

Cambridgeshire Regional Metro

Railfuture East Anglia is promoting Cambridgeshire Metro, a service of trains of such frequency that for most journeys reference to a timetable is unnecessary.

The train service will be provided by the existing regional rail network, planned higher service frequencies, greater passenger capacity, shorter end to end journey times together with some selected line re-openings and improved access from other forms of transport including a light-rail line linking housing and employment areas in and around Cambridge.

The number of stations are already adequate especially with the recent addition of the station at Cambridge North and with that planned at Cambridge South and that aspired to the Cherry Hinton-Fulbourn area. Within 10 years the new railway from Oxford, Milton Keynes and Bedford will provide even more connectivity and capacity to the County's rail network.

Both Greater Anglia and Govia Thameslink Railway will provide a huge uplift in capacity with completely new fleets and many new services. **"The Cambridgeshire Metro" can be provided by using the existing rail network with two short extensions, a longer extension and additional capacity.**

The short extensions are:

- bringing back into passenger use the 7 miles of the mothballed Wisbech to March railway;
- reinstating the Newmarket West Curve to allow through running from Soham to Newmarket and Cambridge;

The longer extension:

- heavy or light rail to Haverhill;

Capacity expansion requirements of existing routes principally are:

- around Ely including the junctions at Ely North;
- doubling the track between Soham-Ely and Newmarket-Cambridge and from Downham Market towards Littleport.

The train services, existing or planned, are largely adequate though there are notable weaknesses. **These weaknesses are predominantly on:**

- the (Cambridge-Ely-)March-Whittlesey-Peterborough corridor though there are trains that do serve Cambridge by connections at Ely which will improve with the planned addition of trains on the King's Lynn corridor.

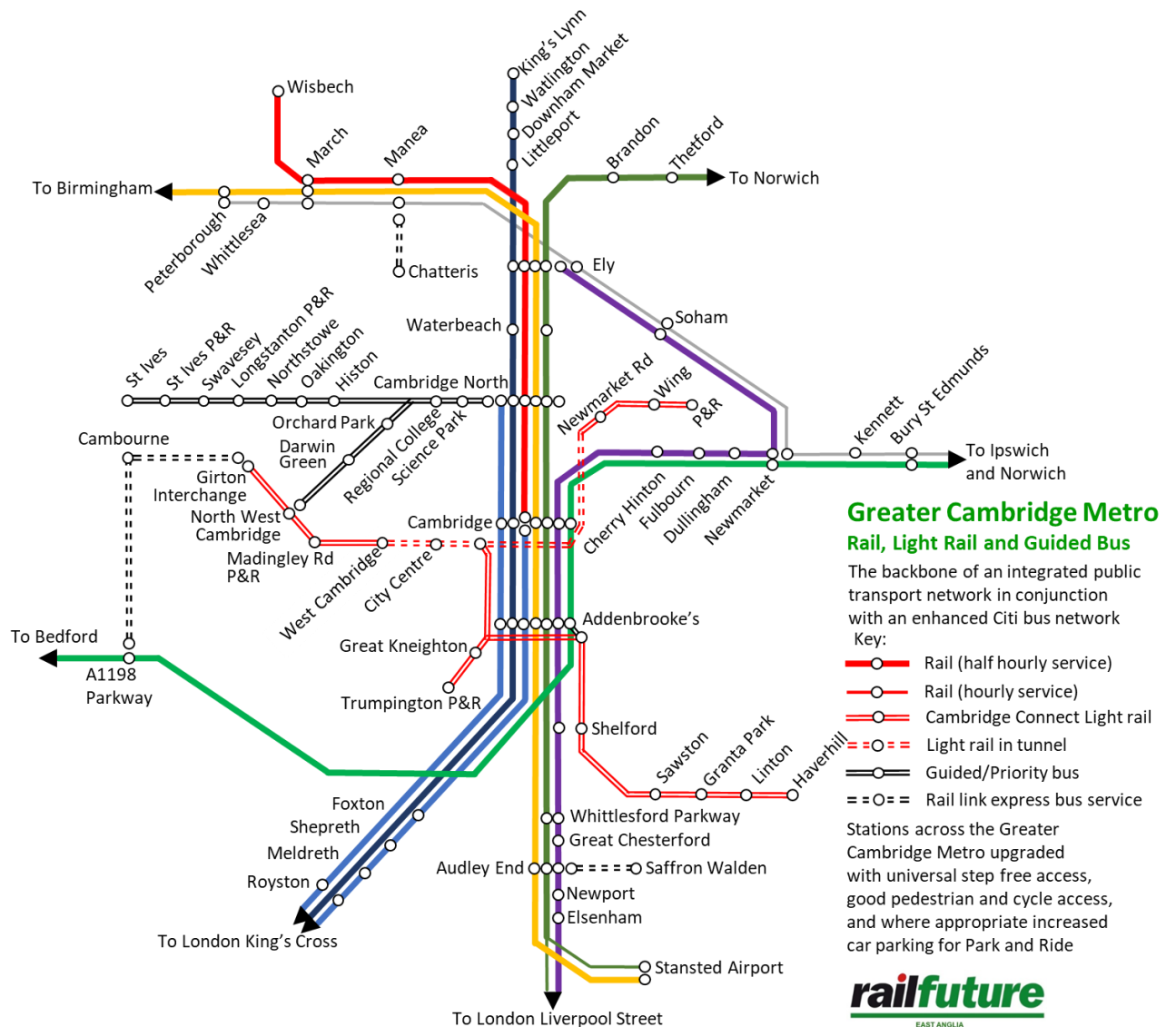
- the Bury St Edmunds-Newmarket-Cambridge corridor.

The "last mile" of the Regional Metro to existing and new developments across Cambridge will be provided by the exciting concept of a light rail network called **Cambridge Connect**. These developments include Eddington and Cambourne to the west of the city, Granta Park on the way to Haverhill. See the map and overview below.



Map showing 14 key upgrades which are required on the railway network in Cambridgeshire and Peterborough

The Overview



RAILWAY TO THE FUTURE: Diagrammatic map showing how the regional railway network based on Cambridge could be enhanced by developing light rail and existing bus-based links

Cambridge has long been a dominant economic centre for a distinct region, hence the large number of local railways that historically centre on it.

Over the past 30 years, in common with other university towns, this regional centre has grown into something more nationally important because of the rise of “knowledge-based industry”.

A well-educated population is reliant on “knowledge” that promotes innovation and dynamic entrepreneurship for the benefit of the overall national economy.

Its continual success depends on a well-educated population gathering together from the four corners of the world as well as from all over Britain.

People work in several distinct hubs throughout the Greater Cambridge area. These hubs need a constantly re-plenishing workforce that tends to be dispersed over a wide travel-to- work area. The hubs are often poorly interconnected within the city and with the railway station.

Cambridge and many historic cities were not built for modern road-borne traffic. The local road network operates at perpetual over-capacity. Movement is slow, air quality poor. Yet the historic centre is valued for a good quality of life by the workforce as much as the millions who travel to it from all over the world.

Thousands use it each day for shopping, entertainment and the night economy as well as the important higher educational role that has developed over 800 years. Preserving this dynamic piece of history with its multiple modern functions is where the railway is crucial.

300 buses an hour!

In an effort to alleviate some of the chronic congestion problems, a bus-based solution has been proposed. This would see about 300 buses an hour entering the centre. This is clearly impossible.

There is a pressing need to keep road-borne traffic out of the city and the radial roads approaching it. These are at gridlock during ever-lengthening peaks.

The local railway network works hard but it can do more. It needs to be improved to do so. The Thameslink upgrades will bring four local trains per hour from the Royston line and deliver longer, more frequent services to Ely. The metro-like peak hour services between Cambridge and Ely now bring nearly 2 million rail users a year from Ely alone, with as many commuters using rail rather than the parallel A10 road.

The Newmarket line needs a considerable upgrade to enable rail to work for the economy on that corridor in a similar way. We want minimum half-hourly services on all routes beyond Ely and Newmarket, which of course need considerable capacity improvements around Ely.

The route from London Liverpool Street and from Stratford via Audley End also needs a slightly better frequency of services.

This already busy network delivers 11 million passengers a year to and from Cambridge station. But to get workers to areas further from the existing station, more effort is needed.

Dependable timetable and the "last mile"

We believe a Cambridge light-rail network can link into the regional railway network and enable the highly skilled regionally dispersed workforce to travel with confidence on public transport to all the major centres of employment that are distant from a station and currently easily accessible only by car.

The nature of the railway and light rail means that the mode is long term and today's motorists can confidently shift modes for the long term and plan their lives accordingly. In addition, those who work at the further-flung employment centres from Cambridge station will gain access in minutes, to take a train to London or the airports. The phased light-rail network will eventually restore rail to fast-growing generators of much road-based traffic such as Haverhill.

Sadly, bus routes provide no such long-term confidence for many potential users who currently use cars. Bus routes can be and are cut because of council crises or the bus operator's bottom line.

Rail operators generally provide a dependable timetable as laid down in their franchise commitments that is available for about 18 hours each day.

Cambridge North

Light rail and new regional stations such as Cambridge North, will unify all the disparate centres of employment in the Greater Cambridge area into one.

We believe it is absolutely essential for regional rail and light rail to be planned as one, to enable light-rail to deliver "the last mile" and rail to develop as the true alternative to the car.

Regional rail will help link and unify the Cambridgeshire growth poles of Cambridge and Peterborough.

The specifics

The Wisbech-March-Ely corridor is referred to above and we believe that reconnecting Wisbech to the network will solve this problem area. Wisbech is a town of some 33,000 people with a continuous built up area straddling the Cambridgeshire and Norfolk border. In the era of self-contained communities, the town was a proud, attractive and relatively prosperous community linked to the outside world by a network of railways that reflected that. However, it is clear that in the changes in the way our urban areas have developed over the last 50 years, Wisbech has 'lost out' to its neighbours such as Peterborough and King's Lynn. The withdrawal of passenger train services in the 1970s meant that the Community gradually withdrew inwards especially among its young people.

Change has of course continued. Now the cycle is more favourable as the nearby urban area Cambridge (35 miles) and Peterborough (21 miles) have developed very dynamic economies that are of national/international importance. Their growth, particularly in the case of Cambridge, means that housing is expensive and in short supply so new housing is required further afield. We feel that additional housing in Wisbech would provide relief to the over-heated market in Cambridge and

South Cambridgeshire and at the same time provide Wisbech a new population some of whom will work in Cambridge but spend in the local economy.

We have been working for some time with residents in Wisbech to restore the railway passenger services along their mothballed branch railway from Wisbech to March. We believe that best way to provide a useful level of service is to aim for two trains an hour from Wisbech to March and beyond to Cambridge throughout the day. (The business case shows this has the best BCR). This could provide a journey time of about 35/40 minutes to Cambridge, less to the science parks around Cambridge North station - a very attractive timing to generate patronage and fill up new housing in Wisbech.

It is essential to provide this level service not only for the existing and potential new housing at Wisbech which could raise the population to 65,000, but also for the 25,000 residents of March (plus 4400 homes committed), the growing village of Manea, population c3000, Ely, population about 24,000 and plus over 5000 extra homes committed. The next settlement along the railway is Waterbeach, with an additional 12,000 homes committed for construction over the next 20 years. This "Cambridgeshire Rail Link " would provide relief to the already overcrowded longer distance services along the line through March and that coming in from Kings Lynn at Ely.

The settlements along the Wisbech to Cambridge railway could be growth poles but already the projected populations are Wisbech 43,000 to 65,000, March 35,000, Manea 3000-5000, Ely 40,000.

The proposals for the Wisbech Garden Town are very exciting. The plans appear to embrace the water features of the district and will be unique in England. It will become an attraction in its own right and will be greatly sort after by those who will work in the cutting-edge industries developing in Cambridge. However, the garden town cannot work without the provision of the rail link at a very early stage.

This opportunity must be harnessed so that the needs of Cambridge and Wisbech can be met for their mutual benefit. Those needs are of national importance as Cambridgeshire becomes one of our most industrial regions.

The railway service from Wisbech-March to Cambridge described here is one element of the Greater Cambridgeshire Regional Railway network and the Cambridgeshire Metro.

Apart from the crucial Wisbech reinstatement, there are other schemes urgently needed to make the rail network resilient and to work harder.

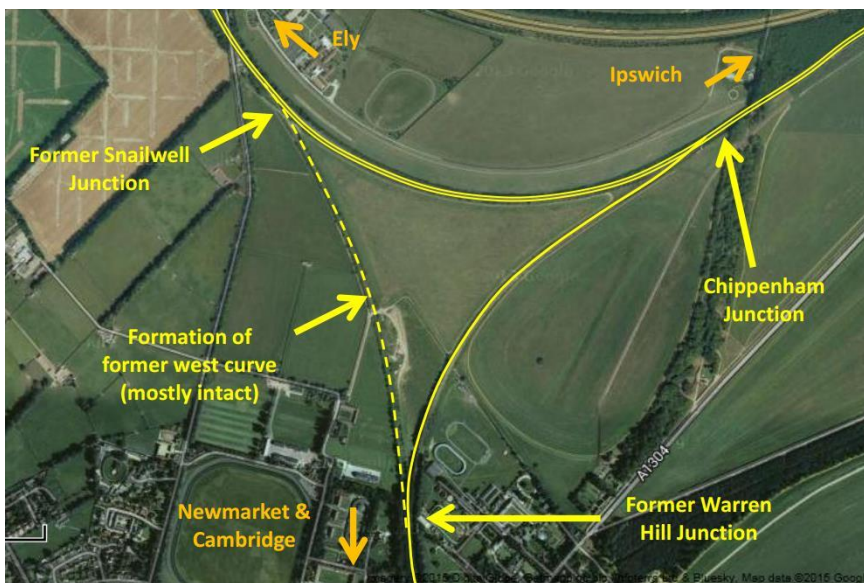
Railfuture East Anglia supports the major infrastructure scheme proposed that will improve rail capacity and connectivity around Ely, Soham, Newmarket and Cambridge:

- Soham railway station which will enable passenger train services to be developed towards Ely/Peterborough and Bury St Edmunds/Ipswich.
- Reinstatement of the Newmarket West Curve Railway line which will enable direct passenger services to be resumed from Ely and Soham to Newmarket and on to east Cambridge and Cambridge city.
- Develop the lengthy station platform at Newmarket, the Ipswich to Peterborough services could call and reverse at Newmarket creating an immense improvement in connectivity for Newmarket. Please see maps below.

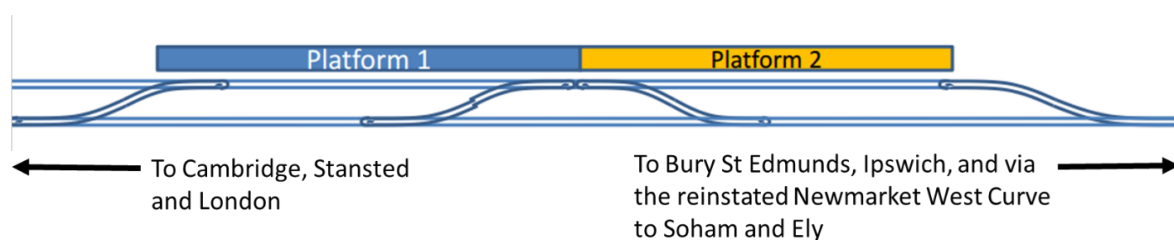
- Newmarket straddles the border between Cambridgeshire and Suffolk. Any improvements and additions to the rail network in East Cambridgeshire and Newmarket will have clear and positive outcomes in Cambridgeshire and Cambridge City as well as more particularly to all residents in Newmarket, Fordham, Soham and Ely.
- Ely southern bypass which will eliminate the level crossing at Ely station and improve the movement of both trains and buses over a wide area.
- Ely North junction rail improvements; this project is fundamental all railway capacity improvements through the County and adjacent counties.

Reinstatement of the Newmarket West Curve railway line

Please see below a diagram of suggested possible improvements at Newmarket station and the Newmarket West curve, the route and earthworks of which must be protected until it is brought back into use.



Newmarket West curve, the route and earthworks of which must be protected until it is brought back into use.



Diagrammatic plan of Newmarket Station using the current infrastructure to enable two trains to serve the station at the same time. This layout minimises land take in a constrained site and enables the town to be serviced by trains to Cambridge, Bury St Edmunds, Soham, Ely and Peterborough.

Dualling the Newmarket to Cambridge Railway

The rapid development of Cambridgeshire and East Anglia has led to a series of locations where the railway just isn't up to fulfilling the timetable pressures placed upon it, either now or in the near future. Inadequate infrastructure in other words, whether in scale, resilience or both. And these need attending to if we are to have the passenger train service the people and economy of East Anglia warrant. One of these 'fragile' components is the railway from Ipswich to Newmarket-Cambridge and Soham-Ely.

Traffic levels on this line currently consist of one passenger train per hour between Ipswich and Cambridge stopping at all stations; a passenger train every two hours between Ipswich and Ely (Peterborough), and approximately one freight train every 90 minutes between Ipswich and Ely.

Expectations for the line in the near future see Greater Anglia (GA) committing to an hourly service from Ipswich to Peterborough.

Aspiration for a second train per hour between Ipswich and Cambridge comes from Railfuture East Anglia Branch, all the local authorities, and, we believe, GA too.

To achieve this, this section of line must be double track, thus enabling a minimum of two passenger trains an hour to operate between Newmarket and Cambridge without constraint. It allows this great asset to play an increasingly important role in the local economy. This will be especially true when East-West Rail project opens, with its requirement for a freight path as well.

How much will this cost? Recent redoubling of lines such as the two projects in the Cotswolds, have worked out at about £4m per mile. This included embankment and cutting stabilisation, slewing track as appropriate, resignalling, new platforms, over 11 track miles between Swindon and Kemble, and a further 19 miles between Oxford and Worcester.

The distance between Cambridge, Coldham's Lane Junction to Newmarket station is around 14 miles. So with the existing Dullingham 1 mile loop, this leaves some 13 miles to be restored to double-track. Together with platform works at Newmarket enabling the long single platform to be used by two trains simultaneously, as at Penryn in Cornwall. With removal of the points at Dullingham, we crudely estimate the total cost would be about £60m including the line and platform works at Newmarket. Additional signalling costs would have to be added, of course.

We think much of this could come from Tranche 2 of the Greater Cambridge City Deal funding or more likely, in due course, from the Cambridgeshire Mayor's Office.

Additional to this work the third line from Cambridge to Coldham Lane Junction should be restored. Together, these projects would allow trains from Ely via Soham and Newmarket to operate on a very busy corridor.

RailFreight is vital to Cambridgeshire

The Soham route is a major freight carrier from Felixstowe to Peterborough and beyond. Much more needs to be done and funded at a national level. This includes restoring the double junction at Haughley, where the route to Peterborough parts from that to Norwich, and creation of through lines at Bury St Edmunds. This would allow freight trains to pass through at line speed or to be held should a passenger train need to be prioritised, or if the port at Felixstowe needs to regulate freight trains into its terminals. Of course, the single line between Soham and Ely needs to become two

lines, enabling that bottleneck to be removed and the all-important station at Soham to be restored. Although of national importance, this Freight route is of fundamental importance to Cambridge too. Currently 33 freight trains leave Felixstowe each day carrying shipping containers to all parts of the country. With the rail upgrade around Ely/Soham will come the capacity to eventually allow up to 60 trains a day to leave the port. Every train that runs keeps heavy goods vehicles off the A14 road that bi-sects the County. These HGVs are all too visible to thousands each day but the rail equivalent is hardly noticed by but a few.

Peterborough

This city has rapidly expanded over the recent past. Rail serves the city relatively well with excellent links North-South along the East Coast Main Line with direct services Huntingdon, St Neots, Hitchin, Stevenage London, Grantham, Newark, Doncaster, Leeds, York, Newcastle and Edinburgh. Cross country direct services are good:

There are:

- hourly services to Ely, Thetford and Norwich;
- hourly services to Nottingham, Sheffield, Manchester and Liverpool;
- hourly services to Stamford, Oakham, Melton Mowbray, Leicester and Birmingham;
- hourly services to March, Ely, Cambridge and Stansted Airport;
- hourly services to Spalding, Sleaford and Lincoln;
- two hourly services to Bury St Edmunds and Ipswich.

Access/capacity issues:

- poor late-night services from Stansted Airport and Cambridge;
- poor service levels at travel to/from work times and on Sunday mornings to/from Cambridge and Stansted Airport;
- the lack of a southern park and ride station at Hampton for local services to Alconbury, Huntingdon and St Neots. The large and growing southern suburbs have poor connectivity to the railway. Users are forced to double back into the city centre to access the network;
- poor services after 16.00 to and from Sleaford and Lincoln;
- poor late evening services to Stamford and Leicester;
- poor connectivity towards Rugby and along the upper Nene/Nene Valley towards Northampton. Consideration must be given to how Peterborough can be usefully connected into East West Rail south of St Neots.

Whittlesey

Whittlesey is a fast-growing market town served by the March-Peterborough railway. The station provision is of poor quality and the service is relatively poor.

The railway through Whittlesey is busy with long distance freight and passenger services. However, additional services could be provided by the extension of the Spalding service on to Whittlesey and March or Wisbech via March. This, with the 1 train per hour from Peterborough to Whittlesey March, Ely to Ipswich would provide Whittlesey with 2 trains per hour. The construction of the Werrington dive-under the East Coast Mainline will enable the Spalding service to be extended.

Additional park and ride stations at Werrington and for the Deepings on the Spalding line should be considered.

Committed Train service provision line by line

There are many new train services planned for implementation by 2019 as per the various new franchises and these are indicated in the tables below. Note that some aspirational train service developments are also indicated where these can only be provided by the addition of extra track or improvements at junctions.

(Note: tph = trains per hour; car = carriages)

King's Lynn-Cambridge Corridor

(King's Lynn-Watlington-Downham Market)-Littleport-Ely-Waterbeach-Cambridge North-Cambridge-(London Kings Cross)

Committed future service (2018?)

All day 2tph x 8 car = 16 cars per hour (compared to 8/4 per hour currently)

Capacity and access issues: park and ride at all stations.

Peterborough-March-Ely-Cambridge Corridor

Committed future service (2019)

1. Peterborough-March-Ely-Cambridge-(Audley End-Stansted Airport)

All day 1tph x 3 car = 3 cars per hour (though some 2 car.)

2. Peterborough-Ely-(Norwich)

All day 1tph x 2 car = 2 cars per hour.

3. Peterborough-Whittlesey-March-Manea-Ely-(Ipswich)

All day 1tph x 3 car = 3 cars per hour

Long-distance limited-stop services Peterborough-Ely = 8 cars per hour.

4. Wisbech-March-Manea-Ely-Waterbeach-Cambridge North-Cambridge

Aspiration-All day 2tph.

Capacity and access issue: delivery of Wisbech station; park and ride at all stations

Cambridge*-Foxton-Shepreth-Meldreth-(Royston*)-Ashwell&Morden-(Baldock*-Letchworth*-Hitchin*-Stevenage*-Knebworth-Welwyn North-Welwyn GC-Hatfield)-London Kings Cross Corridor

Committed future service (2017)

4tph all day. This service will have capacity of 11,600 passengers seated and standing per hour.

Stations marked * have 4tph all others have 2tph to Cambridge.

(Additionally the King's Lynn to Cambridge service is extended non-stop to/from London Kings Cross.)

Capacity and access issues: lifts needed at Meldreth.

Park and ride at all stations.

Cambridge North-Cambridge-Shelford-Whittlesford-Great Chesterford-Audley End-Newport-Elsenham-Stansted Airport/Stansted Mountfichet-Bishop's Stortford-Harlow-Tottenham Hale-London Liverpool Street Corridor

Committed future service (2019)

Cambridge North-Cambridge-Shelford-Whittlesford-Great Chesterford-Audley End-Newport-Elsenham-Stansted Airport/Stansted Mountfichet-Bishop's Stortford-Harlow-Tottenham Hale-London Liverpool Street 1tph

Ely-Cambridge North*-Cambridge-Whittlesford*-Audley End-Stansted Airport 2tph (*= 1tph)

Cambridge North-Cambridge-Shelford-Whittlesford-Great Chesterford-Audley End-Newport-Elsenham-Stansted Airport/Stansted Mountfichet-Bishop's Stortford-Harlow-Tottenham Hale-London Liverpool Street 1tph

Cambridge North-Cambridge-Whittlesford-Audley End-Tottenham Hale-London Liverpool Street 1tph

Summary: Cambridge North-Cambridge-Whittlesford-Audley End 4tph

Note: new high capacity trains are being introduced on this route. They will run in 5-car or 10-car formations enabling a large uplift in capacity.

Capacity and access issues: Lifts needed at Whittlesford. All day bus connection needed to Imperial War Museum and Sawston from Whittlesford station. Level crossings at Shelford. Cambridge South station.

Cambridge-Dullingham-Newmarket-Soham-Ely/Kennett-Bury St Edmunds-Stowmarket-Ipswich Corridor

Committed future service (2019)

Cambridge-Dullingham-Newmarket-Kennett-Bury St Edmunds-Stowmarket-Ipswich 1tph. Aspiration 2tph

Cambridge-Dullingham-Newmarket-Soham-Ely

Aspiration 1tph

(Peterborough)-Ely-Soham-Newmarket-Bury St Edmunds-Stowmarket-Ipswich

Aspiration 1tph (this is committed without Soham-Newmarket segment)

Summary: Aspiration Cambridge-Newmarket 3tph; Newmarket-Soham-Ely 2tph; Newmarket-Bury St Edmunds-Ipswich 3tph.

Note: new trains are being introduced onto this route. They will run in 4-car formations and will enable a 25% uplift in capacity.

Capacity/access issues: double track Cambridge to Newmarket. Newmarket station. Newmarket West Curve. Soham station. Park and ride stations. Cherry Hinton/Fulbourn station.

(Cambridge)-Ely-Brandon-Thetford-Attleborough-Wymondham-Norwich Corridor

Committed future service 2019

Stansted Airport-Cambridge-Cambridge North-Ely-Brandon-Thetford-Attleborough-Wymondham-Norwich 1tph

(Peterborough)-Ely-Brandon-Thetford-Attleborough-Wymondham-Norwich 1tph

Capacity and access issues: park and ride issues at all stations

Summary Ely-Cambridge North-Cambridge corridor

Committed future service 2018/19

2tph King's Lynn-Cambridge 16 cars

1tph Peterborough-Cambridge 2/3 cars

1tph Norwich-Cambridge 4 cars

2tph Wisbech-Cambridge (aspirational) 8 cars

Total 30/31 cars ph.

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