

# Suffolk corridor study



Peterborough, Cambridge and Ipswich rail services  
Strategic Advice

November 2022

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All photos Network Rail unless stated

## Part A: Executive Summary

**Note: throughout this report, recommendations and funding options are shown in green bold text.**

Rail-service provision between Cambridge, Peterborough and Ipswich (a diagram of the area covered is shown in Figure 1) has been reviewed in the Suffolk corridor study.

Noting the need to focus on financial sustainability, consideration has been given to opportunities for enhancing passenger services in the short, medium and long-term (up to thirty years), in accordance with the Government's Strategic Rail Objectives (shown in Table 1) and the need for a recovery of passenger revenue following the Covid-19 pandemic. Opportunities for passenger service enhancement have been considered alongside the need to facilitate freight traffic, in particular the busy and growing intermodal freight traffic between Felixstowe docks, the midlands and the north (F2MN). In line with the Government's Strategic Rail Objectives and the 2021 Williams-Shapps 'Great British Railways – Plan for Rail' white paper, the potential for improved integrated transport connectivity in the Suffolk corridor area has also been investigated.

### General observations and recommendations:

The following general observations and recommendations are made:

- It was confirmed that the scope for improving connectivity and convenience of services between Peterborough, Cambridge and Ipswich is limited by capacity constraints. **This supports the case for addressing constraints at Ely, and Haughley Junction.** Line-speed and/or headway improvements, and doubling of the single-line sections of track between Ely and Soham, or Newmarket and Cambridge would improve timetabling and/or increased reliability of services. **Opportunities to ease these infrastructure constraints should be considered as part of signalling and trackwork renewals.**
- **The previous option for funders for electrification between Felixstowe, and Peterborough (and beyond) is repeated.**
- **Extension of the electrification for platform 1 at Ipswich is an option for funders –** this would allow trains to be more conveniently positioned for passengers.
- Available passenger data is limited. **It is recommended that more detailed data collection and monitoring is implemented** to inform future decision-making.
- Platform availability at Ipswich station is limited. Ideally, additional platforms would be provided to allow more timetable flexibility, improved operational efficiency and service reliability. **It is recommended that land to the south-west of Ipswich station** (formerly occupied by the Freightliner refuelling point) **is safeguarded** for possible use for additional platforms.
- **It is recommended that land required for re-doubling singled sections of track between Ely and Soham, and Coldham Lane (Cambridge) and Chippenham Junctions is safeguarded against further development** (including placement of railway-related equipment/buildings on this land). **Opportunities should be taken to upgrade these routes as part of track and signalling renewal programmes.**

### Service between Peterborough and Ipswich:

For the current two-hourly frequency service between Peterborough and Ipswich, the following options for funders are suggested for consideration:

- **an additional earlier southbound morning service** (this would be welcomed by passengers wishing to make a start to their day before 09:00 in Bury St Edmunds and Stowmarket, and Ipswich before 09:30), and
- **one morning and one afternoon/early evening additional Ipswich-Peterborough-Ipswich return service per day.**

These additional services are proposed for further consideration by funders as a realistic improvement to this key link between East Anglia and the midlands and the north. Nevertheless, it is recognised that this falls short of the delivery of the full hourly service previously announced, which is presently dependent on infrastructure improvements in the Ely area. These enhancements are unlikely to be implemented for several more years. Therefore, a further recommendation is that:

- **the feasibility of a full hourly service between Peterborough and Ipswich, ahead of infrastructure improvements in the Ely area, is investigated.**

Within the industry, this is considered to be possible with appropriate re-timetabling.

Consideration was given to extension of the service between Ipswich and Peterborough, southwards to either Colchester or Harwich. This would improve connectivity and through journey times, and reduce the demand on platform use at Ipswich station. However, none of these options were found to be feasible within the current timetable. In the longer-term, it may be possible to extend the service northwards beyond Peterborough, possibly to Lincoln. This would improve connectivity and reduce platform demand at Peterborough, but the operational and performance implications will need further consideration.

### Service between Peterborough and Cambridge:

Some peak services between Peterborough and Cambridge appear to be operating close to full seating capacity on the journey leg between Ely and Cambridge, although it was not possible to obtain detailed passenger data to confirm this. Further growth could lead to overcrowding on certain services. It is therefore **recommended that passenger footfall on CrossCountry Birmingham-Stansted trains is monitored** to inform future planning of these services.

It has not been possible, prior to infrastructure improvements in the Ely area, to find a timetabling solution that would improve the service for Whittlesea and Manea, without compromising existing services. Both locations are almost entirely reliant on the two-hourly service between Peterborough and Ipswich, and are, with one or two peak-time exceptions, without a direct Cambridge service. Passengers need to change at Ely. Whittlesea and Manea will benefit from the recommended improvements to the service between Peterborough and Ipswich, but travel to/from Cambridge will still require a change of trains at Ely.

Looking further ahead, an additional hourly service between Peterborough and Cambridge is an option that could be realised if constraints at Ely are addressed, and renewal of the signalling system between Ely and Peterborough is progressed. If both these enhancements are implemented, **it is recommended that consideration is given to stopping this service at Whittlesea and Manea.** This would give these two locations a direct service with Cambridge, as well increasing the frequency of services to/from Peterborough and its connecting services. Some journey times to Cambridge will be halved by a direct service. Further connectivity potential could be realised if this service was linked with the service between Cambridge and Ipswich.

### Wisbech:

Another longer-term prospect is the possibility of re-opening of the line between Wisbech and March. **If a new passenger service to Wisbech is funded to delivery, it is recommended that the option of a shuttle service between Wisbech and March, rather than a through service to Cambridge, is initially aimed for.** Although through connectivity with Cambridge would be beneficial, a Wisbech/March shuttle service would allow greater flexibility to connect with other services at March. Costs are likely to be more viable, and re-instatement of this service would not be reliant on enhancements in the Ely area, and re-signalling between Ely and Peterborough. Additionally, there would be no conflict with the above potential Peterborough/Cambridge service (it is unlikely that there would be sufficient line capacity for both services).

### Service between Cambridge and Ipswich:

Available passenger data indicates, for the foreseeable future, that the hourly off-peak service provision between Cambridge and Ipswich is sufficient to cater for current passenger levels. On this basis, the significant costs associated with an uplift to a half-hourly service cannot be justified, and therefore can't be recommended at present. However, some uncertainty exists in the baseline passenger data, and additional patronage is likely when Cambridge South station opens (2025), or, in the longer term, if the planned East West Rail (EWR) link to Cambridge is delivered. **It is recommended that passenger usage is monitored.**

However, there are opportunities to provide an enhanced service during peak hours. **Limited additional peak services are recommended for further consideration by funders.** Three options have been tested by Network Rail, and presented for further consideration. It is suggested that *one* of the options could be implemented by 2025 to meet an anticipated increase in ridership on this route following completion of the new Cambridge South station. **A further recommendation is consideration of additional station stops at Kennett and Dullingham.** Users have highlighted the need for an improved service frequency. Housing developments are planned adjacent to both stations. Kennett station has benefitted from considerable accessibility investment. This is an opportunity for enhanced asset and revenue realisation, as well as improved customer provision.

Extension of the service between Cambridge and Ipswich, southwards to Colchester, Harwich, or possibly Clacton, would improve connectivity, through journey times, and reduce platform demand at Ipswich station. These options were tested in the current timetable. Terminating at Harwich Town was not possible during peak hours. Harwich International was less attractive from a passenger demand perspective, and there were concerns that the limited turnaround time could be a performance risk. The Colchester option was found to be feasible, but presented a performance risk. None of these options are recommended at this stage. However, **a direct service between Cambridge and Colchester** would be a considerable connectivity benefit, and it **is recommended for consideration in future timetables.**

The aspiration for a new service between Cambridge, Newmarket, Soham and Ely via a reinstated west curve at Chippenham Junction (Snailwell loop) would almost certainly require re-doubling of the track between Ely and Soham to provide capacity for this service. There are no firm plans for this at present.

### Connectivity with East West Rail (EWR):

In the longer-term, there are wider aspirations for regular through passenger services between the planned East West Rail (EWR) link via Cambridge, and both Norwich and Ipswich. The feasibility of these options will be dependent on timetabling, performance implications, and infrastructure decisions. If confirmed, an alternative route for the proposed Norwich service could be via Bury St Edmunds and Diss, rather than via Ely and Thetford. This would provide new connectivity opportunities, but would require either reversal at Stowmarket, or construction of a new Haughley Junction north curve. Both options have cost and performance risk implications, and no recommendations are made at this stage.

If, in the longer-term, regular freight traffic between East Anglia and the proposed EWR link via Cambridge is considered viable, **it is recommended that consideration is given to routing EWR freight via a new south curve at Ely.** Although this is a longer route than via Newmarket, it may be preferable to upgrading the Newmarket line, as it would allow freight trains to be held in 'loops' off the main routes in the event that an onward path was not immediately available. This would improve resilience to delays. Doubling the single line between Ely and Soham would also be required.

### Integrated Transport:

As a first step towards realising Government aspirations for a "seamless" integrated transport network, several potential bus links are suggested that would link non-rail connected towns, villages, facilities and visitor centres, with the rail network.

## Part B: Introduction

### B.1 What is the Suffolk corridor?

The ‘Suffolk corridor’ is defined as the rail network linking the cities of Cambridge and Peterborough, and the Suffolk county town of Ipswich. The area covered by the study is shown in Figure 1.

The three passenger services that have been reviewed in this study run between:

- Peterborough and Ipswich,
- Peterborough and Cambridge, and
- Cambridge and Ipswich.

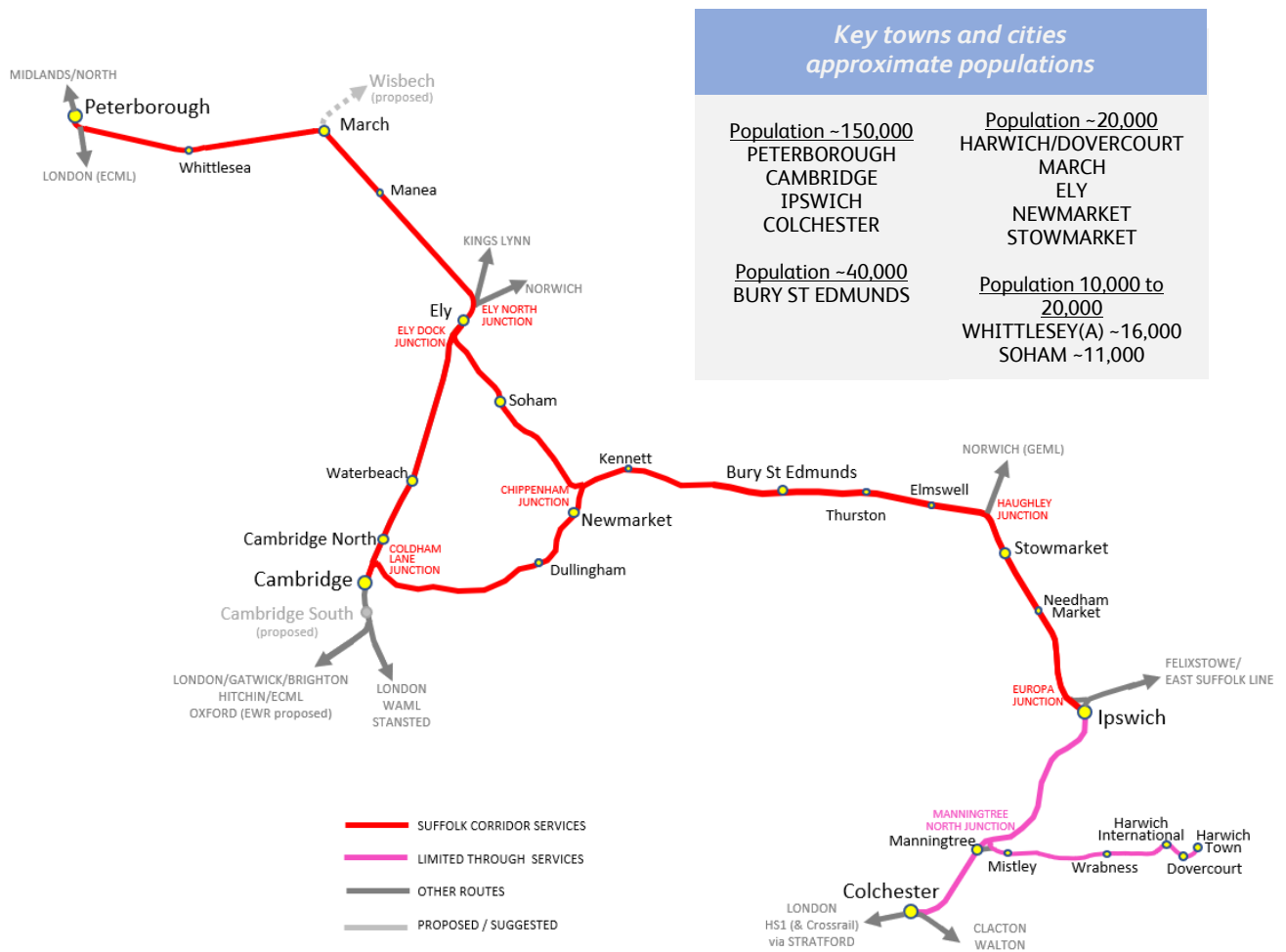


Figure 1. Suffolk corridor area

The Suffolk corridor is also a heavily-used freight route. The main traffic is intermodal (shipping containers) between Felixstowe, the UK’s largest container port, and the midlands and north (F2MN), via Peterborough.

Other freight traffic includes aggregate traffic flows, mainly to East Anglian terminals from the midlands/north, and infrastructure trains to and from Whitemoor Yard at March.

## B.2 Why are we carrying out the Suffolk corridor study?

As part of our licence conditions, Network Rail has an obligation to provide long-term (up to thirty years) strategic advice which provides recommendations and choices for funders to meet the travel needs of present and future generations.

Previously, there has been no specific review of rail services between Ipswich, Cambridge and Peterborough within Network Planning's strategic advice portfolio. A strategic direction for these services is needed as passenger demand is likely to grow significantly - due to population increase and the Government's aim to encourage modal shift from road to rail (for both passengers and freight). Further footfall increases are likely when the new Cambridge South station is completed (2025) and, in the longer-term, when services on the proposed East West Rail (EWR) link (section F.4.1) between Oxford and Cambridge start running.

In the more immediate term, there is a network-wide need to re-establish passenger revenue following the reduction in passenger footfall after the 2020 Covid-19 pandemic outbreak. Although passenger footfall on East Anglian rural rail services has recovered relatively well, there are opportunities for enhancing passenger footfall. This will only be achieved by the rail industry responding to peoples' travel needs, as outlined within the UK Government's five rail strategic objectives, shown in Table 1.

**Table 1. Government Rail Strategic Objectives**

| Strategic Objectives                          | Ambition for rail  |
|---|--|
| I Meeting customers' needs                    | Meeting the needs of future passengers and freight customers by:<br>a. Increasing value for money and improving the performance, reliability and convenience of rail,<br>b. Meeting multi-modal expectations and reducing end-to-end journey time<br>c. Maintaining a safe railway as part of a safe transport system and widening accessibility                                     |
| II Delivering financial sustainability        | Ensuring rail is financially sustainable, efficient and value for money by:<br>a. Reducing costs to the government<br>b. Ensuring a sustainable balance of fare / fee and government funding, and<br>c. Increasing the efficiency of operations, asset management and capital investment - delivering on time and on budget  |
| III Contributing to long-term economic growth | Catalysing long term economic growth by:<br>a. Reducing total journey time and cost for transport users<br>b. Connecting labour markets and realising agglomeration benefits, and<br>c. Connecting places to markets, directly investing in skills, innovation and digital infrastructure, crowding-in foreign investment and facilitating the housebuilding and place-making agenda |
| IV Levelling up and connectivity              | Reducing regional inequalities and bringing the union together by:<br>a. Contributing to long-term economic growth in areas in support of levelling-up<br>b. Contributing to social benefits, including strengthening the union, from improved connectivity  |
| V Delivering environmental sustainability     | Supporting government's environmental sustainability objectives by:<br>a. Encouraging modal shift by increasing the attractiveness of rail,<br>b. Delivering rail net-zero (traction and infrastructure), protecting biodiversity and addressing air pollution, and<br>c. Protecting transport links by investing in climate adaption  |

The Government's rail strategic objectives are a basis for Network Planning's strategic advice. These underlying principles are further expounded in the Government's Great British Railways Williams-Shapps Plan for Rail (2021)<sup>1</sup>.

## B.3 Suffolk corridor process

Compared to most previous strategic advice studies, the Suffolk corridor study places a greater emphasis on enhancing 'connectivity' as part of a rural integrated transport network. In recognition of the need to increase passenger revenue and focus on financial sustainability, consideration has been given to relatively inexpensive 'quick wins' that will attract use of rail services.

The Suffolk corridor strategic advice process and report have been overseen by a governance and assurance structure. This includes a steering group, whose members have been consulted and who have contributed local knowledge and evidence. Contributing organisations include the Department for Transport (DfT), freight and train operating companies, local, regional and combined authorities and the sub-national transport body, Transport East. Discussions have taken place with representatives of the Greater Anglia/c2c Accessibility Forum and the rail campaign group Railfuture.

<sup>1</sup> [Great British Railways: Williams-Shapps plan for rail - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/92447/gbr-williams-shapps-plan-for-rail-2021.pdf) - referred to in this study as the Williams-Shapps report

## Part C: Challenges to service enhancements

Note: throughout this report, recommendations and funding options are shown in green bold text.

### C.1 Ely Area

Ely is served by several rail routes (Figures 2 and 3). The existing track layout and signalling are essentially at full capacity. Aspirations to increase freight and/or passenger services on all these routes **support the case for infrastructure enhancement work in the Ely area including upgrading level-crossings**. If further services are introduced without these enhancements, there will be an increased risk to service performance (punctuality) and safety at level crossings



Figure 2. Ely station. Both freight and passenger services on several routes pass through here.

### C.2 Haughley Junction single-line section

All F2MN freight traffic, and trains on the routes between Peterborough and Ipswich, and Cambridge and Ipswich, pass through Haughley Junction – about two miles north of Stowmarket (shown on Figure 1). Trains travelling in opposite directions on the Bury St Edmunds line, cannot pass on the short section of single-track at this junction. This causes timetabling problems and delays to services. The project to double-track the junction is (at the time of writing) awaiting approval.



Figure 3. Ely North Junction - remodelling of this junction is key to improving both freight and passenger services

### C.3 Soham single-line section

The route between Peterborough and Ipswich is restricted to a single track (Figure 4) between Ely and Soham (approx. 5½ miles). Line speed is limited to 50mph for freight and 60mph for passenger trains. This single-track section constrains timetabling of trains, and is a performance risk.

Re-doubling of the line is not currently planned, but it is a timetabling constraint and services are frequently delayed on this single-line section. **It is recommended that the land/trackbed required for doubling of this line is safeguarded and re-instatement of the second track is considered as part of future track and signalling renewal schemes**. Removing this 'bottleneck' would improve punctuality and accommodate future growth of freight and passenger traffic.



Figure 4. Soham. Northbound F2MN freight train entering the single-line section between Soham and Ely.



#### C.4 Newmarket single-line section

The sixteen-mile long section of line between Coldham Lane Junction (approx. one mile north of Cambridge – see Figure 1) and Chippenham Junction (about 2 miles east of Newmarket) is single-track (Figure 5), with the exception of a passing loop at Dullingham. Redoubling of this line will be required to accommodate additional services, and would benefit the scheduling of present services. **(Part) doubling of this line is considered in conjunction with future track and signalling renewal schemes, and that the land/trackbed required for re-doubling is safeguarded against development.** (including further placement of rail equipment/structures on the trackbed)

(see section C.6 for line speed on this section).



**Figure 5. The Newmarket single-track section.**  
The line was built as double track – except for the section through Warren Hill tunnel (Newmarket).

#### C.5 Headways

Due to the type of signalling in place between Peterborough/Cambridge and Haughley Junction, headways (the time required between trains), can be as long as eight minutes. This restricts the number of trains that can be accommodated on the route (line capacity) and inhibits recovery from delays - particularly on single-line sections of track. There are unlikely to be any significant headway improvements for the foreseeable future, but **it is recommended that opportunities to reduce headway times are explored by funders within future track and signalling renewal schemes.**

#### C.6 Line speeds

All trains on services in the Suffolk corridor area have a maximum running speed of 100mph. This can only be achieved between Ipswich and Haughley Junction (Stowmarket). Otherwise, line speed<sup>2</sup> on these routes is 75mph except for 60mph line speed between Newmarket (Chippenham Junction) and Cambridge (Coldham Lane Junction), or 60mph for passenger and 50mph for freight on the single-line between Ely and Soham (section C.3). **It is recommended that the line speed increases are considered by funders in future track and signalling renewal schemes.**

#### C.7 Ipswich Platforms

At certain times of day, Ipswich station (Figure 6) has insufficient platforms to accommodate all trains that either stop, or pass through, the station. Additional platforms would improve timetabling and operational efficiency, and improve service punctuality.

There is a future possibility that extra platforms will be needed to provide for additional services. Network Rail has looked at options for provision of additional platforms at Ipswich.



**Figure 6. Ipswich - limited platform capacity.**

<sup>2</sup> Line speed is the maximum permitted speed on a section of line. Lower speeds may apply within the section (e.g., at curves or level crossings).

The two main options are:

- a new platform 0, and possible extension of the existing platform 1 (Figure 7), on the north/east side of the station, or
- new platforms 5 and 6 on the south/west side of the station, occupying the former Freightliner re-fuelling point (Figure 8).

Both locations have advantages and disadvantages:

- From the passenger's perspective, platform 0 and/or extended platform 1 would have level access to the station entrance/exit and trains on platform 2, whereas access to platforms 5 & 6 would require use of footbridge(s) / lift(s).
- A platform 0 or 1 option would be more disruptive to services during construction than the platform 5 and 6 option.

**It is recommended that the land<sup>3</sup> to the south/west of the station (previously occupied by the Freightliner refuelling point) is safeguarded for possible future platform provision.**

### C.8 Electrification

All freight trains between Peterborough, Cambridge and Ipswich are diesel-powered. Passenger services also use diesel propulsion<sup>4</sup>, except between Stowmarket and Ipswich. On this section, the Cambridge/Ipswich and Peterborough/Ipswich trains run in electric (overhead wire) mode.

Electrification of both routes is part of the end-state within Network Rail's Traction Decarbonisation Network Strategy (TDNS)<sup>5</sup>. Although alternative technology, such as battery or hydrogen, is being developed for passenger trains, electrification is, at present, the only realistic zero-carbon option for heavy freight. **The TDNS end-state of electrification between Felixstowe and Peterborough (and beyond) remains an option for funders.** A relatively inexpensive option for funders is **extension of the overhead wiring in platform 1 at Ipswich**, allowing trains using this platform to be positioned adjacent to the canopy and closer to the station entrance/exit. This would be more convenient for passengers than the present stopping position at the far end of the platform as shown in Figure 7.

An additional benefit of electrification is that, for a given train formation, electric traction offers better acceleration than diesel power. Electrification would be particularly beneficial on the route between Peterborough and Felixstowe as freight trains are subject to several speed restrictions, and are often required to stop and start. The improved acceleration of an electrically-hauled freight train would reduce the time that a section of line is occupied, allowing more efficient use of available track capacity.



**Figure 7. Ipswich platform 1.** An additional track and a new platform 0 could be accommodated alongside. *n.b., the position of the stationary train is due to platform 1 not being electrified for its full length – see section C.8.*



**Figure 8. Freightliner fuelling point at Ipswich.** This facility has now been relocated. New platforms 5 and 6 could be located on the site

<sup>3</sup> The land is owned by Network Rail

<sup>4</sup> Govia Thameslink Ely and King's Lynn services are electric

<sup>5</sup> [Traction Decarbonisation Network Strategy - Interim Programme Business Case \(networkrail.co.uk\)](https://www.networkrail.co.uk/tdns)

## Part D. Services between Peterborough and Ipswich

Note: throughout this report, recommendations and funding options are shown in green bold text.

### D.1 Service pattern

The service between Peterborough and Ipswich is operated by Greater Anglia three or four-car class 755 bi-mode units (as shown in Figure 13). These trains run on diesel power between Peterborough and Stowmarket, and electric power south of Stowmarket. The route is shown in Figure 9 in orange.

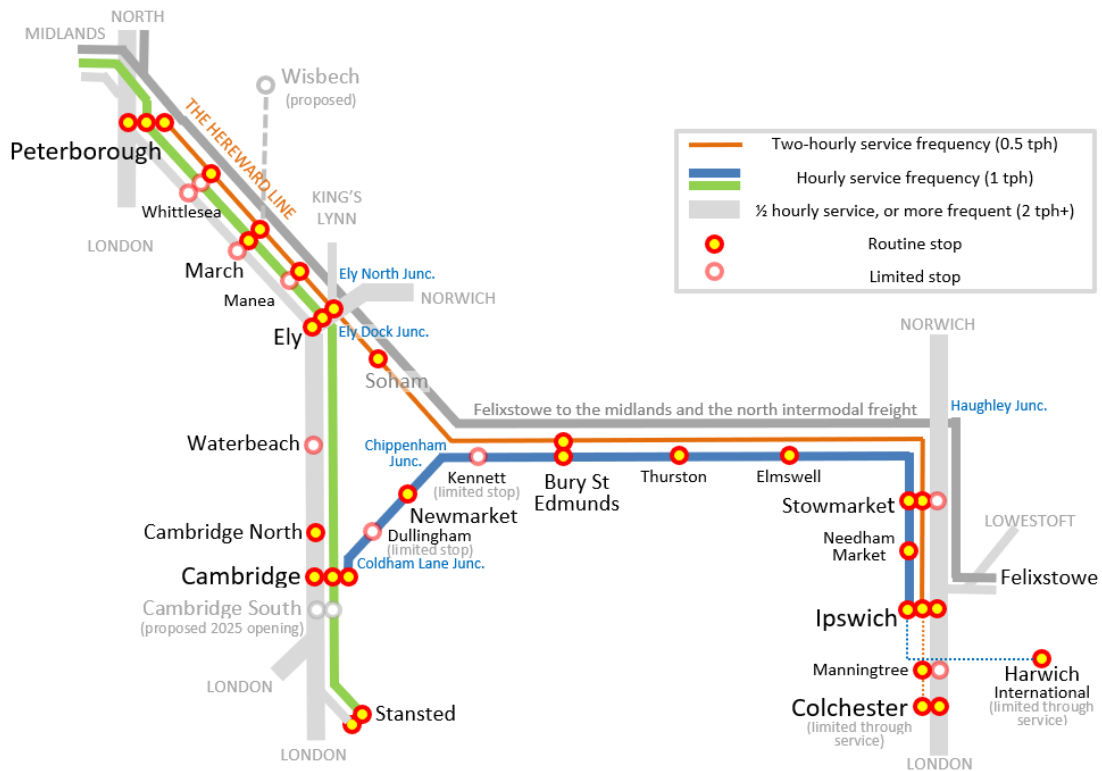


Figure 9. Diagrammatic representation of Suffolk corridor services

The service runs at two-hourly frequency, stopping at all stations on the northern part of the route between Peterborough and Soham, but only stopping at larger stations on the southern part of the route. Some early and late services extend through to Colchester.

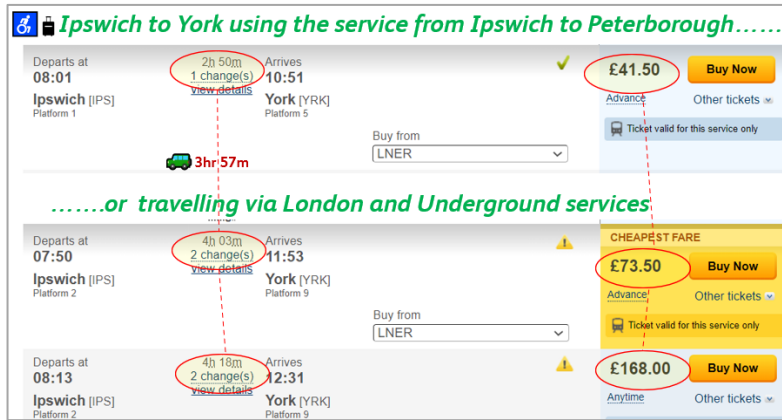
The rail service between Peterborough and Ipswich is a key link between East Anglia, the midlands and the north (Figure 10). The route is often quicker and more direct than travelling via London – and a more accessibility-friendly option than interchanging with Underground services (Figure 11).

It is the only rail service that serves Soham, and the only off-peak provision for Whittlesea and Manea.



Figure 10. Peterborough – passenger interchange between East Anglia, and the midlands and the north

Figure 11. An example of potential time and cost savings using the service between Peterborough and Ipswich. In this example, passengers travelling between Ipswich and York save more than an hour using the Peterborough/Ipswich service, rather than travelling via London. Cost and journey times are more competitive with road travel (3hr57m). (extracts from the National Rail timetable)



### D.2 Passenger usage

Passenger data from Greater Anglia indicates that usage of the route between Peterborough and Ipswich has increased in the last fifteen years, to about 150% of 2005 levels, by the start of Covid-19 in 2020 (Figure 12). Industry passenger data for 2019/2020 indicates average passenger levels of up to 50% of the seating capacity of a class 755 three-car unit. On average, loadings on Sundays were higher than weekdays - some trains could be about two-thirds full on certain parts of the route. This data does not include additional patronage from Soham station (Figure 13), which was re-opened in December 2021.

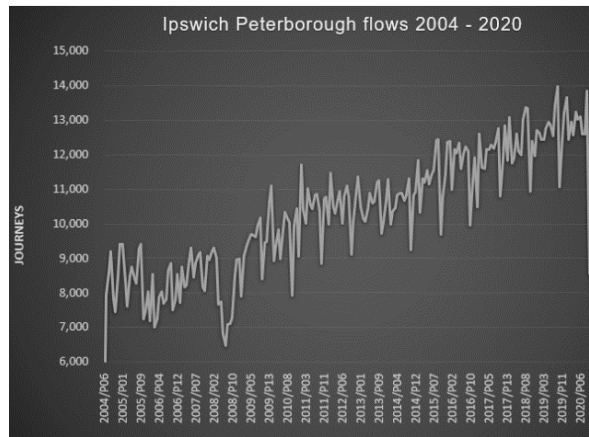


Figure 12. Passenger data for the Peterborough/Ipswich route 2004-2020. (reference: Greater Anglia)

Following Covid-19, a full service has been reinstated. Between October 2021 and April 2022, Greater Anglia reported that passenger numbers on this route had recovered between 83% and 110% of pre-Covid-19 levels. This is one of the highest recovery rates nationally.

Due to the pandemic, passenger demand forecasting is still unreliable. **It is recommended that improved monitoring of passenger data is implemented and made available to produce better post-pandemic passenger demand forecasts.** For Greater Anglia services, data from the Automatic Passenger Count (APC) systems on the Stadler built units<sup>6</sup> would be invaluable in providing a clearer picture of passenger use on these services.



Figure 13. New station at Soham. Passenger usage for Soham is not included in 2019/2020 passenger data.

### D.3 Short-term opportunities for service enhancement

Provision of an hourly service on the Peterborough/Ipswich route was a commitment in the Greater Anglia franchise award of 2016, and new trains have been acquired to deliver this. The hourly service is now deferred until capacity enhancements are undertaken at Ely (see section C.1). This is unlikely to be delivered for several years.

The recommended enhancement opportunities for the service between Peterborough and Ipswich are shown below. These recommendations are based on stakeholder aspirations for a more frequent service, and alignment with governmental Rail Strategic Objectives (Table 1, page 6) for improved rail connectivity and convenience.

<sup>6</sup> Stadler units are used on the rural, intercity (London/Norwich) and Stansted express services

The suggested service improvement options for funders are:

- i) **Limited additional services between Peterborough and Ipswich.** Greater Anglia have proposed an interim solution comprising two additional weekday Ipswich-Peterborough-Ipswich services. The key timings for these services are shown in Table 2. Two options are shown for an afternoon return service, but only one would be implemented. The earlier option fills the gap between peak time departures from Peterborough at 15:50 and 17:50. The alternative later service fills the gap between peak departures from Ipswich. Its return working from Peterborough would be useful for people returning towards the end of the day from the midlands and north. All timings have been checked by Network Rail and can be accommodated in the current timetable with minimal retiming of other services. Although this compromise falls far short of a full hourly service, it is suggested as a solution that is relatively straightforward to implement. No additional infrastructure is required, except for possible level crossing safety upgrades.
- ii) **An earlier southbound (Peterborough) /Ely/Ipswich morning peak service.** At present there is no southbound service provision for passengers to make a work/education start to the day before 09:00 in Bury St Edmunds/Stowmarket, or Ipswich before 09:30. Provision of an earlier southbound service was investigated by Network Rail for this study, but a suitable path could not be found between existing services. It is recommended that provision of this service is investigated further as it may be deliverable within future timetables. Starting this service from Ely, rather than Peterborough, is an option.
- iii) **Investigation of the feasibility of introducing a full hourly service prior to enhancements in the Ely area.** Within the rail industry it is considered that, by appropriate timetabling, it could be possible to accommodate both current freight levels and an hourly service between Peterborough and Ipswich. It is recommended that a joint industry working group is established to investigate if this could be achieved.



Figure 14. Ipswich. It is recommended that an earlier southbound service is provided for passengers wishing to arrive before 09:00.

Table 2. Recommended additional services between Peterborough and Ipswich services (shown in red). Only one of the two afternoon services would be implemented.

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Ipswich      | 0600 | 0801 | 0838 | 1001 | 1156 | 1358 | 1433 | 1600 | 1645 | 1742 | 2001 |
| Bury SE      | 0629 | 0830 | 0914 | 1030 | 1228 | 1428 | 1510 | 1629 | 1724 | 1825 | 2030 |
| Peterborough | 0738 | 0940 | 1025 | 1139 | 1339 | 1540 | 1621 | 1739 | 1840 | 1939 | 2139 |
| Peterborough | 0750 | 0950 | 1038 | 1150 | 1350 | 1550 | 1637 | 1750 | 1851 | 1950 | 2146 |
| Bury SE      | 0857 | 1058 | 1148 | 1258 | 1458 | 1658 | 1800 | 1859 | 2001 | 2058 | 2253 |
| Ipswich      | 0925 | 1128 | 1216 | 1328 | 1528 | 1728 | 1835 | 1928 | 2035 | 2128 | 2321 |

#### D.4 Medium-term opportunities for service enhancements

Extending the Peterborough/Ipswich service south of Ipswich (Figure 15), to either Colchester or Harwich<sup>7</sup> (Town or International) would:

- o be more convenient and improve journey times for passengers wishing to travel to/from Colchester and Manningtree, or the Harwich branch (presently one or two changes of train are necessary in each direction),

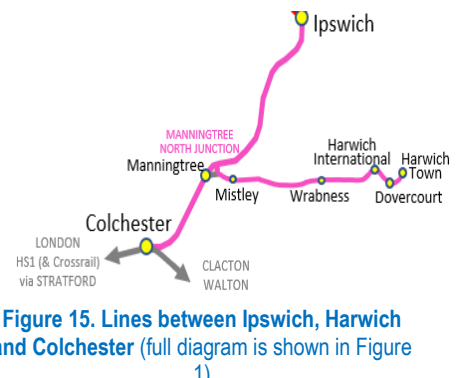


Figure 15. Lines between Ipswich, Harwich and Colchester (full diagram is shown in Figure 1)

<sup>7</sup> Colchester and Harwich are also considered for an extended Cambridge/Ipswich service (section F.3.3.) Only one service would be extended.

- potentially ease the problem of limited platform availability at Ipswich station (section C.7),
- for the Harwich option, be relevant to the ‘levelling up’ agenda in which a local area’s need for economic recovery and growth, improved transport connectivity, and regeneration is rated in three different priority categories, level I, II or III (Level I is the highest category). Harwich is within the category I ‘levelling up’ area of Tendring, and
- be aligned with Transport East’s aim to improve coastal connectivity in the region.

These options were tested by Network Rail for this study. It was found that they would not be readily implementable within the current timetable for the following reasons:

**Colchester:** although thirteen out of sixteen existing services could be accommodated<sup>8</sup>, the remaining three required retiming of existing services. Several extended services had to be timed closely with existing services - more than half of the compliant services had a buffer time of two minutes, or less, with existing services. This increases the risk of delays being passed from one service to other services.

An additional train would be required for extended service: three, instead of two, trains would be required to run the current two-hourly service.

**Harwich Town:** without major timetable revisions, the single platform at Harwich Town could not accommodate an extended Peterborough service as well as the existing service between Harwich Town and Manningtree<sup>9</sup>.

**Harwich International:** a long layover time (turnround time) would be required between arriving and departing trains at Harwich International. This would not be efficient use of trains, and crews. Turnround times would work much better if the service ran at hourly, rather than two-hourly, intervals (discussed in section D.3).

Consequently, although these options would improve convenience for passengers and ease platform constraints at Ipswich, they are not recommended at this stage. They may become possible in future timetable changes.

## D.5 Long-term opportunities for service enhancements

Other possible longer-term options for extension of the service between Peterborough and Ipswich, are southward to Clacton (a further extension of the Colchester option), or northwards to Birmingham<sup>10</sup> or Lincoln (only one of the southern options, and one of the northern options would be possible).

Again, the benefits of enhanced connectivity and journey times, or easing of platform occupancy at Ipswich or Peterborough<sup>11</sup>, would need to be considered against performance risk and operational complexity.

A through service between Lincoln and Ipswich would give vastly improved journey times to passengers travelling between destinations to the north and south of Peterborough. The previous risk of delays being passed between trains on the Lincoln route and East Coast Main Line (ECML) services is now significantly reduced at Peterborough by the new track arrangement for the Werrington dive-under (just north of Peterborough). This allows trains on the two routes to run independently. Current schedules would need to be revised as the Peterborough/Ipswich two-hourly service is misaligned with the Peterborough/Lincoln service that does not run to a regular hourly pattern.

<sup>8</sup> For weekdays only in the current timetable. Includes services that already run through to Colchester.

<sup>9</sup> Only weekday off-peak services were tested.

<sup>10</sup> The Birmingham option has been considered by Midlands Connect, but found difficult to implement.

<sup>11</sup> Peterborough Area Strategic Advice. Network Rail 2022 [Long-term planning - Network Rail \(Regional Planning Docs/ Eastern\)](#)

## Part E. Services between Peterborough and Cambridge

### E.1 Service pattern

Direct services between Peterborough and Cambridge are provided by the CrossCountry service between Birmingham and Cambridge/Stansted Airport. This is operated by three-car class 170 diesel units (shown in Figure 17).

The service runs at a (nominally) hourly frequency. It is a semi-fast service, usually stopping only (within the study area) at Peterborough, March, Ely and Cambridge (Figure 16). One or two trains stop at Whittlesea (Figure 18) or Manea during peak times, but otherwise these locations have no direct service to/from Cambridge, and are reliant on the two-hourly frequency service between Peterborough and Ipswich (section D).

From May 2022, the level of daytime service between Cambridge and Stansted was reduced, in each direction, from one train per hour (1 tph) to one train every two hours (0.5 tph), and one Birmingham-Stansted return service was discontinued. This service pattern is likely to remain for the immediate future.

### E.2 Passenger usage

#### E.2.1 Pre-Covid-19 trends

Pre-Covid-19 2019 rail-industry data for the Birmingham/Stansted services indicated that:

- services were used well during the core of the day (typically between 100 and 150 passengers on each train, which is equivalent to between half and three-quarters of seating capacity utilised),
- overcrowding occurred between Ely and Cambridge on some peak services, and
- between Peterborough and Cambridge, the majority of Sunday trains were between one-third and three-quarters, or more, of full seating capacity

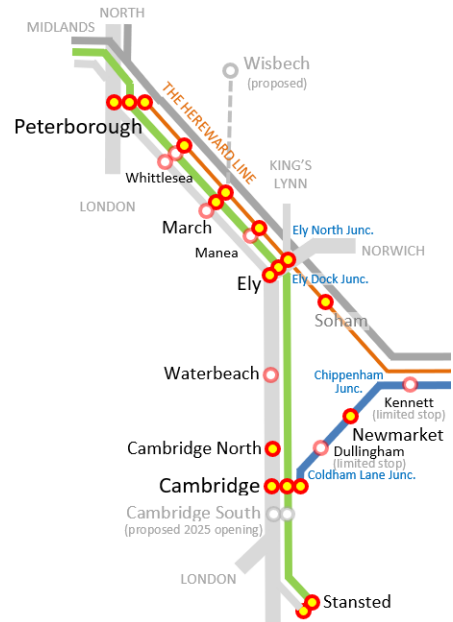


Figure 16. Diagrammatic representation of services between Peterborough and Cambridge shown in green (full diagram is shown in Figure 9)



Figure 17. Services between Peterborough and Cambridge are provided by CrossCountry trains. Southbound service seen here at March.

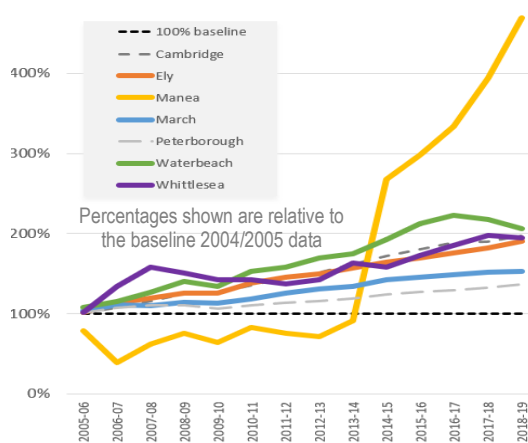


Figure 18. Local services north of Ely are almost entirely reliant on the Greater Anglia service between Peterborough and Ipswich. Southbound train approaching Whittlesea.

Trends in passenger footfall for the intermediate stations between Peterborough and Cambridge are shown in Figure 19.

With the exception of Manea, passenger footfall approximately doubled for all stations on the route, during the period between 2005 and 2019.

The exceptional growth for Manea was almost certainly a result of an increase in the number of trains<sup>12</sup> stopping at Manea since the beginning of 2014. Footfall during 2019/2020 was approximately *five* times that during 2004/2005, and *ten* times that of 2006/2007. Although a relatively small catchment area, it is an example of a positive response to a service improvement that meets peoples’ needs.



**Figure 19. Peterborough/Cambridge route - station footfall trends 2005-2019. (ORR data)**  
 n.b., plots for Peterborough, Cambridge and Ely include data from other services, and are not necessarily representative of local service trends.

### E.2.2 Post-Covid-19 passenger forecasts between Peterborough and Cambridge

Present passenger loadings are not known in detail as full post-Covid-19 passenger data has not yet been made available. It has been reported (July 2022) by CrossCountry trains that typical passenger loadings on weekday peak services do not exceed 80 % of full seating capacity.

Due to the pandemic, passenger demand forecasting is still unreliable. Actual passenger count data, rather than annual averages, would be invaluable for ongoing evaluation of passenger numbers. This would give an earlier indication of a need for additional seating capacity. Longer trains, or additional services, may be required. **The recommendation for more detailed monitoring of passenger numbers, to be used to generate better passenger demand forecasts** is repeated (section D.2).

## E.3 Short-term opportunities for service enhancement

### E.3.1 Whittlesea and Manea

For this study, Network Rail investigated the feasibility of additional stops by CrossCountry or East Midland Railway (EMR) Norwich/Nottingham/Liverpool trains at Whittlesea and/or Manea. This was aimed at addressing the infrequent (~2 hourly) service that the two stations presently have with Peterborough, and (with one or two exceptions) lack of direct Cambridge services. Travel to/from Cambridge is only possible every two hours, and a change of trains is required at Ely (Figure 20). On occasions, the journey time, including the change at Ely, can take twice the time that it would take for a direct journey.



**Figure 20. Ely. Whittlesea and Manea passengers travelling to/from Cambridge need to change here. A direct service could halve some journey times.**

Although several possibilities for additional stops at Whittlesea and/or Manea were initially identified, few, if any, could be implemented as they were either too close to existing services, or risked breaking connections with other services at Peterborough (Figure 21).

<sup>12</sup> [Extra train services at Manea drive continued passenger growth | Greater Anglia](#)



Furthermore, there are several uncertainties due to:

- sectional running times (SRTs)<sup>13</sup> being revised between Peterborough and Ely,
- additional time being added to existing schedules to allow for stopping at the new station at Cambridge South, and
- planned timetable changes affecting connection times at Peterborough.

If additional stops are implemented at this stage, there is a risk that they may have to be removed at a later date, if subsequent timetable changes are made that make them unworkable. The situation therefore remains unresolved at present, **but it is recommended that additional stops are considered in future timetable changes.**



**Figure 21. CrossCountry Stansted/Birmingham train at Peterborough.** There is concern that additional station stops at Whittlesea or Manea would reduce connection times with other services at Peterborough

Additional services between Peterborough and Ipswich, as recommended in section D.3, would improve connectivity for Whittlesea and Manea with Peterborough. They would also provide more choice for travel to and from Cambridge, but a change of trains would still be required at Ely.

## E.4 Longer-term options

### E.4.1 Hourly shuttle service between Peterborough and Cambridge

An additional hourly service between Peterborough and Cambridge is an option that may be possible if capacity enhancements are implemented at Ely, and re-signalling takes place between Peterborough and Ely. This would approximately double the number of services between Peterborough/March/Ely/Cambridge, giving a half-hourly frequency service between Peterborough and Cambridge. This would significantly improve flexibility for passengers interchanging at Peterborough or Cambridge for connecting services. Although this potential additional service is unlikely to be realised before the end of the decade, **it is an option for service specifiers that consideration could be given to including stops on this service at Whittlesea and Manea.**

Although this service is a distant prospect, it may be possible to link it with the service between Cambridge and Ipswich, providing a local service between Peterborough and Ipswich, via Cambridge. This would provide a direct Peterborough, March, Ely and Cambridge North service for stations such as Newmarket, Kennett, Thurston, Elmswell (Figure 22) and Needham Market. Passengers making these journeys would benefit from significant savings in journey time, and increased convenience (particularly beneficial to passengers with reduced mobility), as these journeys usually require lengthy waits between services. Performance implications would need to be considered.



**Figure 22. Elmswell.** Although Elmswell, and several other stations lie on the route between Peterborough and Ipswich, travel to Ely, March or Peterborough requires lengthy changes between trains.

<sup>13</sup> SRTs are the set times for trains between two specific locations or 'timing points' (such as stations or signals)

#### E.4.2 Possible re-instated passenger service between Wisbech and March

If funding is provided to deliver reinstatement of passenger services on the eight-mile branch line between Wisbech and March<sup>14</sup>, the line could potentially be operated as either a through service between Wisbech, March and Cambridge, or as a local shuttle service between Wisbech and March - or possibly a combination of the two.

Through services would be more convenient for travellers between Wisbech and Cambridge. However, a Wisbech/March shuttle service could be implemented sooner, and at lower capital and operating cost than a through service. Unlike a through service, it would not be reliant on Ely capacity enhancements and re-signalling between Peterborough and Ely. It is unlikely, even after completion of these schemes, that there would be capacity for both a through service between Wisbech and Cambridge and an hourly service between Peterborough and Cambridge (section E.4.1). A shuttle service would offer improved opportunities for connectivity with services stopping at March, as there would be greater flexibility in its schedules than for a through service.

**It is recommended that if a new passenger service to Wisbech is funded to delivery, the option of a shuttle service between Wisbech and March, rather than a through service to Cambridge, is initially aimed for.**

The alternative option of a bus link, rather than rail link, is outlined in Part G. This could be considered as a 'stopgap' measure that, ahead of the rail proposal, could establish public transport connectivity between Wisbech and the rail network via March station.



Figure 23. Disused line between March and Wisbech



Figure 24. March station (looking towards Peterborough).  
If a passenger rail link to Wisbech is re-established, it could potentially use one of the disused platforms on the right.

<sup>14</sup> <https://cambridgeshirepeterborough-ca.gov.uk/what-we-deliver/transport/rail/wisbech-rail/>

## Part F. Services between Cambridge and Ipswich

### F.1 Service Pattern

The service between Cambridge and Ipswich connects Cambridge and the towns of Newmarket, Bury St Edmunds, Stowmarket and Ipswich. This is the only rail service that stops at Dullingham, Newmarket, Kennett, Thurston, Elmswell and Needham Market. The route is shown in blue in Figure 25.

The service frequency is nominally hourly, although one morning peak service is not timed to the regular pattern - resulting in a 40 minute, followed by 1hr20m, interval between Cambridge-bound services. All trains stop at all stations, with the exception of Dullingham and Kennett which are generally served alternately. One train per day, per direction, runs through to Harwich, and a few early and late services run between Bury St Edmunds and Ipswich only.

The service is operated by Greater Anglia class 755 bi-mode units (four-car units are usually used on this service), running on electric power between Stowmarket and Ipswich, and diesel power for the remainder of the route.

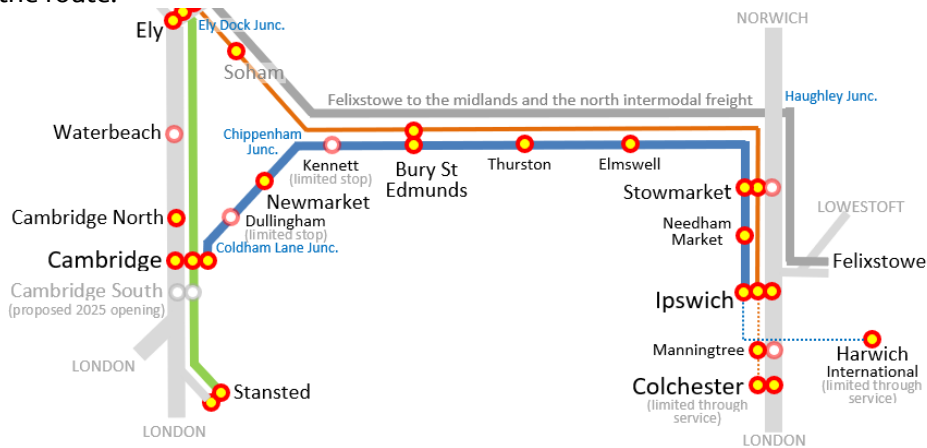


Figure 25. Diagrammatic representation of services between Cambridge and Ipswich - shown in blue. (the full diagram is shown in Figure 9)

### F.2 Passenger usage

Passenger data from Greater Anglia indicates that usage of the route between Cambridge and Ipswich has increased in the last fifteen years to about four times that of 2005 levels by the start of Covid-19 in 2020 (Figure 26).

Passenger data for 2019/2020 shows that average off-peak passenger levels were typically less than 50% of the seating capacity of a class 755 four-car unit. Passenger loadings on certain peak weekday trains could marginally exceed available seating capacity between Newmarket and Cambridge, but the annual averaged data gives no indication of seasonal, term-time or daily variations.

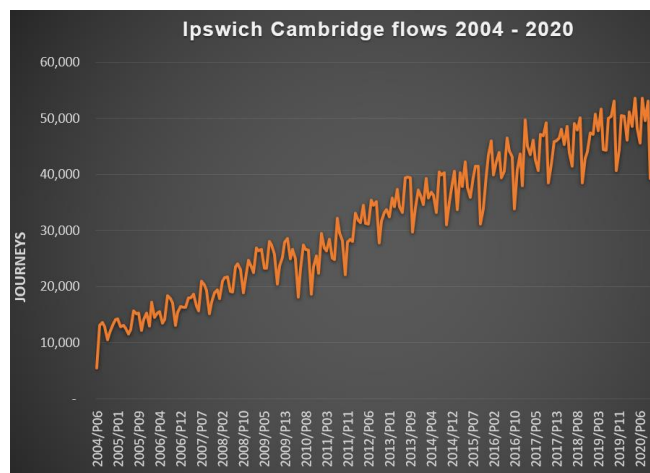


Figure 26. Passenger data for the Cambridge/Ipswich route 2004-2020. (reference: Greater Anglia)

The recommendation for improved passenger data (section D.2), to be used to generate better passenger demand forecasts, is repeated.

Following Covid-19, a full service has been reinstated. Between October 2021 and April 2022, Greater Anglia reported a general recovery of passenger numbers on this route between 75 % and 97 % of pre-Covid-19 levels. This, in common with Greater Anglia rural services in general, is one of the best recovery rates across the national network.

Due to the pandemic, passenger demand forecasting is still unreliable. Future forecasts may need to include the potential footfall increase on this route when the new Cambridge South station (planned for 2025) is opened - providing a rail link to the extensive Cambridge Biomedical campus. This will be much more convenient for travellers than the present arrangement that requires changes between train and bus at Cambridge station. A further increase in passenger numbers is anticipated when the proposed East West Rail (EWR) connection to Cambridge is established.

### F.3 Short-term opportunities for service enhancement

#### F.3.1 Additional services

An improved frequency service on the route between Cambridge and Ipswich is a long-standing stakeholder and rail-user aspiration. An additional hourly semi-fast service, alternating with the current hourly stopping trains, would provide a more convenient and faster option between principal towns on the route, and would be instrumental in achieving modal shift from the busy A14 road that runs parallel with this route. However, a half-hourly service cannot be achieved without re-doubling some of the track on the single-line section between Coldham Lane Junction (Cambridge) and Newmarket, and is not recommended at present on the basis of cost (see section F4.1) and apparent insufficient passenger demand (section F.2). This should be reviewed if subsequent passenger monitoring data trends indicate that there could be sufficient demand to justify a half-hourly service (see section F.4.1).

Although a regular half-hourly service is not feasible without significant infrastructure costs, there are opportunities for an improved service during peak hours. As outlined in section F.1, there are no additional services during peak times. The gap of 1hr20m between trains in the morning peak service to Cambridge, and more than 2hr20m for passengers wishing to travel from Kennett to Cambridge, has been a source of complaint from rail-users.

Network Rail have confirmed the viability, within the existing timetable, of additional services between either:

- **Cambridge and Newmarket** (two morning return trips + two evening return trips) , or
- **Cambridge and Bury St Edmunds** (one morning return trip + one evening return trip) , or
- **Cambridge and Ipswich** (one morning service to Cambridge, one evening service to Ipswich).

Each of these options can be covered by one additional train and crew. No additional infrastructure costs should be incurred, unless the additional services trigger a need for level-crossing upgrades. **It is recommended that the weekday peak service is considered for enhancement** by implementation of one of these options. It is suggested that this opportunity should be realised in time for the 2025 opening of Cambridge South station (section F.2), as this is likely to attract further passenger usage on Cambridge/Ipswich services.



**Figure 27. Newmarket station.** On the Cambridge/Ipswich route, passenger loadings are highest between Cambridge and Newmarket

Of the above three options, either the Newmarket or the Bury St Edmunds option may be preferable from the passengers' point of view, as passenger loadings are highest between these locations and Cambridge. It is known that

some users from the Newmarket area prefer to drive to Whittlesford Parkway station (six miles south of Cambridge) to use mainline services. A more convenient local service would encourage use of rail throughout.

The last option, of one return service per day between Cambridge and Ipswich, would have limited positive impact at the Cambridge end of the line, but would benefit users throughout the entire route. Trainset availability and crewing for each option will need to be considered further, and this could be important for determining option choice.

### F.3.2 Early morning Cambridge to Ipswich service

In the current timetable, the first train of the day from Cambridge, Newmarket and Kennett does not arrive at Ipswich until 08:02, or 09:02 for passengers from Dullingham. Network Rail tested the option of an additional earlier morning Cambridge to Ipswich service, but a suitable path for this service could not be found within the current timetable. **It is recommended that this option is considered in future timetable changes** as it would be useful for people wishing to arrive in Ipswich before 08:00.

### F.3.3 Extension of the service to destinations south of Ipswich

Extending the service between Cambridge and Ipswich southwards to Colchester (Figure 28) would reduce the demand on the limited platform availability at Ipswich (section C.7) - possibly avoiding a future need for additional platforms. It would provide a direct service between the cities of Cambridge and Colchester (this has been absent for several decades), and improve connectivity between both Colchester and Manningtree, and locations on the Cambridge/Ipswich route - as a change of trains at Ipswich would no longer be required. Through journey times would be improved, and would be more convenient - especially for passengers with reduced mobility.



Figure 28. Lines between Ipswich, Harwich and Colchester (full diagram is shown in Figure 1)

Network Rail tested this option. Although it was found to be viable in the current timetable, there was limited 'buffer' time between the extended services and some other services. This could affect the performance (punctuality) of services. This is the main reason for not recommending this option at this stage. It is however **recommended for consideration in future timetables**.

Extending the service between Cambridge and Ipswich to either Harwich Town, Harwich International or Clacton was also considered. These towns are located in the district of Tendring which, as mentioned in section D.4, is one of the UK's highest priority 'levelling up' areas. A through service would remove the need for two changes of train, reducing through journey times and improving convenience for passengers.

The Harwich options were tested by Network Rail according to the current timetable. It was found that the suggested through service to Harwich Town would clash with the existing peak service between Harwich and Manningtree on the single-track section between Harwich International and Harwich Town. This constraint could be avoided by terminating the service at Harwich International - although anticipated footfall may be lower as this station is more remote from the population centres served by Harwich Town and the intermediate station at Dovercourt. Only off-peak services were tested.

Based on the current timetable, Cambridge services terminating at Harwich International would only have ten-minutes before leaving to form a return service. There is a concern that a delay to one train would be passed to subsequent services, particularly as turnround times at Cambridge are minimal. The Newmarket single-line section on this route presents an additional risk as delays to one service could be passed to services travelling in the other direction.

The Clacton option was not tested but would have, at a minimum, the same performance implications as the Colchester option.

Although the connectivity benefits are recognised for all these options, none are recommended at this stage due to the challenges outlined above.

### F3.4 Additional stops at Kennett and Dullingham

As noted in section F.1, trains usually either stop at Kennett or Dullingham (Figures 30 and 31). Consequently, there are significant gaps between services. Rail-users have observed that the current service pattern is inconvenient and does not encourage use of the rail network.

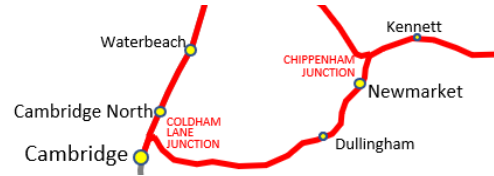


Figure 29. Location of Kennett and Dullingham (full diagram is shown in Figure 1)

The potential footfall of these stations may be enhanced by:

- a development of 500 homes to be built within walking distance of Kennett station,
- a 160-house development<sup>15</sup> to be built adjacent to Dullingham station,
- new travel opportunities arising from the opening of Cambridge South station (2025), and
- Kennett being a prime location for an integrated transport hub (section G).

Improving the usage of Kennett station would also represent efficient asset use, as considerable investment has been made to provide an accessible footbridge and ramps.

For the above reasons, **additional stops at Kennett and Dullingham are recommended for consideration in future timetable changes.**

The current alternating service pattern exists for operational reasons. Greater Anglia are investigating the possibility of extra stops for Kennett (only) – but there appears to be limited scope for a resolution.

Some of the time required for station stops could be saved by increasing the line speed (currently 60mph) between Coldham Lane Junction (Cambridge) and Newmarket. However, it is understood that no major line speed improvements will be made within the scope of the ongoing Network Rail project to update signalling on this line. Some of the time needed for additional station stops may be achieved by reviewing the sectional running times on the route to take into account the improved acceleration and braking of the class 755s now operating this route.



Figure 30. Kennett. Cambridge to Ipswich stopping service. Only a small portion of the accessibility provision can be seen in this photo.



Figure 31. Dullingham. Ipswich to Cambridge stopping service.

The enhancements to peak services recommended in section F3.1 would improve the service for Kennett or Dullingham during peak hours, but not during the day.

A solution may be to introduce an extra unit into the existing diagrams, to allow trains to pass either between Cambridge and Coldham Lane, or on the Dullingham loop. This may relax schedules sufficiently to allow additional station stops to be made. An additional train and crew would need to be sourced, and the cost of running the service would increase.

<sup>15</sup> [Dullingham - Land at Station Road | Turnstone \(turnstoneestates.com\)](https://www.turnstoneestates.com/)

## F.4 Medium-term options

Unlike the short-term options discussed in the previous section, the medium-term options presented in this section would require significant infrastructure enhancements. Few recommendations can be made at this point for the reasons stated below for each option.

### F.4.1 Half-hourly services between Cambridge and Ipswich

Although a half-hourly service between Cambridge and Ipswich is not currently recommended (section F.3.1), the case should be reviewed if monitoring data indicates that passenger demand would justify a more regular service. The potential uplift in passenger numbers that could arise from infrastructure changes such as the new Cambridge South station (2025) and the proposed EWR connection to Cambridge, also need to be considered.



**Figure 32. East West Rail showing links to East Anglia**  
(from: Network Rail, East West Main Line Strategic Statement, March 2022)

Figure 32 shows potential EWR links with East Anglia. Although there are wider aspirations for additional hourly through EWR services for both Norwich and Ipswich, the availability of through paths will be dependent on infrastructure provision at Cambridge. Additionally, there is concern that through services could affect the punctuality of other services in the region. It is possible, for operational or service reliability reasons, that separate connecting services at Cambridge would be the preferred solution.

A half-hourly service on the Newmarket line would require doubling of some of the present single-track section between Newmarket and Coldham Lane Junction (Cambridge). Network Rail estimated costs<sup>16</sup> in 2018 were between £131m (passing loop) and £383m (full track-doubling).

### F.4.2 Alternative route for additional semi-fast service between Cambridge and Norwich

Although through EWR services have yet to be confirmed, an alternative route for the EWR/Norwich option shown in Figure 32, could be via Bury St Edmunds and Diss. This would avoid using the capacity-constrained Ely north junction (section C.1), and also provide additional connectivity options, such as a direct link between Newmarket or Bury St Edmunds with Diss or Norwich. Either reversal at Stowmarket, or a new Haughley Junction north chord, would be required.

Reversal at Stowmarket is unlikely to be viable. Unless extra platforms are provided, one, or possibly both, Great Eastern main running lines would effectively be blocked for several minutes every hour. It is unlikely that this could be accommodated in future timetables with enhanced levels of freight and passenger services, and would represent a high performance risk to other services.

A new chord at Haughley Junction would allow trains to run directly between Cambridge and Norwich without reversal at Stowmarket, but would require significant infrastructure investment.

<sup>16</sup> Reference: Cambridgeshire Corridor Study – Order of Magnitude Cost Report. Network Rail, 2018. [Cambridgeshire Corridor Study \(networkrail.co.uk\)](https://www.networkrail.co.uk) 2018 estimates given - not adjusted for inflation.

### F.4.3 East West Rail (EWR) freight

At present, it is not known if freight will be routed via EWR. If this is likely to be realisable, it is recommended that both the Newmarket line, and a possible alternative route via a new chord at Ely (Figure 33) are considered as potential routes between Cambridge and the Great Eastern Main Line.

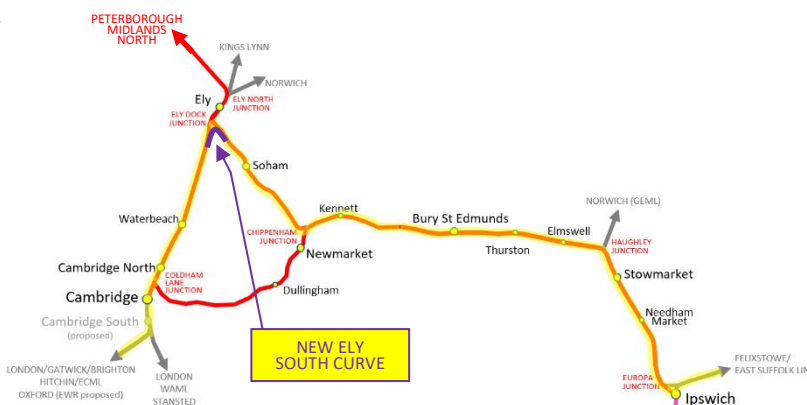


Figure 33. Alternative route for Felixstowe/EWR freight via a new Ely south curve - rather than via Newmarket

The Ely route has previously been suggested as a freight option if the link from Oxford is to access

Cambridge from the north. The suggestion here is that it should also be considered as an option if a southern approach into Cambridge is adopted (as shown on Figure 33).

The benefits of routing EWR freight via a new Ely south curve are that:

- freight trains could be held<sup>17</sup> (in either direction) on the Ely south curve to await a path onto either the West Anglia Main Line (WAML) or Soham line (depending on direction of travel),
- the single-track Warren Hill tunnel (just north of Newmarket) constraint is avoided, and
- it would allay concerns about the perceived disturbance that regular freight traffic may cause to the horse-racing community in the Newmarket area.

The disadvantage of the suggested Ely route is that it is ten miles longer than the Newmarket route. This potentially has additional journey time and operating cost implications.

Ely south curve would be a substantial investment. This has not been costed for this report, but an approximately comparable project would be Bacon Factory Curve, north Ipswich. This cost £59m<sup>18</sup> in 2014. Doubling of the single-track section between Ely and Soham (section C.3) will inevitably be required to accommodate additional traffic. Doubling the track on this section of line is unlikely to be realised in the foreseeable future.

### F.4.4 Cambridge/Newmarket/Soham/Ely shuttle service

This proposal would require reinstatement of the abandoned west chord at Chippenham Junction, also known as the Snailwell curve or loop<sup>19</sup>. However, the proposed Cambridge/Ely via Newmarket shuttle service could not be accommodated, with existing services, on the single-line section between Ely and Soham – mentioned in the previous section.

### F.4.5 New Cambridge East/Fulbourn station

In the past, there have been suggestions to re-open one of the closed stations<sup>20</sup>, or build a new station (possibly called Cambridge East), on the Newmarket line between Chippenham Junction and Dullingham). Although an additional station would support enhanced public transport connectivity and help reduce road congestion around Cambridge, it would not be possible to accommodate an

<sup>17</sup> Although holding freight in loops is far from ideal in terms of fast and efficient movement of goods, it is a resilient way to operate a mixed-traffic constrained network, particularly on cross-country routes that interact with the main arterial routes. Freight holding loops on the Newmarket route would be difficult to implement.

<sup>18</sup> [Ipswich chord and freight yard - Rail Engineer](#), 2014 costs given - not adjusted for inflation.

<sup>19</sup> [Soham Station Will Be A Platform For Better Local Rail Services | CPCA \(cambridgeshirepeterborough-ca.gov.uk\)](#)  
[PowerPoint Presentation \(railfuture.org.uk\)](#)

<sup>20</sup> [Campaigners want to reopen forgotten Cambridgeshire railway stations, but could it be done? \(cambridgeindependent.co.uk\)](#)



extra station stop within current timetable schedules (Section F3.4) without doubling some of the track, or raising line speeds, on this single-track section (section C.4 and C.6).

## F.5 Long-term options

### F.5.1 Through service between Newmarket and London

As noted in section F3.1, some passengers from the Newmarket area avoid using the local rail service, and instead drive to locations south of Cambridge for onward rail travel to London. A direct rail service between Newmarket and London would be attractive for both work and leisure purposes. As the Newmarket line is presently unelectrified<sup>21</sup>, a through London service is a long-term aspiration.

An alternative to electrification, is use of bi-mode trains, either diesel/electric, or battery/electric<sup>22</sup>. This could bring forward the option of through London services. There are insufficient numbers of available bi-mode units within the current fleet to realise this at present.



Figure 34. Newmarket platform – the current four-car length of usable platform will require extending to accommodate through services

Newmarket station's platform length (Figure 34) could be a constraint for longer London services.

### F.5.2 Through service between Bury St Edmunds/Newmarket and London

On the basis of 2019 passenger figures, a Bury St Edmunds/Newmarket/London service would attract approximately three times the number of through passengers than a Newmarket terminating service. Therefore, Bury St Edmunds may be a better choice as a terminating location for a London service, rather than Newmarket. Operational costs will be higher, and there may be an added performance risk by extending the service onto the F2MN route.

### F.5.3 Through service between Ely/Soham/Newmarket and London

This service, running via a reinstated Chippenham Junction west curve (section F4.4), has been suggested by Railfuture<sup>23</sup>. It is unlikely that both this and a separate Bury St Edmunds service could be accommodated. Bury St Edmunds would be the preferred option, as it is likely to attract greater passenger usage.

Both routes could be served by splitting and joining<sup>24</sup> trains at Newmarket. This would allow a full-length train to run between Cambridge and London, representing better utilisation of limited line capacity. The platform at Newmarket would need to be extended (Figure 34).

### F.5.4. Liverpool St to Liverpool St circular service

A further development of the suggested Bury St Edmunds/London through service option (section F5.2), could be, in conjunction with the present service between Liverpool St and Ipswich, a Liverpool St/Liverpool St circular service via the Suffolk corridor.

Trains would only require turnround at Liverpool St. - representing efficient utilisation of crew, rolling stock and platforms. The service would provide connectivity between places *en route* that are not directly linked today, for example Bishops Stortford and Stowmarket, Bury St Edmunds and Chelmsford.

In common with other proposals, improvement in connectivity could be at the expense of performance risk and timetabling complexity. The proposed service covers several routes, and a delay on any section

<sup>21</sup> [Electrification of the Newmarket line is part of the end-state within Network Rail's Traction Decarbonisation Network Strategy \(TDNS\). Traction Decarbonisation Network Strategy - Interim Programme Business Case \(networkrail.co.uk\)](#)

<sup>22</sup> [Eversholt Rail, Vivarail and Kiepe Electric to develop Class 321 BEMU | Eversholt Rail Limited](#)

<sup>23</sup> [PowerPoint Presentation \(railfuture.org.uk\)](#)

<sup>24</sup> [Splitting and joining trains is not ideal as it carries an additional performance risk and adds to through journey times. However, it is practised at other locations on the Anglia network.](#)

would be likely to be propagated to other parts of the network. Both WAML and GEML have limited path availability, and aligning available paths on both routes could be problematic.

## Part G. Integrated Transport



Both the Great British Railways Williams-Shapps *Plan for Rail* and *Bus Back Better* reports, recently published by the Department for Transport, point to a new era of integrated transport.

Railway stations will become hubs for connecting bus services, with station display screens showing both rail and bus information. There will be integrated ticketing between transport modes.



***“Journeys across rail, bus, tram and bike will become seamless in the future”<sup>25</sup>***

This contrasts markedly with the present situation in Suffolk and Cambridgeshire. Outside the major towns, there is much potential to improve connectivity between bus and rail services.

As a first step towards an integrated transport network, consideration has been given in this study to potential routes for road links between the rail network and non-rail served population centres, facilities and visitor centres. The suggested routes are envisaged as extensions to the rail network, and services would be timed specifically to connect with rail services.

Routes that have been considered are shown in Figure 36:

- approximate populations are shown next to village and town names to give a relative indication of potential travel demand,
- routes recommended for further consideration are shown in green (these routes are considered to offer the best connectivity benefits and/or are the most likely to be viable in terms of potential travel demand),
- routes that are less likely to be viable are shown in yellow, and
- routes that are unlikely to be realisable are shown in red. This includes routes that would be limited by infrequent rail services. Examples are routes 1 and 4 in Figure 36.

At this stage, no conclusions have been made concerning:

- timetabling or service frequency,
- whether services would be run as a conventional bus operation<sup>26</sup>, ‘on-demand’ / ‘dial-a-ride’ bus/taxi arrangement, or possibly use alternative technology such as autonomous vehicles, or
- provision of facilities at stations - such as electric vehicle charging points, or space for turning vehicles<sup>27</sup>.



Figure 35. Bus service at Bury St Edmunds

<sup>25</sup> Great British Railways: Williams-Shapps Plan for Rail. DfT May 2021

<sup>26</sup> There is probably limited scope for using existing bus services, as most call at numerous locations *en route*. Furthermore, few bus services in the area run later than early evening, and most do not run at all on Sundays or Bank Holidays.

<sup>27</sup> Not all stations have sufficient space to allow buses to turn round. Some stations, such as Elmswell, do not have car parking facilities.

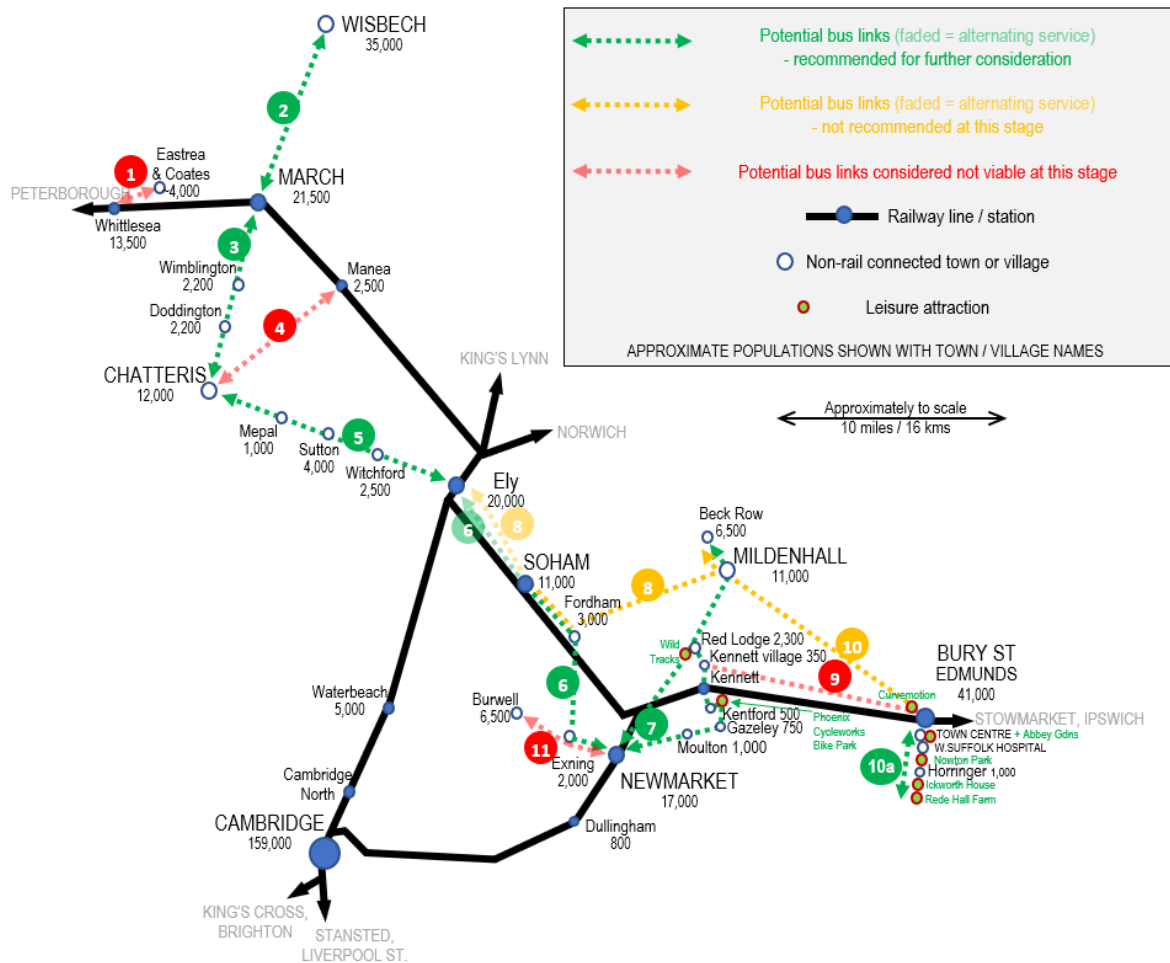


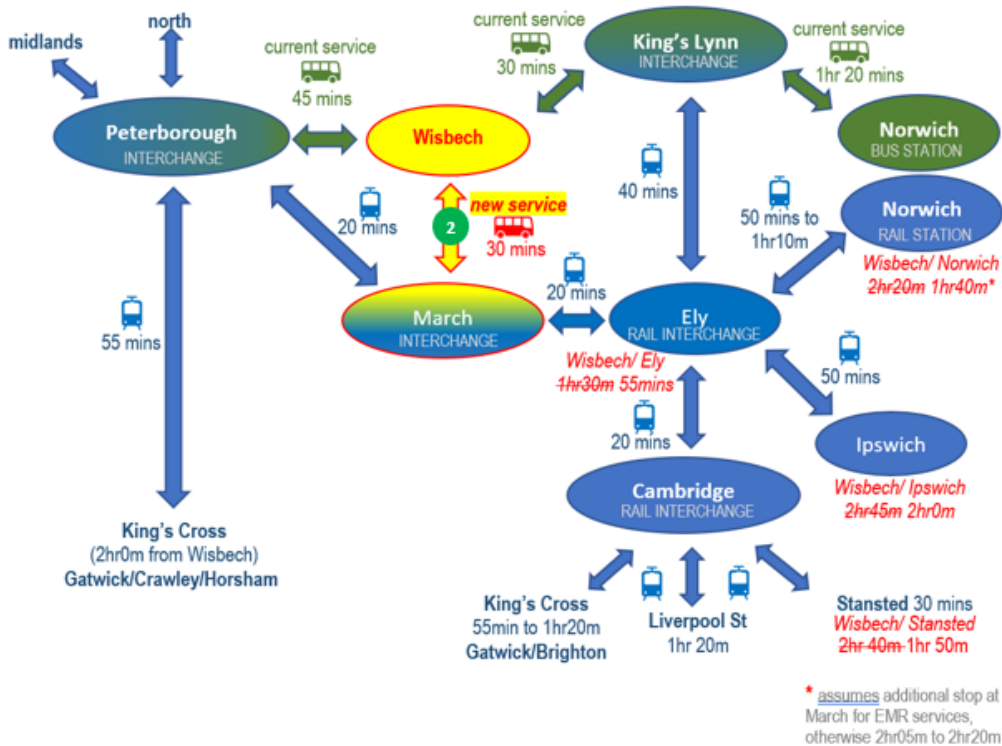
Figure 36. Diagram of bus links considered in this report.  
*n.b., designated route numbers for each suggested link are shown within the coloured circles.*

The following links are options for further consideration by funders:

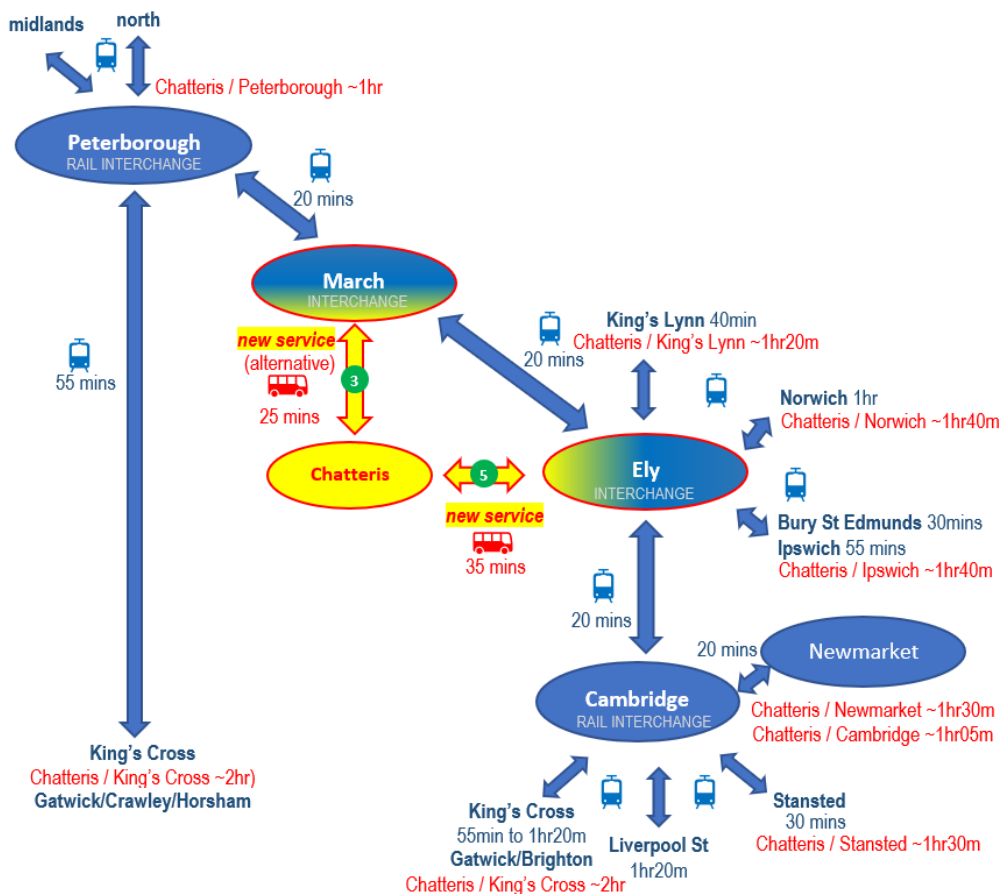
- Wisbech / March
- Chatteris / March
- Chatteris / Ely
- Ely / Soham / Newmarket
- Mildenhall / Kennett / Newmarket
- Bury St Edmunds: station/town centre/hospital

Diagrams of the connectivity networks that could potentially be provided by each of the above recommended options (except the Bury St Edmunds option) are shown in Figures 37 to 40. The current rail timetable is assumed.

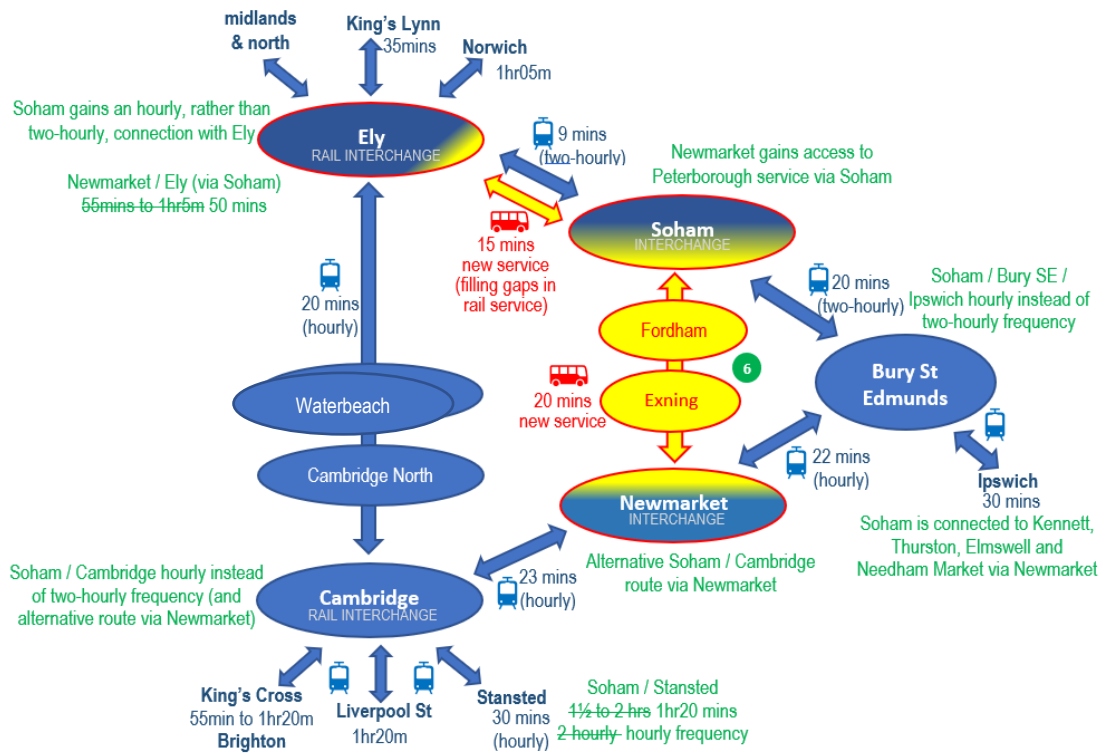
There are fewer opportunities for integrated transport links west of Bury St Edmunds. Potentially Elmswell, Thurston and Stowmarket rail stations could act as hubs for surrounding villages, but the population catchment would be much smaller than the above recommended options.



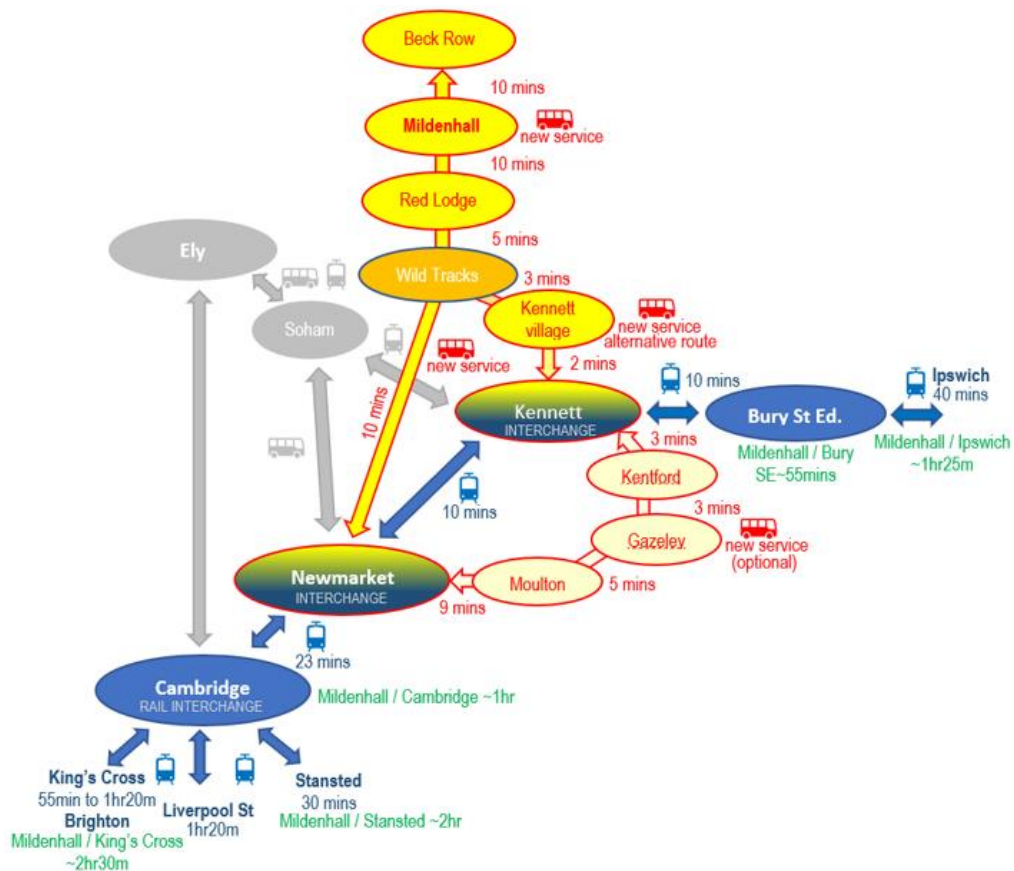
**Figure 37. Connectivity to/from Wisbech for a co-ordinated Wisbech/March bus link (shown in yellow).**  
 A bus link between Wisbech and March could help establish travel patterns ahead of a possible re-instated rail link.  
 A rail link is likely to offer improved journey times compared to the bus option.  
 Rail services are shown in blue and existing excel express bus services shown in green. Typical journey time reductions are shown in red text. Bus/rail connection times of approximately ten minutes are assumed.



**Figure 38. Connectivity to/from Chatteris and nearby villages provided by bus links with Ely and March (shown in yellow).** Rail services are shown in blue and expected journey times between Chatteris and selected locations are shown red. Only principal locations are shown – journey times to/from all intermediate stations would be similarly reduced.



**Figure 39. Suggested bus link between Soham and Newmarket to improve connectivity with Cambridge and Ely (respectively) and ‘connecting’ the villages of Fordham and Exning to the rail network.** Revised journey times and frequencies for selected destinations are shown, with current times/frequency crossed out. Hourly connectivity between Soham and Ely would be provided by an alternating bus/rail service.



**Figure 40. Potential connectivity with the rail network between Mildenhall/Beck Row and Red Lodge via a bus service connecting alternately with Kennett and Newmarket (due to Kennett’s limited rail service).** Extending the Kennett bus service through to Newmarket via Gazeley and Moulton is optional. Links to ‘Wild Tracks’ activity centre, and the Phoenix Cycleworks Bike Park (not shown) at Kentford, are aimed at attracting leisure travellers to use local rail services.

## Part H. Summary of Observations and Recommendations

Recommendations and funding options are shown in green bold text.

### General recommendations:

Potential service improvements considered for this study were constrained by limitations in the Ely area and the single-lead junction at Haughley (Stowmarket). **This supports the case for infrastructure enhancements at these locations.**

Other infrastructure enhancements that would allow improved timetabling and/or increased reliability of services are:

- **doubling the single-track section and raising speed limits between Ely and Soham,**
- **raising speed limits and possible track redoubling between Cambridge and Newmarket, and**
- **reducing long headway times between Peterborough and Haughley Junction (Stowmarket).**

**It is recommended that, as part of signalling and trackwork renewals, consideration is given by funders to easing the above infrastructure constraints.**

**It is recommended that land required for re-doubling the singled sections of track between Ely and Soham, and Coldham Lane (Cambridge) and Chippenham Junctions is safeguarded against further development** (including placement of railway equipment on this land).

### Findings and recommendations for the service between Peterborough and Ipswich:

- **Two additional Ipswich - Peterborough - Ipswich services per day are options for service specifiers** (on weekdays and weekends). *These were found to be achievable without infrastructure alterations and changes to other services.*
- **An additional earlier morning first southbound service is recommended for further consideration** (possibly only operating between Ely and Ipswich).
- **It is recommended that consideration is given to implementing an hourly** (weekdays and weekend) **service between Ipswich and Peterborough, prior to infrastructure improvements being undertaken in the Ely area.**
- Extension of services southwards to either Colchester or Harwich would improve connectivity and through journey times, and reduce the demand on platform use at Ipswich station. *However, none of these options were found to be feasible within the current timetable.*
- In the longer-term, connectivity could be improved by extending the service north of Peterborough. *Lincoln could be a possibility. Performance risk would need to be considered.*
- **The previous Network Rail option for funders for electrification between Felixstowe and Peterborough** (and beyond) **is supported. Extension of the electrification for platform 1 at Ipswich is also an option for funders** (allowing trains to be positioned more conveniently for passengers).

### Findings and recommendations for the service between Peterborough and Cambridge:

- **It was not possible to recommend additional stops at Whittlesea and Manea stations.** *This is due to the risk of breaking connections at Peterborough, and/or uncertainty that the additional stops could be maintained in future timetable changes.*
- **Whittlesea and Manea stations would benefit** (to a limited degree) **from the recommended uplift to the service between Peterborough/Ipswich.** *Passengers would still need to change at Ely when travelling to or from Cambridge.*
- In the longer term, **it is recommended that if an additional hourly service is provided between Peterborough and Cambridge, consideration should be given for it to call at Whittlesea and Manea.** *This would provide a quicker direct link with Cambridge. Consideration should be given to linking this service with the Cambridge/Ipswich service.*

- If a new passenger service to Wisbech is funded to delivery, **it is recommended that the option of a shuttle service between Wisbech and March, rather than a through service to Cambridge, is initially aimed for.** *This would be quicker to implement, be less costly, offer greater flexibility, and not conflict with the above possible additional service between Peterborough and Cambridge.*

### Findings and recommendations for the service between Cambridge and Ipswich:

- **A limited improvement to infrequent ‘peak’ services between Cambridge and Ipswich should be further considered** (options are between *either*: a) Cambridge and Newmarket, b) Cambridge and Bury St Edmunds or, c) Cambridge and Ipswich).
- **Additional stops at Kennett and Dullingham are recommended for consideration.** *These stations receive approximately a two-hourly service. There is potential for increasing usage of these stations.*
- Extension of services southwards to either Colchester or Harwich would improve connectivity, through journey times, and reduce the demand on platform use at Ipswich station. *However, none of these options are recommended at present, either due to incompatibility with other services, or there being a perceived high risk to performance. It is recommended that extending Cambridge/Ipswich services to Colchester is considered in future timetables.*
- Half-hourly interval services between Cambridge and Ipswich would be beneficial, but cannot be recommended due to cost and uncertain demand. *This may be viable at a later date.*
- The proposal to re-instate the west curve (Snailwell loop) at Chippenham Junction, to provide a service between Cambridge and Ely via Newmarket, is constrained by the single-line section between Ely and Soham. *The capacity on this section is unlikely to be sufficient to accommodate additional regular services. There are currently no firm plans to re-double this line.*
- An additional station between Cambridge and Newmarket is not recommended at present. *This would add to current operational challenges.*
- If the wider aspiration of through freight services via the proposed East West Rail (EWR) link is considered viable, **it is recommended that routing freight services via a new curve south of Ely is considered as an alternative to the Newmarket route.**
- Future routing of possible services between EWR and Norwich via Bury St Edmunds, rather than via Ely, is not recommended at this stage. *The viability of through EWR services has yet to be confirmed. Cost and performance implications of this option requires further investigation.*
- Longer-term service options that would improve connectivity, including through London services for Newmarket and Bury St Edmunds, have been considered. *Recent advances in bi-mode train technology now means that this possibility is no longer reliant on electrification.*

### Non-route specific recommendations

- **It is recommended that monitoring of passenger data is improved and disseminated to inform the future strategic direction of services.**
- **It is recommended that Network Rail land to the east of Ipswich station is safeguarded** *for possible future use for additional platforms / stabling.*
- **Ongoing periodic reassessment of the Suffolk corridor services is recommended.** *This should include review of sectional running times where appropriate.*

### Integrated Transport

As a first step towards realising Government aspirations for a “seamless” integrated transport network, several potential road links are suggested that could link non-rail connected towns, villages, facilities and visitor centres, with the rail network.