addressing a set of challenges and issues identified as affecting North Cambridgeshire. The new infrastructure, coupled with the proposed additional rail services between Wisbech and Cambridge, will concurrently help address a set of constraints affecting South Cambridgeshire, principally the availability of labour supply to help sustain growth, in part also a result of a lack of connectivity. The preferred option therefore aims to address these twin challenges in a mutually beneficial way, with the proposed rail services also benefitting a series of intermediary communities between Wisbech and Cambridge.

The assessment of the preferred option's costs and benefits has been undertaken in line with DfT's TAG suite, referencing both modelling and appraisal units. Cost inputs are principally taken from the parallel GRIP workstream, which has now completed stage 3, coupled with a full consideration of additional capital and operating expenditure. Appropriate risk and optimism bias adjustments have been applied. Taken together, these benefits and costs result in a BCR of 1.70, considerate of 'established' impacts only (including only direct Level 1 economic impacts). The Scheme is therefore 'Medium' VfM<sup>97</sup>, falling below the 2.0 threshold; however, this is exclusive of non-monetised impacts, excluding both national and sub-national Wider Economic Impacts (WEIs).

When considerate of net UK WEIs, the BCR for the preferred option increases to 2.19, and the Scheme therefore offers 'high' VfM. Again, this is the net UK impact. As noted in the Strategic

<sup>97</sup> See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/630704/value-for-money-framework.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/630704/value-for-money-framework.pdf)

Case, and previously assessed at SOBC and OBC stages, the Scheme also offers substantial sub-national WEIs across Cambridgeshire and Peterborough, and the potential for significant regeneration opportunities within both Wisbech and March. This includes the ability to support and/or stimulate additional housing development.

A series of sensitivity tests have been undertaken around the core assumptions and inputs, recognising critical uncertainties and risks. These demonstrate that the VfM assessment noted previously is likely to remain consistent under multiple future scenarios.

## 4 The Commercial Case

### 4.1 Introduction

This section sets out the commercial case for the Transport Corridor and provides evidence of the commercial viability of the proposal and the procurement strategy that will be used to engage the market. Risk allocation and transfer, contract timescales and implementation timescales, capability and skills of the team delivering the project and personnel implications from the proposal are all documented. The section considers:

- The required services
- Commercial structure
- Risk allocation and transfer
- Procurement Strategy
- Consents strategy
- Commissioning and operating model for the railway
- Passenger service delivery model
- Human resource considerations

The commercial case set out in this section should be understood as a reference commercial strategy for more detailed development as the Scheme progresses in conjunction with Network Rail (as asset owner and system operator) and DfT (as potential funder).

### 4.2 Required services

This sub-section defines the output-based specification of the March to Wisbech Transport Corridor Scheme, offering a high-level explanation of the key infrastructure requirements of the Scheme.

#### 4.2.1 Infrastructure delivery

The specific capital expenditure requirements are presented in Section 3.6.1 of the Economic Case which were sourced from the GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report.

#### 4.2.2 Service delivery

Once the infrastructure is delivered, this business case plans for two trains per hour from Wisbech to Cambridge which will boost the service provision for March, Ely, Waterbeach, and Cambridge North stations also.

Three train operating companies currently operate services on the Ely-Peterborough Line, Greater Anglia, Cross Country and East Midlands Railway. The addition to the Train Service Requirement for the Greater Anglia (GA) franchise is the most likely option for operation of this Scheme, given the existing GA train crew and rolling stock depot at Cambridge<sup>98</sup>, the type of rolling stock operated by GA and their existing service patterns on the line.

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<sup>98</sup> Arriva TrainCare Cambridge Depot services include depot fuelling, maintenance, painting, cleaning, and wheel lathe – Arriva TrainCare Catalogue, Locations in the UK - Cambridge <http://www.arrivatc.com/locations-in-the-uk-cambridge.php> [Accessed 5<sup>th</sup> December 2019]

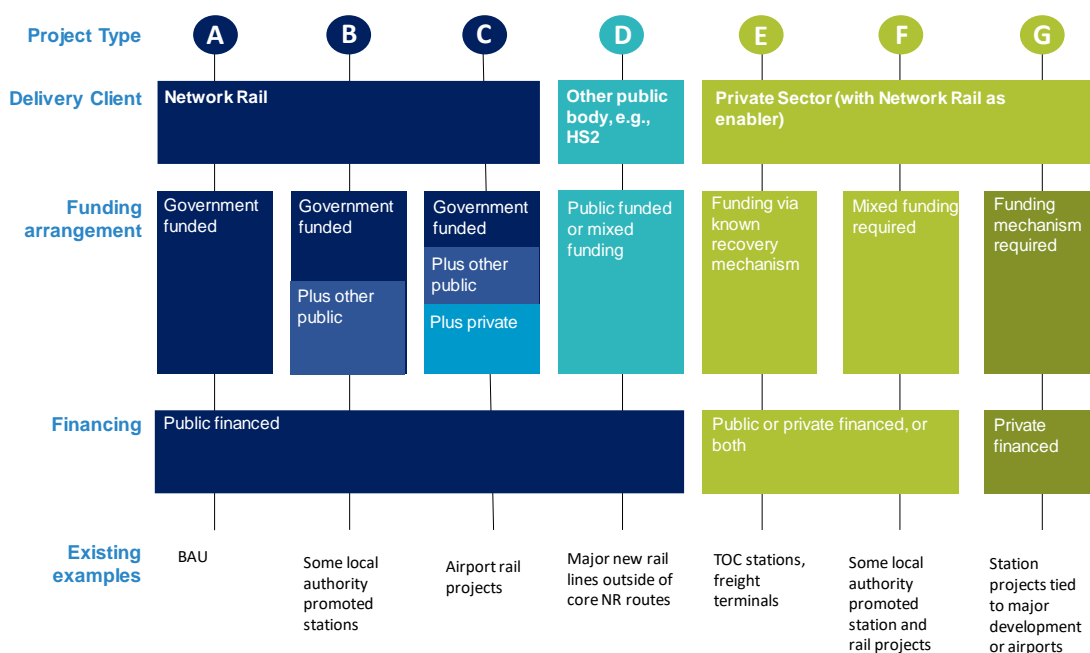
The system of rail franchising in the UK is under review, as part of the Williams Review. The analysis contained in this section assumes that the general principle of services being operated by a wider rail service provider (rather than via the infrastructure provider) continues after the Williams Review is published. Furthermore, while at the time of writing, the UK Government had suspended the rail franchise system in a move that effectively nationalises any losses by railway companies, this is expected to be temporary and resolved long before the March to Wisbech Transport Corridor Scheme opens to the public. However, it is noted that there is uncertainty at this time in the rail sector as longer term plans are reconsidered.

## 4.3 Commercial Structure

### 4.3.1 Introduction

In developing a reference commercial structure for the development of this project, the Hansford review framework was utilised and Figure 4-1 is adapted from this review. The review establishes a typology that differentiates projects according to who the sponsor and delivery client is, and how they are funded and financed. Further considerations relate to which entities take on the design, procurement and delivery management roles, and the ownership and operation of the infrastructure assets post-construction.

**Figure 4-1: Typology of rail infrastructure commercial structures**



Source: Hansford Review, 2017 (adapted)

### 4.3.2 Current Status

The existing assets within the scope of the Scheme have a variety of owners:

- March Station is in freehold possession of Network Rail. The current holder of the Station Lease is GA train operating company.
- The operational rail line between Whitemoor Junction and March Station is in freehold possession of Network Rail.

- The disused rail line between Whitemoor Junction and Weasenham Lane in Wisbech is in freehold possession of Network Rail.
- Lands to the north of Weasenham Lane in Wisbech identified for the Scheme, including the site of the proposed station, are in a variety of private sector ownerships.
- Lands required for level crossing works, which are in a variety of private sector ownerships.

### 4.3.3 Reference Structure

The funding assessment set out in the Financial Case established that there is no solution whereby the project can be solely funded from self-generated direct (e.g. rail user operating surplus) or indirect (e.g. property tax-related revenues) sources. This indicates that the March to Wisbech Transport Corridor Scheme cannot be structured as a type C, type E or type G project which are substantially reliant on private-sector funding sources. A type A project is also considered unlikely as a delivery structure because the project does not currently feature in Network Rail's route planning and so is unlikely to be fully funded by DfT and delivered by Network Rail. This leaves delivery structures B, D and F as the three remaining options for the procurement route of this Scheme.

The Scheme Delivery Strategy identified that a type D approach was preferable for the Scheme. Under a type D structure, a third party (such as CPCA) takes the lead in the sponsorship, delivery and, in part, funding of the rail project. This structure was felt to be more suitable than a type B structure, where Network Rail Routes is the delivery client, because of existing work undertaken by Cambridgeshire authorities to date in progressing the Scheme, and because the project is not currently a priority on Network Rail's Anglian Route Strategic Plan. A type D approach was favoured over a type F approach as it was judged that Network Rail involvement was likely to be required during the Design and Delivery Management/Procurement stages of the project, noting the significant proportion of works that will take place on the operational railway. This reference commercial structure, however, has yet to be shared with Network Rail at the time of writing.

This "third party"-led approach presents a number of risks to CPCA that would not arise under a model where Network Rail were the sole delivery client, particularly around interface risks with the operational railway. However evidence from other similar schemes also shows that a third-party delivery client may be able to realise efficiencies on National Rail projects vs. conventional delivery approaches.

A summary of the roles for different organisations under the preferred commercial structure for the Scheme is as follows:

- *Sponsor:* CPCA, with a co-sponsor from Network Rail Eastern Region
- *Delivery Client:* CPCA
- *Design and Delivery Management:* CPCA and/or Network Rail Capital Delivery
- *Procurement:* CPCA and/or Network Rail Capital Delivery
- *Funding/Financing:* Hybrid approach combining self-generated sources and external grant funding from DfT and MHCLG (refer to the Financial Case).
- *Operations:* Network Rail

Under this approach, CPCA will take the lead on specifying, designing developing, procuring and delivering the March to Wisbech Transport Corridor Scheme, working collaboratively with Network Rail. CPCA, working with other Cambridgeshire authorities, will want to take the lead in shaping the Scheme's development to ensure it meets local requirements, in particular in relation to CPCA and FDC's growth aspirations in Wisbech through the WGT urban extension.

Under the structure set out above, CPCA will work with Network Rail to determine the most effective route to procurement, detailed design and delivery management. The terms of agreement between Network Rail and CPCA will also need to be discussed agreed. Template agreements and guidance for third party investors can be found on the Network Rail website and will be reviewed as part of discussions during GRIP 4<sup>99</sup>. This reflects the fact that for the significant proportion of works that relate to the existing operational national rail network, Network Rail may require that works be undertaken by a Tier 1/Tier 2 rail contractor and be managed by Network Rail in order for these works to be commissioned onto the national rail network. However, CPCA may also have the opportunity under this structure to seek efficiencies compared to conventional Network Rail infrastructure design and procurement approaches, particularly on the proportion of the project where construction will not occur on the operational railway (i.e. Whitemoor Junction to Wisbech railway, Wisbech station and related works, level crossings and related highways works).

This approach will see CPCA handing over the railway to Network Rail to operate it post-construction and commissioning. Network Rail are better placed to manage the significant interface considerations presented by the Scheme with the wider railway network. As the highways authority with responsibility for the road network in the area, CCC is anticipated to manage the highways assets though an agreement between CCC and CPCA has not yet been reached.

This structure is appropriate should a phased approach be required to introduction of services on the March to Wisbech Transport Corridor (for example, in a scenario where insufficient train paths were available due to delays in the delivery of the EACE Scheme). The infrastructure requirement does not significantly change under the scenario where direct services are not available to Cambridge (i.e. only Wisbech-March “shuttle” services are possible) following construction of the Scheme for a period. Implications around phased entry of service delivery is discussed in more detail in the project Delivery Strategy.

#### 4.4 Risk allocation

A key consideration for any infrastructure project is risk allocation between the different parties involved in the project. The ideal approach is for risk to be allocated to those parties best able to manage that risk, thereby helping to ensure value for money. Table 4.1 sets out relevant considerations in determining the most appropriate risk allocation for the project under the reference commercial structure set out in section 4.3.

**Table 4.1: Infrastructure works risk allocation considerations**

Risk	Considerations
Demand / Funding	As per the reference financial strategy in the Financial Case, CPCA to take on demand and hence funding risk for self-generated revenues. Lower than forecast revenues will be driven either by housing (in particular WGT) and employment (in particular in Cambridge) not being delivered in line with forecast, or as a result of residents of Wisbech having a lower than forecast propensity to travel, or if services introduction have to be phased due to train path availability.
Financing	As per the reference financial strategy in the Financial Case, CPCA to borrow against forecast self-generated revenues. If these were not to arise, CPCA would need to find alternative funding sources to cover debt servicing costs.
Land availability	Network Rail's involvement in the Scheme could help to expedite it by ensuring the project has access to the company's compulsory purchase powers as a statutory undertaker. With Network Rail not taking on the Delivery Client role, the Scheme may not have access to

<sup>99</sup> Network Rail Downloads for third parties - <https://www.networkrail.co.uk/industry-and-commercial/third-party-investors/downloads-for-third-parties> [Accessed 30 April 2020]

Risk	Considerations
	these powers, although alternative approaches (e.g. via Town and Country Planning Act) will be possible.
Design	CPCA, as Delivery Client, will need to ensure designs meet compliance requirements for acceptance onto national rail network.
Consents	CPCA, as Delivery Client, will need to secure planning approval for the Scheme, as discussed in Section 4.6.1.
Procurement	For works on the operational railway (e.g. at March station and on the railway between March station and Whitemoor Junction) under the Scheme, Network Rail likely to require that works be undertaken by approved rail contractors and be managed by them under any delivery structure.  Other works (e.g. track between Whitemoor Junction and Wisbech, delivery of the new railway station at Wisbech, signalling, highways/level crossing works), can be progressed using a wider supply chain, consistent with Network Rail's response to the Hansford Review.
Construction	Under the reference financial strategy, DfT and MHCLG likely to seek to cap their grant contribution. How far can construction risk be passed to construction supply chain? Where risk cannot be transferred, what provisions will CPCA need to take to manage this financial risk?
Interface	How will access to possessions be achieved? How will delivery manager handle construction risks around highway works for level crossings?
Operations	Will Network Rail be willing to adopt railway?

Source: Mott MacDonald, March Wisbech Transport Corridor Delivery Strategy

Table 4.2 sets out potential risk allocation for the reference delivery structure outlined in Section 4.3. Exact risk allocation will be subject to the commercial and contracting structure implemented for the project, once its funding arrangements have been finalised.

**Table 4.2: Infrastructure works indicative risk allocation**

SELECT RISK TYPE	EXAMPLE	ALLOCATION
		PROJECT TYPE D
Land Availability	CPO of land requirement	CPCA
Design	Design approvals	Network Rail/CPCA
Construction	Cost/schedule overrun	Network Rail/CPCA
Consent	Delayed approvals	CPCA
Development Revenues	Shortfall in business rates / CIL	CPCA
Rail-related revenues	Shortfall in passenger demand	CPCA
Financing	Availability of financing	DfT/CPCA
Operational	Escalation in operation & maintenance costs	Network Rail

Source: Mott MacDonald, March Wisbech Transport Corridor Delivery Strategy (Appendix C)

The most significant risks that the project will face relate to either funding being lower than forecast or construction costs being higher than estimated. It is expected that DfT will seek to

cap any grant funding contribution, as it has on similar third-party promoted rail projects. The same is also likely to be true for any MHCLG contribution<sup>100</sup>.

Future rail- and development-related revenues are uncertain and are to a large extent contingent on factors beyond the control of the project, in particular that development occurs in the quantum, use and phasing expected in the WGT urban extension. WGT is currently at a relatively early stage of planning. Prior to any decision being taken by CPCA to provide a significant funding contribution, the Combined Authority will want to ensure that WGT features in FDC's Local Plan.

Construction cost overruns are a risk with any major civil project. CPCA will look to mitigate these during future project development stages, e.g. through development of surveys and further design work, development of a comprehensive consents and procurement strategy, and preparation of a detailed project schedule. A further risk management step will be through development of a QRA at the next stage of the project's development. The purpose of a QRA is to estimate an appropriate level of cost contingency to supplement the project estimate and provide confidence that the budgetary allowance will not be surpassed.

CPCA will also look to transfer these risks through the contracting supply chain using its contracting strategy and take steps to minimise interface risks during project development and construction. For example, CPCA will consider how to ensure design coordination between concept designs undertaken by its consultants and detailed design developed by contractors. CPCA will also ensure its procurement strategy (refer to Section 4.5) seeks to minimise interfaces between different works packages where appropriate, as well as that it seeks to mitigate risks between works undertaken (if this approach is followed) between works cliented by Network Rail on the operational railway and works where CPCA is the client.

## 4.5 Procurement Strategy

### 4.5.1 Procurement Strategy Considerations

The procurement strategy for March to Wisbech Transport Corridor Scheme needs to achieve the following:

- Deliver value for money, whilst minimising risks and interfaces, ensuring that the contracting approach for each work package is commensurate with level of technical and operational risk (e.g. possession overruns<sup>101</sup>).
- Provide a framework to define risks and allocate them to the appropriate party.
- Achieve an optimal technical solution that achieves (or exceeds, whilst delivering value for money) the envisaged benefits of the Scheme.
- Streamline delivery within the required timescales in order to ensure that the agreed benefits are delivered.
- Promptly achieve robust cost estimates for future stages in order that funders can be provided with robust information on which to base future funding decisions.

To achieve these aims, the following approaches are key:

- Structuring the procurement into work packages that optimise interfaces and allocate risk between parties most appropriately.

<sup>100</sup> For example, DfT's contribution through RNEP for the Metrowest Scheme or MHCLG's contribution through HIF for works by Transport for London to the Docklands Light Railway.

<sup>101</sup> Overrunning planned engineering works

- Significant use of collaborative supplier engagement to minimise interface risk between systems and suppliers, and quickly achieve an appropriate level of cost certainty to inform future investment decisions.

#### 4.5.2 Packaging

The March to Wisbech Transport Corridor Scheme will require the procurement of a significant number of work packages covering different assets.

The key rail work packages to be procured will be:

- Track
- Signalling (lineside and control systems)
- Communications Systems
- Civils (including rail bridges and stations)
- Power

In addition, similar packages of work will be required for the highway works:

- Civils (including earthworks and embankments)
- Drainage
- Lighting
- Car Parks
- Traffic Control Systems

There are a number of options for procuring these work packages and the commercial management of them. Both packaging and procurement, and delivery management are linked to the overall project commercial structure and in particular between any elements being progressed by Network Rail Capital Delivery (e.g. to the operational railway) vs. CPCA. As noted in section 4.3.3, CPCA will work with Network Rail to determine the most effective route to procurement, detailed design and delivery management for the Scheme.

It may be possible to combine a number of these work packages (for example civils) across the railway and highway environments. CPCA, as overall delivery client for the Scheme, will seek to minimise the number of interfaces between work packages in order to reduce substantial interface requirements (with potential cost and risk implications) during construction.

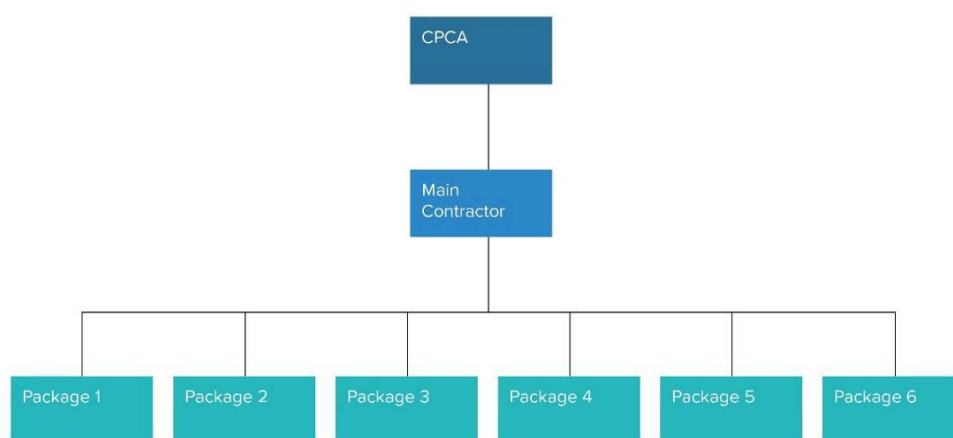
Three options have been identified for contracting of the identified work packages:

- *Option 1 – CPCA acts as client to main contractor.* Under this option, a traditional main contractor approach would be taken for the Scheme, with a number of subcontracts placed to allow all assets / specialisms to be successfully delivered. The Main Contractor would be responsible for managing and integrating all of the subcontracts, with CPCA acting as the Delivery Client. This option would require a high level of scope certainty to be achieved prior to the contract award in order to minimise cost and schedule risk when preparing the sub-contract packages. One option to secure this scope certainty would be through Early Contractor Involvement (ECI) to work with the Supply Chain in developing options to the level of detail required for contracts to be let, as discussed in Section 4.5.3.
- *Option 2 - CPCA acts as integrator in “hub and spoke” contract model.* Under this option, all contracts would be procured and managed by CPCA. This approach allows greater flexibility in procurement and scope certainty than Option 1 as the procurement of packages can be undertaken on a phased basis to reflect their maturity. Whilst this option also allows CPCA

to retain greater control of the delivery programme than Option 1, it does require greater management time from CPCA in the management and integration of all packages.

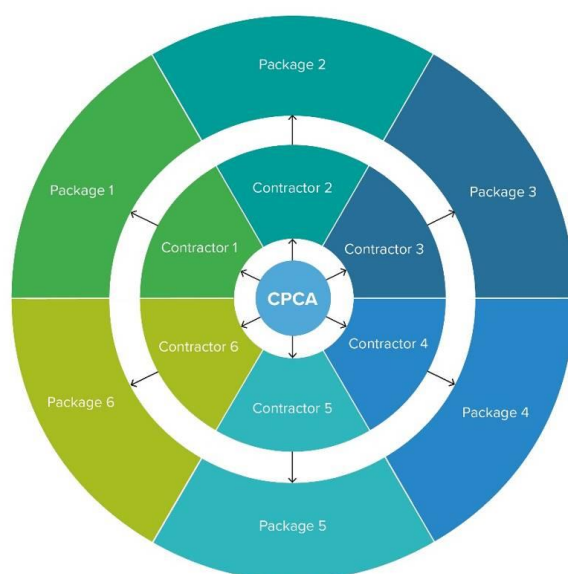
- **Option 3 – Hybrid Model (Network Rail Capital Delivery delivers an element of Work on behalf of CPCA as main contractor).** Under this option, a ‘hub and spoke’ contract approach would be taken for the Scheme as in Option 2. However, this option allows a hybrid approach where although CPCA would retain overall management control of all aspects of delivery, some of the rail packages could be procured and managed directly by Network Rail. This approach allows greater flexibility in procurement and scope certainty than Option 1 as the procurement of packages can be undertaken on a phased basis to reflect their maturity and offers an additional benefit to Option 2 in that it supports the delivery of specialist rail packages by Network Rail (e.g. to the operational railway).

**Table 4.3: Option 1 – CPCA acts as client to main contractor**



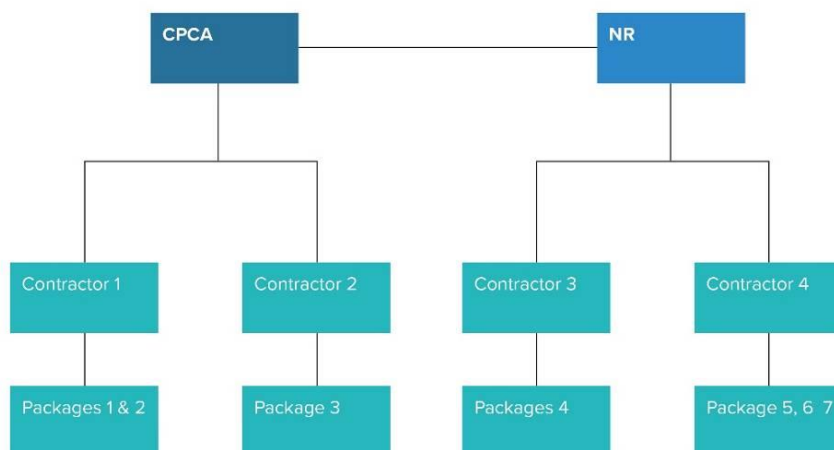
Source: March Wisbech Transport Corridor Delivery Strategy (Appendix C)

**Table 4.4: Option 2 - CPCA acts as integrator in “hub and spoke” contract model**



Source: March Wisbech Transport Corridor Delivery Strategy (Appendix C)

**Table 4.5: Option 3 – Hybrid Model (Network Rail Capital Delivery delivers an element of Work on behalf of CPCA as main contractor)**



Source: March Wisbech Transport Corridor Delivery Strategy (Appendix C)

Analysis undertaken to date in developing the March to Wisbech Transport Corridor Scheme indicates that option 3 is likely to be preferred. However, again, determination of Network Rail's role in the commercial structure needs finalisation before deciding on the preferred packaging approach.

#### 4.5.3 Contracting Structure

Under either of the works packaging options identified in Section 4.5.2, the project contracting structure will want to encourage collaborative supplier engagement. A procurement strategy based on ECI is likely to realise efficiencies versus conventional procurement options, although this will be more appropriate for some works packages over others. Contractor engagement under an ECI approach will be considered for preliminary design, implementation planning, and costing of the core infrastructure. ECI must provide confidence that the technical solution can meet the output specifications agreed by the Scheme.

Under an ECI approach, contractor(s) will be procured through competition, based on required outcomes or performance-based specifications, to work with CPCA (and potentially Network Rail). CPCA will then negotiate a further contract with the contractor(s) for development and completion of designs and construction/installation of all work packages on a pre-agreed and robust costing basis.

The CPCA will take steps to ensure any supplier(s) appointed under an ECI arrangement are selected on a sound commercial and qualitative basis in order that the loss of a competitive edge during the later stages of design is more than compensated for by increased value for money and reduced costs through greater buildability. The contractor selection mechanism and the compensation method will recognise this, via:

- reviewing options against the P13 enterprise model<sup>102</sup>, that highlights that commercial alignment and incentivisation is necessary for optimal delivery of projects and programmes; and
- including mechanisms such as Guaranteed Maximum Price and Pain / Gain Share arrangements in contracts to ensure appropriate risk apportionment and transfer.

#### 4.5.4 Procedure

At present, all public-sector procurement above a low threshold (which all of the works in the March to Wisbech Transport Corridor Scheme would exceed) are required to be advertised in the Official Journal of the European Union (OJEU) under European Law and follow one of a number of specified procedures (e.g. Open, Restricted, Competitive Dialogue). The procedure following the UK's exit from the European Union is to be determined.

In addition, the inclusion of Network Rail within the delivery of some elements of the Scheme may also allow the use of existing Network Rail Frameworks for specialist work packages where resource can be scarce; track and signalling (lineside and control) are examples of this.

### 4.6 Other considerations – Commercial Case

#### 4.6.1 Consents strategy

There are two key types of consents that will be required to deliver the March to Wisbech Transport Corridor Scheme. These are statutory, primarily relating to land requirements, and regulatory consents primarily relating to the future operation of the Scheme.

##### 4.6.1.1 Statutory Consents

The Delivery Strategy (Appendix C) has assessed statutory consents options for the Scheme and concluded that an approach based on securing approval using a Transport and Works Act Order (TWAo) is preferred. TWAo is preferred because it will allow CPCA:

- to exercise permitted development rights (i.e. enjoying the status of a statutory undertaking) on land currently owned by Network Rail and within existing Network Rail operating boundaries (i.e. at March station, on the operational rail line between March and Whitemoor Junction, and on the disused rail line between Whitemoor Junction and Weasenham Lane, Wisbech); and
- to obtain land acquisition powers for land required for the Scheme that is not currently owned by Network Rail.

It is also proposed that the TWAo process be the preferred approach for the highway alterations required for the Scheme through one joint application. This approach would protect all aspects of the Scheme and mitigate risk associated with staged or withheld approvals for the different elements.

##### 4.6.1.2 Regulatory Approvals

As the majority of the proposed rail infrastructure changes will be on existing Network Rail infrastructure, the Network Code and specifically, the Network Change<sup>103</sup> process will need to

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<sup>102</sup> Project 13 is an ICE initiative to move away from the transactional model for delivering major infrastructure projects towards an enterprise model defined as being a long term relationship between owners, investors, integrators, advisers and suppliers to incentivise delivery of better outcomes - <http://www.p13.org.uk/about-project-13/> [Accessed 8<sup>th</sup> April 2020]

<sup>103</sup> The Network Change consultation process is a formal process which allows a proposer to seek agreement from all affected parties that the change may go ahead, and to agree what compensation (if any) will be paid to cover the impact of the change - Investing in the Network, Network Rail, 2018 <https://cdn.networkrail.co.uk/wp-content/uploads/2018/02/Investing-in-the-Network.pdf>

be applied by CPCA in delivering the Scheme. This will apply in particular to any changes to line speed, capacity and the designation of lines. It is also currently assumed that Station Change<sup>104</sup> would be required for the additional (and re-instated) platforms proposed at March and Wisbech. Specific Level Crossing Orders will be required to reflect changes to operations, the signing back into use following any alterations to the associated railway, and any planned closures.

#### 4.6.2 Approval, Acceptance and Commissioning strategy

As noted in Section 4.3.3, it is assumed that the railway infrastructure, once built, will be operated by Network Rail as Infrastructure Owner and Operator. As such, the infrastructure delivered by the Scheme must be commissioned and handed over to Network Rail and formally accepted by them after construction. This process will be governed by the Railway and Other Guided Transport Systems Requirement that includes specific processes to be satisfied such as the common safety Method, Entry into Service Requirements and the issue of a Safety Certificate by Network Rail prior to the infrastructure being taken into service / operation.

#### 4.6.3 Operations, Maintenance and Renewals Strategy

The assumption that Network Rail will be the Infrastructure Manager and Owner for the railway infrastructure delivered by this Scheme leads to the assumption that Network Rail will also operate, maintain and renew the infrastructure following its handover. As such, the handover agreement with Network Rail (and potentially DfT) will need to include provision for future costs. It is currently assumed that these costs would be negotiated between the current Eastern Region / Anglia Route and DfT as part of the relevant Control Period funding settlement.

#### 4.6.4 Phased approach

The phasing of the Scheme will need to be considered for the management approach. During single option development (GRIP 4) it will be appropriate to consider risks and opportunities that come from adjusting the delivery programme. Adjustments to the delivery programme may be re-active to take and account of Scheme interdependencies and the emerging context, and pro-active to seize opportunities that emerge. Intelligence gathered through ECI will be valuable for this as prospective contractor will be able to advise on what has worked previously and if innovative solutions could be employed.

#### 4.6.5 Service delivery

Two service delivery options were considered for the March to Wisbech Transport Corridor Scheme; the franchise service model and the open access rail service model. Detailed discussion of the pros and cons of each approach can be found in the Delivery Strategy (Appendix C).

The *franchise service model* is the system of contracting out the operation of the passenger services on national rail infrastructure to third parties through a system of franchising. The franchise process is generally let by DfT, although combined authorities and other sub-national bodies are involved in some parts of the country (not in the CPCA area).

An *open-access operator* is a train operating company that takes full commercial risk, running on infrastructure owned by a third party and buying paths on a chosen route. Operating an open

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<sup>104</sup> The Station Change procedure is for when a development entails changes to a station lease area, physical or operational changes to a station, or changes that affect the content or drafting of Station Access Conditions and Annexes - Investing in the Network, Network Rail, 2018 <https://cdn.networkrail.co.uk/wp-content/uploads/2018/02/Investing-in-the-Network.pdf>

access rail Service would likely involve: formation of a company to operate Wisbech to Cambridge services as a standalone operation; preparation and submission of a Track Access Application to the ORR; and application for the relevant licence(s) to operate passenger train services, and establishment of any applicable infrastructure (potentially stations and depots).

A high-level assessment of the advantages and disadvantages of the franchising and open access models is given in Table 4.3 below.

**Table 4.6: Pros and cons of franchise and open access delivery**

Franchised		Open Access	
Pros	Cons	Pros	Cons
System straightforward to implement	Wisbech – March – (Cambridge) may be a low operational priority for a London-focused franchisee	Potentially substantial local stakeholder influence over the operating company	Significant work and cost to set up delivery mechanism
Shared resources across the franchise likely to result in efficiencies	Short-term uncertainty caused by the Williams Rail Review	Potentially more support from partner organisations at an early stage	Possibly time-consuming track access application process which may be unsuccessful
Established mechanism for in-life management of franchise performance			Small standalone operation would involve some cost inefficiencies (e.g. more spare trains required)
Established relationships with inter-facing organisations including Network Rail and other operators			
Opportunities to cross-subsidise from other franchise services, if the service doesn't break even on a standalone basis			

Source: Mott MacDonald, March Wisbech Transport Corridor Delivery Strategy (Appendix C)

As a result of the lower barriers to entry that will be experienced, operation as part of a rail franchise will be pursued as the preferred route for service delivery under the March to Wisbech Transport Corridor Scheme. Moving forward with the franchising model, it is deemed that implementation as part of a franchise procurement competition would be more beneficial than through a Deed of Amendment to an existing franchise.

In a Deed of Amendment scenario, the operator may be incentivised to take a pessimistic view of revenue and cost to limit its risk exposure. There would therefore be less incentive for financial efficiency and service delivery.

Under a procurement competition, the eventual operator would take on an amount of risk such as for revenue, cost, and service delivery. This risk allocation would incentivise financial efficiency and high-quality service delivery. The specifics of how to proceed would depend on the outcome of the Williams Rail Review. The proposed timings of the Scheme (operational by 2028) would work well with the current proposed timetable for procurement by DfT of the next East Anglia franchise competition.

## 4.7 Human resource considerations

This sub-section highlights the human resource issues with the Scheme and how they will be addressed.

The March to Wisbech Transport Corridor Scheme is a significant construction project, and with that comes a considerable human resources requirement. This includes understanding the requirements across the CPCA client team, the project team, the design team and the contractor team. The project is split into three remaining key phases before operation, GRIP stages 4, 5 and 6.

A detailed and comprehensive estimation of human resource requirements for GRIP stages 4, 5, and 6 are being developed as part of the Scheme design and it will be critical to consider deliverability given existing wider labour market constraints.

CPCA will be responsible for oversight of the project on the client side of the delivery arrangement. The relevant professional activities to appropriately resource this aspect of the project include a Scheme designer, client project manager, and rail engineering expertise. The CPCA may appoint an “employer’s agent” to act on their behalf and perform the specialist roles required to develop, procure and manage the delivery (e.g. as contract manager) of the project, working with the Scheme designer and contractor(s).

The Scheme designer will undertake the majority of the work during GRIP stage 4. This will likely require professional inputs from the following (but not limited to) skilled professionals:

- Project Manager;
- Principal Civil Engineer;
- BIM Manager/Professional;
- Structural Engineer;
- Geotechnical Engineer;
- Town Planning Lead;
- Environmental Assessment Lead; and
- Landscape Designer.

The contractor(s) will be expected to provide a design team including those disciplines noted above. Additional professional inputs required during construction, include (but are not limited to):

- Contract Manager;
- Quantity Surveyor;
- Site Agent;
- Project Planner; and
- Design Manager.

There are not understood to be any TUPE implications for this project as of now, however the recent emergency changes to the franchising arrangements are noted. These are expected to be temporary and so are believed to not have an impact on this Scheme.

## 4.8 Commercial Case – Conclusions

- The reference commercial strategy set out in this section proposes that CPCA should take the lead as the delivery client for the March to Wisbech Transport Corridor Scheme, taking responsibility for progressing the design, procurement and delivery of the required infrastructure works. Under this structure, it is proposed that the railway would be handed back to Network Rail to operate and maintain, post construction and commissioning.
- CPCA will need to work closely with other Cambridgeshire authorities in this role, in particular to manage funding risks related to the development of the WGT urban extension.
- CPCA should work closely with Network Rail to develop and deliver the Scheme, and to ensure it meets Network Rail's requirements for commissioning onto the national rail network.
- The Scheme's procurement strategy should follow this need for collaboration between CPCA and Network Rail, with Network Rail, under CPCA's oversight and control as the overall Scheme delivery client, being contracted to procure and deliver a number of rail packages, particularly to the existing operational railway between March station and Whitemoor Junction.
- Service delivery should be provided through the East Anglia franchise, or successor structure, rather than via an open access provider.
- There will be significant, specialist resourcing requirements on CPCA to allow it take on the delivery client role for the Scheme. CPCA will consider how best to address these, including through potentially appointing an "employer's agent" to act on its behalf.

## 5 The Financial Case

### 5.1 Introduction

This section sets out the findings from financial analysis undertaken to assess how the infrastructure elements of the March to Wisbech Transport Corridor Scheme could be paid for, taking account of potential private sector and local authority funding sources, as well as more traditional rail funding options. It sets out a proposed reference strategy for funding and financing the Scheme. No funding or financing has been agreed for the Scheme at the time of writing.

The analysis compares the identified capital and lifecycle costs of the Scheme to a proposed funding solution under two scenarios using a cash flow analysis to assess the affordability of the Scheme.

### 5.2 Financial modelling approach

Mott MacDonald has developed a cash flow financial model to assess the affordability of the March to Wisbech Transport Corridor Scheme. This takes account of cash flows for the infrastructure elements of the Scheme during its development and construction phases based on cost estimates developed by Mott MacDonald and other sources, aligned to a financial year end of 31 March. The model covers a 30-year period, encompassing construction costs commencing from 2024, and an operational period from 2028 to 2053. The Delivery Strategy (Appendix C) identifies and explains the modelling assumptions applied in the financial model in greater detail.

#### Modelling scenarios

Two scenarios have been appraised using the Scheme financial model:

1. *Core Scenario*. In this scenario, only committed development (i.e. Local Plan, controlled to CPCA area totals from either the DfT's National Trip End Model (NTEM) or the local CCC High Growth Scenario) is included in the modelling of the scale of potential funding options.
2. *Wisbech Garden Town Scenario*. In this scenario, development associated with the proposed major Wisbech Garden Town (WGT) urban extension was included in the modelling of the scale of potential funding options.

The WGT sensitivity has been modelled because land use change and associated economic development is a major objective of the March to Wisbech Transport Corridor Scheme and masterplanning for WGT indicates that this level of development is not likely to occur without major investment in transport infrastructure, given Wisbech's relative geographic isolation. In addition, the UK government is increasingly looking for revenues relating to land use change ("land value capture") to be used to help fund infrastructure investment. In this scenario, costs for access and connectivity arrangements to Wisbech station that arise only if WGT is delivered are included in the Scheme scope.

### 5.3 Costs

The estimated capital expenditure Scheme cost is c.£178m in 2019 prices, excluding contingency and land acquisition costs. More detail on the composition of the capital cost estimate is set out in section 3.6.1.

The rail operational costs over the 30-year time horizon considered (to 2053) are estimated to be c.£239m.

The delivery and operation of the Scheme entails a four-stage cost lifecycle, as follows:

1. Preparation costs
  - a. Design
  - b. Enabling Works
2. Construction costs
  - a. Railway Control Systems
  - b. Train Power Systems
  - c. Electric Power and Plant
  - d. Permanent Way
  - e. Operational Telecommunication Systems
  - f. Buildings and Property
  - g. Civil Engineering
  - h. Main Contractor Preliminaries
  - i. Main Contractor Overheads and Profit
  - j. Project Management
  - k. Other Project Costs
  - l. Risk
3. Operational costs
  - a. Fuel – Diesel
  - b. Fuel – Electric
  - c. Staff
  - d. Network Rail charges
  - e. Leasing & Non-Leasing
  - f. Long-Term Charge (stations)
4. Long term asset renewal costs (assumed incurred in 2058, outside of financial model period)

### 5.3.1 Capital cost estimate and phasing

The capital cost estimate has been refined to a GRIP 3 level of detail for the FBC.

As rail projects progress through the GRIP stages, the level of knowledge and understanding increases, so the scope of works will become more clearly understood and will therefore be more accurately quantified. Similarly, knowledge of risks and areas of cost uncertainty are better understood and will be defined (with provision for risk exposure duly included) so the accuracy of the cost estimates increases (and a higher level of confidence is seen)<sup>105</sup>.

‘Risk Allowance’ needs to account for (to varying degrees over the course of the project’s life) the cost consequences of<sup>106</sup>:

- The development and refinement of the design.
- The greater understanding of the solution’s interfaces with its physical environment.
- Legitimate changes in requirement scope.
- A reducing provision for other areas of uncertainty which are not addressed by the above 3 bullets.

<sup>105</sup> Adapted from – Network Rail (2019), ‘Cost Planning Procedure, Issue 3.3’

<sup>106</sup> Ibid

- Specific risks such as changes in key personnel during the project, pending legislative changes which would impact on the project.

A risk allowance of 19% has been included in the capital cost estimate for most of the costs calculated<sup>107108</sup>. The capital cost includes land acquisition costs which are currently estimated to be c.£8.0m in 2019 prices.

A higher risk allowance of 40%<sup>109</sup> has been applied to some specific elements of the cost estimate to reflect that uncertainty associated with these elements is closer to GRIP 2 level than GRIP 3:

- Highways Schemes 1 and 2, and associated highway bridges.  
There are significant unresolved Road Safety Audit (RSA) comments on the GRIP 3 designs for Highways Schemes 1 and 2. Due to programme constraints, it has not been practicable to update the GRIP 3 design to address RSA comments within the current study. Design updates to address these RSA comments are in progress under a separate workstream.
- Track drainage infrastructure.  
The spring 2020 visual survey of the disused rail corridor identified significant third-party coordination risks affecting the track drainage design (principally associated with the interface with third party land drainage). Due to programme constraints, it has not been practicable to update the GRIP 3 track drainage design to address these issues.
- Wisbech Access Garden Town Access arrangements as design of these elements is at a pre-feasibility stage and subject to change as proposals for the Garden Town develop.

Mott MacDonald has made a high-level phasing assumption for the purposes of the cash flow modelling. This assumes the Scheme will be developed over the four-year period from 2024 to 2027, with construction focused in 2026 and 2027. The Scheme is assumed to be fully operational from 2028 with direct services running from Wisbech to Cambridge, in line with the preferred option set out in the Economic Case. Construction costs have been escalated with reference to the BCIS All-in tender price index.

The cost estimate of the Scheme in nominal prices is set out in

<sup>107</sup> Consistent with DfT WebTAG guidance, this risk allowance differs from the optimism bias applied in the economic case. Optimism bias reflects uncertainty (ie potential costs arising for which a probability cannot be applied at the time of the business case, "unknown unknowns") as well as risk and is generally therefore higher than the risk allowance applied in a project financial case.

<sup>108</sup> Combined Risk and Optimism Bias on the point estimate taken as 40% in line with DfT/Network Rail guidance in the Scheme FBC Economic Case. Optimism Bias of 18% applied in line with De Reyck et al 2015 and applied in line with TAG guidance unit A1-2 and A5-3. This leaves Contingency Risk estimated of c.19% which is within the benchmark range for NR Cost Planning Procedure 2019. Formula for cost estimation is *contingency risk and optimism bias adjusted cost = (Base cost + risk) \* (1+Optimism bias)*. A QRA will be undertaken as part of GRIP 4 analysis.

<sup>109</sup> Following similar logic to the above, combined Risk and Optimism Bias on the point estimate for 'GRIP 2' risk elements is taken as 64% in line with DfT/Network Rail guidance in the Scheme FBC Economic Case. The benchmark analysis range of contingency risk for costs at a GRIP 2 level is 40% or lower and as noted in the DfT Optimism Bias Study, (De Reyck et al 2015) it is common practice for a risk allowance at the upper end range is applied on NR projects at GRIP 2. This leaves Optimism Bias at c17% for 'GRIP 2' elements.

Table 5.1 for each year of the Scheme development programme.

**Table 5.1: Scheme Infrastructure Capital Cost Estimate - £m, 2019**

£m2019 / Nominal	Element	Core Scenario	WGT Scenario
<b>£m 2019</b>	Wisbech station	pl	4.6
	Rail line upgrade and extension	71.9	71.9
	Highways works	75.6	75.6
	March station	8.1	8.1
	C3 Utility Costs	18.1	18.1
	Capex total	178.3	178.3
	Land acquisition	8.0	8.0
	Garden Town Access	N/A	19.0
	Risk allowance	44.2	51.8
	<b>TOTAL</b>	<b>230.5</b>	<b>257.1</b>

Source: Mott MacDonald

As is normal practice for developing a financial case, base costs are then converted to nominal prices which gives the cost estimates based on the year they are anticipated to be incurred, accounting for inflation. This is done by:

- Profiling the construction spend per annum as per the Economic Case.
- Applying the Building Cost Information Service (BCIS) All-In Tender Index adjusted to remove underlying inflation using the GDP deflator to account for real forecast construction price growth over time.
- Applying Consumer Price Inflation index to convert real figures to nominal prices.
- This stream of costs in nominal terms is then discounted to 2019 values applying a nominal discount rate of 5.8% (which represents the cost of capital)<sup>110</sup> to give a present value estimate. Present values are the value of a future cash flow in the present and are used to provide comparable present value figures in today's values.

It is the present value figures that are used for comparing Scheme costs and revenues to identify the residual gap funding requirement.

The total estimated cost of the Scheme infrastructure works in nominal terms (i.e. taking account of escalation) is £319.7m. The present value of the estimated cost of the Scheme is £215.3m<sup>111</sup>.

The total estimated capital cost of the Scheme infrastructure works in nominal terms including WGT access infrastructure £356.6m and the present value of the estimated cost is £240.0m.

### 5.3.2 Lifecycle costs

The capital works set out above will incur ongoing costs, including:

- Incremental operating costs for signalling, track and the two stations;
- Maintenance costs for new infrastructure, including both rail and road (level crossing) infrastructure; and
- Periodic renewals for the above infrastructure.

<sup>110</sup> To convert to present value, nominal costs are discounted by a nominal discount rate: a real discount rate of 3.5% + Retail Price Index i.e. 5.8% nominal to represent the cost of capital.

<sup>111</sup> Assuming nominal discount rate of 5.8% per annum.

For simplicity, noting the project is at the GRIP 3 stage of development at the time of writing, these lifecycle costs have been excluded from the financial appraisal.

It has been assumed that maintenance, repair and renewal (MRR) costs and operating costs are met via access charges paid by the rail service provider. Under the existing regulatory regime operated by the Office for Rail and Road, these asset charges primarily comprise:

- Station Long Term Charge (LTC) (regulated) covers MRR costs at stations.
- Qualifying Expenditure Charge (part-regulated) covers day-to-day running costs of stations.
- Track Access Charge (regulated), a majority fixed charge, with small variable component based on usage, designed to cover track MRR costs.

These costs are not excluded from the analysis. Network Rail would derive an income from the Scheme to contribute towards maintenance costs. The commercial structure assumes Network Rail operation and MRR of the asset, and Network Rail is able to balance any under or over recovery across its entire asset base (of which this line would represent a very small amount).

It has been assumed that there is no requirement for periodic renewal expenditure on the Scheme during the model forecast period, noting the expected asset life for comparable Schemes.

In addition, there will be operating, maintenance and renewal costs associated with the highways built for the Scheme (e.g. to allow grade separation of level crossings). These have been excluded from the financial case as it is assumed they will be adopted by and funded by Cambridgeshire County Council as the Highways Authority. Though it is noted that there is currently no agreement in place between the County Council and Combined Authority regarding adoption and discussions will need to be undertaken. The present value of the maintenance costs over the 30-year forecast period is c.£676,000 discounted to 2019 values.

## 5.4 Funding

The March to Wisbech Transport Corridor Scheme is presently unfunded and no allocation has been earmarked for the Scheme in either national budgets or local budgets. Most rail capital Schemes are predominantly grant funded, as they do not generate sufficient operating surplus to cover the costs of funding the infrastructure works. On other unfunded rail Schemes, it is increasingly common to consider the range of potential funding options for the Scheme, going beyond traditional grant funded approaches.

Analysis undertaken by Mott MacDonald for other rail Schemes indicates that viable potential funding options can be best broadly categorised as:

- Railway-related funding sources
- Property-related funding sources
- Grant funding options

Within these broad categories, in preparing the FBC, Mott MacDonald developed a long list of potential funding options for the March to Wisbech Transport Corridor Scheme, before prioritising a sub-set of these for further development. These prioritised, short list options were chosen using an initial assessment based on the following criteria:

1. **Option deliverability** – deliverability of the option based on current legislation, national policy settings and precedent.
2. **Control** - how far the funding source was under the control of the Scheme sponsor and/or other Cambridgeshire authorities.

The shortlisted set of options is shown in Table 5.2.

**Table 5.2: Funding options**

Funding Option	Summary Description	Control	Shortlisted (Y/N)
<i>Passenger Farebox growth</i>	Operating surplus from passenger services enabled by the Scheme	Service operator/DfT	Y
<i>Commercial Income</i>	Rental income (e.g. retail, leisure) in Wisbech station and station parking receipts	Asset owner	Y
<i>Development Proceeds</i>	Earnings from public sector land development dependent in part or in total on the Scheme to proceed	Landowner	Y
<i>Business Rates Retention</i>	Growth in Business Rates receipts accruing to Fenland District Council and HMT for development dependent in part or in total on the Scheme to proceed	Fenland District Council/HMT	Y
<i>Developer Contributions</i>	Payments made by developers to Fenland District Council associated with planning permission.	Fenland District Council	Y
<i>DfT RNEP process</i>	Grant funding from DfT for rail projects	DfT	Y
<i>DfT Restoring Your Railways Fund</i>	Grant funding from DfT through other funding pots	DfT	Y
<i>MHCLG grants</i>	Funding from MHCLG, e.g. from the Housing Infrastructure Fund, designed to encourage local economic development, especially housing.	MHCLG	Y
<i>CPCA devolved grants</i>	As a Mayoral Combined Authority, CPCA has been devolved significant funding for new infrastructure investment	CPCA	Y

Source: Mott MacDonald, Delivery Strategy (Appendix C)

## 5.4.1 Rail related funding: Appraisal

### 5.4.1.1 Passenger Farebox Growth

Developing the March to Wisbech Transport Corridor Scheme will generate increased demand for rail services, both for passengers journeying on the new railway as well as those using the wider network as a result of increased service frequency. These new passengers will lead to incremental passenger revenue for train operating companies (depending on service delivery terms) vs. the current baseline. This operating surplus is ultimately captured by DfT, as the network franchisor, or, in the case of certain third-party owned assets (e.g. Heathrow Express) by the asset owner via bespoke access charges or revenue sharing mechanisms. For simplicity, is assumed in the FBC that the future asset owner of the March to Wisbech railway can capture this operating surplus using one of these mechanisms.

Passenger farebox growth was modelled for both the core scenario and the WGT scenario. An in-depth description of the method used for forecasting passenger farebox growth under this Scheme is offered in the Delivery Strategy (Appendix C).

Service operating costs per annum are estimated using the webTAG Databook 2019. The estimated service operating costs over time are subtracted from the forecast passenger revenue to obtain an undiscounted estimate of the operating surplus/deficit for the Scheme. Costs relating to access charges payable by the TOC, as well as an allowance for TOC profit allowance (assumed to be 3 per cent of incremental operating rail surplus), were then removed from the revenue also to determine whether there was a net surplus or deficit in any year.

The results of Farebox modelling are presented in Table 5.3. A significant forecast cumulative operating surplus is only available under the WGT scenario.

**Table 5.3: Farebox revenue operating surplus**

£2019, millions	Local Plan sites	WGT scenario
Real (2024-2053)	14.5	32.1
Nominal (2024-2053)	27.8	62.6
Present Value (2024-2053) <sup>112</sup>	8.1	18.1

Source: Mott MacDonald, Delivery Strategy (Appendix C)

#### 5.4.1.2 Commercial Station Income

Two potential commercial property income streams were assessed to determine the potential size of future revenues that could be reinvested to cover the Scheme capital costs. These are:

- **Car parking** – based on 200 additional spaces, it has been assumed that station car parking supply and demand is the same in both scenarios; core scenario and WGT scenario. Car parking revenue is estimated to rise with inflation over the appraisal period, reaching almost £300,000 by 2053.
- **Station rental income** - rental income from retail and food and beverage space on site as Wisbech station. For simplicity, it has been assumed that station commercial floorspace rental values are the same under both scenarios. The forecast station rental income totals about £10,000 per annum.

Details of the assumptions, under which the income models were run can be found in section 2.4.2 of the Delivery Strategy. Table 5.4 sets out the results of the financial modelling for both station commercial income sources. Commercial income is only able to contribute a modest proportion of the total Scheme costs. This is consistent with findings on similar rail projects.

**Table 5.4: Station commercial income**

£2019, millions	Car parking income	Station rental income	Total
Real (2024-2053)	4.0	0.3	4.3
Nominal (2024-2053)	6.1	0.4	6.5
Present Value (2024-2053) <sup>113</sup>	1.9	0.1	2.0

Source: Mott MacDonald, Delivery Strategy (Appendix C)

#### 5.4.2 Property related funding

An analysis was undertaken of the property-related local taxation income (via business rates growth and developer contributions) that will accrue to Fenland District Council from the development of WGT. This analysis has only been undertaken for the WGT Scenario as it is assumed that no development in the Core scenario is dependent on the Scheme.

For simplicity, it was assumed that all of the development in WGT is dependent on the train line coming to Wisbech. It was assumed that 50 per cent of local taxation property income would be allocated to the Scheme, noting the need for other infrastructure and public works investments to deliver WGT. Two forms of taxation income that will be realised from new property developments in WGT were modelled:

1. New income to be realised from growth in business rates
2. New income from developer contributions

<sup>112</sup> Assuming nominal discount rate of 5.8%

<sup>113</sup> Assuming nominal discount rate of 5.8%

Detailed modelled assumptions for these funding options are given in the Delivery Strategy (Appendix C).

The table below sets out the modelled property-related income that could be generated by the Scheme from the WGT development. While this funding source raises large amounts in nominal terms, because it is significantly back-dated relative to when the Scheme capital costs are incurred, the potential revenue it generates in present value terms that could be allocated towards funding the Scheme is much lower.

**Table 5.5: Results financial modelling – Property related income (50% of total local property taxation gain)**

£2019, millions	Business Rates Retention	Developer Contributions	Total
£2019 (2024-2053)	13.8	21.9	35.7
Nominal (2024-2053)	22.5	35.3	57.8
Present Value (2024-2053) <sup>114</sup>	5.8	9.5	15.4

Source: Mott MacDonald, Delivery Strategy (Appendix C)

#### 5.4.3 Grant funding

The analysis set out in sections 5.4.1 and 5.4.2 shows that the March to Wisbech Transport Corridor Scheme cannot be solely funded by revenues directly or indirectly generated by the Scheme itself, under either the Core or WGT scenarios. Therefore, in common with most railway investment projects, it is anticipated that grant funding will be required to realise the Scheme. There are a number of potential grant funding options for the March to Wisbech Transport Corridor Scheme:

- The Rail Network Enhancements Pipeline (RNEP) provides a rolling programme of investment for the rail network, with funding primarily coming from DfT, however projects need to be prioritised within Network Rail's ro
- The Restoring Your Railways Fund (RRF) is a newly established £500m fund targeted on investing in transport links that are essential to levelling up access to opportunities across the country.
- The Housing Infrastructure Fund (HIF) is an MHCLG capital grant Scheme of £5.5bn designed to unlock 100,000 houses across England, to be spent by 2024. A successor to this fund with similar objectives targeted on housing growth is expected to be announced during 2020.
- The UK Shared Prosperity Fund is the proposed successor fund for European Structural Funds (ESF). This funding is proposed to be used to boost economic development, however limited details have been released to date.

Further information around the funding objectives and potential roles of the sources considered and listed above can be found in the Delivery Strategy.

#### 5.4.4 Assessment of funding options

The table below sets out an assessment of how far each of the funding options considered could be suitable for the March to Wisbech Transport Corridor Scheme. For each assessed criterion, options are scored out of three using the tick symbol, with three ticks being the best

<sup>114</sup> Assuming nominal discount rate of 5.8%

relative score. The funding options selected to be included as a funding source for the project are set out in the final column.

**Table 5.6: Short listed funding sources assessment**

Funding option	Certainty	Demand driver	Deliverability	Precedent	Financing requirement	Included as funding source?
Farebox operating surplus	✓✓	Population and employment growth	✓✓ - Needs DfT / ORR agreement	✓✓ - Heathrow Express / Southend Airport Station	Yes	Yes
Commercial station income	✓✓	Population and employment growth	✓✓✓	✓✓✓ - Various	Yes	No
Developer contributions	✓	Population and employment growth	✓✓✓	✓✓✓ - Various, e.g. Worcester Parkway station	Yes	Yes – WGT Scenario
Business rates growth	✓	Population and employment growth	✓✓ - Needs HMT agreement	✓✓ - Crossrail, HS2 stations (proposed)	Yes	Yes – WGT Scenario
DfT grant (RNEP)	✓	n/a	✓✓ - WebTAG and inclusion of project in NR route plan	✓✓✓ - standard route for rail investment projects	No	No
DfT grant (Restoring Your Railways)	✓✓	n/a	✓✓✓ - WebTAG BC prerequisite	✓✓✓ - Various, e.g. Metrowest (RNEP)	No	Yes
MHCLG grant (HIF)	✓	n/a	✓✓✓ - BC showing housing growth prerequisite	✓✓✓ - Various, e.g. TfL Rail and DLR Schemes (HIF)	No	Yes – WGT Scenario

Source: Mott MacDonald, Delivery Strategy (Appendix C)

### 5.4.5 Financing Requirement

For each of the Scheme generated funding sources, there will be a financing requirement to cover the timing mismatch between when capital costs are incurred and when these revenues arise.

It has been assumed in the FBC that this financing will be provided by CPCA using its prudential borrowing powers. Public sector financing for capital projects (ignoring central government capital grants) is primarily sourced from the Public Works Loan Board (PWLb). Borrowing from PWLB is drawn at an agreed interest rate and can be arranged on the basis of either annuity repayment or as Equal Instalments of Principal (EIP). Interest rates can be fixed or variable, and the debt term can extend to 40+ years. The amount of borrowing undertaken by the CPCA would need to be within its overall debt cap, as agreed with HM Treasury under the Local Government Act 2003.

For each of the identified funding sources, this could be expected to work as follows:

- *Farebox Operating Surplus* – CPCA would agree a revenue share arrangement with the future passenger service operator, to repay borrowing undertaken against the operating surplus forecast to arise over the model period.

- *Developer Contributions / Business Rates Growth* – CPCA would be reimbursed by Fenland District Council each year as these revenues arose to repay borrowing undertaken against these forecast revenue sources.

Further consideration will be needed of how these funding sources will be structured, and how risk is allocated for each of them, in particular who bears risk in the event of any shortfalls.

## 5.5 Overall affordability assessment and conclusions

From analysis of the identified funding streams, it does not appear to be possible for the March to Wisbech Transport Corridor to be progressed solely as a third-party funded Scheme. No credible proposition has been identified for a private investor in the Scheme. The likely residual funding requirement for the CPCA, even under the WGT Scenario, is likely to be too high to be met by the authority from its existing funds (as identified through discussions with CPCA).

Recent similar rail projects being progressed by a third-party sponsor suggest that the funding structure is likely to include a combination of grant funding from one or more national government bodies and co-funding grants from local bodies, potentially contingent on future development occurring as a result of the project.

For this Scheme, the best tailored national grant funding source would appear to be the Restoring Your Railways Fund (RRF), given the project's objectives around "levelling up" deprived parts of north Cambridgeshire. This approach is likely to be more successful in the short term than an application through DfT's RNEP process, given the existing level of commitments in NR during the CP6 period (2019-2024) and its established longer-term Strategic Plan for the Anglia Route. This has been discussed with DfT who agree that the RRF is likely the best source of funding.

The strong strategic case for the Scheme also offers the possibility of funding from MHCLG. WGT, if realised, will be a very substantial community in the East of England and is at the same scale as some of the largest proposed urban extensions in the country. At the time of writing, it is understood that MHCLG are in the process of establishing a successor to the Housing Infrastructure Fund. MHCLG funding could potentially part fund the March to Wisbech Scheme, as is happening on other rail projects linked to major urban extensions. Additional economic appraisal (outside of the scope of this project's FBC) using MHCLG's "land value uplift" may be required to make the case for funding from this Government department.

A potential funding mix for the project based on a combination of the identified funding sources – grant, local contribution and user-funded – under the WGT scenario is set out in the table below. This assumes only 50% of the local taxation and farebox surplus arises to present a more conservative position, and excludes station commercial income, given uncertainty on whether a station car park will be provided. It has been assumed that DfT and MHCLG grant funding is of the same amount, although the exact proportions may differ.

This reference financial strategy presents a credible funding solution based on a funding split between local and national funding sources, with significant funding risk placed on CPCA as project sponsor and a focus on ensuring the wider local development objectives of the Scheme in Wisbech need to be met, to prevent financial risk arising for CPCA. The grant ask from DfT and MHCLG is small relative to the size of the targeted funding pots.

**Table 5.7: Potential funding mix for March to Wisbech Scheme (WGT Scenario) – Present Values 2024 to 2053**

Cost/Revenue £m	PV <sup>115</sup>	% of total funding
<b>Cost item</b>		
DS2 Option costs including risk contingency	240.4	n/a
<b>Revenue (Local Contribution)</b>		
Business Rates revenue	5.8	2.4%
Developer Contributions	9.5	4.0%
<i>Sub-total, Local Contribution</i>	<i>15.4</i>	<i>6.4%</i>
<b>Revenue (User Funding)</b>		
Farebox surplus	9.0	3.8%
<b>Grant Funding</b>		
<i>Restoring Your Railways Fund</i>	<i>107.8</i>	<i>44.9%</i>
<i>MHCLG contribution</i>	<i>107.8</i>	<i>44.9%</i>

Source: Mott MacDonald, Delivery Strategy (Appendix C)

Should WGT not proceed to the development stage (ie Core Scenario), the Scheme will require significantly higher grant funding from DfT. It is unlikely that MHCLG would be willing to fund the project without WGT proceeding. The Scheme will need to be largely funded by DfT, most likely from the RRF, and this funding would comprise a significant share of the total funding available from the RRF.

None of the above funding sources are secured. CPCA will need to reach agreement with a number of parties to progress the Scheme along the lines outlined above including DfT (farebox surplus, RRF grant funding), MHCLG (grant funding for housing development), Fenland DC (remittance of local tax receipts), and the future service operator on the line.

## 5.6 Accounting implications - Impact on the public sector balance sheet

As noted above, no credible privately financed solution was identified in developing the FBC to progress the Scheme. As a publicly financed project, the March to Wisbech Transport Corridor would be included within the UK government's fiscal aggregates, such as public-sector net borrowing and debt. As noted above, CPCA borrowing would need to be within HM Treasury-agreed debt caps.

## 5.7 Financial Risk Assessment

There are a number of financial risks inherent in delivering the Scheme both in terms of funding and infrastructure delivery. For example:

- **Infrastructure delivery costs** - If Scheme costs were higher than expected, additional funding would need to be secured to deliver the infrastructure assets. If this involved

<sup>115</sup> Assuming nominal discount rate of 5.8%

prudential borrowing this would make the debt principle higher and so repayment of the loans harder. A number of factors beyond the control of the Scheme sponsors could lead to higher costs such as:

- higher than forecast construction sector inflation (capital and/or labour);
  - unexpected delays obtaining permits/consents/approvals during the planning application and public inquiry process; and
  - adverse weather conditions during the construction period.
- **Operational revenues/costs** - If operational revenues from the line were lower than forecast or operational costs higher, this would diminish the farebox surplus, potentially putting the Scheme into deficit. Depending upon the risk sharing agreement with the franchise operator, this could lead to a need for public sector subsidy and/or a non-commercially viable line for the operating company.
  - **Land value capture** - If less residential and/or commercial development occurred than anticipated at WGT, there would be lower business rate revenue and developer contributions to help pay back the borrowing undertaken to deliver the required infrastructure. This might mean alternative funding sources would be required to pay back the debt.

Careful consideration will be required to determine how best to manage these financial risks and which of the Scheme delivery partners would be best placed to hold the risk.

## 6 The Management Case

This section of the FBC outlines how the Scheme will successfully be delivered. The Management Case presents the governance, assurance, project planning, risk management, stakeholder management and benefits realisation arrangements for progressing the March to Wisbech Transport Corridor Scheme, consistent with the expectations of the Five Case Business Case model.

### 6.1 Introduction

The March to Wisbech Transport Corridor Scheme will be led by the CPCA with the CPCA as the Sponsor and the project Delivery Client. The CPCA may also act as the overall Funding Client with funding provided from a number of local and national sources.

This section details:

- Evidence of the Authority delivering similar Schemes
- Key project interdependencies
- Project management arrangements
- Communications and stakeholder management
- Arrangements for benefits realisation
- Monitoring and evaluation (M&E) arrangements
- Arrangements for risk management
- Arrangements for contract management
- Project assurance arrangements
- Contingency plans

Cambridgeshire authorities have a track record of delivering major transport Schemes, and will draw on this experience for the project. They have developed strong working relationships with external stakeholders, notably Network Rail, who will be involved in the delivery of the project, and whose input is required to make it successful. The CPCA is confident that it has the resource, capability and systems required to deliver this project successfully, to time and on budget. Evidence of this is contained within the details of the Management Case.

### 6.2 Evidence of similar projects

There have been a number of comparable rail line opening Schemes across the UK over the last 30 years. These projects were delivered by a variety of organisations, including Network Rail (and its predecessors) as well as sub-national authorities akin to the CPCA. While CPCA and CCC were not involved in delivery, the schemes evidence the ability for third-party sponsors and investors to work collaboratively with Network Rail on major rail infrastructure investments of a similar size and scope as the March to Wisbech Scheme. Most of these projects were undertaken before the Hansford Review identified ways to make third-party rail investment easier to deliver. Similar project examples include:

#### Third-party rail re-opening Schemes

- Stirling – Alloa – Kincardine, re-opening of 21km of railway in 2008 to passenger and freight services, including a new station at Alloa;

- Nottingham – Mansfield - Worksop (the *Robin Hood Line*), comprising the re-opening of a through line using multiple former rail alignments. The line re-opened in 1998.
- Larkhall and Milngavie re-openings in Glasgow. The Scheme comprised the reinstatement of track for passenger services on two former alignments, which had been redundant for 20 to 30 years.
- Ebbw Vale – Cardiff. The line from the South Wales mainline had closed to passenger services in 1962 and freight services in 2002. Passenger services were restored in 2008.
- Blackburn – Clitheroe. The line was originally closed to passenger services in 1962, but continued to be used for freight and diversions of passenger trains. Regular passenger services from Manchester to Clitheroe, via Blackburn were restored in 1994.
- The Borders railway line, 48km between Edinburgh and Tweedbank, closed in 1969 and reopened in 2015 at a cost of almost £300m. The reopened Borders railway line has seven stations and is largely single-track railway with three sections of double track, where formerly it was double track.
- Bristol – Portishead. Passenger services were withdrawn in 1964, and freight traffic in 1981. Work is currently ongoing to reinstate the line for passenger services to Portishead, at an estimated capital cost of c.£116m. The process began in 2012/13, in 2018 Central Government refused to fund the Scheme, then in Spring 2019 additional funding was agreed and re-opening is currently envisaged for 2023.

An analysis of lessons learnt from a number of these third-party rail Schemes has been incorporated into the Scheme Delivery Strategy. Key lessons learnt include:

- Rail lines can be delivered through mixed commercial structures, giving opportunity for involving local authority and Network Rail in delivery (See Hansford Review summary in Commercial Case for more detail on third party delivery structures (Section 4.3.1)).
- The importance of match funding to expedite DfT support, with the DfT usually capping its funding risks.
- In the case of Borders Railway, while the procurement exercise was not successful, Transport Scotland believe a market sounding exercise ultimately led to a more acceptable price from Network Rail for delivering the project.
- There are opportunities for bespoke funding arrangements to better reflect “beneficiary pays” principle than offered by standard Office of Rail and Road frameworks.

Major Schemes which Cambridgeshire authorities have either delivered directly or taken a significant role in project specification and development include:

### **Recent local large scale CPCA and partner transport Schemes**

- The Cambridgeshire Guided Busway, between Huntingdon, St. Ives and Cambridge, the longest guided busway in the world, was delivered by CCC and partners at a cost of £150m. This busway provides a high-quality public transport connection between Huntingdon and St Ives, to the north west of Cambridge, and Addenbrooke's Hospital and Trumpington Park and Ride to the south of Cambridge. Construction began in July 2006 with the busway opened in August 2011. Although there were challenges during the delivery of the Scheme, lessons learnt from this can benefit the delivery of future significant transport measures in the County. The delivery of the Scheme was reviewed by an independent consultant and a report included a number of “lessons learned” which have been incorporated into this Scheme, especially in respect of the form of contract and contractual arrangements being used.

- Addenbrooke's Access Road in Cambridge is a single carriageway access road route with a number of junctions and structures that connects Hauxton Road in Trumpington on the south side of the city, to Addenbrooke's Hospital. The Scheme was completed in October 2010 at a cost of £24m. There were elements that have similar scope to the Transport Corridor including a road and rail bridge delivered using early contractor involvement in the design phase to eliminate and reduce risk in delivery by ensuring that construction methodology, programming and logistics were achievable.
- The Ely Southern Bypass is a single carriageway highway connecting the A142 at Angel Drove to Stuntney Causeway that opened in 2018. The Scheme includes bridges over the railway line and the River Great Ouse and its floodplains and relieves heavy traffic around Ely station. The Scheme removes the need for heavy goods vehicles to use the railway level crossing and avoid an accident prone low bridge. The project was funded by CCC, East Cambridgeshire District Council and Network Rail and had a budget of £43m. The bypass scheme demonstrates the capacity of the Scheme Sponsor and partners to deliver major projects that support access to a train station, as well as working collaboratively to deliver between multiple partners.

It is worth highlighting the wealth of experience within the CPCA transport team that have been utilising their knowledge and expertise to help design the Scheme and would be involved in bringing the corridor to completion. Key personnel include:

- **Robert Jones** - Robert has over 35 years' experience in the management of concept design, construction and handover of transport projects within the UK and overseas. Robert has 10 years design management experience within the highways sector and 10 years as senior manager responsible for the development of High Speed 1 (Channel Tunnel Rail Link Project) from hybrid Bill, design and handover of the Kent section, Ebbsfleet International and domestic Railway stations. Robert has been a named Project Manager and delivered many contracts with values in excess of £50 million including East London Line Phase two and Programme Managed numerous technically challenging projects on behalf of Transport for London. Robert is a member of Chartered Institute of Management, Chartered Institute of Highways and Transportation, Member of Association of Project Management, Member of the International Association for Contract and Commercial Management. Robert holds an Honours degree in Civil and Structural Engineering and a post graduate Diploma in Management.
- **Mehmet Ahmet** – Mehmet is a Chartered Transport Planner with an MSc in Transport Planning and Engineering. He has worked in the transport industry for 18 years. He was the Project Manager for the development of the first Road Investment Strategy on behalf of Highways England (HE) and the Department for Transport (DfT) as well as Project Manager for the A47/A12 Corridor of improvement, a corridor which is projected to support growth of over 50,000 jobs and over 100,000 planned new homes over a 15 year period. Mehmet also delivered and project managed a package of works worth over £300million on a comprehensive Network Optimisation Programme Business Case across Auckland in New Zealand.
- **Anna Graham** – Anna has 12 years' experience in the highways sector working for Highways England as a project manager and Delivery Team Leader in Operations. As a project manager she was responsible for the delivery of large-scale renewal and improvement projects including managing innovative working methods to increase productivity and durability of the road surface. As Delivery Team Leader, Anna oversaw a team of 25 Project Managers to deliver an approximate annual budget of £50 million across multiple projects.

While the CPCA is a relatively new organisation, it is working closely with Cambridgeshire County Council in developing the March to Wisbech Transport Corridor Scheme and ensuring

learnings from these major projects are incorporated into the development and delivery of the Scheme.

### 6.3 Programme interdependencies

The commencement, and therefore success of the March to Wisbech Transport Corridor in bringing about its anticipated benefits, is dependent on several infrastructure elements around the intervention, other projects occurring in the area, as well as pending agreements and wider local strategies as detailed further in Section 2.9 above.

The identified project programme interdependencies for the March to Wisbech Transport Corridor are detailed below including best current estimates for when the Schemes will be delivered. Further details regarding Schemes with interdependencies to the Transport Corridor are provided in Section 2.9.

**Table 6.1: Programme interdependencies / Interfaces with other projects**

Item	Timeframe	Detail
Ely North Junction	Network Rail Control Period 7 (2024 to 2029) or 8 (2029 to 2034) – delivery timeframe being determined.	Paths need to be available through Ely North Junction to support 2tph to Cambridge, including the likely need for these train paths to be secured as part of the EACE. Network Rail, working with the DfT and local and sub-regional transport authorities, have been developing proposals for enhancing capacity and resilience in the Ely area. Ely North junction is a critical constraint on the network, and services between Wisbech/March and Cambridge need to operate through the junction. EACE is currently at SOBC stage.
Signalling infrastructure	Network Rail Control Period 6 (2019 to 2024) or 7 (2024 to 2029) – delivery timeframe being determined.	Re-control of the existing signalling infrastructure in the March area is needed. If the existing Signal Boxes remain, it risks the ability to integrate the proposed new signalling with existing electro-mechanical signalling at March and re-opened the Wisbech line.
A47 Scheme	2025 to 2030	The existing single carriageway A47 intersects the March to Wisbech line at a level crossing. Under this study it is proposed to close the existing A47 level crossing and construct a new road over rail bridge.
Wisbech access strategy (WAS)	Phase 1 (short term) by end 2021 Phase 2 (long term) by end 2025	The following elements of infrastructure are proposed under this study and would interface with WAS highway Schemes: Highways Scheme 4 (A47), Highways Scheme 5 (Weasenham Lane), and Wisbech Station. At this stage the two projects are developing independently, and no attempt has been made to integrate the WAS Schemes with the GRIP 3 proposals for the March to Wisbech line
March to Cambridge rail	Network Rail Control Period 7 (2024 to 2029) or 8 (2029 to 2034)	Possible requirements for enhancement of existing Network Rail infrastructure between March and Cambridge
Network Rail approval	Network Rail Control Period 6 (2019 to 2024)	Approval of tight radius track curvature around March station by Network Rail.
Badgeney Road and Horsemoor Level Crossings	Network Rail Control Period 7 (2024 to 2029) or 8 (2029 to 2034)	If these crossing remain open the detailed design phase will need to consider alterations to crossing controls.
Fenland District Council –March Station Masterplan	Post-2022, potentially linked to March-Wisbech rail re-opening	Fenland District Council are developing proposals for improvements at March Station, these include a new car park area. The two projects are developing independently, so the March to Wisbech Transport Corridor is dependent on the two projects having mutual synergies.

Source: Mott MacDonald

## 6.4 Project management arrangements

The project will be managed according to best practice approaches to project management and the CPCA Assurance Framework (November 2019)<sup>116</sup>. This Assurance Framework replaces the last published Assurance Framework and takes on board the national guidance published by the MHCLG for National Local Growth Assurance Framework (January 2019). The Framework covers all funds within the Cambridgeshire and Peterborough Medium Term Financial Plan, incorporating the Single Pot under the Cambridgeshire and Peterborough Devolution Deal agreed with government, and funds added to the Single Pot since the Devolution Deal, together with other sources of income such as Enterprise Zone business rates and loan repayments. As a result, the Framework is appropriate for governance of the March to Wisbech Transport Scheme.

This sub-section presents the project roles and responsibilities, the reporting structure (including governance and change control), and the project plan.

### 6.4.1 Project roles and responsibilities

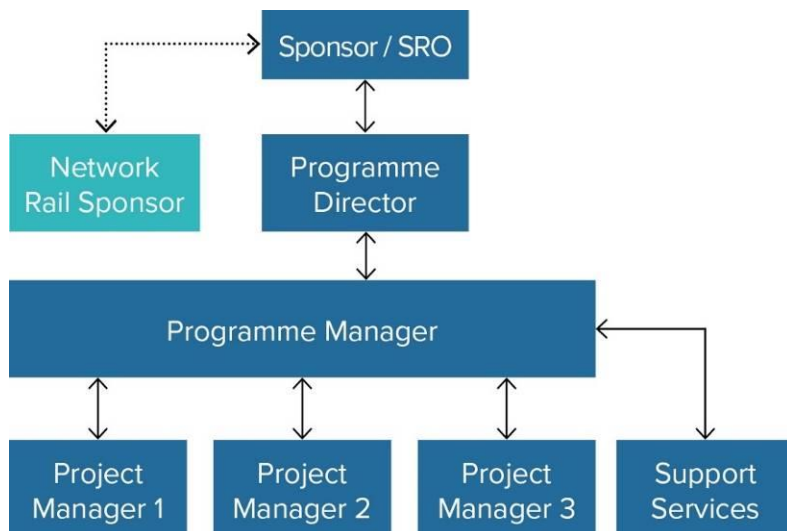
The CPCA is the overall sponsor for the March to Wisbech Transport Corridor Scheme. A key individual within the CPCA will be named as the sponsor in order to ensure clarity of role and an escalation route. The Sponsor will be responsible for championing the Scheme within the CPCA and the wider industry, owning / maintaining the Business Case, and providing the guiding mind to the Scheme. In this instance the Sponsor would also be titled the Senior Responsible Owner (SRO). The SRO is accountable for the project, and for ensuring that it meets its objectives and delivers the expected benefits. The SRO is responsible for overall approval and ownership of the strategic direction and communications for the Scheme and would report upwards throughout the CPCA through the business-as-usual reporting processes, as this is a critical Scheme that requires on-going strategic approval. The SRO will have sufficient seniority and authority to provide leadership to the project and take on accountability for delivery.

Due to the number of interfaces with Network Rail on this Scheme, it is planned that a Sponsor also be appointed from within the current Network Rail Anglia Route. The appointment of a Network Rail Sponsor will facilitate the joint agreement of a Development Agreement and provide a single point of contact within the Route to drive delivery of agreed work packages. In addition, the appointment of a Network Rail Sponsor will provide a focal point through which any Network Rail approvals will be sought. The following figure presents the structure that will be used to deliver the Scheme.

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<sup>116</sup> CPCA (2019) 'Assurance Framework' <https://cambridgeshirepeterborough-ca.gov.uk/assets/Assurance-Framework-Publication-Nov-2019.pdf>

**Figure 6-1: Proposed Management Structure**



Source: Mott MacDonald Delivery Strategy (Appendix C)

The CPCA Assurance Framework gives greater detail on the roles of project and programme manager:

- A **project manager** is responsible for developing the Project Initiation Document and for ensuring the overall outputs and/or outcomes are delivered within timescales and budget. As part of this process, project managers will manage the day-to-day running of each project within the programme; identify and report any changes; identify risks; ensure the project is compliant with the CPCA's processes and guidance; and manage the closedown. Project managers are also required to produce highlight reports. Highlight reports follow an approved template including an update on budget spend and performance against key milestones and outputs/outcomes, updated project risk register with named individuals to manage the risk, and a RAG rating according to CPCA standardised reporting guidance.
- The **programme manager** is responsible for overseeing this programme with multiple projects. The programme manager will be responsible for all projects within the programme working closely with the project managers. Where monitoring is required at programme level, the programme manager will be required to provide a monthly highlight report for the programme, obtaining updates from individual project manager's highlight reports.

Using information from the monthly highlight reports, a monthly dashboard report is created, pulling together the key information from all projects across the Combined Authority Directorates. This is scrutinised on a monthly basis by the Directors and the Programme Management Office (PMO) team. These reports are reviewed by directors at their monthly Director meetings and quarterly, during 'Critical Friend' clinic sessions.

#### 6.4.2 Project reporting structure

##### Proposed governance structure

In order to ensure that the Scheme is progressed with strategic support, it is important to ensure that day to day, business as usual activities are able to be undertaken under the authority of the Project Manager(s) with a clear escalation route to the Programme Manager and Sponsor / SRO as issues arise. The high-level structure to be used for this is shown in the figure below.

**Figure 6-2: Proposed governance structure**



Source: Mott MacDonald Delivery Strategy (Appendix C)

The Sponsor / SRO will lead the Steering Group, with the Programme Manager leading the Working Group, including being responsible for Communication and Stakeholder Management and Benefits Realisation Strategies for the Scheme.

The CPCA Assurance Framework highlights the following bodies that have an essential role in project assurance:

- The CPCA **PMO** is responsible for the single project register; creating the key documentation and setting up processes.
- The **CPCA Director Team** is responsible for the strategic fit and interdependencies; agreeing new projects to go to the CPCA Board in line with Medium-Term
- **Financial Plan (MTFP)**; the corporate overview of Red and Amber-rated projects and proposing major change requests to the CPCA Board.
- The **CPCA Board** sets strategic direction; is responsible for setting the MTFP; approving and signing off new project business cases where applicable; reviewing the corporate dashboard; approving major changes and reviewing red and amber rated projects on a quarterly basis. The CPCA Board is not responsible for change control or risk management.

The table below presents the current attendees at the Programme Board and Project Board and potential attendees for the Transport Corridor Steering Group.

**Table 6.2: Governance structure attendees**

Governance Structure	Attendees
Programme Board	<p>Current attendees are:</p> <ul style="list-style-type: none"> <li>• Combined Authority's Strategy and Delivery Director</li> <li>• Combined Authority's Head of Transport</li> <li>• Department for Transport</li> </ul>

Governance Structure	Attendees
	<ul style="list-style-type: none"> <li>• Network Rail</li> <li>• Highways England</li> <li>• Cambridgeshire County Council</li> <li>• Peterborough City Council</li> <li>• Fenland District Council</li> </ul>
<b>Project Board</b>	<p>Current attendees are:</p> <ul style="list-style-type: none"> <li>• Combined Authority's Head of Transport</li> <li>• Cambridgeshire County Councils Deputy Environment and Infrastructure Director</li> <li>• Combined Authority's Strategy and Planning Manager (Environment)</li> <li>• Combined Authority's Strategy and Policy Programme Manager</li> <li>• Combined Authority's Programme Transport Manager</li> <li>• Cambridgeshire County Council's Project Manager</li> <li>• Fenland District Council</li> <li>• Department for Transport</li> <li>• Network Rail</li> <li>• Consultant (Mott McDonald)</li> </ul>
<b>Steering Group</b>	<p>Potential attendees include:</p> <ul style="list-style-type: none"> <li>• Fenland District Council (Cllr)</li> <li>• Wisbech Town Council (Cllr)</li> <li>• March Town Council (Cllr)</li> <li>• Member representing business (e.g. from the CPCA business board or Chamber of Commerce)</li> <li>• Greater Anglia</li> <li>• Cambridge County Council (Cllr)</li> </ul>

Source: CPCA

## Change control

As outlined in the CPCA Assurance Framework, all project changes will be clearly documented, with evidence of approvals and notifications saved where applicable and recorded within the highlight reports and Gantt charts. Where approved by a director, a copy of the email chain will be saved down on a CPCA shared online network such as SharePoint or Huddle. For changes requiring approval higher than a director, the change request form will be completed.

Project Change Request forms will be included for changes such as:

- Changes to timescales (i.e. delay to completion date)
- Amendments to budget
- Variations to outputs delivered
- Withdrawal of project
- Agreed mitigation/action arising from RAG monitoring.

Directors are responsible for agreeing change requests within delegation and promoting change requests outside their delegation. The Project Board also agree change requests within delegations. Clawback and recovery processes for projects need to be addressed in the funding agreement/contract.

### 6.4.3 Project plan

A high-level outline of the project plan is shown in the table below, with the critical approvals included. The programme is presented as an achievable programme for delivery of the infrastructure, however it assumes a number of dependencies that are outside of the control of the Combined Authority. In particular, funding and commercial agreements will need to be progressed between CPCA, Network Rail, DfT and potentially other parties to meet this schedule.

It is recognised that the operation of direct Wisbech to Cambridge services is dependent on other Network Rail projects (most notably the EACE Scheme). It is therefore unlikely that a direct service would run before late in Network Rail Control Period 7 (2024-2029) or potentially Control Period 8 (2029-2034). We have nominally assumed the opening date of the Scheme, including through services, for 2028 for the purpose of the financial and economic cases, but note this could be as late as 2034 according to the EACE Scheme SOBC. Discussions between Network Rail and the CPCA and CCC as EACE Scheme stakeholders are ongoing regards delivery timing.

The programme demonstrates that the March to Wisbech Transport Corridor is deliverable but is contingent on wider interdependencies.

**Table 6.3: High Level Programme**

Milestone Activity	Weeks No.
Overall programme	302 weeks - 09/20 – 06/26
GRIP 3C design and NR approvals	32 weeks – 09/20 – 04/21
GRIP 4 - Single Option Development	48 weeks – 04/21 – 03/22
Consultation	76 weeks – 09/20 – 02/22
TWAO Preparation	36 weeks – 09/21 – 06/22
GRIP 5 - Detailed Design	54 weeks – 01/22 – 01/23
TWAO Process / Land Acquisition	88 weeks – 03/22 – 11/23
Contract Procurement	24 weeks – 01/23 – 07/23
GRIP 6 Construction Test & Commission	134 weeks – 11/23 – 06/26

Source: Mott MacDonald Delivery Strategy (Appendix C)

Appendix D presents this programme in greater detail.

## 6.5 Communications and stakeholder management

Public and stakeholder consultation is essential to ensure that the various aspirations of the general public and key stakeholders are taken into account throughout development and delivery of the project and to manage the communication and flow of information relating to the Scheme. A Communication and Stakeholder Management Plan will be developed at GRIP 4 stage to ensure that communications are managed in a systematic manner. The Steering Group will agree the Strategy for the Scheme, acting as ‘the single source of truth’ for communications with external stakeholders and interested parties ensuring that mixed messages do not come out and clear lines of communication will be established.

The key objectives of the Scheme’s stakeholder management has been to:

- Keep stakeholders aware of the Schemes progression and give an opportunity for feedback to refine Scheme development and help gain approval;

- Give an opportunity for stakeholders to ask questions and provide views and suggestions for improvements so that the Scheme meets stakeholder requirements as far as is practical;
- Increase public and stakeholder awareness of the Scheme;
- Provide consistent and clear information to those affected by the Scheme, including the nature of any Scheme-related impacts and when and how it will affect people of groups both during delivery and once operational; and
- Address perceptions of the Scheme where these are inconsistent with the Scheme objectives and forecast outcomes; and
- Meet statutory requirements.

Lines of communication have been established within the CPCA and CCC to communicate from the direct internal project management team to other relevant officers, directors and members, including to CPCA Board level. This ensures timely, and informed, discussion on the Scheme.

Appendix H presents stakeholder engagement undertaken to date, stakeholders identified, and the approach to developing a Communication and Stakeholder Management Plan which will be developed in greater detail as part of GRIP 4.

## 6.6 Benefits realisation and monitoring and evaluation

This sub-section describes the benefits that the March to Wisbech Transport Corridor Scheme is expected to deliver. These benefits will be monitored and reviewed at defined points within the lifecycle of the project to align with the reporting requirements outlined.

The CPCA Assurance Framework states that monitoring arrangements should be sufficiently detailed to guide the collection of data from individual projects and be designed to ensure that they capture information required by both the CPCA and government. All CPCA transport Schemes over £5m will follow DfT Monitoring and Evaluation (M&E) Guidance for Local Authority Major Schemes. The evaluation programme has been designed to meet the requirements of an Enhanced Evaluation (for Schemes which have an expected outturn cost of over £50m, which costs for this Scheme are significantly above (see Financial Case Section 5.3.1)). This will enable assessment of the effectiveness and impact of investing public funds, and the identification of best practice and lessons learnt that can inform decisions about future delivery<sup>117</sup>. Using this rigorous and tested framework will allow other prospective partners to invest with confidence that there is plan in place to ensure projected benefits are delivered.

It was also identified that as the Combined Authority has multiple audiences, monitoring against delivery of objectives beyond the DfT evaluation focus would help to communicate benefits against stakeholder priorities better. For example, key Devolution Deal partners BEIS and prospective funding partners the MHCLG have a greater focus on impacts on economic development and the community. By incorporating indicators to assess these areas, the wider scheme impacts will be better understood.

### 6.6.1 Summary of key benefits

The objectives of the March to Wisbech Transport Corridor, previously detailed in Table 2.8 and Table 2.9 of the Strategic Case are:

- Improve access to key employment and education sites (Alconbury, Peterborough Centre, Ely, Cambridge Science Park, Cambridge Biomedical Campus & Cambridge Centre).

<sup>117</sup> CPCA (2019), 'Devolution Deal Monitoring and Evaluation Framework' <https://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/ME-Framework-Mar-2019.pdf>

- Improved connectivity to major centres for inward investment to Wisbech (Cambridge, Peterborough, London and Stansted Airport).
- Support delivery of housing - Fenland Local Plan and Wisbech Garden Town which allows key employment locations to continue to grow.
- Help to support economic growth in a sustainable manner by providing an attractive alternative to car travel, reducing associated externalities.
- Improve local access to key services, e.g. medical facilities, colleges and universities (located in major centres, e.g. Cambridge, Huntingdon, King's Lynn and Peterborough).
- Support the regeneration of the town centre and existing urban area.
- To minimise long term commitments for public revenue support.

These Scheme objectives were developed in line with the following planning documents:

- GC&GP Strategic Economic Plan (2014)
- Cambridgeshire Long Term Transport Strategy (2015)
- Fenland Local Plan (2014)
- Wisbech 2020 vision (formulated between 2012 and 2017)
- Cambridgeshire and Peterborough Independent Economic Review (2018)
- CPCA Strategic Spatial Framework (2018)
- Wisbech Garden Town Masterplan (2017)

More detail of the Scheme objectives and how they align with these wider stakeholder objectives is presented in Table 2.8 of the Strategic Case.

### 6.6.2 Purpose and scope of evaluation

The CPCA is committed to implementing an effective monitoring and evaluation plan (MEP) so that it is able to<sup>118</sup>:

- Provide local accountability to the public by demonstrating the impact of locally devolved funding and the associated benefits being achieved.
- Comply with external scrutiny requirements i.e. to satisfy conditions of the Devolution Deal. Specifically, M&E will be used to demonstrate local progress and delivery to senior government officials and Ministers who are ultimately accountable to parliament for devolved funds.
- Understand the effectiveness of policies and investments, to justify reinvestment or modify existing policies. M&E provides a feedback loop for the Authority and relevant stakeholders;
- Develop an evidence base for input into future business cases and for developing future funding submissions. M&E will collect, collate and analyse data which can be utilised for future work.

The remainder of this section aims to ensure that these commitments are delivered by setting out the approach, principles, resource and responsibilities together with the proposed approach to evaluating each element of the Devolution Deal.

DfT sets out the core aim of undertaking a more comprehensive project evaluation in its M&E Framework for Local Authority Major Schemes<sup>119</sup>, which is to generate evidence on:

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<sup>118</sup> Ibid

<sup>119</sup> DfT (2012): 'Monitoring and Evaluation Framework for Local Authority Major Schemes', pg 8

- Whether the Scheme was delivered effectively and efficiently;
- The causal effect of the Scheme on the anticipated outcomes and whether these have contributed to the intended impacts; and
- Whether it had any unintended adverse or positive effects.

At the local level, evaluating the benefits of the Scheme will inform the CPCA about the impacts of the March to Wisbech Transport Corridor on the transport network and economic development of Wisbech. The evaluation will also inform CPCA's partners of the impact of the March to Wisbech Transport Corridor on the local economy and its contribution to the aims of urban development and growth to the north and northeast of Cambridgeshire.

The third purpose is to report to DfT on the immediate and medium-term impacts of the Scheme and its performance with respect to the stated objectives. This is a DfT requirement, such that information can, in-turn, be used to assist with evaluating other Schemes.

The design of this plan is intended to utilise and, as required, supplement the M&E activities already committed to by the CPCA. The MEP is not intended to alter, supersede, or nullify any commitments made elsewhere to monitor and evaluate the impacts of the March to Wisbech Transport Corridor. A full Monitoring and Evaluation Plan will be developed as part of GRIP 4, the remainder of this sub-section sets out the broad approach and anticipated indicators.

Benefits will be evaluated both in the immediate and medium term, in the first and fifth year of the Scheme's completion respectively to align with DfT guidance on timings of evaluations. The immediate term report will assist in understanding any potential issues the Scheme is experiencing in its early phase, such as passenger traffic and service regularity. The medium term allows early comparisons with the predictions made for the transport corridor, informing the CPCA and partners as to the trajectory of success or otherwise of the Scheme on meeting objectives as well as providing information on causal links. Instructions on data sources and monitoring are provided in the MEP below to allow for review of indicators up to the Year 5 report. The two reports will be circulated to DfT.

### 6.6.3 Roles and responsibilities for monitoring and evaluation governance

The overall responsibility for M&E of this framework and the execution of the activity associated with it, is held at director level at the CPCA within the post of Director of Strategy and Delivery<sup>120</sup>. The CPCA has agreed a contract with CCC (part of the wider Cambridgeshire Insight partnership) to provide an appropriate level of officer support for M&E including local knowledge, expertise and supporting capacity in order to undertake the work associated with the framework in the period leading up to and including the first 'Gateway' assessment for the Authority. The CPCA's approach uses the Magenta Book definition of M&E and makes use of the wider guidance within this document as complementary guidance to the HM Treasury Green Book.

In addition, the Finance Director maintains a responsibility to regularly report on spend and to support the integration of this reporting with the wider M&E work. This is particularly relevant when assessing the effectiveness of specific funding streams.

The SRO is responsible for overseeing the delivery and governance of M&E. Elements of the MEP that require detailed and experienced knowledge will either be delivered in house by CPCA staff or, as required, a suitably qualified and experienced sub-contractor will be commissioned. Consultants will be under the direct management of the SRO. A 360-degree performance review methodology will be adopted whereby the evaluation contractor will be

<sup>120</sup> See CPCA Leadership Structure <http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Staff-structure.jpg>

subject to the same performance assessment as all other suppliers, to ensure that the evaluation is included fully into the review of Scheme delivery.

The Combined Authority Board for the CPCA meets monthly. As part of the M&E framework there is a commitment for the Board to receive a Quarterly Performance Monitoring Scorecard together with an annual Strategic Overview of Performance against key metrics. The frequency of reporting will be kept under review and is dictated in part by the availability of metrics at a local level that track, for example, the rate of economic growth or the rate of housing building completions. Some indicators such as economic growth will be lagging indicators that take a while for any influence of the Transport Corridor Scheme to manifest whereas the metrics proposed within the M&E Framework for Scheme will be observable much more quickly. The work in this area will also be available for review by the CPCA Overview and Scrutiny Committee. There will be an evaluation reporting timetable, with interim reporting where appropriate to ensure the benefits of investment decisions are understood and lessons learnt incorporated back into policy work.

### Risk register

The following risk register highlights key risks in delivering the required M&E.

**Table 6.4: MEP risk register**

Risk factor	Implications of risk	Indicator at risk	Initial risk level			Control measures	Residual risk level		
			Severity	Likelihood	Risk level		Severity	Likelihood	Risk level
Baseline data not collected before Scheme construction commences	Baseline data not reflecting pre-construction position	All	3	1	M	A clear programme of work to ensure timely execution of the delivery programme	1	1	L
Baseline data not collected to defined specifications	Inaccurate or non-robust baseline datasets	All	3	1	M	All sub-contractors to go through the quality assurance processes	1	1	L
Staff or sub-contractors with sufficient skill levels and experience unavailable at allocated budget or required time	May prevent like for like comparisons of data, cause budget overruns, and/or lead to contractors with inadequate experience being used	All	3	1	M	When tendering for sub-contractors, dates of data collection and analysis to be agreed and confirmed in advance. Selecting contractors with sufficient capacity to address staff turnover or leave would mitigate risk	2	1	L
Process evaluation not undertaken effectively with internal	Inaccurate and misleading process information	Process evaluation	3	2	H	Strong oversight maintained by project sponsor project board to ensure information is shared openly	2	1	L

Risk factor	Implications of risk	Indicator at risk	Initial risk level			Control measures	Residual risk level		
			Severity	Likelihood	Risk level		Severity	Likelihood	Risk level
and/or external suppliers in an open and robust way									
Staff turnover of evaluation suppliers, at CPCA, or within the project team between baseline and ex-post periods, and/or during construction process evaluation	Evaluation lacks continuity leading to misinterpretation of findings	All	2	2	M	Ensure sub-contractors have undergone succession planning and that data collection and analysis methodology is thoroughly documented. Exit interviews for project team members to ensure knowledge is captured	1	1	L
Delays in project delivery extend process evaluation time period and expense	Increased cost of process evaluation and implications for overall M&E budget	Process evaluation/ all	2	1	L	Process evaluation designed to minimise costs	1	1	L
Overall M&E budget constraints lead to inadequate inputs	Unexpected cost over-spends lead to planned data collection and data analysis not being possible. Risk likely to increase for later reports as cost uncertainty increases.	All	3	2	H	A contingency fund to be set aside to minimise the impact of cost over-spends	2	1	L
On-going cuts lead to cancellation of collection of external data input being gathered that is essential for MEP	The NDR project must incur cost of gathering data or an alternative data source must be found (potentially a proxy data source)	All	3	1	M	Maintain strong on-going links with data providers and ensure that if a data source is cancelled an alternative is identified as soon as possible	2	1	L
Adverse weather	Leads to comparisons	Where primary	1	2	L	Active management of	1	1	L

Risk factor	Implications of risk	Indicator at risk	Initial risk level			Control measures	Residual risk level		
			Severity	Likelihood	Risk level		Severity	Likelihood	Risk level
conditions delay collection of data	across years not being like for like and/or cost over-runs	data collection is required				experienced data collectors will ensure data comparison are as close to like for like as possible			

Source: Mott MacDonald

### Quality assurance

The delivery of the MEP will be undertaken within the quality management process of the March to Wisbech Transport Corridor Project overall (as outlined above).

Each report will be overseen by the SRO and Programme Manager. Progress will be routinely assessed and reviewed relative to the delivery plan. Corrective action will not be required if no threats to progress or project tolerances are identified. Where a threat is identified, the Project Manager will escalate the issue to the project board. As DfT and MHCLG funding does not allow for costs of M&E, the costs for this activity will be covered locally.

## 6.6.4 Evaluation approach

### 6.6.4.1 Selecting the evaluation approach

Selecting an evaluation approach has implications for the way in which the evaluation framework and research questions are structured. The purpose of evaluation is to understand causal links between an intervention and wider change in an area including changes to socio-economic characteristics and human travel behaviour. This makes Theory of Change methods ideal as the causal link between interventions and observed change can be assessed.

Alternative approaches carry the likelihood of being more expensive. For example, experimental or quasi-experimental approaches whereby a control area is selected and observed changes in the intervention area compared with observed changes in the control area are compared would incur greater costs if indeed a suitably similar control area could be identified. An outcome-based evaluation approach would focus purely on the outcomes delivered by the Scheme, but this would only provide part of the story, omitting the important elements of inputs and outputs. Moreover, the process which led to the outcomes is also important for future knowledge development.

### 6.6.4.2 Theory of change approach

Theory of Change<sup>121</sup> evaluations seek to understand the causal links and chain of events that flow from specific interventions. In this instance the March to Wisbech Transport Corridor is the intervention. Theory Approach Logic Models are used in public policy evaluations where the vision and aim are not exclusively focused on understanding financial benefit and because, in these circumstances, they make a case for how elements of the programme fit together to

<sup>121</sup> A useful overview of Theory of Change is available from: <http://www.theoryofchange.org/what-is-theory-of-change/#4>

produce downstream outcomes and impacts. Often, as in the case of transport, outcomes are long term and, in this instance, intermediate – or shorter term outcomes can be identified, in a framework timescale, that provide an indication of progress toward the longer-term outcomes and impact. This MEP reflects the longitudinal nature of outcome delivery while, simultaneously, reflecting the short-term delivery of outputs directly linked to the March to Wisbech Transport Corridor.

#### 6.6.4.3 Logic map

A logic map can be constructed to reflect a programme's theory of how it is going to produce change within a specified target system. This is termed a Theory Approach Logic Model<sup>122</sup>. The rationale explains why a programme design is likely to be successful and outlines what success might look like. Logic maps are a tool for charting the causal effects between inputs, outputs, outcomes and the relationship these have back to stated objectives and the initial rationale for intervention. For this Scheme, an overall logic map has been produced. Following consultation with the CPCA and CCC project team members, the logic map in Section 2.15.5, Figure 2-23 was produced to show how inputs become outputs and then outcomes become the desired impacts.

The evaluation process will need to review the logic maps over time and consider if the anticipated change has been delivered as well as identifying any subsequent causal links to change which were not originally identified.

#### 6.6.5 Benefits profile

A range of benefits have been identified as part of the business case for the transport corridor, to be realised according to the projected timeline of the Scheme. Table 6.4, and Table 6.5 below sets out these benefits and provides information on the indicators that will be used to assess their realisation, as well as the sources for the monitoring indicators. While the DfT guidance recommends a maximum of three Scheme objectives, as per similar Schemes of this size, it was determined that due to the diverse range of benefits supported by the Scheme, it was important to assess and capture the realisation of the seven benefits highlighted in this business case.

**Table 6.4: Benefits profile matrix - Inputs**

Indicator	Impacts/ objectives	Targets	Baseline	Measure	External factors/ notes	Responsibility
Scheme Build (Input)	<ul style="list-style-type: none"> <li>Detailed design</li> <li>Land Acquisition</li> <li>Construction, test and commissioning</li> <li>Confirmation of TWAO DfT approval</li> </ul>	<ul style="list-style-type: none"> <li>Design approved and planning permission achieved</li> <li>Land available and acquired for development</li> </ul>	<ul style="list-style-type: none"> <li>Current programme opening date set for 2028</li> </ul>	<ul style="list-style-type: none"> <li>Detailed design completed on time</li> <li>Land required acquired within budget</li> <li>Construction is on schedule and on budget</li> </ul>	<ul style="list-style-type: none"> <li>External stakeholders impacted during construction period</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>

<sup>122</sup> Theory Approach Models are based upon the theoretical premises upon which a programme is designed and provides a theory-based rationale for the issues to be addressed by the programme and the way in which the programme intends to produce solutions.

Indicator	Impacts/ objectives	Targets	Baseline	Measure	External factors/ notes	Responsibility
Delivered Scheme (output)	<ul style="list-style-type: none"> <li>Opening of transport corridor to the public</li> <li>Scheme completed successfully</li> </ul>	<ul style="list-style-type: none"> <li>Scheme opening 2028</li> <li>Scheme total budget</li> </ul>	<ul style="list-style-type: none"> <li>Current programme opening date as per this FBC</li> <li>Costs presented in FBC</li> </ul>	<ul style="list-style-type: none"> <li>Opening of transport corridor to the public</li> <li>Scheme delivered on time and on budget</li> </ul>	<ul style="list-style-type: none"> <li>Unforeseen construction delays</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>

**Table 6.5: Benefits profile matrix – Outcomes / Impacts**

Indicator	Impacts/ objectives	Targets	Baseline	Measure	External factors/ notes	Responsibility
Scheme objective 1 (Economy)	<ul style="list-style-type: none"> <li>Improve access to key employment and education sites</li> </ul>	<ul style="list-style-type: none"> <li>Open more employment opportunities up to Wisbech residents through better access to Cambridge and London</li> </ul>	<ul style="list-style-type: none"> <li>Current journey times to Cambridge and London</li> <li>Current number of daily outward commuters</li> </ul>	<ul style="list-style-type: none"> <li>Improve journey times to Cambridge and to London</li> <li>Increased outward commuting</li> </ul>	<ul style="list-style-type: none"> <li>Particularly dependent upon junction enhancements at Ely North</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>
Scheme objective 2 (Economy)	<ul style="list-style-type: none"> <li>Improved connectivity to major centres for inward investment to Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>Increased investment into Wisbech economy</li> </ul>	<ul style="list-style-type: none"> <li>Current number and size of businesses operating out of Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>New businesses and stores operating out of Wisbech and existing businesses able to expand</li> </ul>	<ul style="list-style-type: none"> <li>Need to isolate impact of transport corridor from wider trends</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>
Scheme objective 3 (Economy)	<ul style="list-style-type: none"> <li>Support delivery of housing - Fenland Local Plan and Wisbech Garden Town which allows key employment locations to continue to grow</li> </ul>	<ul style="list-style-type: none"> <li>New transport corridor will facilitate the growth of housing in Wisbech, as better connectivity makes Wisbech a more attractive place to live.</li> </ul>	<ul style="list-style-type: none"> <li>Current number of dwellings in Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>Number of new dwellings constructed between project completion and evaluation date</li> </ul>	<ul style="list-style-type: none"> <li>Impacted by wider market trends</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>
Scheme objective 4 (Environmental)	<ul style="list-style-type: none"> <li>Help to support economic growth in a sustainable manner by providing an attractive alternative to</li> </ul>	<ul style="list-style-type: none"> <li>Reduced use of single-person motor vehicles through the provision of a more efficient</li> </ul>	<ul style="list-style-type: none"> <li>Current level of car and motorcycle use on roads out of Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in single person motor vehicle use to access key areas</li> </ul>	<ul style="list-style-type: none"> <li>Impacted by wider trends in car and public transport usage</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>

Indicator	Impacts/objectives	Targets	Baseline	Measure	External factors/ notes	Responsibility
	car travel, reducing associated externalities	and reliable rail service		around Wisbech		
Scheme objective 5 (Social)	<ul style="list-style-type: none"> <li>Improve local access to key services, e.g. medical facilities, colleges and universities</li> </ul>	<ul style="list-style-type: none"> <li>Reduced journey times to Cambridge/ London</li> <li>Increased enrolments of local residents to colleges/ universities in Huntingdon, King's Lynn and Peterborough</li> </ul>	<ul style="list-style-type: none"> <li>Current journey times to Huntingdon, King's Lynn and Peterborough</li> <li>Current level of local residents travelling to Huntingdon, King's Lynn and Peterborough for education</li> </ul>	<ul style="list-style-type: none"> <li>Reduced journey times to Huntingdon, King's Lynn and Peterborough</li> <li>Increased number of local residents traveling to Huntingdon, King's Lynn and Peterborough for education</li> </ul>	<ul style="list-style-type: none"> <li>Impacted by wider trends in education demand and student housing</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>
Scheme objective 6 (Social)	<ul style="list-style-type: none"> <li>Support the regeneration of the town centre and existing urban area</li> </ul>	<ul style="list-style-type: none"> <li>The new transport corridor will act as a catalyst for growth in Wisbech</li> <li>Increased inward commuting and visitors to Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>Current vacancy rates</li> <li>Current footfall levels</li> <li>Current inward commuting</li> </ul>	<ul style="list-style-type: none"> <li>Improvements in vacancy rates and footfall</li> <li>Increased level of commuters into Wisbech</li> <li>Increased level of visitors travelling into Wisbech</li> </ul>	<ul style="list-style-type: none"> <li>Impacted by wider market trends on the high street</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>
Scheme objective 7 (Financial)	<ul style="list-style-type: none"> <li>To minimise long term commitments for public revenue support</li> </ul>	<ul style="list-style-type: none"> <li>Service operates without revenue funding subsidy</li> </ul>	<ul style="list-style-type: none"> <li>No line and so no subsidy</li> </ul>	<ul style="list-style-type: none"> <li>Operating costs are met by revenues</li> </ul>	<ul style="list-style-type: none"> <li>Demand/ revenue forecasts dependent upon consumer behaviour</li> </ul>	<ul style="list-style-type: none"> <li>CPCA, CCC</li> </ul>

Source: Mott MacDonald

The benefits identified will be realised and monitored and evaluated (including attribution of benefits) through development of the Monitoring and Evaluation Plan at the GRIP 4 stage.

#### 6.6.5.1 Baseline Report

The baseline report focuses on the position before the Scheme has begun development. It should measure the position before any effects of the Scheme are felt. Baseline data collection should be carried out as close as possible to opening year of the Scheme. This may be before the Scheme construction commences, however, in some cases this may be during the build

process, if it is clear that the data being collected will remain unaffected by the Scheme whilst under construction. The baseline report for the Scheme evaluation will primarily use the significant evidence base of data collated for Scheme design and appraisal as the evidence is comprehensive, recent and robust.

#### 6.6.5.2 Scheme build and delivered Scheme, and outturn costs

Measures of the infrastructure outputs of the Transport Corridor are required to establish whether the Scheme has delivered what it set out to. Any variance from the original plans should be reviewed as this could cause significant variance in outcomes.

As per the DfT guidance, to assess how the Scheme was built and delivered, the following information that would need to be provided:

#### Scheme Build

- Programme/project plan assessment, including measures of delivery at key milestones (e.g. implementation log);
- Stakeholder management approaches and lessons learnt from this;
- Risk management effectiveness (assessing impacts from the risk register); and,
- Assessment of whether the Scheme is on track to deliver the anticipated benefits and details of any benefits realised.

#### Delivered Scheme

- A full description of implemented Scheme outputs; including a clear map of the overall Scheme and maps of individual elements if appropriate;
- Identification of any changes to the Scheme since funding approval. For example, changes to route and/or design of the Scheme and details of the reasons for any such changes;
- Identification of any changes to assumptions on fare levels or provision of services by operators and provision of any evidence and/or analysis available for the reason for any such changes;
- An assessment of whether the Scheme has reached the intended beneficiaries; and,
- Identification of changes to mitigation measures (e.g. on landscape, noise mitigation, etc,) with a clear description of the changes and the reasons for implementation.

The table below presents the output measures required to assess whether the Scheme was delivered as planned.

**Table 6.6: Output measures (Scheme build and delivered Scheme)**

Measure	Data to be used	Rationale for inclusion	Data collection methods	Frequency of data collection
Infrastructure delivered as per proposals (see Section 3.6.2 for CAPEX requirements – station platforms, track, etc)	Final Construction Feedback Report	Key Scheme output	Extracted from Final Contractor Report	Once, after Scheme Opening

Source: Mott MacDonald

To assess Scheme outturn costs, the following information will need to be provided:

- Outturn investment costs broken down into elements in a similar form as for the Major Scheme funding bid;
- Analysis of manifestation of identified risk in the elements of investment costs;
- Identification of cost elements with savings and identification of the reasons for cost savings;
- Analysis of cost elements with overruns and identification of the reasons for cost overruns;
- Outturn operating costs; including evidence of differences between outturn and forecasts and identification of any reasons for the differences, and,
- Outturn maintenance or other capital costs compared with forecasts and any unanticipated costs identified.

The causes of any variations from forecast costs should be analysed.

**Table 6.7: Outturn costs**

Measure	Data to be used	Rationale for inclusion	Data collection methods	Frequency of data collection
Project costs	Outturn spend to forecast	Key Scheme input	Extracted from Final Contractor Report	Once, after Scheme opening

Source: Mott MacDonald

#### 6.6.5.3 Scheme outcomes/impacts

The monitoring of the benefits will demonstrate the success of the Scheme and provide evidence for lessons learned. The wide range of benefits being sought mean different types of data are required. Baseline data is required so any changes following Scheme implementation can be assessed. To demonstrate benefits realisation, different types of data have been identified for collection. Table 6.8 shows the identified monitoring requirements alongside the rationale for inclusion and anticipated frequencies. The outcome / impact metrics help to demonstrate how each Scheme objective is being met.

**Table 6.8: Data needs – Outcomes/Impacts**

Measure	Objective	Rationale for inclusion	Frequency of data collection
M1: Traffic flows	In line with objective: 4	Understand change in traffic flow on highways between March and Wisbech	Minimum 2 weeks in year - 1 (baseline), +1, and +5
M2: Journey times	In line with objectives: 1, 2, 5	Understand time saving benefits of new transport corridor for trips to March and Cambridge, including comparison of car and train times	At least one day in year -1 (baseline), +1, and +5
M3: Stakeholder feedback	In line with objectives: All	Understand views of stakeholders on Scheme delivery and impacts and understand some of the less quantified effects e.g. satisfaction	Year - 1 (baseline), +1, and +5
M4: Use of rail service	In line with objectives: All	Understand the use of the new service from both March and Wisbech	At least one day in year +1 (baseline), and +5
M5: Mode share for journeys to work	In line with objective: 1, 4	Understand if the new rail service is being used for journeys to work	At least one day in year 1 (baseline), +1, and +5
M6: Accessibility to key employment sites	In line with objective: 1, 2, 3, 4	Understand increase in population within journey time threshold of key employment sites	At opening and if any significant development in proximity of stations
M7: Employment land supported to come forward and	In line with objectives: 2 and 3	To communicate economic development supported by Transport Corridor for partnership funders and stakeholders. Survey to understand where businesses have located from to identify level of inward investment supported.	Year +5
M8: Housing land supported to come forward	In line with objective: 3	To communicate housing development supported by Transport Corridor for partnership funders and stakeholders	Year +5
M9: Carbon impacts/noise/local air quality	In line with objective: 4	Understand the environmental benefits that the Scheme brings to the area	To be agreed
M10: Social	In line with objectives: 5, 6	Understand if deprivation levels have changed in Wisbech	Year - 1 (baseline), +1, and +5
M11: Access to key services	In line with objective: 5	To demonstrate that access to medical facilities, colleges and universities have been improved	Year +1, and +5
M12: Regeneration of the town centre and existing urban area	In line with objective: 6	To ensure that rail service complements town centre vibrancy rather than leading to leakage.	Year +5
M13: Accidents	DfT requirement for Enhanced Evaluation	Understand if the Scheme has had any impact on accidents in the vicinity of existing and new stations	Year - 1 (baseline), +1, and +5
M14: Level of financial subsidy	In line with objective: 7	To ensure long term commitments for public revenue support are minimised. Service operates without revenue funding subsidy	Year +1, and +5

Source: Mott MacDonald

The timescale for data collection is:

- **Stage 1:** Before opening – to develop a full baseline for future comparison.
- **Stage 2:** +1 year after completion and opening of the Scheme. This stage will enable the team to gain an interim understanding of how benefits realisation is progressing. This will provide the opportunity to refine the approach, if required, to ensure benefits can be maximised in the longer term.

- **Stage 3:** 5 year – five full years after opening, to provide a final report on the level of benefit realisation and extent of objective achievement.

#### 6.6.6 Resourcing plan

In future stages, estimates of the cost of fulfilling the M&E requirements of the plan will be developed. It will be important to ensure that M&E efforts are proportionate. At this stage, the budget assigned for M&E purposes has been set at £100,000 (£2019) for all elements of the plan. Once costs are developed for each indicator, this budget estimate can be refined.

#### 6.6.7 Dissemination plan

As per the CPCA M&E framework, the CPCA Director of Strategy & Planning supported by CPCA Communications Team will be ultimately responsible for stakeholder engagement. Dissemination and public engagement will be an ongoing process for the March to Wisbech Transport Corridor.

As part of disseminating findings from the March to Wisbech Transport Corridor M&E programme, the following formal reporting will be undertaken:

- Baseline report – 2028
- 1 Year After report – 2029
- 5 Years After report – 2033

The three reports, One Year After and Five Years After, will be circulated to the DfT, Network Rail and other funders.

### 6.7 Arrangements for risk management

#### 6.7.1 Introduction

Risk management is essential in the successful delivery of a project. It is important that a robust and consistent process is in place during the early stages especially for a programme of this magnitude.

The purpose of the risk management section of this FBC is to set out how the CPCA, as delivery client for the Scheme, plans to manage risk during the development and delivery of the Scheme. The section also documents the key potential project risks that may be encountered during the project lifecycle and sets out a number of mitigation measures to help to manage these risks. A high-level risk assessment table, provided below, has been developed for this report.

#### 6.7.2 Approach

The March to Wisbech Transport Corridor Scheme is one project within a much wider programme of strategic transport investments being planned and delivered by the CPCA. A multi-tiered hierarchical approach to risk management is therefore considered appropriate to ensure that risks are controlled and decisions are made about them at the appropriate levels. At the simplest level, risk should be managed at both the transport programme level and at individual Scheme level.

Although adopting this approach can appear complex, its complexity is easily resolved by asking one question of each risk; does it, only affect this level? If the risk affects both the Scheme and the programme, this risk should be elevated to Programme level and should be

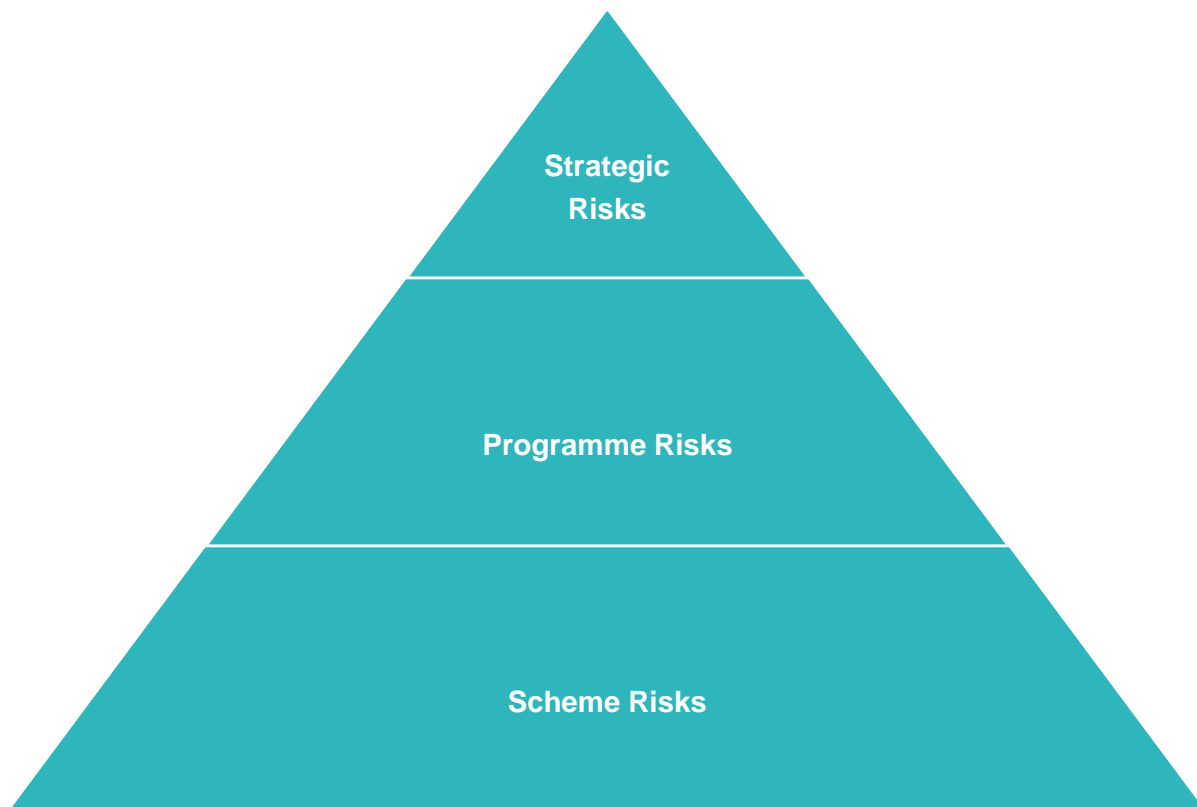
controlled, managed and resolved at that level. This should then be passed down to the Scheme level where a sub-ordinate risk should be identified.

As can be seen, the risk review and management process is cyclical. However, it is most efficient for consistency, to manage risks at the highest practical level. Over time this is likely to result in standardisation, and the effective management of risks. There will always be a small number of exceptions requiring risks to be managed at a lower level in the hierarchy but this should be a last resort. This approach is also consistent with the proposed enterprise model management structure, where higher level risks that affect multiple facets and parties in the Programme can be owned by the Integrator organisation whereby lower level risks will be the responsibility of specific Scheme owners, partners or suppliers.

## 6.8 The Risk Management Hierarchy

In principle, risk management for a complex programme should be structured around Strategic, Programme and Project risks. This approach allows proper effective management of risk where authority follows the responsibility for managing risks.

**Figure 6-3: Risk Management Hierarchy**



Source: Mott MacDonald

Strategic risks can be either internal or external to the Programme risks in origin but are more often than not external risks over which the Scheme Sponsor and Delivery Client have limited or no direct influence. Examples might include;

1. Political change and policy change (National, Regional and Local).
2. Economic change (e.g. country and global impacts).

3. Technology change and obsolescence.
4. Legislation changes.
5. Environmental impacts.
6. Supply chain (e.g. tariffs, taxes, trade agreement constraints).
7. Regulator changes (e.g. ORR).
8. Changes to key stakeholder organisations e.g. DfT or Network Rail.
9. Reputational credibility of the Programme.

Most of the above are effectively external risk factors, outside of the control of the Scheme itself. A similar list of strategic risks are likely to occur from within the project and can be categorised as Internal Strategic Risks. This may include:

1. Failure to deliver the Scheme's objectives.
2. Over-run of costs by either one or more Schemes within the Scheme.
3. Over-run of schedule by the Scheme.
4. Quality failure of the Scheme.
5. Credibility of the Scheme.

#### 6.8.1 Strategic Risks Management

Strategic risk management typically includes relatively low levels of pro-active management as many can only be reactively managed due to the inherent lack of control of the factors influencing the likely occurrence of the risks. However, awareness of the factors through regular review of external influences and internal reporting should help to identify any risk occurrence early allowing review of decisions as to whether continuation with the Scheme is desirable, achievable and deliverable.

Although monitoring of the risks may be frequent (e.g. monthly), typically, review of the risks themselves will be more infrequent (e.g. quarterly). We anticipate the rate of active risk management adjusting through development of the Scheme's schedule progresses. An example of this is being highly visible when risks such as reputational risk become higher in probability; for example, during a public inquiry for powers, or construction works.

One element that is important in tracking strategic external risks is their timing. Generally, these risks can be identified by key dates or events that can be readily forecast, such as general and local elections. By actively tracking these, key decisions can be made after risks have either passed or been realised and this allows for informed decision making.

#### 6.8.2 Programme Risks Management

Programme risks are perhaps the hardest elements to manage and are likely to sit with the overall Transport Programme Promoters and Integrator for both identification and management.

They typically occur from every angle, from Strategic risks passing down and having an impact on Programme delivery, Scheme risks passing up and impacting the Programme as a whole and from external influences such as stakeholders or interested third parties. It is therefore a much more onerous task to effectively manage Programme level risks. Furthermore, it is also equally more important to manage them effectively because the outcome is much more in the control of the Sponsoring organisations, so failure to manage risks at this level is likely to result in reputational impacts. To manage the complexity, a number of approaches have been developed to manage programme risks, as detailed from Section 6.8.5 onwards.

### 6.8.3 Scheme Risks

Scheme risks should be limited in number and specific to March to Wisbech Transport Corridor Scheme. There are no typical Scheme level risks, though they do generally cover the areas of, scope (change, creep, unforeseen), programme (delays), financial costs (escalation or incorrect estimation) and resource availability (appropriate skills, expertise and timely availability) alongside technical difficulties. Table 6.9 sets out some of the key risks identified for the Scheme to date.

### 6.8.4 Risk Management and Requirements

With a close correlation between good requirements definition and risk identification, consideration should be given to whether tying risks to particular requirements is an option. Although this can be complex if the intention is to tie risks to all relevant requirements, attaching risks to the most dominant requirement can help in overall programme management of the Scheme.

If one requirement is attracting a high degree of risk, it may indicate that either the requirement needs better definition or perhaps fundamentally changing. This connectivity between risk and requirements makes it easier to stand back from the specific issues and see their potential cause and origin, something that can be hard to do when trying to deliver to schedule or cost, where pressures increase with the impact of risks. Being able to interrogate either the risk schedule or requirements management tool and identify trends or causes can result in fundamentally better strategic decision making based on good information.

It is acknowledged that achieving this level of information integration can be a challenge. Consideration should be given to whether current technologies can be used to assist with the effective and efficient implementation of this approach. This leads directly to the need for a well-considered Information Management Strategy to accompany and underpin the Package's programme.

### 6.8.5 Risk Reviews and Updates

The risk reviews to be undertaken can be broken down to two types:

- Strategic risk reviews. Carried out less frequently (e.g. quarterly), reviewed with senior management.
- Programme/Scheme risk reviews. Carried out every 4 weeks, reviewed with the programme team for each Scheme component (PM, engineer, designer, planner, commercial manager etc).

For the March to Wisbech Transport Corridor Scheme it is proposed that Strategic Risk reviews are undertaken quarterly, focussing upon the risks to the Scheme as a whole. This will support senior leaders in the CPCA in identifying the key threats to the delivery of the overall outcomes.

Scheme risk reviews will be undertaken at the work package level. This will allow project managers to identify the key threats to their individual Scheme packages, thus supporting quick and effective close out of those smaller risks and effective escalation on the overall strategic ones.

### 6.8.6 Risk Reporting Methodology

The proposed method for reporting risk is set out in the following sub sections.

#### 6.8.6.1 Reporting Package Component Risks

For each individual component, a more detailed dashboard/document can be generated which includes:

- Summary of the key changes between the periodic risk reviews:
  - Status Changes;
  - Changes to scoring; and
  - Updates to actions.
- Top Risks (qualitatively assessed using the agreed matrix); and
- Key actions, action owners and expiry dates.

The document/dashboard will be distributed to the project controls team and reviewed on a regular basis by the wider project teams.

Risk reviews have commenced during the production of this Management Case and an example of the template being used is replicated below.

#### 6.8.6.2 Reporting of Strategic Risks

For the strategic risks, a summarised dashboard detailing the top risks across the whole Package and proposed mitigations will be reported and circulated amongst senior programme managers.

The main focus of the strategic risk review is for senior management to understand the extent of the risks within and outside of the Scheme's control and ensure that a robust strategy is in place to minimise any threats or capture opportunities. Similarly, the dashboard will include key information such as:

- Summary of the key changes between the periodic risk reviews (significant changes)
- Top Strategic Risks (qualitatively assessed using the agreed matrix)
- Key actions, action owners and expiry dates

There are many different ways to report on risk exposure. Depending on the requirements of the project and the readers, different key pieces of information can be provided. Following discussions with the Scheme's controls team, the most appropriate reporting tool will be selected and utilised for the dashboard reporting (e.g. Microsoft Excel, Power BI, etc). The formatting will be agreed and kept consistent between each Scheme component.

#### 6.8.6.3 Opportunities

Project opportunities (i.e. positive risk events) should also be identified and managed through an opportunity risk register. This would then form the basis of discussion at risk workshops during which the risks are reviewed, added to/amended and quantified where appropriate. A number of opportunities were identified in the GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report.

Opportunities will be assessed based on review of the probability of occurrence and the impact on cost, programme or quality should they occur. Doing this systematically will help ensure that value engineering opportunities and complementarities with other Scheme are not missed, as well as helping to assess the value of action to pursue realisation of each opportunity identified.

### 6.8.7 Key Scheme Risks

Table 6.9 sets out the key Scheme risks identified during development of the FBC. The GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report contains more detailed risks for the Scheme.

**Table 6.9: Risk identification and mitigation measures**

GRIP Stage	Area	Risk	Mitigation
4 onwards	Funding	External funders do not provide required funding	Progress discussions with multiple potential funders simultaneously, e.g. DfT/MHCLG.
4 onwards	Procurement	OJEU may be required – elongating timescales	Include within programme for GRIP 4 onwards – commence discussion with DfT / NR to confirm likelihood
4 onwards	Procurement	Availability / interest of suppliers within timescales	Commence supplier pre-engagement ASAP to prepare market, highlight any specialist resource requirements. Consider use of existing NR frameworks
4 onwards	Interfacing risks	Projects such as EACE or the A47 do not come forward as anticipated or to schedule, limiting the potential scope of this Scheme.	Maintain clear communication with stakeholders and interdependent Scheme project management teams (Network Rail and Highways England) to ensure requirements for Transport Corridor allowed for and to allow this Scheme to adapt if required
5 and 6	Critical Resources	Signal testing and data preparation resource may not be available	Ensure programme allows for completion 6 months prior to Entry into Service
5 and 6	Training	Availability and costs for driver, operations and maintenance training	Ensure programme allows for completion 3 months prior to Entry into Service. Signaller training may require additional simulators / data prep stages
All	Approvals	Network Rail do not approve designs etc... within 4 weeks	Ensure Development & delivery agreements are in place. Consider appointment of NR Sponsor.
4 Onwards	Local Support	Local stakeholders do not support the Scheme, delaying approvals / access / funding	CPCA to continue to work closely with local stakeholders as the programme develops.
4 onwards	Land Acquisition	Required land not acquired within required timescales / budgets	Commence process and liaison ASAP following design approval. Gain robust estimates for land acquisition to include within future business case submissions.
4 onwards	Construction	Construction cost over-runs due to unexpected delays and/or	Quantified Risk Assessment to identify and prioritise risks. Strong contractual design and management to ensure risks sit with most appropriate delivery partner.
All	Project Management	CPCA lack capacity / capability to project manage Scheme through development, delivery and commissioning phases.	CPCA resourcing specialist, experienced transport project management expertise to manage Scheme. This will be supported by client-side technical and project management consultancy support as required.

Source: Mott MacDonald, Delivery Strategy (Appendix C)

The project is now at a GRIP 3 stage of development and no Quantified Risk Assessment (QRA) has been undertaken. This is anticipated to follow as part of the early stage of a GRIP 4 study. In carrying out this study, the project team was responsible for identifying any risk or uncertainty around the project, though they were not quantified. Where practicable within the scope and programme of the study, investigation was carried out to address any uncertainties identified by the project team. After investigation, where uncertainty still remained, technical assumptions were made to inform the GRIP 3 design and core economic case. Any significant assumptions were discussed and agreed with the client group in order to maintain client input and ensure the correct working inputs.

Costs and demand have been calculated for the core business case using the client agreed assumptions. For some of the more focal identified risks, economic sensitivity testing has been carried out in order to assess the impact on economic metrics. Risks and assumptions have been recorded in the GRIP 3 report and FBC. Key recommendations for further work to address risks at the next design phase have been identified by the project team and recorded in the GRIP 3 report and FBC.

For further detail on the project risks and more concentrated mitigation tactics, see the GRIP 3 Heavy Rail Multi-Disciplinary Option Selection Report, which identifies risks involving the following:

- Track design
- Signalling design
- Highways design
- Geotechnical design
- Civil design
- Structural design
- Drainage and flood risk
- Electrical and plant design
- Telecommunications

Opportunities were also identified in all these areas except for signalling design.

## 6.9 Arrangements for contract management

The arrangements for contract management are presented as per the CPCA Assurance Framework.

There will be a number of contract types used in the Scheme including management, contractor (professional service providers and construction), funding, revenue (e.g. farebox revenue agreements), equipment, leasing, and insurance. Each bespoke contract will be reviewed by the CPCA to ensure fitness for purpose.

Once a formal funding agreement or contract between parties is in place, the March to Wisbech Transport Corridor Scheme will enter the delivery phase. For this to be agreed, CPCA's Section 73 Officer must first certify that funding can be released under the appropriate conditions. Funding claims submitted to the CPCA are checked against the approved project baseline information, which is included within the original funding agreement/contract. Payments will be released quarterly in arrears unless otherwise agreed.

A mechanism for 'claw-back' provision will be included within the funding agreements/contract to ensure funding is only to be spent on the specified Scheme and linked to the delivery of the identified project outputs and outcomes. Payment milestones will be agreed between the project

manager and the Combined Authority senior leadership based upon the complexity, cost and timescales of the Scheme. This forms part of the programme management role of the Combined Authority.

It is the responsibility of the project manager to ensure payments are up-to-date and that external parties are submitting their claims in line with the agreed draw down schedule.

When closing the project at the end of development, all paperwork including certificates (if applicable), the final contract claim and the evaluation information, will be stored in a central repository on the CPCA's SharePoint, in accordance with the project assurance checklist. If the appropriate forms are not completed, the project cannot be formally closed down.

Project closure forms are recommended and best practice. This process will provide an overview of how the project is ultimately delivered, as well as allowing comparisons with the final business case. Evidence in the form of site visits and photographs will also be saved on the CPCA SharePoint, for future communication requirements and evidence of what the project has delivered.

The project manager will be responsible for arranging and participating in a closure meeting with consultants and associated third parties, to ensure any loose ends are tied up and the lessons learned have been captured. Evidence of this is to be saved accordingly. The project manager will also be required to submit a final highlight report, to formally mark the project as complete and show progress at 100%.

## 6.10 Project assurance arrangements

This Scheme will be governed through the CPCA Assurance Framework as well as the Network Rail GRIP process. There will be an Integrated Assurance and Approvals Plan developed (IAAP) which will document the three lines of defence for the Scheme:

- **Line 1** - Operational management including - management controls and internal control measures. Operational management is responsible for maintaining effective internal controls and for executing risk and control procedures on a day-to-day basis.
- **Line 2** - Risk management and compliance - including financial controls, security, risk management, quality, inspection, compliance. Management establishes these functions to ensure the first line of defence is properly designed, in place, and operating as intended. By intervening directly in the management process in modifying and developing the internal control and risk systems, cannot offer truly independent analyses to governing bodies regarding risk management and internal controls.
- **Line 3** - Internal audit providing the governing body and senior management with comprehensive assurance based on the highest level of independence and objectivity within the organisation.

The three lines of defence will be supplemented by external audit provided by monitors from the Considerate Constructors Scheme. Furthermore, the March to Wisbech Scheme will consider contracting third party private contractors in the role of peer review to ensure provide constructive external challenge of the design solutions pursued.

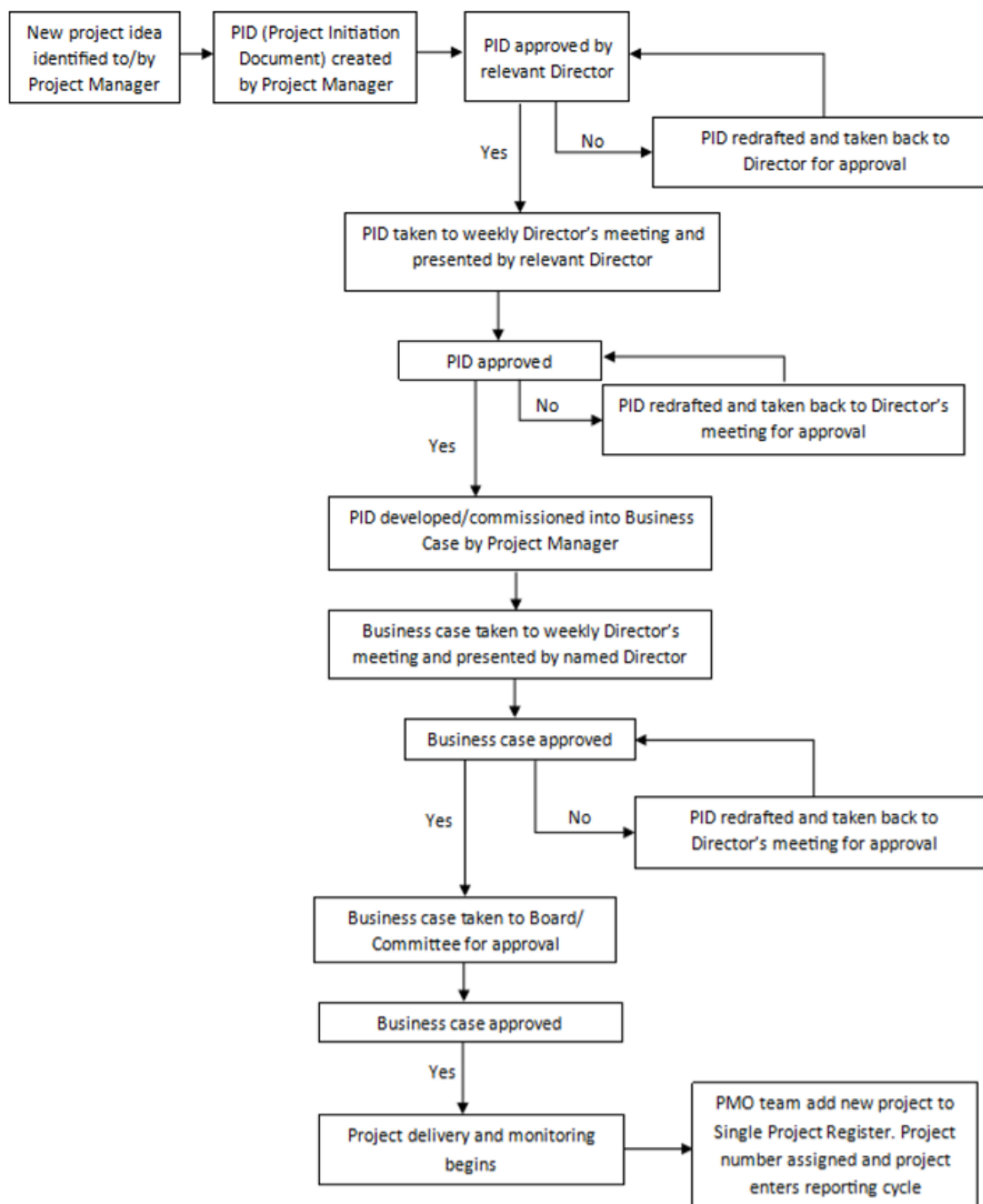
### 6.10.1 CPCA approvals

The Authority is committed to achieving best value in spending public money through the following:

- Proposed investments will offer as a minimum 'high' value for money (BCR of 2 or higher unless substantial regional or national strategic value is unlocked such as on the strategic route network or supporting growth beyond the local plan).
- Ensure an appropriate separation between project development and project appraisal, with Independent VfM Assessment and Business Case Assurance, for all Growth Deal funded Schemes and Single Pot Transport projects with a project value greater than £5m by the CPCA contracted business case assurance contractor.
- Appraise projects in a way which is consistent with the Green Book 'five cases' model and proportionate to the funding ask in terms of processes required.
- Ensure that the money spent results in delivery of outputs and outcomes in a timely fashion, and in accordance with the conditions placed on each investment, and by actively managing the investment to respond to changing circumstances (for example, Scheme slippage, Scheme alteration, cost increases etc).
- Implement effective evaluation to demonstrate where programmes and projects have achieved their stated aims and using feedback appropriately to refine the priorities and the decision-making process.
- Ensure that the use of resources is subject to the usual local authority checks and balances as well as normal local government audit accounting and scrutiny requirements.

The figure below presents the CPCA approach to project assurance for business cases.

**Figure 6-4: Full approval flow-chart**



Source: CPCA Assurance Framework, 2019

Through their review of the business case submissions for grant funding, the MHCLG and DfT will provide external due diligence of the quality of the CPCA business case submission as well as reports submitted to the departments to fulfil funding requirements.

### 6.10.2 The GRIP process

The Transport Corridor project is being undertaken in accordance with Network Rail's GRIP process with its built-in process of checking and assurance, including sign-offs and gateway reviews. The GRIP process is based on best practice within industries that undertake major infrastructure projects and practice recommended by the major professional bodies.

GRIP divides a rail enhancement project into eight distinct stages. The overall approach is product rather than process driven and, within each stage, an agreed set of products are delivered:

1. Output definition
2. Feasibility
3. Option selection
4. Single option development
5. Detailed design
6. Construction test and commission
7. Scheme hand back
8. Project close-out

Formal stage gate reviews are held at varying points within the GRIP lifecycle. The stage gate review process examines a project at critical stages in its lifecycle to provide assurance that it can successfully progress to the next stage. The various stages of the GRIP process are aligned with development of the business case. This FBC has been developed to be in line with GRIP 3 requirements.

### 6.10.3 Considerate Constructors Scheme

In order to undertake external audit of the construction process, the Scheme intends to register with the Considerate Constructors Scheme. This is a not-for-profit, independent organisation founded to raise standards in the construction industry. Construction sites, companies and suppliers voluntarily register with the Scheme and agree to abide by the Code of Considerate Practice, designed to encourage best practice beyond statutory requirements<sup>123</sup>. The key principles of the Code are:

- Constructors should ensure sites appear professional and well managed.
- Constructors should give utmost consideration to their impact on neighbours and the public.
- Constructors should protect and enhance the environment.
- Constructors should attain the highest levels of safety performance.
- Constructors should provide a supportive and caring working environment.

All sites registered with the Scheme are monitored by an experienced industry professional to assess their performance against the five-point Code of Considerate Practice. Sites are normally monitored twice, usually one quarter and two thirds of the way through the registration. Additional visits will be made if a site fails to meet the expectations of the Scheme or if otherwise deemed necessary by the Scheme's Monitor. Those that register with the Scheme are expected to attain levels of at least compliance with the Code of Considerate Practice.

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<sup>123</sup> Considerate Constructors Scheme (2020) <https://www.ccScheme.org.uk/ccs-ltd/what-is-the-ccs2/> [Accessed 23<sup>rd</sup> April 2020]

#### 6.10.4 Third Party Peer Review / Audit

As part of design work for GRIP 4, the Scheme will consider contracting third party private contractors in the role of peer review and potentially also audit to provide constructive external challenge of the design solutions pursued. The reviewers would require considerable technical expertise and would review against best practice in the engineering sector. The peer review process would particularly focus on value for money considerations while audit would focus on compliance against governance standards. These two elements could be contracted together or separately. A process of independent review was successfully applied to the Cambridge Guided Busway scheme.

Peer review and audit is valuable where there is time set aside in the programme to implement the findings/recommendations of the review. There would need to be a period for design changes immediately after the peer review / audit (realistically minimum 2 or 3 months for significant design changes). The review would be best undertaken prior to submission of TWAO to allow opportunity to implement major changes should these be identified as offering value. After TWAO, the Scheme will be constrained to the commitments undertaken to receive planning approval.

Prior to GRIP 4 commencing, a scoping exercise will be undertaken which will, amongst other areas, assess the feasibility of incorporating third party peer review and audit into the design process.

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## A. Options Assessment Report

## **B. Station Accessibility Study**

## C. Delivery Strategy

## **D. Project Plan Programme**

## E. Economic appraisals

### E.1 Preferred Option

#### E.1.1 Transport Economic Efficiency

Economic Efficiency of the Transport System (TEE)		March to Wisbech Rail Re-Opening FBC - DS2 - Core				
<b>Non-business: Commuting</b>		<b>ALL MODES</b>	<b>ROAD</b>	<b>BUS and COACH</b>	<b>RAIL</b>	<b>OTHER</b>
<u>User benefits</u>	<b>TOTAL</b>	<b>Private Cars and LGVs</b>	<b>Passengers</b>	<b>Passengers</b>		
Travel time	£ 147,497,141	£ 42,765,498		£104,731,643		
Vehicle operating costs	£ -					
User charges	£ -					
During Construction & Maintenance	£ -					
<b>NET NON-BUSINESS BENEFITS: COMMUTING</b>	£ 147,497,141	(1a) £ 42,765,498	£ -	£104,731,643		£ -
<b>Non-business: Other</b>		<b>ALL MODES</b>	<b>ROAD</b>	<b>BUS and COACH</b>	<b>RAIL</b>	<b>OTHER</b>
<u>User benefits</u>	<b>TOTAL</b>	<b>Private Cars and LGVs</b>	<b>Passengers</b>	<b>Passengers</b>		
Travel time	£ 147,724,669	£ 81,121,938		£66,602,731		
Vehicle operating costs	£ -					
User charges	£ -					
During Construction & Maintenance	£ -					
<b>NET NON-BUSINESS BENEFITS: OTHER</b>	£ 147,724,669	(1b) £ 81,121,938	£ -	£ 66,602,731		£ -
<b>Business</b>		<b>Goods Vehicles</b>	<b>Business Cars &amp; LGVs</b>	<b>Passengers</b>	<b>Freight</b>	<b>Passengers</b>
<u>User benefits</u>			£ 11,644,739			£46,611,895
Travel time	£ 58,256,634					
Vehicle operating costs	£ -					
User charges	£ -					
During Construction & Maintenance	£ -					
<b>Subtotal</b>	£ 58,256,634	(2) £ -	£ 11,644,739	£ -	£ -	£ 46,611,895
<b>Private sector provider impacts</b>					<b>Freight</b>	<b>Passengers</b>
Revenue	£ 122,399,074				-£19,621,373	£ 142,020,447
Operating costs	-£ 138,356,128					-£ 138,356,128
Investment costs						
Grant/subsidy	-£ 3,664,319					-£ 3,664,319
<b>Subtotal</b>	-£ 19,621,373	(3)				£ -
<b>Other business impacts</b>						
Developer contributions	£ 4,481,864	(4) £ 4,481,864				
<b>NET BUSINESS IMPACT</b>	£ 43,117,126	(5) = (2) + (3) + (4)				
<b>TOTAL</b>						
Present Value of Transport Economic Efficiency Benefits (TEE)	£ 338,338,936	(6) = (1a) + (1b) + (5)				

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.

All entries are discounted present values, in 2010 prices and values

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

## E.1.2 Public Accounts

Public Accounts (PA) Table		March to Wisbech Rail Re-Opening FBC - DS2 - Core					
	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER		
<b>Local Government Funding</b>	<b>TOTAL</b>	<b>INFRASTRUCTURE</b>					
Revenue	£ -						
Operating Costs	£ 1,489,939	£ 1,489,939					
Investment Costs	£ 179,634,237			£ 179,634,237			
Developer and Other Contributions	£ 4,481,864			£ 4,481,864			
Grant/Subsidy Payments	£ -						
<b>NET IMPACT</b>	£ 185,606,041 (7)	£ 1,489,939	£ -	£ 184,116,101	£ -		
<b>Central Government Funding: Transport</b>							
Revenue	£ -						
Operating costs	£ 138,356,128			£ 138,356,128			
Investment Costs	£ -			£ -			
Developer and Other Contributions	£ -						
Grant/Subsidy Payments	-£ 142,020,447			-£ 142,020,447			
<b>NET IMPACT</b>	-£ 3,664,319 (8)	£ -	£ -	-£ 3,664,319	£ -		
<b>Central Government Funding: Non-Transport</b>							
Indirect Tax Revenues	£ 27,852,207 (9)	£ 4,596,383	-£ 3,728,061	£ 26,983,885	£ -		
<b>TOTALS</b>							
<b>Broad Transport Budget</b>	£ 181,941,722 (10) = (7) + (8)						
<b>Wider Public Finances</b>	£ 27,852,207 (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.

### E.1.3 Analysis of Monetised Costs and Benefits

Analysis of Monetised Costs and Benefits: March to Wisbech Rail Re-Opening FBC -

Noise	£ 1,019,182	(12)
Local Air Quality	£ 346,304	(13)
Greenhouse Gases	-£ 17,662,752	(14)
Journey Quality		(15)
Physical Activity		(16)
Accidents	£ 15,287,732	(17)
Economic Efficiency: Consumer Users (Commuting)	£ 147,497,141	(1a)
Economic Efficiency: Consumer Users (Other)	£ 147,724,669	(1b)
Economic Efficiency: Business Users and Providers	£ 43,117,126	(5)
Wider Public Finances (Indirect Taxation Revenues)	-£ 27,852,207	- (11) - sign changed from PA table, as PA table represents costs, not benefits
Present Value of Benefits (see notes) (PVB)	£ 309,477,195	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11) + (8)
Broad Transport Budget	£ 181,941,722	(10)
Present Value of Costs (see notes) (PVC)	£ 181,941,722	(PVC) = (10)
ESTABLISHED IMPACTS		
Net Present Value (NPV)	£ 127,535,473	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	1.70	BCR=PVB/PVC
EVOLVING IMPACTS - LEVEL 2 ECONOMIC (STATIC LAND USE)		
Agglomeration	£ 86,177,395	(18)
Labour Supply	£ 2,436,738	(19)
Present Value of Benefits (see notes) (PVB) - Evolving	£ 398,091,328	(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (18) + (19) + (1a) + (1b) + (5) - (11) + (8)
Net Present Value (NPV) - Evolving	£ 216,149,606	NPV=PVB-PVC
Benefit to Cost Ratio (BCR) - Evolving	2.19	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.

## F. Uncertainty Log

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
<b>A – Model Set Up/Parameters, Demand and Supply</b>							
1	Level of Service (LoS) on highway sections of tram-train alignment		2030 and 2039	Majority of final route proposals will be segregated so standard working assumptions of speed can be applied	Taken from LRT feasibility study.	Only applicable to sensitivity testing around phased introduction of tram-train to town centre and Garden Town or the use of CAM/BRT to serve a larger area of Wisbech. These are not the preferred option	
2	Highway impacts from on-street running		2030 and 2039	Assume no adverse impact	Assumed delay of 0.5, 1 and 2 minutes per vehicle on affected routes, e.g. Cromwell Road – combine with traffic count for route	Tram-train is not preferred option after Options Assessment Report (OAR), so no need to sensitivity test at this stage	
3	Destination choice sensitivity	Reasonably foreseeable	2030 and 2039	Median values from Table 5.1 of TAG Unit M2	Test minimum values – should encourage greater sensitivity to GC changes which reflect changes in the existing population and people newly attracted by the rail link	Set-up model functionality to allow minimum, median and maximum	1
4	Station choice – position in hierarchy and sensitivity		2030 and 2039	Below destination choice, i.e. more sensitive		TAG does not explicitly discuss station choice position in hierarchy	

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
5	Impact of station access enhancements on access/egress model splits		2030 and 2039	Back feed proposed access enhancements into modelling once preferred option identified	N/A	The core option would have minimal works to station access/egress. A wider package may be possible as part of the Wisbech Access Transport Strategy (WAS) and larger scale proposals would be linked to the Garden Town delivery, which is only a sensitivity test given level of certainty. Changes to access and egress times and costs are therefore only linked to the wider sensitivity test.	
6	Base year demand matrices		2017	Derived from 2011 Census – uprated using UK Government estimates for population and employment. Infill other journey purposes using NTS trip rate estimates	N/A	Station totals have been validated against ORR station usage estimates.	
7	Car parking capacity constraints for P&R	Reasonably foreseeable	2030 and 2039	Stations (Wisbech and March) are being designed to ensure P&R capacity is not a constraint on passenger demand	None		
8	Pseudo PT DM		2030 and 2039	Do Minimum (DM) rail Generalised Cost (GC) for Wisbech zones can be estimated by bus or car access to rail at March	None		
9	Assumed DS calling pattern to/from Cambridge		2030 and 2039	Wisbech-March-Ely-Waterbeach-Cambridge North-Cambridge	Potential removal of Cambridge North stop	Assume Cambridge North stops can be accommodated, but that impacts on the flow between Cambridge North and Cambridge are excluded	

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
						as additional expenditure is likely to be required to realise these	
10	Demand ramp-up		2030 and 2039	Major new services' as per PDFH v6.0	Slower demand ramp-up, reflecting the more significant changes in travel behaviour and patterns the Scheme is expected to promote		2
11	Permissible speed through March Station		2030 and 2039	Assumed 20mph is permitted by Network Rail	Limited to 10mph – additional one minute of IVT to/from Wisbech	Based on operational analysis	20
<b>B – National Uncertainty (factors affecting macro supply and demand)</b>							
12	GDP	More than likely	2030 and 2039	TAG Databook May 2019		Note GDP not direct input to demand forecasts - this relates to VoT growth etc.	
13	Fuel costs	More than likely	2030 and 2039	TAG Databook May 2019	Fuel costs at +/-10% by 2039	Reflect uncertainties over fuel type, efficiency and cost	3 and 4
14	Rail fares policy	More than likely	2030 and 2039	RPI+0%	RPI+1% post 2022	Sensitivity test	5
15	GJT trend at - 1% per annum for rail demand	More than likely	2030 and 2039	Not applied as inputs come from NTEM	Apply GJT reduction of 1% per annum to 2030 in line with TAG Unit M4	Sensitivity test	6
<b>C – Local Uncertainty (factors affecting local supply and demand)</b>							
16	A47 (T) Scheme proposals	Hypothetical	2030 and 2039	Exclude proposals from core tests	Include high level highway journey time enhancements on selected sector pairs, e.g. 5% reduction	Proposal is for dualling between Peterborough and King's Lynn - would make alternative modes and destinations more attractive meaning DS impacts likely to be lowered	7

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
17	A47 (T) Scheme proposals	Hypothetical	2030 and 2039	Include bridging costs in core	Reduce costs for bridging in sensitivity test	Works on the A47 south of Wisbech mean that the bridging costs (for highway over rail) may be met, at least in part, by that Scheme	8
18	Wisbech Access Strategy	More than likely	2030 and 2039	Considered committed - ensures preferred option can be reinstated on former rail alignment and that station access/egress measures can be successfully integrated into WAS	None	Also interacts with proposed station access package from the Garden Town development	
19	Ipswich - Peterborough hourly service	Near certain	2030 and 2039	Becomes hourly (from two hourly) in Do Minimum and Do Something	None	Assumed committed	
20	Cambridge North services	Near certain	2030 and 2039	Changes in number of services to/from Cambridge North in current day	None	Update from base year service specification	
21	Ely Area Capacity Enhancement Scheme (EACE)	Reasonably foreseeable	2030 and 2039	Assume capacity for 2 train per hour (tph) to/from Cambridge from 2028	Assume capacity for 1 trains per hour (tph) to/from Cambridge	Capacity for Cambridge bound services - with re-timings there may be some capacity in the current day, but other committed and more uncertain proposals may reduce or eliminate this, e.g. the hourly Ipswich-Peterborough service.	9 - 1tph to/from Cambridge and 1tph to/from March until 2039

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
22	Rolling stock and formation - type and capacity	Near certain	2030 and 2039	Working assumption is that two-car Class 170 will be sufficient	Greater Anglia are procuring Class 755 hybrids. These will be in three and four car formation. This may require longer platforms at Wisbech and could be required to accommodate forecast demand from boarders at Ely, Waterbeach and Cambridge North for AM peak services towards Cambridge	Potential sensitivity test with additional capital costs at Wisbech but enhanced rolling stock quality	10
23	Romford Remote Operating Centre	More than likely	2030 and 2039	Romford ROC not delivered within consistent timescales and costs of resignalling incurred at Scheme - see March East signalbox	Removal of March East signalbox costs	Romford ROC was originally envisaged to be delivered by CP6 but is now postponed - current assumption is CP7 (ends 2029)	See below for March East signalbox cost
24	Other franchise proposals	Reasonably foreseeable	2030 and 2039	See Ely North capacity		This is principally concerned with the capacity implications at Ely North Junction	
25	Fenland Local Plan development	More than likely	2030 and 2039	Include existing allocations in core scenario (DM and DS). These add circa 2,700 population and 700 jobs in Wisbech urban area zones by 2039	Retain in low and high as well	Note Garden Town proposals have subsumed areas of this and there is a need to avoid double counting	

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
26	Wisbech Garden Town development	Hypothetical	2030 and 2039	Excluded from core scenario	Include in 'higher growth' sensitivity test, subject to demand cap in 2039. Also need to consider station access package and impact on users times and costs, and capital costs. Circa 10,500 additional population and 7,300 jobs by 2039 - these totals subsume the Fenland Local Plan growth	Urbed phasing of development means some growth will fall beyond 2039. DfT demand cap applies at this point. Phase 1 of Garden Town in an initial 'Higher Growth 1' scenario. Phases 1 and 2 in 'High Growth 2' scenario	11 - Garden Town sensitivity tests
27	CPCA development	More than likely	2030 and 2039	Include existing allocations in core	Remove from low, but retain in high	Exclusion of this development from core, N.B. NTEM control totals are greater than this total development.	12 - higher growth scenario (with garden town)
28	Lower background growth	Hypothetical	2030 and 2039	Exclude wider CPCA development (but retain Fenland Local Plan).	See other growth scenarios		13 - low growth scenario
29	High background growth than NTEM v7.2 in CPCA area	Near certain	2030 and 2039	NTEM totals as controls with local development as per above	Higher growth control totals - CPIER	CPIER would provide a total global uplift for the Core Modelled Area (see Figure 1 in report) relative to local land use plans - apply to both population and employment	
30	Inability to route CAM/BRT under Norwood Road Bridge without major works	More than likely	2030 and 2039	Assume elongated travel time for BRT 'low cost' alternative	Assume that it can operate under Norwood Road bridge	More detailed investigation work would be required for non-rail alternatives	Relates to 'low cost' alternative only

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
<b>D – Costs</b>							
31	March East Signalbox / Romford ROC	More than likely	2030 and 2039	Assume remote operating implemented during CP7, i.e. by end of 2029	Implemented by 2038 and phased service solution therefore required with only shuttle operating to that point; or Costs borne by Scheme		14 - phased service solution 15 - costs borne by Scheme
32	Level crossing risk for National Rail	More than likely	2030 and 2039	All existing crossings require closures, diversions or amalgamations to enable reintroduction of passenger services	None	As per findings of Network Rail Level Crossings Risk Assessment (2016), but with updated costings and Scheme proposals	
33	Additional enhancements to permit through running of non-Heavy Rail alternative between March and Cambridge	Reasonably foreseeable	2030 and 2039	No additional Scheme costs from EACE or level crossing works between March and Cambridge	Portion of EACE borne by Scheme		16
34	Station access costings	Reasonably foreseeable	2030 and 2039	Stage 1 values from station access study - additional costs linked to Garden Town or accounted for in the WAS	Assume small scale adaptations to WAS which need to be borne by Scheme	Apply appropriate OB given level of costings for Garden Town related proposals	17
35	Optimism bias	Near certain	2030 and 2039	As per TAG Unit A1.2 and associated GRIP stage	Apply alternative low/high assumptions		18 and 19

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
36	Land costs	Near certain	<2028	<ul style="list-style-type: none"> <li>• Agricultural Land £37,500/hectare</li> <li>• Built land £125,000/hectare</li> <li>• Dwelling £277,500 per dwelling.</li> </ul>	None	Based on input from CCC received 09.12.19	
37	Operating expenditure - staff costs	Near certain	2030 and 2039	2 members of crew per train, plus 1.5 station staff at Wisbech. Local salaries taken from glassdoor.co.uk. Real earnings change applied from TAG Databook	None		
38	Operating expenditure - fuel costs	Near certain	2030 and 2039	Fuel cost per km estimated from published ORR data by TOC. Real terms changes applied from TAG Databook depending on assumed fuel mix	None		

ID	Input	Classification	Year	Central Assumption	Uncertainty Assumption(s)	Comments	Sensitivity Test ID
39	Operating expenditure - leasing and non-leasing costs	Near certain	2030 and 2039	Leasing and non-leasing costs taken from ORR data by TOC. TAG Unit A5.3 provides different recommendations for new and existing stock. We take the central assumption that leasing costs for our stock will rise in line with RPI until the demand cap year (2039). The real terms change is then estimated relative to the GDP deflator. For the Economic Case these costs are held constant in real terms after the demand cap year.	None		
40	Operating expenditure - Network Rail charges	Near certain	2030 and 2039	Network Rail Control Period 6 applies inflation from November to November and is planning to change from RPI to CPI in 2019. N.B. Year-on-year inflation from previous year applied in January of following year. Assumptions as per leasing (see above) that charges rise in line with RPI and are converted to real terms using the GDP deflator.	None		

## **G. GRIP 3 Report**

## H. Communication and stakeholder management

Public and stakeholder consultation is essential to ensure that the ambitions of the general public and stakeholders are taken into account throughout development and delivery of the project. Management of communication and the flow of information relating to the Scheme is essential to ensure a 'single source of truth' and prevent mixed or confusing messaging. Developing a Communication and Stakeholder Management Plan will be an important element of GRIP 4. This section outlines the key stakeholders who are involved, the stakeholder engagement undertaken to date, and what will be required for developing the Plan.

### H.1 Objectives

The engagement strategy will deliver the following objectives:

- To meet the statutory requirements for consultation for a TWAO planning consents process.
- To create clear lines of communication to help refine the Scheme, and to gain stakeholder and community support for the vision, scope and approach.
- To provide elected officials assurance that there has been sufficient opportunity for the public and business communities to input and influence design of the Scheme.

It is important for communication and engagement to build trust with key stakeholders. For engagement to succeed, participants in the process must understand the purposes of the engagement, which should be stated upfront. Infrastructure projects that engage stakeholders early in the lifecycle of the project are more likely to deliver good outcomes for the project, as well as for the community.

Community and stakeholder engagement should happen in a timely manner; coinciding with key planning and development stages when feedback can be used to shape the final project. Engagement should be transparent, and the community told how their feedback has been used.

### H.2 Engagement to date

Early engagement with members of the business community, TOCs and Network Rail was previously undertaken as part of the OBC in January 2015 through a stakeholder workshop, and results of the work to date was made available via the CCC website. Key findings from the workshop included:

- Feedback on station location proposals such as
  - Location, proximity, or otherwise, to the town centre of the sites was deemed important.
  - Siting the station in a low-density industrial area, or adjacent to out-of-town retail, is unlikely to be conducive to rail demand or the creation of an attractive gateway into the town.
  - Some sites were more deliverable than others.
- Feedback on service options such as:
  - Buses are perceived negatively relative to rail, and struggle to attract certain market segments.

- Access to key nodes, e.g. airports and major centres, is poor, and difficult to improve to a level that would make the use of bus attractive.
- Light rail was identified as cheaper to deliver than heavy rail, but doesn't provide any option for future connections with Cambridge or Peterborough.
- Heavy rail services were felt to offer greater potential in attracting certain types of resident and business to Wisbech.
- Whilst the shuttle option had operational advantages, the interchange at March, deemed to be of poor quality currently, was a clear disincentive to use and would not create any wider benefit beyond the corridor between March and Wisbech.

Stakeholder feedback has informed the detailed optioneering process as set out in the strategic case and the OAR.

Regarding wider public engagement, the March to Wisbech Transport Corridor Scheme has been included in CCC and CPCA public policy documents and included in discussions during public engagement for other Schemes over the past few years. The public and other relevant stakeholders are able to access the work to date.

A workshop was held with stakeholders in London on 09 March 2020 where attendees included representatives Network Rail, the DfT, and the ORR, as well as CCC and the CPCA on the project sponsor side. The presentation and discussion included a summary of the Scheme rationale, anticipated benefits, project interdependencies, option development and appraisal and the project funding and delivery options. The remit, timescales and next steps of the FBC and project cycle were also discussed.

A full Communication and Stakeholder Management Plan will be prepared during the GRIP 4 phase of the project covering its development and delivery lifecycle.

### H.3 Key stakeholders

Key stakeholders will be identified and involved in the delivery of the project. Such engagement may include informing, consulting with, involving, collaborating with and empowering stakeholders to understand the issues to enable them to make informed choices.

A detailed stakeholder mapping exercise will be undertaken as part of the GRIP 4 work. The mapping exercise will identify who the stakeholders are and their impact / influence. The stakeholders will be classified into tiers and an appropriate approach to engaging with each tier over the course of Scheme development will be identified.

Key Scheme stakeholders already identified include:

- Local government
  - CPCA
  - CCC
  - FDC
  - Greater Cambridgeshire Greater Peterborough Local Enterprise Partnership
- National government
  - Network Rail
  - The ORR
  - Department for Transport
  - Highways England

- Historic England
- Environment Agency
- Natural England
- Rural England
- Political
  - Members of Parliament
  - Councillors
  - Parish Councils
- Transport operators
  - The four franchises in the area –
    - Abellio Greater Anglia;
    - Govia Thameslink
    - East Midlands Trains; and
    - Arriva Cross Country.
  - First Essex, Suffolk and Norfolk bus operator
- Private sector
  - Landowners and local developers
  - Business Stakeholders including the Business Board
- Community interest groups
  - Sustainable Travel Groups, including, Cambridge Connect, Smarter Cambridge Transport, RailFuture
  - Cycling Groups
  - Walking Groups
  - Historical Societies/Groups (Bramley Line)
  - Bus User Groups/Rail User Groups
  - Hard to Reach Groups Youth, Women, Older people, disability groups and Black and Minority Ethnic Community Groups
  - Tourist organisations
- Other
  - Emergency Services
  - Local Media
  - Educational institutions

The DfT and MHCLG will be important stakeholders throughout. As prospective Scheme funders they will quality review the business case submissions to them as well as ensuring that best practice standards for monitoring and evaluation are maintained (the Scheme will follow the DfT evaluation framework for local authority major Schemes, see Section 6.6).

## H.4 Project communication

A public liaison procedure will be developed to cover contact with all stakeholders and the procedure will detail how contacts are to be dealt with and recorded. A communications log would be maintained for the lifetime of the project including the date, participants, subject matter/title of meeting, and organisations represented. Due to the size of the Scheme, a Public

Liaison Officer will likely be appointed to lead on this aspect of the works, co-ordinating across the work packages. Any complaints will be dealt with in accordance with this procedure and appropriately recorded in line with established CPCA complaints procedures.

The detailed approach to project communication will be developed during GRIP 4, however the following table offers initial thoughts on the approach - adapted from the recent Cambourne to Cambridge Better Public Transport, Outline Business Case.

**Table 6.10: Initial Stakeholder Engagement and Management Plan**

Audience	Type of communication	Frequency	Process / Responsibility
General public	<ul style="list-style-type: none"> <li>Formal public consultation</li> <li>Informal public consultation</li> <li>Regular website updates on project progress</li> </ul>	<ul style="list-style-type: none"> <li>Formal public consultations when required by the adopted approvals process</li> <li>Informal public consultation during each stage of Scheme development</li> </ul>	<ul style="list-style-type: none"> <li>Communications Team</li> </ul>
Statutory consultees	<ul style="list-style-type: none"> <li>Formal consultation</li> <li>Informal consultation</li> </ul>	<ul style="list-style-type: none"> <li>Formal consultations when required by the adopted approvals process</li> <li>Informal consultation during each stage of Scheme development</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers / Communications Team</li> </ul>
Other stakeholders	<ul style="list-style-type: none"> <li>Ad hoc meetings</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers / Public Liaison Officer</li> </ul>
Contractors	<ul style="list-style-type: none"> <li>Ad hoc meetings</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers / Public Liaison Officer</li> </ul>
Members	<ul style="list-style-type: none"> <li>Reports</li> <li>Briefing sessions</li> <li>Single issue workshops</li> <li>Community events and public consultations</li> <li>Internal manager/staff/member meetings and briefings</li> <li>Networking events</li> <li>Intranet, email and staff newsletter</li> </ul>	<ul style="list-style-type: none"> <li>As required</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers</li> </ul>
UK Government	<ul style="list-style-type: none"> <li>Meetings and presentations with civil servants and MPs</li> <li>DfT / MHCLG officers</li> <li>Conferences and events</li> <li>Independent research</li> <li>Telephone / email briefings</li> <li>Media</li> </ul>	<ul style="list-style-type: none"> <li>As required on key milestones</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers</li> </ul>

Audience	Type of communication	Frequency	Process / Responsibility
	<ul style="list-style-type: none"> <li>E-newsletter</li> </ul>		
General correspondence	<ul style="list-style-type: none"> <li>Letter, email in standard format</li> </ul>	<ul style="list-style-type: none"> <li>As required</li> </ul>	<ul style="list-style-type: none"> <li>Package Project Managers</li> </ul>

Source: Adapted from the Cambourne to Cambridge Better Public Transport, Outline Business Case, Management Case, January 2020 - <https://www.greatercambridge.org.uk/asset-library/Transport/Transport-Projects/C2C/C2C-JA-30-Jan-2020/C2C-Jan-2020-App-1-Management-Case.pdf>

## H.5 Next steps

The approach for developing the Communications and Stakeholder Management Plan will include:

- Documenting in greater detail the engagement undertaken to date.
- Developing a full list of stakeholders classified and mapped in terms of their interest and influence.
- Determining the approach to managing stakeholders by type.
- Detailing methods of engagement and governance for each type of communication (email, face-to-face, printed materials, website, social media, etc).
- Developing appropriately branded engagement material templates.
- Outlining the approach to documenting communications.
- Identifying specific requirements and approach for obtaining TWAO planning consents.
- Developing timescales for the Plan.

