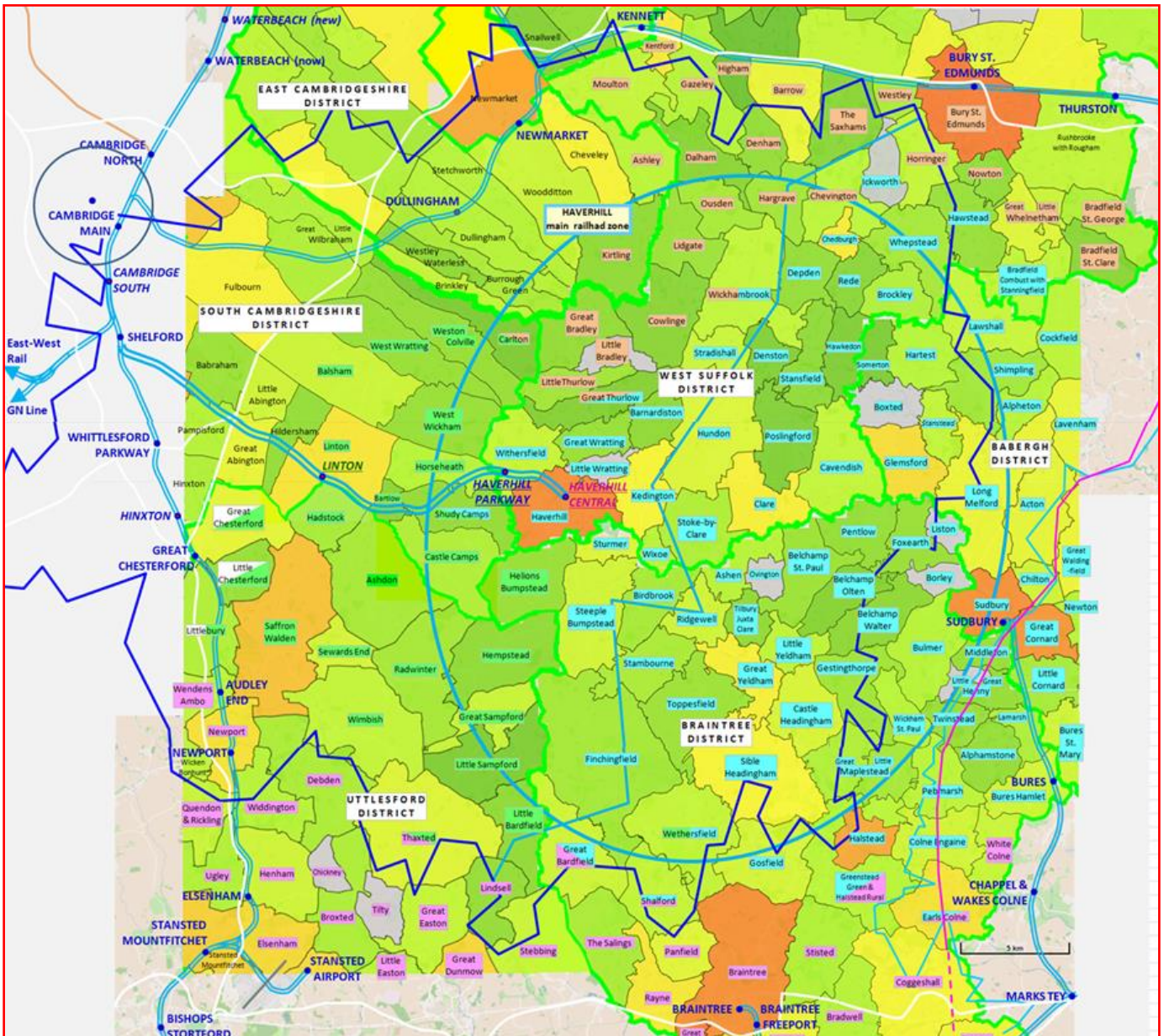


Analysis of potential rail passenger demand on the route corridor between Haverhill and Cambridge South



Jonathan Roberts, JRC, February 2024

JRC report on rail travel potential for Haverhill and the policy actions arising

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Summary of findings and policy actions to address

Context for Haverhill and Cambridge

The following extract from “*About Cambridge City*” summarises the city region context:

- Cambridge lies approximately 50 miles north of London, is at the heart of several key growth corridors and is well connected to London by road and rail – this has a significant influence on the economy and demography of the city.
- Cambridge is home to the world-class University of Cambridge, which is also a major employer and, alongside its colleges, land owner and developer in the area. Internationally renowned Addenbrooke’s hospital is also located in the city and is now the epicentre of a rapidly developing bio-medical campus. The city also hosts the Cambridge campus of Anglia Ruskin University.
- **Cambridge is a key growth engine for the UK economy. The combination of a well-connected location, a world-leading research university, an attractive setting and an entrepreneurial ecosystem have created a science-based innovation cluster in and around the city over the last 50 years. [Including South Cambs, ‘Greater Cambridge’ has a 308,000 population and 195,000 jobs.]**
- This now includes several world-leading companies in ICT and life sciences. As a result, the area is characterised by low unemployment, high GVA per worker and high skills.
- The city receives 7 million visitors each year, drawn by its architecture, museums, open spaces and cultural offer. The city provides culture and leisure facilities for the surrounding sub-region, and has a thriving night-time economy...
- **Housing affordability is a real issue for the city and this pressure forces those who cannot find suitable, affordable housing in the city to live further out, and then travel back in to the city to work. Around 50,000 people commute into the city each day, contributing to over 200,000 vehicle movements in and out of the city each day. This exacerbates issues around congestion, which in turn create poor air quality in parts of the city.**

Haverhill is a 27,000-population town, 18 miles from central Cambridge and over an hour’s congested travel at peak times. Many people now live in Haverhill and use the A1307 to Cambridge – in a classic commuting context – as Haverhill housing is more affordable than closer to Cambridge. This trend continues, of economic growth and housing pressures.

There is no railway at Haverhill. Because of the city region’s success there are proposals to re-establish the former railway which closed in 1967. JRC was asked to assess various aspects of this proposal in summer 2023, and the main findings are summarised below.

JRC main findings

Large populations served; the economy supported:

- A railway will reach Central Haverhill directly and can serve intermediate populations via principal stops at Granta Park, Linton and Haverhill Parkway.
- Rail heading via Linton and Parkway can serve over 100 parishes, as far as Thaxted, Braintree, Halstead, Sudbury and towards Bury St. Edmunds.
- **The Haverhill Line total populations will be 90-165,000, three to six times more than Haverhill on its own. A further 12% population growth is foreseen to 2041.**
- Transport capacity offered by the railway will underpin and enable continuing economic growth in and around ‘Greater Cambridge’.

Big passenger numbers:

- A railway between Haverhill and Cambridge will address the large passenger flows already travelling via the A1307.
- **Foreseen passenger numbers are considerable, 2,000 and more per peak period out of present commuting numbers, if good transfer can be achieved from car.**
- Over time, such commuting could double, with Cambridge City car restraint policies, the stimulus of Cambridge North and South stations, and more dormitory area populations.

Fast, frequent service:

- Demand modelling shows that if the railway offers a quick journey and good frequency, then it will compete with off-peak car and be much faster than road at peak times.
- A 21-minute journey time between Haverhill and Cambridge South – where the railway meets the main line – is a target, and points to under 40 minutes to central Cambridge.
- The wider catchment is sensitive to longer journey times, so a limited stop service is preferred if possible for Haverhill, and a Parkway railhead is essential.
- There could be a separate local service for catchments closer to Cambridge such as Sawston and Stapleford, or compromises on journey time vs. scale of outer catchment.

Other Cambridge commuting will benefit:

- Scope for other rail heading was considered parish by parish.
- Modelling shows time-saving benefits with Cambridge outer railheads also at Dullingham, Stansted Airport (for Cambridge travel), and Audley End.
- **Numbers are reported and show at least another 150,000 people who might benefit.**

Technical standards inform route options:

- A tram-train operational standard looks the most compatible for either the A1307 corridor, or an alternative route via Six Mile Bottom which could need less construction.
- Tram-train combines rail speeds and passenger capacities with more choices of alignment.
- Research campuses at Granta Park and Babraham can be served directly with a modified route via the A1307, as might parts of Sawston.
- A separate local service close to Cambridge may be feasible, with bottlenecks solved more easily near Shelford and through the Cambridge urban rail corridor.

Key policy actions arising**Practical support for a Haverhill railway**

- Haverhill is in a remote part of Suffolk and bounded by Essex and Cambridgeshire.
- The town is already part of the solution for Greater Cambridge's housing problems. A railway will be a game-changer both for Cambridge and Suffolk, and for the catchment districts of Babergh, West Suffolk, Braintree, Uttlesford, East and South Cambridgeshire.
- **RfEA should consider what stakeholder grouping could be assembled to provide a permanent Steering Group, to see a Haverhill railway project through to completion.**

Journey time trade-off – prioritising catchments closer or further from Cambridge

- There is a large catchment for Cambridge South and into Cambridge if there is a fast high-quality rail-based link. High value commuting occurs from rural areas which can't justify

their own railhead. A Haverhill Line puts those East and SE of Cambridge on the map, it's like Borders Rail in its potential, with a strong likelihood of success, and so will require passive provision for further growth. It will strengthen the attractiveness of the area and bring even more population.

- However, there is an inherent conflict between trying to offer a seriously fast rail link to Cambridge South from these further-afield catchments, and a link (whether rail or not) from catchments inwards from Linton, e.g. via Fourwentways and Sawston/Stapleford.
- Even 5-mins. extra time in trying to serve more than the core stops will lose catchments.
- **So, there should be discussion before selecting the optimum mix of stops, timings and services. This may also depend on addressing the third key topic (below)...**

Addressing bottlenecks – at Shelford (rail) and Gog Magog (environmental/busway)

- Is there is a current real issue for local politicians that they must have a solution to cope with congestion and delays now rather than in some years' time?
- It is critical that RfEA is absolutely focused on protecting the corridor via Shelford for a railway – it is almost the only way for a railway to reach Haverhill, which will be of far more benefit for the town than a busway.
- But RfEA is not going to get much local support unless it can propose a service for the inner area to serve intermediate communities as far as, e.g., Fourwentways.
- **A railway solution won't be quick... BUT... Could there be agreement in principle now to have a Haverhill railway, managing the intermediate period with phased solutions and some modest non-rail-based interventions?**
- **This might point to staged development of rail services.**
- The inner link needs to emulate whatever is offered via a busway and not add extra cost/stops unless it is seen to be well worthwhile on its own account. [We don't want any rail option to be unviable simply because it was over-specified in comparison.]

Anticipating future rail capacity constraints

- Main line capacity risks being over-subscribed at Cambridge South and towards Cambridge Main, with East West Rail (basic 8 movements per hour, 4 in each direction) now to arrive via Cambridge South. EWR plans to cross fully from the west (Bedford etc) to the eastern tracks, before Cambridge Main, so its trains may sequentially block the GN and WAML routes, and this is before another 8 movements (or more) to/from Haverhill.
- WAML trains have constrained timings because they are precisely scheduled at flat junctions to/from London. This fixed situation will be confronted by EWR trains (which will also have to work around Great Northern Line trains). Adding another flat junction, at Shelford for the Haverhill Line, is dubious. Possibly a grade-separated light rail could join.
- A separate route for Haverhill Line tram-trains may be required at Shelford and northwards and be space-constrained to a single track there unless Shelford main line station is relocated to provide space for double track. In any event the Haverhill Line will have its own single-track sections which limit timing flexibility and require regularity of operation.
- **All this suggests separate tracks to Cambridge South and Main in the medium/long term, potentially sharing a corridor with the Trumpington busway. Detailed analysis is required, as part of the development of phased solutions.**

Research background

1. Jonathan Roberts Consulting (JRC) was commissioned by RfEA and the Haverhill Rail campaign in June 2023 to undertake analysis of potential rail passenger demand on the route corridor between Haverhill and Cambridge South.
2. This followed previous large-scale JRC research on the strategic case for rail to do more for East Anglia over the next thirty years, to become a core part of area growth and development in this rapidly urbanising sub-region.
3. This report sets the context for appraisal, and the indicative outcomes. It includes a critique on assumptions about what a Haverhill railway might achieve.
4. It identifies several critical policy actions for RfEA to consider before agreeing its public campaigning material and priorities.

Influential geography

5. Haverhill is a large town of 27,000 people in West Suffolk, on the borders with Essex and Cambridgeshire. Cambridge is its strongest work destination. The city centre is 18 miles away and at least 40 minutes by road, up to double that in peak times. Many people live in Haverhill as the cost of housing is less than in or near Cambridge.
6. Cambridge is polycentric with its central universities, offices near the main station, and dispersed research parks and multiple destinations. Travel options are increasingly influenced by this combination of geography, and the availability of strongly promoted active travel modes, walking and cycling. Two other major conurbations are further away, at Chelmsford and Colchester. They are 30+ miles and 55 minutes by road from Haverhill, also with longer peak journey times.
7. The arrival of two new major stations improves the ability to distribute rail passengers to more work destinations, in addition to Cambridge 'Main':
 - Cambridge North, open since 2017 serving the northern research campuses.
 - Cambridge South, to open in 2025 serving the 25,000-jobs bio-medical Campus, also to be an interchange for West Anglia, Kings Cross and East-West Rail services.
8. Haverhill is 17 miles from Cambridge South, along the same A1307 used by most Cambridge commuters from south-east of the city. Journeys take over an hour in peaks while a policy of large-scale car parking has been rejected for the Campus.
9. The challenge is how Haverhill can best be served in future decades by a combination of public transport and active travel. The A1307 has significant research establishments along the route and nearby, and other potential destinations. The former railway through Haverhill was closed in 1967 though most of its solum is still unused, parallels the A1307 and could be adapted for use by future rail services.

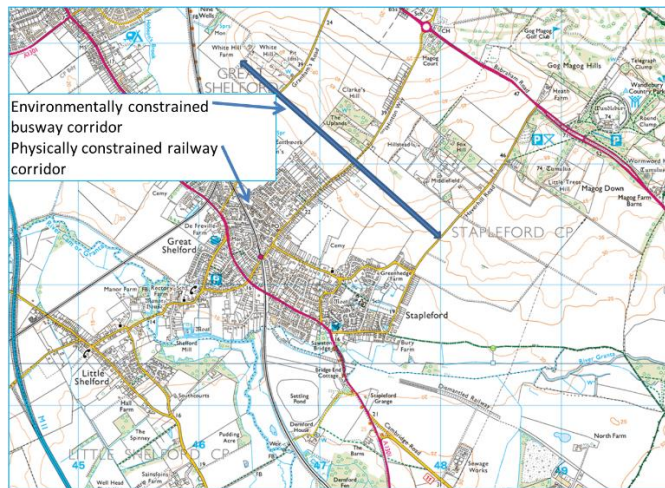
JRC research topics

10. Research topics have been:
 - A. **To help understand the underlying travel demand case in a normative direction (to the main city):**
JRC assessment of residential population from now to the future, on a broad corridor. Also, railhead influence on travel demand where rail potential is strong.
 - B1. **The comparative effect of journey time to work, at least as far as Cambridge:**
Long commuting distances and times aren't necessarily the norm outside the Greater London area. Cheaper housing at Haverhill provides stimulus for travel to and from Cambridge, however not all communities will be geared to long journeys. This requires assessment to factor down the possible travel volumes.
 - B2. **The existence of a wider spread of work and non-work origins & destinations:**
Not only is Cambridge polycentric, but there are other potential destinations within an equivalent distance or travel time when it will be unwise to assume simple proportioning of passenger flows by different modes. There's also contra-flow travel to Haverhill businesses, to anticipate.
 - B3. **How Net Zero and travel policies will strengthen public transport demand:**
Cambridge City has begun to set limits on car usage, for example with parking restraints. In future, bus, rail and active travel will have larger shares of total travel.
 - C. **Route Options between Haverhill and Cambridge:**
This includes consideration of the former railway alignment which parallels the A1307 corridor, variations to serve intermediate places better, location of research Campuses and new 'garden communities', and a potentially lower-capital cost option towards the Mid-Anglia Line at Six Mile Bottom. Factors influencing the merits of different routes will include type of train operation, and outline timetabling.
11. Any final demand matrix could be complex. JRC has committed just to highlight some key components. Extensive modelling work was undertaken during the summer, and concluding research has been taken forward this autumn and winter. This report provides a summary compilation of the work to date. It is intended to set out the multiple layers of information – and probable knowledge gaps.

Definition of possible rail corridors

12. There was early discussion on possible alignments. Basically, a starting action is to see how available and fit for purpose is the solum of the former railway. This had already been considered in some detail by the Haverhill Rail campaign. Options for heavy rail, light rail or busway routes past Shelford or Stapleford are also a matter requiring care as they incur practical assessment of operability, land take and environmental impact.

13. A busway adjoining the Gog Magog hills is objected to strongly in the locality, and use of a similar alignment for rail is unlikely to be supported. Rail or light rail via Shelford appears to be the most supportable option providing it can use the rail corridor there, possibly with changes to the station location. See map below.



Map 1 – Constraints for new infrastructure in the Gog Magog and Shelford areas

14. Use of light rail gives more routeing options though with a risk of slower journeys. JRC has subsequently reviewed other route variations:
- To reach new or foreseen housing areas.
 - To reach centres of economic activity such as research Campuses.
 - To thread past the expanded A11/A505 interchange which blocks the former line.
15. For research into travel volume, it is the route accessibility which matters most. This in turn depends on the location of local stops or railheads and their convenience, with access journey times, travel times, distances and service levels. The same would apply to any busway scheme. Assessment of comparative journey times and the end-to-end ease of journey has followed that logic.
16. Also, the proximity of Haverhill to the nearest points on the existing Network Rail system suggests that a Haverhill-Cambridge railway could adopt a different route compared to the former line. Both Littlebury on the WAML, and Six Mile Bottom on the Newmarket Line, are about 10 miles distant in a straight line. JRC has researched this recently, as it is probable that a Strategic Outline Business Case would ask some fundamental questions about other possible transport options, such as a bus-only proposal or a rail route involving less construction than its historic alignment.

Population catchments

17. On the A1307 corridor, area geography points to two groups of catchments with different scales of population assessment and demand modelling:
- Stand-alone towns and villages along the A1307 east of the A11. These are principally Linton, and the large town of Haverhill, though there are nearby villages

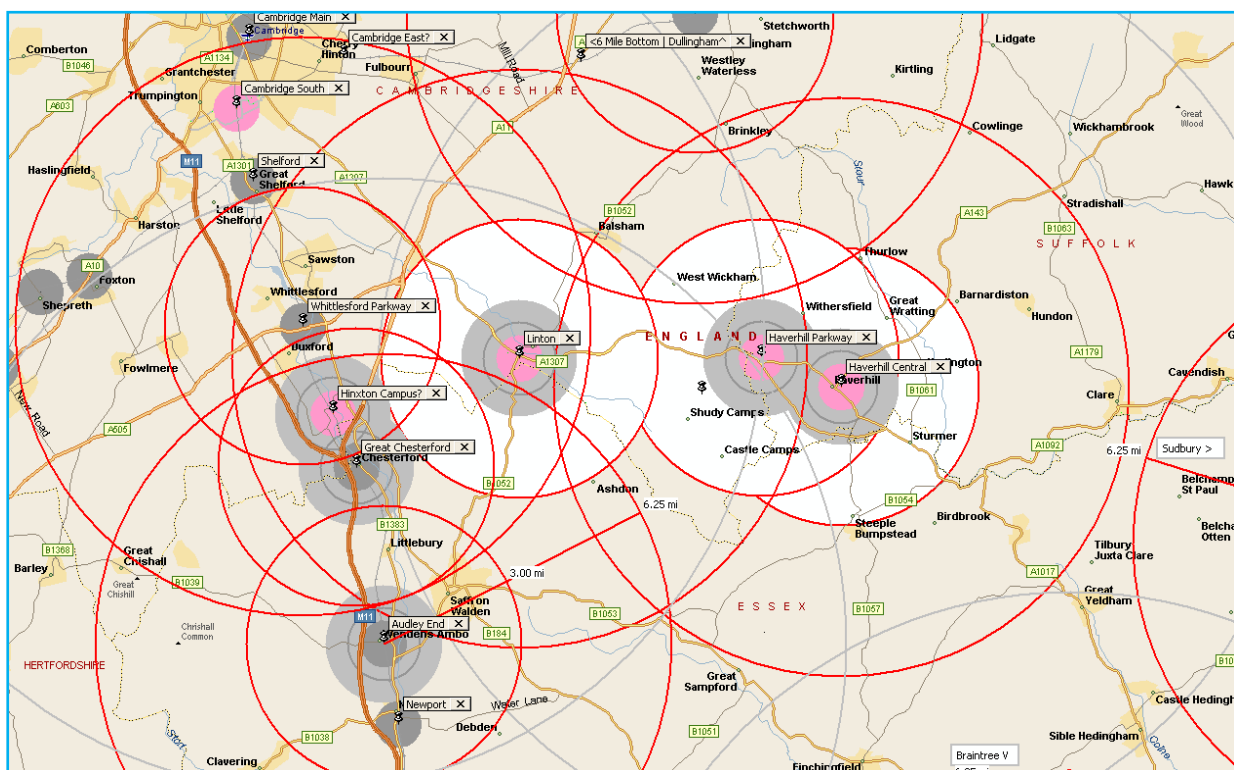
which also need to be assessed for travel demand as they may use the A1307 or other main roads. This zone does not have dense population except at Haverhill.

- A zone of research parks, and expanding housing areas, mostly west of the A11 towards Cambridge South but also just east of the A11 at Granta Park and Abington. This creates more options for stops and requires a finer measure for modelling as distances to destinations are shorter and the general population volume is denser.

Stand-alone populations east of A11

- The map below shows the three possible stop catchments aimed at existing and future populations east of the A11. They are at Linton, Central Haverhill, and on Haverhill's outskirts as a Parkway for traffic from further afield.¹
- Station catchments on existing railways are shown where these overlap with Haverhill or Linton catchments. Stations at Audley End, Great Chesterford and Whittlesford Parkway (and a possible station at Hinxton Campus) overlap from WAML. Other lines such as the Braintree and Sudbury branches do not offer access to Cambridge. Dullingham's catchment on the Newmarket line overlaps with Linton and Haverhill. Comparative distances and times in such overlap areas are considered.

Map 2 - Possible stops and catchments on eastern sector of A1307 corridor



¹ Catchment circles (straight-line from a stop) are shown in red at 5 km/3 miles and 10 km/6.25 miles. Closer-in coloured zones are shown at 2 km/1.25 miles and 1.3 km/0.8 miles (active travel distances), and 800m/½ mile of (easy walking). A 16 km/10 miles circle is in grey outline, this will be less effective in gaining users but rail heading via Haverhill or Linton may be worthwhile because of traffic congestion nearer Cambridge.

20. JRC has considered options for stop locations, with the results shown.
21. At **Linton**, the ex-station site to the west of the village (or west of that) might offer adequate space for car parking from further catchments, and good proximity to Linton Village College. An alternative is to the east of The Grip and Linton Road, also enabling car parking, and is closer to the bulk of the village. This is preferred at this initial stage of option selection, it is also closer to Linton Zoo for visitors, while the most likely distant catchments would have shorter car access. Precise locations need to be determined, but the preference helps assessment of distances and times.
22. At **Haverhill**, the former rail corridor can be used, so a town centre station close to Tesco is an obvious choice. The station can be dovetailed with town centre amenities and with good bus and active travel interchange. However, there could much rail heading from outlying villages, and it is proposed that a specific **Parkway** station on the NW edge of Haverhill should also be considered in modelling. That will offer convenient access from outer urban areas of Haverhill, via the bypass, and attract other passing A1307 users to rail who might otherwise drive most of the way, such as to the bio-medical Campus or other research zones.
23. There is the possibility of further stops in Haverhill, depending on the nature of the rail offer. Much industry and business parks are to the south-east, so that an aim of offering contra-flow travel to these jobs might merit a local continuation of the railway to a Haverhill SE stop. Light rail might give more opportunity. This won't be researched here in detail, as a basic rail proposition is itself a big task. There may be scope to consider add-on elements once initial analyses have been undertaken.
24. Basic assessment of access distances and times from distant catchments is now complete for the three stops at Linton, Haverhill Parkway and Haverhill Central.

Geography and potential for a rail option

25. This report shows what a focussed railway could do. A new line will not replicate the former which was slow and infrequent. Nor can it be a standard commuter service because it has to serve major places along the route but is in danger of taking too long to get to Cambridge if it tries to stop everywhere with the same service.
26. It has become clear that the line comprises inner and outer sections with different sets of locations and potential destinations / calling points. This differential, and defining workable solutions, are building blocks for research in Part A.
 - **Heavy rail:** Assumptions about heavy rail – few stops and lowish frequency – might be unacceptable inwards to Cambridge from Granta Park/Abington. A weak service offer would lead to that being scored downwards in demand and with less merit over that section, in competition with a busway, even if heavy rail has some advantages on the stand-alone eastern section. Would the overall case for heavy rail stand up?

- **Light rail or tram-train:** Is there a reasonable, alternative view that lighter rail can be valid over the whole route east of Granta Park as well as west of the A11 towards Cambridge? Haverhill might be argued to have the internal characteristic of an urban area, particularly in the case of a tram-train or bus able to/inclined to stop more often or go further than heavy rail. However, it would need to be competitive in capacity, comfort and convenience, including journey time, over the total distance.
27. It is evident that much of the Haverhill-Cambridge corridor catchment would have multiple destinations as choices, not simplistically a single 'Greater Cambridge' via Cambridge South. There is also a 'no rail' backcloth where there is less clarity about proportioning volumes of travel demand to gauge a realistic potential for a stronger rail offer in that corridor. These issues arise with research in Part B.

Role of a railway

28. The travel demand modelling, reported in Part A, shows sensitivity about the overall time it would take by rail, particularly if you desire the railway to provide congestion relief in the A1307 corridor through modal shift, taking account of the time cost of driving cars to a station and changing to the train. The work points to clarity being needed on routeing and alignment near the research parks, permitted line speeds, and stopping frequency plus service mix.
29. JRC's guidance is that this could be addressed with two service specifications. One for an inner service between Granta Park and a park & ride interchange, and Cambridge South and beyond, calling at all stops on this section. An outer service running all the way from Haverhill can be limited stop, to offer an acceptable overall journey time.
30. However, there might need to be some compromise between effectiveness in attracting car travel to rail from the Haverhill Parkway stop, which is best if fast and limited stop, and effectiveness at busy intermediate locations whether research parks or residential. Operational considerations might allow only a single service, in which case choices would have to be made about intermediate stops. Route optioneering is discussed further in Part C below.

Part A - Assessment of residential population along a broad corridor

Potential catchment areas for a Haverhill Line

31. We have to understand what the catchment capability is, to understand the reality for rail's prospects for serving Haverhill and its rural hinterland. This section focuses on defining that and the potential implications for travel demand.
32. The completed basic parish density mapping for Haverhill covers the remoter stand-alone areas eastwards of Fourwentways. It is not appropriate to deal in this way with the catchments at Granta Park and west towards Shelford (or equivalent).
33. The maps below have the following lines drawn. **Faint light blue line** is 60 mins off-peak drive from Cambridge South, **thick light blue line** is 40 mins off-peak drive time from Cambridge South. Overlaid is a **dark blue** 30-minute off-peak drive time from Haverhill Parkway.
34. The strongest scope for this rail corridor is the 'delta' between the **dark blue** 30-minute Haverhill Parkway railhead time and the **light blue** 40-minute Cambridge South isochrone, plus other areas closer to the Parkway station. The **light blue egg shape** summarises the primary catchment area. Linton can also attract car users from many nearby parishes.
35. While more parishes possibly attracted to Haverhill are shown beyond the egg shape, the journey times to Haverhill Parkway are also getting extended. Other destinations such as Chelmsford, Colchester and Ipswich may have greater importance.
36. So, we now have a good idea which parishes can be Haverhill rail corridor catchments in the relevant District Council areas of Suffolk, Cambridgeshire and Essex. However, mapping those has proved complex as there are many parishes that could look to more than one station to access a train service to Cambridge.
37. The parish populations in the Haverhill Line catchment zones have been allocated to the station / railhead providing the fastest journey to Cambridge South. The fastest journey combining car and rail is likely to be a key criterion for travel to work. Each parish name has been colour-coded with the relevant railhead colour (shown below):

Haverhill Central serves much of the Haverhill urban area.

Haverhill Parkway serves parishes coded light blue.

Linton serves parishes coded green.

Dullingham serves parishes coded light brown.

Stansted Airport or Audley End serve parishes coded pink.

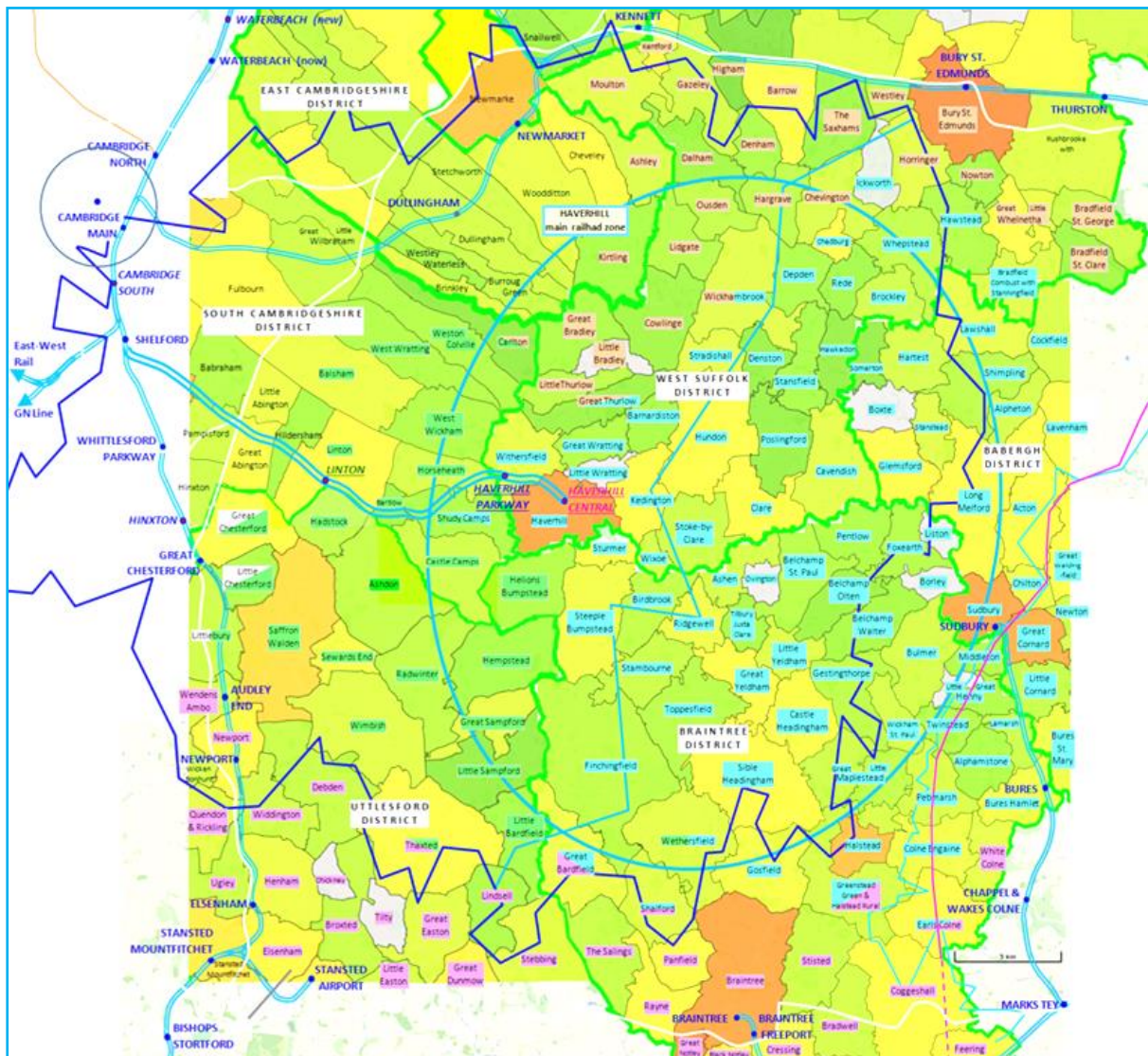
Cambridge South as the timing yardstick

38. Cambridge South is adopted as the timing yardstick. This is because a railway paralleling the A1307 is a continuation of the Restoring your Railway proposals, while the corridor also experiences substantial traffic congestion. Heading this way, Cambridge South is the first main interface with the national rail network – Cambridge Main station would be 4-5 minutes further. Cambridge South is also the first main destination within Cambridge if using the A1307, so is directly comparable, with headline road vs. rail comparisons available at the first port of call.
39. Onwards to Central Cambridge and other destinations around Greater Cambridge would require a much larger spread of comparative times. For that, rail offers a good run on to Cambridge Main station (Itself a substantial business zone) and to Cambridge North research zone but is less convenient than car to reach campuses and business parks on the western rim of Cambridge. Central Cambridge is not quickly reached by either mode.
40. However, the main line is busy, and will be busier still with East West Rail. In one scenario, a shared light rail/bus corridor might be required between Cambridge South, Cambridge Main, and Coldham Lane or Cambridge North, or to the new Cambridge East development.
41. In the case of a rail route between Haverhill and Cambridge via Six Mile Bottom, it would reach eastern Cambridge first, then Cambridge Main. Cambridge South would be third. So, there would be other journey time and travel demand comparisons to make, for a multi-mode and destination analysis. This is appropriate for SOBC research, rather than for first outputs of a Haverhill railway case.

Catchment spread with best timings Haverhill to Cambridge South

42. Map 3 below shows the potential for a Haverhill line via the A1307 corridor with limited stop rail timings from parishes east of the A11, and assuming people prioritise the fastest timings not the closest stations. The aggregate railhead populations are reported in Table 1.

Map 3 – Parish catchments with best timings Haverhill to Cambridge South

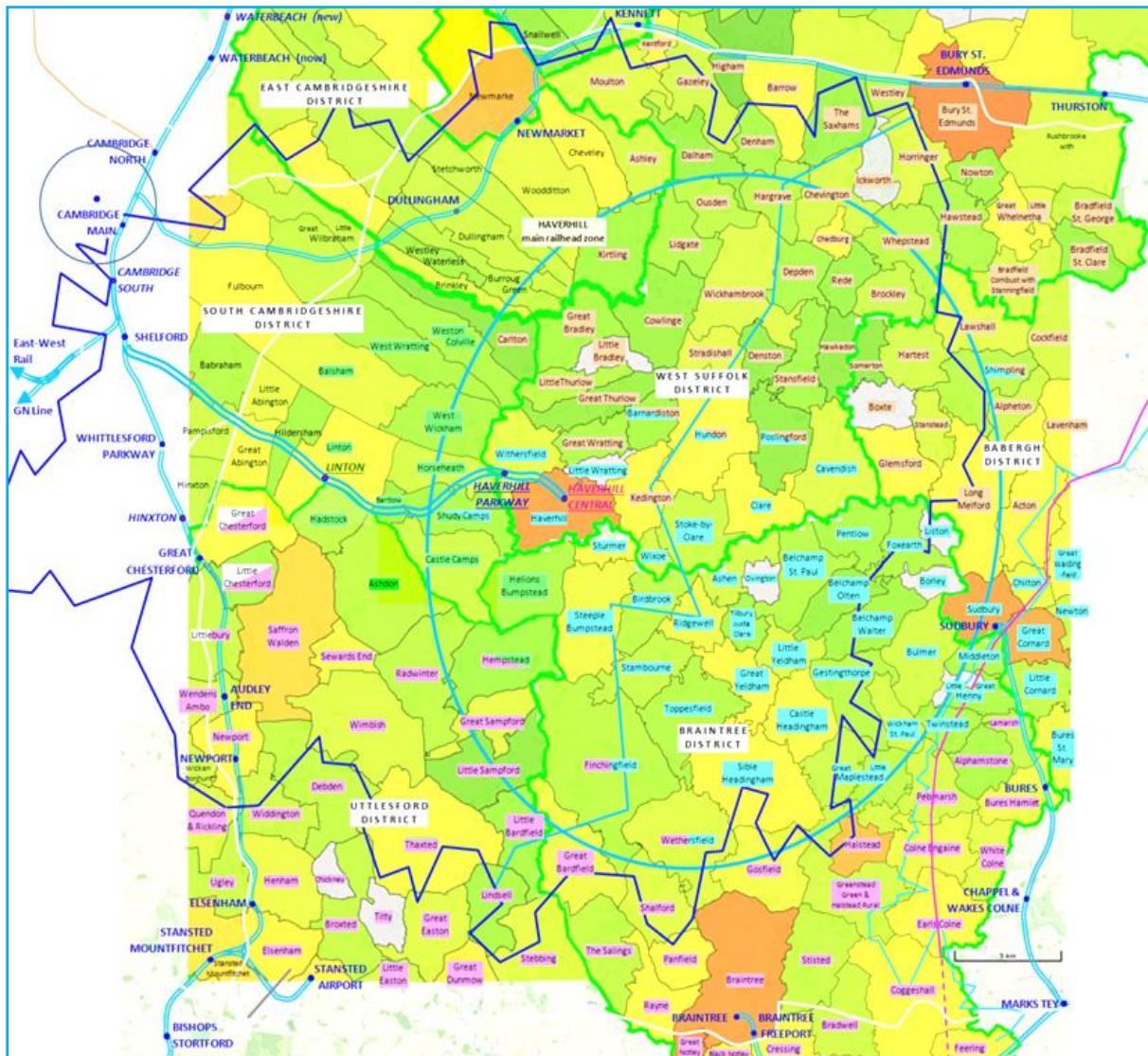


43. Project mapping reveals that over 100 rural parishes would benefit from Linton and Haverhill railheads – and that several existing stations could serve other catchments if those railheads could be better geared to support commuting to Cambridge.
44. Dullingham on the Mid-Anglia Line is a strong candidate if it had a better service (it is only 2-hourly now, modelling allows half-hourly and through trains to Cambridge South). Stansted Airport would be effective if the station were required to facilitate accessible, low-cost car parking for travel from the A120 corridor towards Cambridge.

Catchment spread with slower timings Haverhill to Cambridge South

45. Map 4 shows the difference if there were a 5 minute longer end to end rail journey. A 5-minute time increase is consistent with making two additional stops in the Sawston/Stapleford/Shelford area. Dullingham, Stansted and Audley End then have stronger claims for travel to Cambridge South, with about 60 parishes using Linton and Haverhill Parkway. The change in aggregate railhead populations is reported in Table 2.

Map 4 – Parish catchments if 5 minutes longer rail journey on Haverhill Line



46. The core external catchments beyond Haverhill are shown here as the Stour Valley between Haverhill and Sudbury, and SE towards Halstead and Braintree.
47. Mapping has also been undertaken for the longer-term potential of an R120 railhead at **Braintree Parkway**. This is not shown, as it makes little impact on these core catchments, and mostly replaces travel via A120 and Stansted Airport.

Nominal catchment population for a Haverhill railway

48. Table 1 reports the aggregated parish populations relevant to the Haverhill Line and its hinterland, and their distribution to railheads based on fastest journey time to Cambridge South by combination of car and rail. Parishes are from the following districts: Essex – Braintree, Uttlesford; Cambridgeshire: East Cambs, South Cambs; Suffolk - Babergh, West Suffolk. ²
49. The outline timings for a Haverhill Line and other modes are set out in a separate spreadsheet. Car timings are based on off-peak Autoroute Express timings, plus a peak time factor, based on one or more population nodes within each parish.

Table 1 – Total railhead catchment zone populations			
based on fastest overall time to Cambridge South		2021	2041
<i>Railheads</i>			
Haverhill area urban wards		27,005	28,551
External parishes, via Haverhill Parkway		100,105	114,375
Linton		37,791	41,897
Bury St. Edmunds (local catchment only)		41,291	41,649
Dullingham		11,384	13,281
Stansted Airport		91,139	104,379
Audley End		6,705	8,004
TOTALS		315,420	352,135
Total Haverhill Line catchment population		164,901	184,823
% of total population		52%	52%
Notes:	Haverhill urban as % of Line population	16%	15%
Some parish populations have been shared between 2 or 3 railheads.			
2041 parish population growth is based on past 10-20 year growth history.			

50. Table 2 reports the re-distribution of catchment populations between railheads if the Haverhill Line journey were 5 minutes slower. Some parishes external to Haverhill and Linton could shift their allegiance to different railheads if services there were competitive with overall journey time and service frequency to Cambridge South.
51. This shows the sensitivity to overall journey timings and the importance of running fast services between Haverhill and Cambridge South with limited stops, only at main origins and destinations. It also highlights what will be the core external catchments for a Haverhill Line, which as stated earlier are the Stour Valley between Haverhill and Sudbury, and SE towards Braintree and Halstead.

² These cover a nominal 60–70-minute time to Cambridge South, centred on Haverhill. Put simply, allowing roundly ~30 minutes for travel by rail, offers scope for another ~30 minutes railhead access time by car. The catchments defined are also bounded by the primary road network (A120, M11, A11, A14), and by the West Anglia and Mid-Anglia Lines, which also help to set the practical limits to any Linton and Haverhill railheads.

52. It implies that any line via the A1307 corridor should aim to serve Granta Park and Babraham Campuses as directly as possible, to maximise the attractiveness of rail for these intermediate destinations, with only a short walk from a station. A separate stopping service is suggested, if possible, to serve the inner communities on the western section towards Cambridge South.

Table 2 – Revised railhead catchment zone populations		
based on 5 min slower journey on Haverhill Line	2021	2041
<i>Railheads</i>		
Haverhill area urban wards	27,005	28,551
External parishes, via Haverhill Parkway	53,198	61,221
Linton	10,901	10,921
Bury St. Edmunds (local catchment only)	41,291	41,649
Dullingham	35,991	40,392
Stansted Airport	116,659	134,324
Audley End	30,376	35,077
TOTALS	315,420	352,135
Total Haverhill Line catchment population	91,104	100,693
% of total population	29%	29%
Notes:	Haverhill urban as % of Line population	
	30%	28%
Some parish populations have been shared between 2 or 3 railheads.		
2041 parish population growth is based on past 10-20 year growth history.		

53. These numbers are large and exciting news which demonstrate the relevance of a new Haverhill Line – and scope for rail-based initiatives elsewhere to support the economic growth of Greater Cambridge.
54. The potential catchment population for the Haverhill Line is three to six times larger than if just based on the Haverhill urban area.

Population growth and economic development

55. Tables 1 and 2 compare a notional population for the catchment zone by 2041, which shows an average 12% growth over the twenty-year period, based on the previous 10-20 years' track record of population change in each parish. The population of Haverhill could rise to 28,600, which is in line with the nominal plan from the early 70s for Haverhill to grow to a population of just under 30,000 and then possibly stop.
56. Or Haverhill may just carry on growing, as it is going to be easier for West Suffolk District Council or Suffolk County Council to provide for more people by expanding an existing urban zone. For example, might Withersfield to the north become part of a Greater Haverhill built up area within the next 10 or 15 years?

57. The Greater Cambridge economy can be well served by three further actions:
- Investment in the Mid-Anglia Line, including designating a quality railhead with strong services in the Dullingham area [Six Mile Bottom might also be relevant].
 - Changes in access and parking rules at Stansted Airport station would help that interchange to become a railhead for Cambridge. Audley End could also be more effective for travel northwards as well as towards the Lea Valley and London.
 - At these last two stations, parking capacity, availability and parking charges should be considered with Cambridge destinations in mind, not just for airport parking and London commuting [car park availability and pricing could be linked to rail tickets].

The potential impact on the Haverhill ridership of service improvements on other lines

58. The differential proximity to railheads shown above will vary with improvements to service frequency and / or overall journey times on other lines. Many parishes have other travel options only a minute or two different, so that journey quality could be a significant influence as well as end-to-end times.
59. Dullingham, Stansted and Audley End all serve parishes in a Haverhill Line catchment. We must be aware of the knock-on effects on other lines, and campaigns to improve services on those lines, of the modelling assumptions made for Haverhill.
60. A review of development options around East Cambridgeshire and West Suffolk, reveals that Six Mile Bottom is likely to become a major development site. There is a proposal for between 7,000 - 10,000 new houses at 'Westley Green', adding up to 24,000 population increase there. This development has proposed a station near Six Mile Bottom and would be a candidate for rail heading.
61. A new station at Six Mile Bottom will focus the Haverhill and Linton catchment parishes further south, so the outreach from the Haverhill Line will not go as far as it might have done had the Newmarket line stations not been there.
62. The loss of numbers from the intervening parish populations nearer Six Mile Bottom and Dullingham is not going to dent the case for a Haverhill railway. It is more that the extra passenger growth from rural catchments will be less than if all Cambridge travel was allocated via the A1307 corridor.

Part B - Likelihood of travel by rail

Factors influencing willingness to travel

63. The next stage of the research has been to qualify these catchment area populations, by recognising that people have many options for work locations, not just polycentric Cambridge. There are lifestyle preferences, including post-Covid to opt for a different work-life balance. A higher priority given to leisure time, and a population which lives longer and has more time for other activities, will also influence (favourably) the demand for off-peak and weekend travel vs peak-time.
64. We don't assume that 100% of the people who would be attracted to travel for work will head towards Cambridge. It is a more dynamic picture, and for rail demand the nominal population must be proportioned to reflect:
- Local disinclination to travel long distances / times (it varies by parish).
 - Range of job choices not just around Greater Cambridge.
 - Willingness to use rail.
 - Peak / off-peak travel proportions.

Part B1: Employment Issues

65. Cambridge City has the largest regional jobs requirement, and its average rates of pay are higher than elsewhere. However, the parishes / wards accessible via the Haverhill-Cambridge corridor show:
- (i) After analysis of the available statistics, differing pre-dispositions to short or long distances for travel to workplace.
- (ii) A significant scale of employment elsewhere which must be factored in.

(i) Assessing willingness to travel as far as Cambridge

66. **First** is to judge each parish's willingness to travel distances to work which are equal to as far as Cambridge. Plugging in Travel to Work (TTW) mileages, creates an estimate of 'interested population'. See technical summary below for how this was derived.³
67. There are multiple employment sites around Cambridge. However, Haverhill itself has many jobs, which was a starting basis for overspill towns. People may be able to go

³ Usually, willingness to travel distances to work should be fairly simple, looking at Travel to Work (TTW) tables in the decennial Census. However, the 2021 Census was during Covid lock-down – OK for population numbers, but with spurious data for propensity to travel to work in the English TTW. [Scotland was wiser and did its TTW survey in 2022.] So JRC took the ward 2011 TTW data. Matching those with the 2021 wards (some are now different areas and names...!) gives a data base, in rounded numbers, to proportion distances for travel-to-work by *parishes* in each ward. A scale was developed to reflect those who demonstrated in 2011 that they travelled to work on average as far as Cambridge, or further or shorter. The sliding scale started at 100%, if on average (or better) 50% of ward travel-to-work went as far as a **Cambridge-equivalent** distance. The percentage reduced as average TTW mileages dropped. [The Census relies on a straight-line TTW estimate of mileage.]

easily by car to workplaces like Stansted and Bury St Edmunds. Newmarket's equestrian economy and job market tend to be internalised, but some people go there. Colchester and Chelmsford can be longer journeys, exerting a weaker pull. So, for travel planning purposes, how do you reduce the population from each parish to that proportion likely to seek work in Cambridge? Then, who are willing to use rail?

(ii) Choice of destination

68. **Second** is to adjust possible travel demand, to reflect alternative choices for equivalent distance travel. Income matters, so this should **weight the economic merit of competing destinations**. Cambridge City and its enveloping area South Cambridgeshire offer higher value average earnings, compared to other possible destinations. For estimation details, see footnote. ⁴ Table 3 shows the output.

Table 3 – 2021 Jobs, rail-mode feasibility and economic value

	Cambridge City	South Cambs	Greater Cambridge	Braintree	W. Suffolk NO public data	East Cambs	Babergh	Colchester		
Total jobs	118,000	98,000	216,000	66,000	73,000	39,000	39,000	94,000		
Gross week's pay median	£748.60	£767.70	£757.27	£574.90	£600.00	£637.80	£587.50	£699.70		
Gross area income (£m)	£4,609	£3,926	£8,535	£1,980	£2,285	£1,298	£1,196	£3,432		
Total Employee Jobs	109,560	85,660	195,220	52,300	63,235	31,960	32,150	81,280		
% of population	75.2%	52.8%	63.4%	33.7%	35.1%	36.4%	34.8%	42.2%		
Full-Time (proportioned to)	76,001	63,747	139,748	34,538	42,614	21,973	20,094	50,173		
Part-Time (proportioned to)	33,559	21,913	55,472	17,762	20,621	9,988	12,056	31,107	Gtr CBG %	Other %
Rail-feasible jobs £m value	3,330	2,183	5,522	799	1,025	561	452	1,725	55%	45%
Rail-feasible jobs	85,250	54,500	139,750	26,650	32,751	16,850	14,750	47,250	50%	50%
Other mode jobs	24,310	31,160	55,470	25,650	30,483	15,110	17,400	34,030	31%	69%

69. Understanding such proportioning has enabled an approximation to be made of the jobs potential for rail travel using the proposed Cambridge to Haverhill corridor. The income-focused share of possible rail-feasible jobs is 55% towards Greater Cambridge, and 45% for non-Greater Cambridge jobs (though the actual number of non-Greater Cambridge jobs that are really feasible by rail will be much smaller).
70. Taking this spread to reflect the economic worth and applying only the Cambridge City share (60%) of rail-feasible jobs within Greater Cambridge, further reduces the parish populations willing to go by rail. A post-Covid factor has then been applied, to reduce the effective commuting population by an average 30% to reflect fewer journeys to work each week (equivalent to 3-4 days per week in work premises). Manual and service jobs and specialist research work will require higher attendance rates; however, 30% off-work gives a cautious estimate.

⁴ Defining the initial proportioning numbers has been tackled by:

- Collating the employment numbers by type of job across the Districts from Cambridge City to Colchester, including the Haverhill corridor (West Suffolk data estimated from proportioning).
- Distinguishing between types of job that are well suited to rail commuting, and those which aren't.

These jobs are then valued in three ways:

- Total jobs in each group, with their relative worth measured as yearly gross average income per job (based on the theory that people commute to where money talks) – ratio 55:45 for Greater Cambridge.
- Measured as rail-feasible jobs, without income skew, puts the ratio at 50:50 between Greater Cambridge and elsewhere.
- Measuring non-rail feasible jobs gives Greater Cambridge only 31% of such travel, 69% to elsewhere.

71. All the preceding points summarise as: Willingness to travel as far as Cambridge; then Value of jobs linked to Cambridge; then Rail-feasible jobs; then a post-Covid factor. This brings us to the big point, that **rail to Cambridge will help Haverhill and its neighbouring rural economies, by 'bringing home' valuable earnings from Greater Cambridge.**
72. The rail-feasible travel numbers for this estimation are set out below, for 2021 and nominal 2041 populations, and for the fastest overall journey or for a 5-minute slower journey. They do not specify a precise modal share but show the potential demand for rail *if all the factors aligned favourably*. The better the rail service, the closer the actual outcome could be. However, the practical modal split will initially be much less, and this is discussed in Part B3.

Table 4 - Economically active parish populations			
with rail commuting potential to Cambridge City		2021	2041
(based on fastest overall time to Cambridge South)			
<i>Railheads</i>			
Haverhill area urban wards		2,621	2,770
External parishes, via Haverhill Parkway		5,536	6,251
Linton		4,083	4,467
Bury St. Edmunds (local catchment only)		785	792
Dullingham		828	956
Stansted Airport		5,097	5,945
Audley End		753	896
TOTALS		19,701	22,075

Table 5 - Economically active parish populations			
with rail commuting potential to Cambridge City		2021	2041
(based on 5 minute slower journey on Haverhill Line)			
<i>Railheads</i>			
Haverhill area urban wards		2,621	2,770
External parishes, via Haverhill Parkway		2,792	3,169
Linton		1,311	1,314
Bury St. Edmunds (local catchment only)		785	792
Dullingham		2,379	2,629
Stansted Airport		6,405	7,469
Audley End		3,409	3,933
TOTALS		19,701	22,075

73. The difference in demand between Tables 4 and 5 is because some potential for commuting to Cambridge City by rail has been displaced from the Haverhill Line with the slower journey time then modelled.

- 74. The rail potential does not go away, and Table 4 shows that it re-emerges at other railheads, which are still faster than car or park-and-bus ride options. Demand could of course re-emerge as commuting by car and bus, as less efficient use of time, however the modelling demonstrates that rail can become an effective way of getting to Cambridge (modelled in this analysis as Cambridge South).
- 75. Note that the estimates above have excluded workplaces in South Cambridgeshire, some of which are rail-accessible with jobs suited to travel by main-flow and reverse-flow commuting by rail, such as Babraham and Granta Park; also, Haverhill itself, which is within West Suffolk.
- 76. For the Haverhill Line, the potential points towards a desirable frequency of at least 4 trains or tram-trains per hour in peak periods, with high passenger capacities and potentially some standee accommodation. Required car parking capacities could be considerable, along with related access road and junction improvements. Implied passenger numbers also point towards significant rail travel from the other nominated railheads, requiring increases in their service levels and train capacities.
- 77. The potential demand is in a different league to that which could be achieved by any practical bus service options. Also, the bus services would be slower than even a slow rail journey, so would not have the same competitive strength vs. the car to attract the passenger volume which appears possible for rail.

Part B2: General propensity to travel or commute

- 78. The principle of a 'time budget' for activities every weekday, week or month is well established. People balance their use of time across activities. For general travel, an hour's journey might not be liked but is often tolerated, and longer can be acceptable if there are perceived benefits from the extra time (and/or distance).
- 79. In a previous JRC modelling scenario, nominal times by road to and from the principal regional city were nearly 1 hour in off-peak periods (longer in peaks), while the rail journey varied between 70 and 85 minutes and the actual door-to-door journey using public transport could be up to 2 hours. Adoption of a 1-hour time budget gave a measurable baseline of likelihood of travel – and of willingness to travel by different modes depending on their variation from a 1 hour 'norm'. Travel from individual parishes could be proportioned against this baseline. The modelled results for passenger demand were credible, for railway planning.
- 80. JRC proposes that a 1-hour baseline time budget is adopted also for the Greater Cambridge catchment. Many journeys *within* the City are much shorter – and walking and cycling journey times are much less at risk of delays from congestion (though cycle parking can be a problem!). However, car travel, and bus and rail, suffer from considerable congestion either navigating round the City's built-up areas, or during travel to the multiple, polycentric destinations around the city region.

81. A 1-hour time budget for general travel fits Haverhill well, as it can reflect the variability of typical journey times to Greater Cambridge. Changes in journey time can be reflected in gains or reductions in willingness to travel. To take extreme examples, if Haverhill were only about a half hour door-to-door from destinations within Cambridge, and had a good service, one might expect a considerable increase in travel between the two communities, subject to GJT modelling rules.⁵ The reverse if it were 2 hours' travel and low frequency.
82. Evidence for variability in travel preference is summarised in Table 6 which shows usage of stations, the straight-line distance to Cambridge, and the service frequency and passenger numbers. There is much variability, particularly with differences between catchment towns which have a large 'dormitory' population who work elsewhere, and those whose main travel to work is more local.
83. Lower numbers of total 'rides per head' are evident at many Anglian towns. However, the Cambridge 'pull' is evident on the Fen Line and the West Anglia and Great Northern Lines, and close by on the Mid-Anglia Line which has a weaker service.

Table 6 – Spread of rail travel demand, and specific Cambridge travel during 2021-22

ROUTE	Railhead	Nearby pop 2021	Rail jnys. 2018-19	Rail rides 1819/head	Rail jnys. 2021-22	Rail rides 2122/head	Rail jnys. 2022-23	Rail rides 2223/head	Camb(CM,CN) 2122 rail jny	CBG trains typical/hr.	Miles to Ct.Cbridge Straight line	Jny. time mins.	Camb.rides per head	Cambridge % rail jnys	CBG jnys 2021-22	CMB jnys 2021-22	CBG rank	CMB rank	Difference Blue>CBG Red>CMB	Commentary
Fen Line	King's Lynn	50,846	991,252	19	683,706	13	757,034	15	166,538	1-2	40		3.3	24%	155,452	11,086	4	5	1	Ranking = stronger proportionate demand at Cambridge North, probably related to shorter journey time by direct trains
	Watlington	4,162	153,782	37	105,886	25	107,724	26	26,436	1-2	34		6.4	25%	23,970	2,466	29	22	-7	
	Downham Mkt	14,549	549,562	38	341,550	23	386,270	27	98,126	1-2	30		6.7	29%	91,626	6,500	17	9	-8	
	Littleport	9,911	248,808	25	153,660	16	186,752	19	75,742	1-2	19		7.6	49%	69,708	6,034	19	10	-9	
Norwich Line	Norwich	237,084	4,250,834	18	3,213,504	14	3,963,948	17	125,892	1	58		0.5	4%	110,284	15,608	10	2	-8	North, probably related to shorter journey time by direct trains
	Wymondham	17,496	200,332	11	150,466	9	196,452	11	15,336	1	49		0.9	10%	13,612	1,724	39	28	-11	
	Attleborough	13,428	163,062	12	131,918	10	168,896	13	9,672	1	44		0.7	7%	8,502	1,170	47	34	-13	
	Thetford	26,128	299,752	11	226,022	9	276,522	11	25,764	1	30		1.0	11%	23,294	2,470	31	21	-10	
X-Country	Brandon	12,880	117,798	9	93,682	7	115,102	9	18,678	1	27		1.5	20%	15,844	2,834	36	19	-17	Mixed results, line not pulling its weight at intermediate stations
	Peterborough	191,899	5,059,576	26	3,719,850	19	4,519,016	24	102,930		30		0.5	3%	98,740	4,190	13	16	3	
	Whittlesea	8,594	31,986	4	26,436	3	33,738	4	1,528		27		0.2	6%	1,386	142	62	53	-9	
	Wisbech ?	38,551	0	0	0	0	0	0	0		32		0.0	0%						
Fen Line	March	25,340	407,914	16	251,638	10	305,354	12	55,530		24		2.2	22%	53,960	1,570	21	29	8	Strong demand where direct trains
	Manea	2,810	18,950	7	16,192	6	21,038	7	3,610		19		1.3	22%	3,512	98	55	58	3	
	Ely	20,576	2,386,744	116	1,634,548	79	1,894,014	92	922,984	4+	15	14-21 /	44.9	56%	851,000	71,984	1	1	0	
	Soham (NEW)	12,336	0	0	14,196	1	55,518	5	3,560	½	13		0.3	25%	3,290	270	56	47	-9	
Mid-Anglia Line	Waterbeach	5,594	407,650	73	265,180	47	309,130	55	157,384	4+	5	14-21 /	28.1	59%	146,000	11,384	6	4	-2	Less convenient to reach Cambridge North, as have to change at Cambridge Main
	Ipswich	176,903	3,416,026	19	2,125,686	12	2,682,574	15	46,642	1	45		0.3	2%	45,180	1,462	23	31	8	
	Needham M.	6,012	102,320	17	79,196	13	94,148	16	4,806	1	40		0.8	6%	4,770	36	53	65	12	
	Stowmarket	28,430	967,114	34	615,232	22	764,552	27	15,856	1	37		0.6	3%	15,476	380	37	43	6	
CAMB	Elmswell	5,003	71,078	14	67,164	13	91,892	18	8,530	1	34		1.7	13%	8,228	302	49	45	-4	Variable demand at Cambridge North, and lack of through services - more through trains would be further help
	Thurston	4,894	77,592	16	76,036	16	95,720	20	10,734	1	29		2.2	14%	10,546	188	44	51	7	
	Bury St. Ed.	48,574	665,112	14	564,972	12	698,282	14	120,818	1	25		2.5	21%	118,068	2,750	8	20	12	
	Kennett	8,036	42,684	5	36,538	5	43,782	5	23,680	½	16		2.9	65%	23,354	326	30	44	14	
CAMB	Newmarket	20,913	355,068	17	255,860	12	303,332	15	150,880	1	12	19-26 x	7.2	59%	148,426	2,454	5	23	18	Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Dullingham	1,986	41,832	21	22,798	11	25,314	13	18,230	½	11		9.2	80%	18,150	80	34	60	26	
	CAMBRIDGE N.		812,972		659,478		1,074,602													
	CAMBRIDGE M.	178,217	11,983,320	72	6,878,646	42	9,341,600	58	3,755,112			excl. travel CMB < > CBG (74,134)		50%						
West Anglia Main Line	CAMBRIDGE S.		0		0		0													Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Shelford	7,309	207,478	28	140,840	19	170,262	23	99,438	1-2	4		13.6	71%	93,632	5,806	15	11	-4	
	Whittlesford	8,000	558,134	70	291,808	36	376,432	47	115,866	2-4	7		14.5	40%	105,458	10,408	11	7	-4	
	Gt. Chest'ford	3,066	110,120	36	77,954	25	86,096	28	42,948	1-2	10		14.0	55%	39,652	3,296	25	17	-8	
Great Northern Line	Audley End	21,344	979,414	46	502,644	24	623,570	29	145,650	3-5	14		6.8	29%	140,364	5,286	7	12	5	Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Newport	4,456	188,094	42	167,346	38	198,334	45	42,904	1-2	16		9.6	26%	41,376	1,528	24	30	6	
	Eisenham	6,655	252,716	38	155,610	23	191,746	29	17,292	1-2	20		2.6	11%	16,044	1,248	35	32	-3	
	Stansted Apt.	80,000	9,773,870	122	3,368,742	42	7,906,474	99	190,750	1-2	23		2.4	6%	177,294	13,456	3	3	0	
Great Northern Line	Stansted Mft.	9,341	599,478	64	406,316	43	455,236	49	32,388	1-2	21		3.5	8%	30,634	1,754	28	27	-1	Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Foxton	3,649	101,990	28	75,252	21	87,794	24	51,394		6		14.1	68%	49,590	1,804	22	26	4	
	Shepreth	3,171	115,600	36	68,718	22	91,082	29	39,700		7		12.5	58%	37,850	1,850	26	25	-1	
	Meldreth	7,014	295,470	42	181,362	26	217,158	31	117,402		9		16.7	65%	112,554	4,848	9	13	4	
Great Northern Line	Royston	21,656	1,467,154	68	835,428	39	1,081,014	50	257,096		12	14-21 x	11.9	31%	246,332	10,764	2	6	4	Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Ashwell & M.	5,349	156,490	29	104,212	19	140,696	26	38,294		16		7.2	37%	37,542	752	27	38	11	
	Baldock	10,617	637,664	60	387,170	36	502,586	47	57,776		20		5.4	15%	56,532	1,244	20	33	13	
	Letchworth	34,324	1,856,558	54	1,189,236	35	1,471,004	43	93,972		22		2.7	8%	89,162	4,810	18	14	-4	
Great Northern Line	Hitchin	40,826	3,265,142	80	1,981,466	49	2,512,254	62	105,856		24		2.6	5%	102,710	3,146	12	18	6	Proportionately stronger demand via Cambridge Main, mainly from Stevenage northwards
	Stevenage	96,727	4,794,974	50	3,384,604	35	4,050,328	42	96,500		25		1.0	3%	91,864	4,636	16	15	-1	

⁵ Generalised Journey Time (GJT) projects a 60% proportionate effect on demand over several years, for a measured change of journey time.

84. JRC has proportioned the Haverhill catchments' door-to-door times, as set out in the core analyses for each mode of travel (and, for car, the travel period, peak or off-peak). Journeys taking over 1 hour door-to-door are reduced in number, in proportion to the 'excess travel time' over the 1-hour budget.
85. There is a reasonable question, whether the proportioning should be linear to the change in travel time (as modelled), or also linked to other factors. This will require extensive research, comparing different towns and cities, to see which other factors, including demography, local jobs availability and ease of travel, are most influential. Meanwhile JRC makes an underlying presumption that Haverhill will have an attractive service frequency, so that rail service quality is not a hindrance.
86. As a precaution, the preceding Cambridge-proportioning data has been applied to the total population in each parish, recognising that some parishes do have a strong disinclination to travel a similar distance as Cambridge. This is intended as a broad indicator how the parish generally fits in with the wider regional disposition of workplaces, and other travel-intensive activities such as health and education, primary shopping centres and main leisure destinations. The revised estimates reduce the risks of over-estimating travel to or via Cambridge.⁶
87. The adjusted parish populations are summarised below, by railhead, and can be compared with Tables 1 and 2.

**Table 7 - Parish populations with time budget limit
and rail travel potential to Cambridge City
(based on fastest overall time to Cambridge South)**

	2021	2041
<i>Railheads</i>		
Haverhill area urban wards	5,674	6,002
External parishes, via Haverhill Parkway	15,707	17,988
Linton	6,763	7,459
Bury St. Edmunds (local catchment only)	6,062	6,114
Dullingham	1,828	2,131
Stansted Airport	13,142	15,096
Audley End	1,089	1,302
TOTALS (represent evening / weekend population)	50,266	56,092

Implied off-peak railhead pop. (incl. 30% non-commute) 30,565 34,016

Haverhill Line inter-peak population (outer service) 15,905 17,961

⁶ As commented in para.81, in a scenario which includes total journey times quicker than 1 hour, places which are closer in time might stimulate people to travel more often. This would be represented by a nominally larger population, as an inverse of the time ratio, to then be multiplied by a standard travel rate such as rides per head. This could arise at locations closer to Cambridge.

**Table 8 - Parish populations with time budget limit
and rail travel potential to Cambridge City
(based on 5 minute slower journey on Haverhill Line)**

	2021	2041
<i>Railheads</i>		
Haverhill area urban wards	5,273	5,576
External parishes, via Haverhill Parkway	7,946	9,175
Linton	2,023	2,026
Bury St. Edmunds (local catchment only)	5,756	5,806
Dullingham	5,469	6,143
Stansted Airport	16,166	18,665
Audley End	4,844	5,590
TOTALS	47,475	52,980

Implied off-peak railhead pop. (incl. 30% non-commute) 28,559 31,696

Haverhill Line inter-peak population (outer service) 8,517 9,524

88. These numbers are credible for modelling off-peak hourly travel volumes on a Haverhill Line service. For example, only 5% of Haverhill Line inter-peak population, per hour, would be required for a slower service to attract 400 people to a rail journey. JRC recommends that analysis is developed to measure the proportions of local rail travel to/from Cambridge, allied to residential catchment populations.

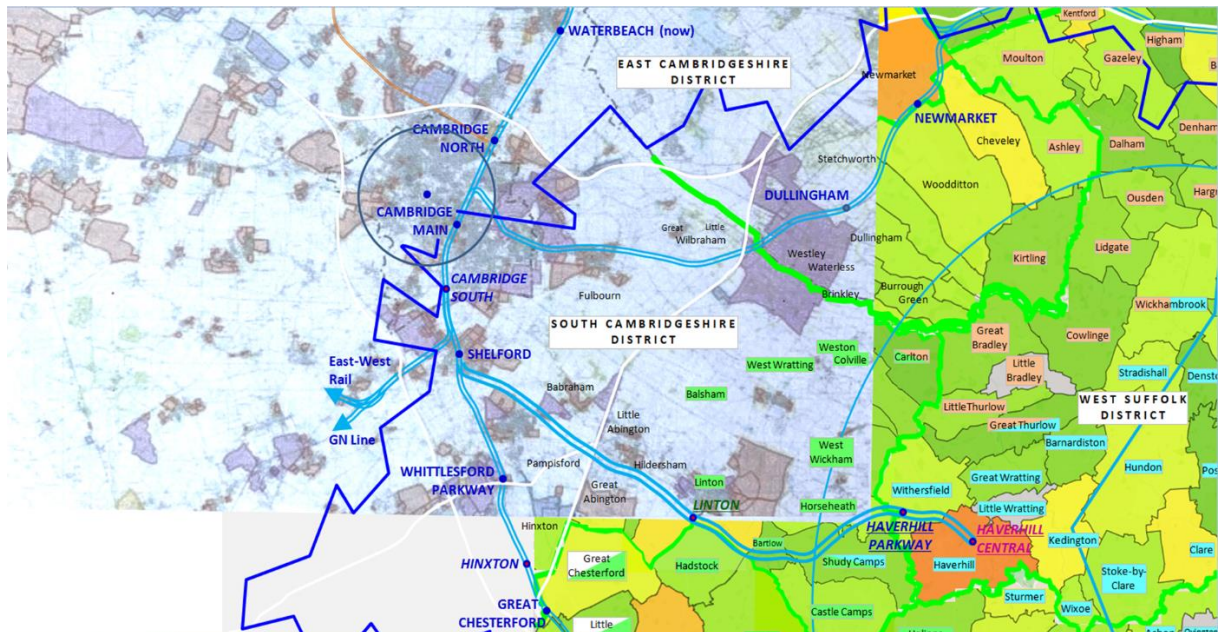
Comparative populations with travel by car or park & ride

89. Applying time budget rules to car journeys between parishes and Cambridge South, either direct or via a park & ride interchange at Fourwentways, will show that, for journeys where rail is suitable, car is weaker as a travel mode. This is because of road congestion and overall journey time in peak periods. This will not apply to every peak journey, because rail isn't suitable for all of them. Overall proportioning of job types by catchment Districts, suggested 55% in Cambridge City and South Cambs. were potentially rail-feasible, 60% of those within Cambridge City. There, rail could provide the opportunity for the maximum number of people from catchment parishes to secure good earnings in the City and return that income into the rural areas, as more people could find it quicker to make the work journey to and from Cambridge.

Influence of new housing proposals in railhead catchments

90. There is the 'chicken and egg' reality, that strengthening the Haverhill-Cambridge corridor by opening a new rail link will influence peoples' willingness to move home to that corridor, and/or to travel further than they did before. This generative effect will increase the propensity to travel to work in Greater Cambridge, and to intermediate jobs locations such as the various research Campuses. The map overleaf shows multiple development proposals that were current pre-Covid around Greater Cambridge. Railheads discussed in this report are overlaid. Significant locations are at Abington, Babraham, Linton, Sawston, Shelford and Six Mile Bottom.

Map 5 – Development proposals around Greater Cambridge in the pre-Covid period



91. House prices on the Cambridge-Haverhill corridor will also encourage people to move house and stimulate future demand for rail travel. The 2012-13 mapping below is from a report analysing Cambridgeshire economic factors.

Map 6 – Cambridgeshire economic context – house prices in 2012-13



92. All this strengthens the probability of the Haverhill-Cambridge corridor having a greater-than-average influence on where people will live and work in future years.

Part B3: Cambridge travel demand: practical and policy trends, and rail implications

93. Better access to Cambridge will stimulate parishes outside Cambridge City to compete for jobs currently filled by local Cambridge people who can walk, cycle or take the bus to work. This doesn't help Net Zero – but Cambridge City also needs lots of extra housing for working people, where Haverhill is already part of that solution.
94. So, there is a 'free market' – really a loosely directed one – where people travel from varying distances and journey times, from locations and by modes not necessarily of their choice. It can be argued that it is the unfortunate ones who can only afford a house outside high-priced Cambridge and have no realistic alternative but to waste several hours a day incurring congested, resource-consuming travel, with no other practical time-efficient choice, who would indeed benefit from a more-sustainable travel option.
95. We see that Cambridge City policies are starting to bite on car commuting. Strong restraints on additional car parking – not yet cutting back the present car parking supply - are now in force for Cambridge South. The current political proposal is an option for park-&-ride at Fourwentways on the A1307 corridor, with people effectively required to leave their cars mid-way between home and the bio-medical Campus. This faces considerable opposition because of the busway's environmental impact on the Gog Magog Hills.

Park-&-ride, or travel corridors further into catchments

96. This is a situation where vehicle pollution and traffic congestion could be played off against landscape pollution – not a great choice! In terms of travel choice, a park-&-ride limits the travel benefits of an alternative to cars, from catchments further east from Linton, Haverhill and beyond. Lengthy car commuting wasted time and poor sustainability would still be the order of the day outside Cambridge City, in South Cambridgeshire, West Suffolk and other local authorities.
97. Greater Cambridge's economic growth – people, and jobs – is expected to continue. This will lead to further car restraint policies at other pressure points around Cambridge City. Park-&-rides already have a considerable presence. However, a P&R 'ring' merely defends Cambridge City from the car pressures. It does not provide an inclusive approach which enables management of sustainable corridors for the commuting hinterland, by aiming economic growth at designated locations and planned housing and transport capacity on corridors which can absorb it.

Rail well placed to support Cambridge growth

98. Cambridge is well positioned to adopt such priority corridors as a core policy. The railway is investing, with regional support, in extra transport hubs at **Cambridge North** near the Science Park, and by the bio-medical Campus at **Cambridge South**. The main north-south rail corridor between them, via Cambridge Main station, can be developed to become a strong 'Metro' with frequent services, with routes radiating from that.⁷
- **Cambridge North** opened in 2017 and can develop its catchment fully post-Covid. It was already handling more than one million passengers in 2022-23, and further growth is foreseen.
 - **Cambridge Main** station handled 12 million passengers in 2018-19 and recovered to 9+ million passengers by 2022-23. It will get busier.
 - The new **Cambridge South** station will open in 2025 and serve expanding southern residential catchments and the enlarged bio-medical Campus which offers 25,000+ jobs and has a high volume of visitors.
99. Giving high priority to these interchange hubs is a key strategic action, which will unlock practical constraints faced by rail travel in the city region. This is because time budgets are sensitive to the time costs of interchange, waiting and onwards travel. The Cambridge area rail demand analysis poses a question whether the shortfall at Cambridge Main (over a mile from the city centre and the main University) could be a reason for mostly low rail 'rides per head' rates in the wider region.⁸
100. With these hubs, and additional distribution from them, the railways can reach much of Cambridge City for commuting and leisure travel, with a positive scenario for the 2030s. This is important, to support and stimulate regional economic growth.
- The railways are still recovering from commuting losses during Covid, so usage numbers are lower than normal though the trend is back towards a 3½-4-day week, more in manual and service industries such as scientific establishments. Better accessibility will stimulate a general willingness to travel to work again.

⁷ Eventually, service capacity needs along that corridor might require full 4-tracking, or supplementary light rail/busway 'tracks. Either way, evidence is emerging from the Cambridge area demand analysis that rail services should go the full distance to the transport hub at the further end, to maximise rail's scope to achieve good distribution capability around and across Cambridge City.

This is because, with any scale of time budget, interchange and distribution travel times are a significant penalty, and travel volumes are impaired. Good quality hubs minimise penalties, while trains running through to the further hub on the other side of the city will avoid further penalties of interchange and waiting at Cambridge Main – and simplify train operating complexities there. A high-capacity corridor will also underpin the proposal for a tram-based Cambridge Metro into and beyond the city centre (as a CAM replacement).

⁸ Modelling based on Cambridge South as a destination has avoided those penalties, which may arise particularly with travel to the city centre and to research Campuses on the city's western fringe. Current travel to/from Haverhill has already factored travel time penalties into that journey, as part of an explicit choice that housing costs in or near Cambridge are a greater penalty.

- 50,000 commuting into Cambridge City is the current baseline, of which rail in 2021-22 carried about 10%. That might be closer to 15% with full recovery from Covid. Additional jobs allied to economic growth, will require more households who generally will be located elsewhere in the Cambridge commuting catchment.⁹
 - Car restraint policies and lack of new road capacity will require new housing to be planned to enable extensive use of bus, rail and active travel. These modes should plan for rapid growth in frequency and capacity, not a marginal growth as if there were a 'free market'. In turn, this will ensure that the Anglian economic engine maintains good progress.
101. The rail network in the Cambridge region already links populations of over 420,000 to Cambridge, with six railways.¹⁰ Railway proposals under active consideration are the lines from Haverhill, and from Wisbech, which would join towns with another 70,000. The St Ives busway serves 60,000, including the new town of Northstowe. JRC research into a Haverhill Line has shown a rural parish catchment population accessible to this railway using outer railheads, of over 120,000. Rural accessibility is achievable elsewhere, using similar access investment in outer railheads.
102. Cumulatively there is a town-based catchment population of 550,000 in the Cambridge city region, served by existing and proposed public transport corridors. Half of this population is economically active. Town population growth of at least 10% in the next two decades would ensure availability of another 28,000 employees – 35,000 and more if including rural catchments – who, as discussed above, will rely more than now on public transport for their journey to work. That points to a quadrupling of current train and busway capacity – not necessarily line capacity! – to have a strong starting proposition, plus the bonus of the catchments opened from Haverhill and Wisbech.
103. To this should be added the new orbital 'economic belt' intended by the government with the support of sub-national transport bodies. This is the East West Rail (EWR) project, which is to be combined with new large-scale housing and business expansion. East West Rail will run from Oxford to MK, Bedford and Cambridge, and beyond in both directions if this proves possible.¹¹ Within Greater Cambridge, EWR would serve Cambourne new town, and join the main rail corridor at Cambridge South before reaching Cambridge Main. This reinforces Cambridge South as a hub and national railway interchange, and in turn helps the demand case for a Haverhill railway, which via Cambridge South would secure quick access to a national transport corridor bypassing London, serving large regional cities, and connecting with northern and western main lines.

⁹ Cambridge Airport is the last major site which would allow extra housing within the City.

¹⁰ Fen Line to Ely and King's Lynn, 120,000; Norwich Line as far as Thetford, 40,000; Cross-Country Line as far as March, 30,000; Mid-Anglia Line as far as Elmswell, 70,000; West Anglia Main Line as far as Stansted Mountfitchet, 60,000; Great Northern Line as far as Letchworth, 86,000.

¹¹ EWR Phase 1 (Oxford-MK) is nearing completion. The EWR Central section between MK and Cambridge has now been defined. Subject to funding and powers being granted, it might open around 2030. A minimum of 4 trains per hour each way is planned for.

Part C – Route options between Haverhill and Cambridge

104. Assessment of a route between Haverhill and Cambridge began with consideration of the former railway alignment, as set out in para. 12 onwards. Options could include heavy rail or tram/train (which gives some light rail characteristics and might be important to accommodate on non-main line tracks northwards from Cambridge South interchange – see footnote 7).
105. This led quickly to a requirement for a basic route specification, selection of possible stations, and outline train timings which could accommodate possible changes to routeing, line speeds, etc. Station choices for the A1307 routeing were set out in detail in paras.18-27. The timing model is now described briefly and is available separately.

Haverhill-Cambridge timetable model

106. JRC has developed a spreadsheet-based timing model which allows determination of the running time over a rail system, using rolling stock performance characteristics to assess permitted or prospective line speeds, running times between stops, and other network features such as junctions, restrictions, etc.
107. Network Rail's Sectional Appendix data is used where relevant, and equivalent data has been created for the proposed new sections of railway. A modern line speed of 75 mph has been assumed except for the curviest section limited to 60 mph, and a further timing allowance at Shelford Junction (which might not be a junction!). This gives a first estimate for possible 'heavy rail' timings of 20½ minutes (rounded to 21) for Haverhill Parkway to Cambridge South, and another 3 from Haverhill Central. A slower speed is allowed for, from Shelford to Cambridge South.
108. Some assumptions and modelling consequences are enlarged on below – they are important.
- Firstly, adding in/rounding up to 30+ minutes for interchange and waiting time at Haverhill Parkway creates a further, nominal 30-minute isochrone to show the comparable effective rural catchment for Haverhill Parkway compared to direct drive-time to/from Cambridge South.
 - There is trade-off between a large rural population catchment with a quick journey, or a smaller catchment because of a slower journey which includes outer urban stops. This is clear from the modelling of residential populations in Part A. It becomes more important if a time budget penalty were also applied.
 - In consequence, no Haverhill trains are modelled to call at Shelford in this first estimation. A stop would reduce the effectiveness of the Haverhill railway for the primary (though not the only) purpose which is getting people to Cambridge South/Main/City via Main/North in a competitive time vs car.
 - Many Haverhill Line passengers wanting to travel south on WAML are in any event likely either to travel by car to Audley End / Whittlesford or change to fast WAML trains at Cambridge South (note that Central London is quicker still via Cambridge South and KX trains). Basically, Cambridge South becomes the interchange hub,

replacing any Shelford option. Shelford-Cambridge travel needs can be met by WAML trains and/or options for inner services on the Haverhill Line.

- A further implication is that an alignment giving fast timings is important west of Linton, including (if adopted) allowance for local stops and at Granta Park, Babraham Campus and elsewhere on the Haverhill 'main line' without any additional speed restrictions.
109. It is accepted that there is merit in researching the local travel demand requirements from Granta Park and west, for a judgment then to be taken about the right balance of alignment / service volume / fast & slow trains (or tram/trains) and net demand / revenue / benefit implications of different service and journey time mixes. This is not going to be easy or quick to do and is beyond the scope of this project.
110. The right specification for rail vehicles will also be essential – for example, to consider large capacity, high acceleration/ braking tram/trains, capable of at least 75 mph.

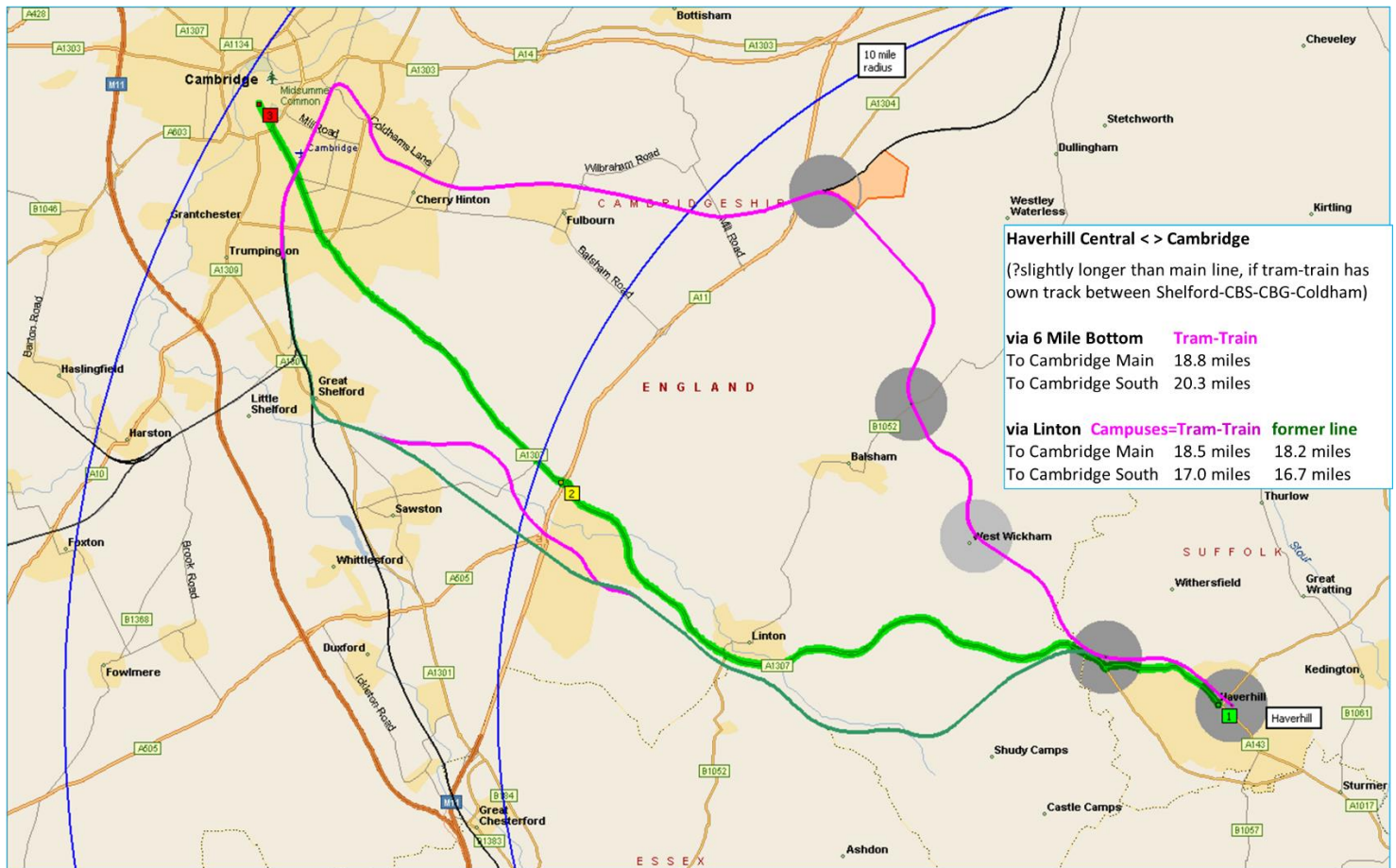
Differences between a service for Haverhill, and closer to Cambridge

111. The timetable modelling exposes the differences between serving the further-afield catchment and serving communities closer to Cambridge who may need a service that can be regarded as a rail equivalent to the busway if a rail option is chosen.
112. The latest timetable modelling and route alignment within the Greater Cambridge urban area point to only a 1 minute longer journey time for a Haverhill service running via the research Campuses, providing that the Haverhill trains if routed via the A1307 corridor are not required to stop west of Babraham Campus – which is a matter for the inner/outer assessment, already mentioned.
113. The potential separation of the service into inner and outer elements also raises the question of whether the outer section could adopt a different route than the former railway. Haverhill is only about 10 miles from the nearest points on the existing Network Rail system (Littlebury or Six Mile Bottom), and somebody will look at the map and ask that such an option should be considered. This was noted in para.16.
114. JRC has researched this as it is probable that a Strategic Outline Business Case would ask fundamental questions about other transport options, such as a bus-only proposal or a rail route involving less railway construction than its historic alignment.
115. Mapping overleaf shows three rail options, the first two via the A1307 corridor with a variant to serve research Campuses directly, and a third testing a shorter new rail route via Six Mile Bottom.
116. They are all shown as having a terminus in Haverhill close to the site of the former Town Station, plus a new Haverhill Parkway. This station could be sited on the former railway alignment close to the north-west end of the Haverhill by-pass. This will give good road access to rail for both Haverhill and its large rural hinterland to the east

and south-east, being convenient for the Stour Valley from Clare, Long Melford and Sudbury, and for people travelling to Cambridge from Sible Hedingham and Halstead.

117. The Parkway station provides an effective rail based, outer park-&-ride station to minimise congestion on the A1307 (shown in **bright green**) between Linton, Addenbrookes Hospital and the intermediate business parks. That stretch of road is increasingly busy and adds a minimum of 20 minutes to car journey times in peaks.

Map 7 – Comparison of possible rail-based corridors for Haverhill



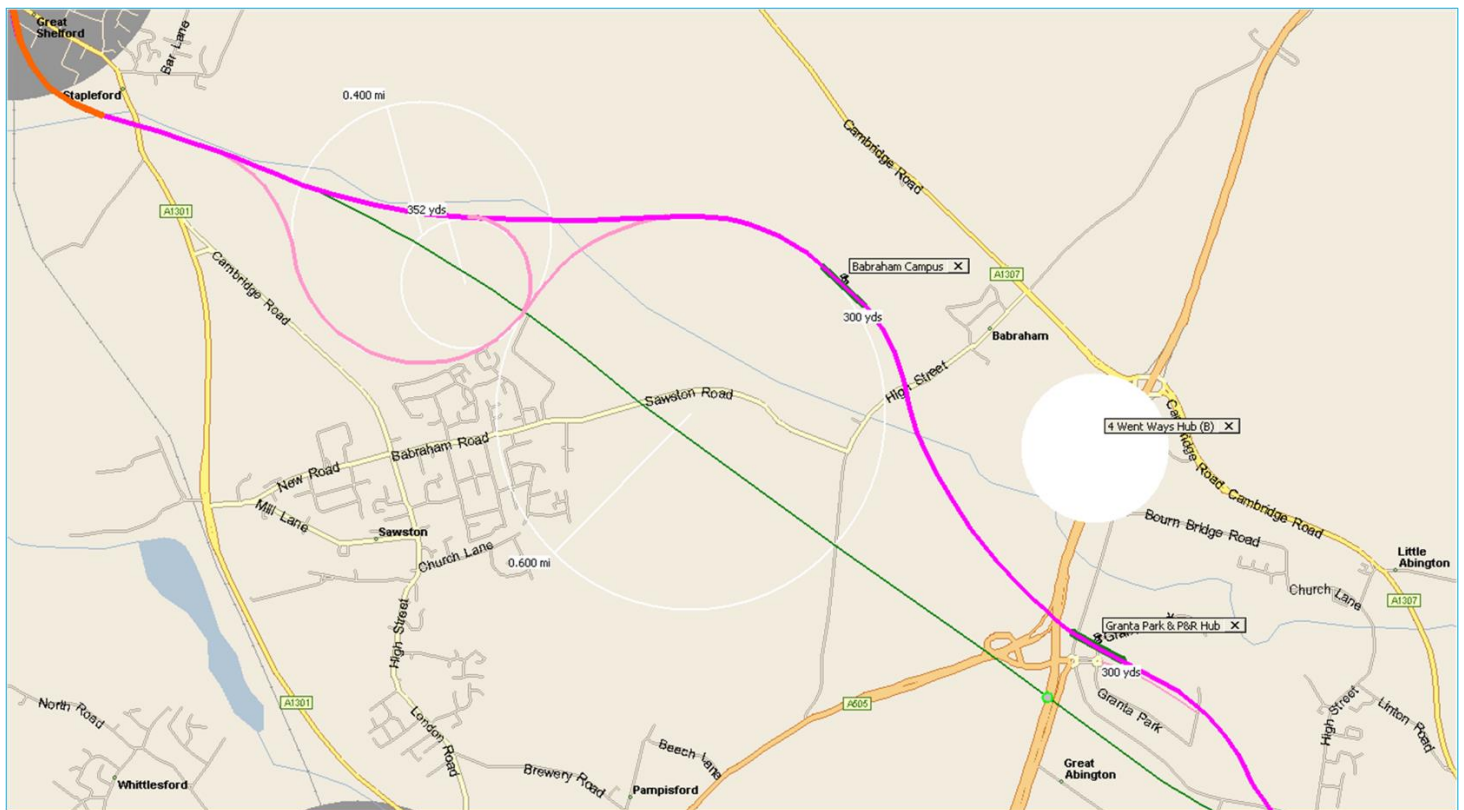
Route Option 1 – former rail line via A1307 corridor (dark green line)

118. This re-creates a rail link using the former railway alignment via Linton and Pampisford to Great Shelford and Cambridge. This route is 18.2 miles long of which 14.6 miles will be restored railway as far as Great Shelford. It will have to bridge across both the A11 and A505 roads in the Granta Park area. The original solum is largely intact save for being lost to the construction of the two dual carriageways.
119. It does not provide good access to either Babraham Campus (at least a mile walks along a small, local road), or Granta Park where the former railway alignment will still mean a 15-minute walk to many businesses located across this busy site.

Route Option 2 – deviation from the former railway, via research parks (shown in pink)

120. This route follows the former railway to just beyond Linton where it diverts as a Light Rail option still enabling 75 mph, to run through Granta Park before heading in a north westerly direction to Babraham Campus before turning westwards to regain the original route before Great Shelford.
121. The Light Rail diversion adds 0.3 miles to the route length but only requires one bridge across the A11 whilst providing significantly better access to both major research Campuses, bringing thousands of jobs within a 5-minute walk of a tram-train stop.

Map 8 - More detail for a Light Rail alignment on the Shelford – A11 section



122. Map 8 shows a possible alignment for light rail between Shelford and Granta Park. It has been designed to include a possible local loop route via Cambridge City Amateur Football ground and North Sawston which would suit an LRT stopping service. The loop offers potential for a stopping service to be overtaken while on that loop by the up (to Cambridge) Haverhill fast, or leaving the Park & Ride earlier, routing that way and still ahead of the up Haverhill fast when going through the possible Shelford single-track. The timetable must ensure adequate margin for return flying.
123. If there were a large crowd demand from the Cambridge direction, then maybe a loop chord could be added for a quick insert tram-train on match days, which might conveniently fit in any flying as the last out from the City and the first back in.

124. The A11 P&R hub should be located by the tram-train stop rather than at Fourwentways. Granta Park if with tram-train not heavy rail might benefit from a 2nd stop at the eastern end of the Campus where there are more research buildings.
125. JRC undertook additional mapping to model where it may be practicable to have a station or tram-train stops around the research park. The pink route is a result of having gone through detailed optioneering of possible routes relative to what's built on, what's not built on, locations of the car parks and entrances to buildings.
126. The railway will be the more effective if its proposed route can get closest to where businesses are sited within the research Campuses.
127. The research parks alignment is based on 0.6 mile radius curves (48 chains) which would permit 75 mph with modern cant standards so that tram-train speeds aren't affected by the curvier route compared to the former railway. The proposed stations would be significantly closer to the main work destinations in Granta Park and Babraham (and with Granta Park also doubling up as the A11/A1307 P&R hub interchange). JRC assumed a tram-train approach on the leg to Cambridge South.
128. Total rail journey time might be 25 minutes from Haverhill Central to Cambridge South via research Campuses, compared to 24 via old railway route. This is likely to favour a research Campus option as walking times savings will be far more than a minute, for stations much closer to the core work destinations.

Route Option 3 – new Light Rail line from Haverhill Parkway to Six Mile Bottom (pink)

129. Map 7 illustrates a possible corridor for a Haverhill-Cambridge rail link to the Mid-Anglia Line at Six Mile Bottom. This is a test option for a shorter 'new build' alignment between Haverhill and the existing railway network. A routeing towards the other nearby railway, WAML, doesn't look realistic in overall journey time or occupation of WAML line capacity.
130. The topography includes an intermediate hilly zone where for heavy rail several valleys could cause engineering issues in terms of gradients / curvature / tunnel or embankments / viaducts – so heavy rail is not an option.
131. There appears to be scope for a light rail corridor to Six Mile Bottom, using some tram-capable gradients, and curvatures at 40 chains radius (allows 70 mph with modern cant) and others at easier radius where at least 75 mph is feasible. This would allow competitive journey times, given that tram-trains would have fast acceleration and braking. While the largest village (Balsham) cannot be served directly, it can be within the 2 km catchment of an intermediate stop at West Wrattting. Another stop at West Wickham might be merited in return for a light rail corridor being permitted close by.
132. The junction with the Newmarket Line could be at Six Mile Bottom, on a 400-500 metre radius curve, so enabling a high frequency of service for the proposed Westley

Green development (all within 2km). Passengers to/from Haverhill could change there to reach Newmarket, Bury St. Edmunds, etc. Alternatively, the junction could be further east, with no interchange station, and a Westley Green station dependent on the Newmarket Line frequency could be located more centrally for the development as shown in orange with most housing within 800m of a station (within 1km, in terms of practical walking distances).

133. The route via Six Mile Bottom is comparable in timing to via the A1307, if heading to Cambridge Main and central Cambridge, but is longer if going to Cambridge South. Granta Park and Babraham Campuses are only served usefully via Linton.
134. The new track would be 4.3 miles less (could be £100-200m cheaper if £25-50m per mile) via 6 Mile Bottom, which needs to be contrasted against any savings feasible via Linton by using part of a former alignment, and against the potential net modal split and environmental gains of a Linton route which relieves congestion on the A1307 and serves Granta Park and Babraham Campuses directly.
135. We can at least anticipate questions about what could be the shortest new railway construction to reach Haverhill, and which might be cheapest. Clearly the whole-life value of capital, and operational costs and passenger benefits and wider gains would be relevant.

Strengths and weaknesses of the Route Options

136. The shorter new alignment supports the case for a railhead at Haverhill Parkway, and then goes to Six Mile Bottom. The mapping shows the former line is 14.6 miles to Shelford (or 14.9 on the Light Rail diversion route through Granta Park) versus 10.3 to Six Mile Bottom.
137. The shorter route should be significantly cheaper to construct and avoids the cost of the civil engineering to cross the A11. The A1307 alignment will need to cross the A11, which will mean building a new light rail bridge across the dual carriageway on a different alignment from the former route which is also compromised by the A505 and its slip road on to the A11.
138. We're talking of tram-train here and that would also reduce the capital cost. Effective journey time to central Cambridge via Cambridge Main station would be similar. If the role of the railway is to provide Haverhill and its hinterland the fastest access to Cambridge, which must be the most important objective just in terms of potential catchment population volume, then having to construct 10 miles ought to be nearly 30% better than 14 miles if it is possible to reduce the capital costs proportionately.
139. The shorter route is not great for Linton but there is a road to West Wratting that will offer a good journey time for both Linton and Balsham into central Cambridge. The railway would miss Granta Park, Babraham and Shelford, and only serve Cambridge South with a longer timing via Cambridge Main. Each route, via Cambridge South or east Cambridge, might require new capacity via Cambridge Main – see footnote 7.

140. It will help to establish how much of the A1307 road congestion is due to traffic heading to central Cambridge or to the bio-medical Campus and the outer research sites, to gauge the strategic importance of serving the A1307 with a new rail service.
141. This report is not directly advocating the corridor via Six Mile Bottom, but simply pointing out that there is a case to be answered and, if it looks feasible in engineering terms, an option to be tested. There is even a scenario in which a busway is built to Fourwentways whilst accepting the strong case for a rail link to Haverhill and its wider catchment area resulting in building the shortest light railway route. Why should politicians need to worry about the expense and difficulty in restoring a rail link via Linton?
142. It is true that the former railway solum is largely intact apart from where it has been breached by the A505 and A11 in the Pampisford and Granta Park area. This should help a campaign for the line of least environmental impact, whereas a route from Haverhill Parkway to the Mid-Anglia Line is virgin territory with all that involves. However, if the essence of the case for rail is simply Haverhill to Cambridge, then there is a case to be answered.
143. Whilst one railway option may be cheaper and quicker, what does it do for traffic volumes and for Greater Cambridge's traffic restraint strategies and economic growth policies? The other is potentially more expensive but does give access to more immediate and significant employment destinations along the former line of route.
144. Either way there is a strong and valid argument for a new Haverhill Parkway becoming an outer Cambridge park-&-ride as a first defence against congestion anywhere closer in.
145. **It will be for RfEA to decide how much it wants to review a shorter routeing option. There are big potential destinations on the former line of route, equally the housing proposals at Westley Green may underpin a case via Six Mile Bottom.**
146. **The key question which has to be resolved is which option, in RfEA's combined judgment, will be the most effective way of meeting local transport priorities and has the best chance of securing support sub-regionally and then into DfT and Treasury.**

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Department
for Transport



Restoring Your Railway: Ideas Fund Application Form

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Confidentiality and data protection

This application, and the processing of personal data that it entails, is necessary for the exercise of our functions as a government department. If your answers contain any information that allows you to be identified, DfT will, under data protection law, be the Controller for this information.

As part of this application process we are asking for your name and email address. This is in case we need to ask you follow-up questions about your application. You do not have to give us this personal information. If you do provide it, we will use it only for the purpose of asking follow-up questions.

DfT's privacy policy has more information about your rights in relation to your personal data, how to complain and how to contact the Data Protection Officer. You can view it at <https://www.gov.uk/government/organisations/department-for-transport/about/personal-information-charter>.

To receive this information by telephone or post, contact us on 0300 330 3000 or write to Data Protection Officer, Department for Transport, Ashdown House, Sedlescombe Road North, St Leonards-on-Sea, TN37 7GA.

Your information will be kept securely by the Restoring Your Railway team and destroyed within 12 months after the deadline has expired.

1. Explanatory notes

The Ideas Fund (IF) is part of the Restoring your Railway (RYR) Programme. The Department for Transport (DfT) will fund 75% of costs, up to £50,000, of successful bids to help fund transport and economic studies and create a business case. Bids to expand access to the rail network can include the reopening of closed lines as well as the restoration of passenger services on routes which are currently freight-only.

This application form includes questions designed to help you provide the relevant information so we can assess your bid, but it is not exhaustive. Please make sure you include detailed information about the socio-economic benefits of the bid, the services that would be provided, and details of any known anticipated infrastructure and operating costs.

We ask that you do not use other formats. We recommend the response be between 15 - 20 pages in total. All key information should be included through responding to the questions below, however supporting evidence can be referenced and submitted as supplementary documentation. Please do not enter personal information within these boxes which would make an individual identifiable.

If you are submitting more than one bid, please indicate the priority order for your proposals.

If you have any queries, please contact the Restoring Your Railway team at restoringyourrailway@dft.gov.uk.

2. Key details

Please provide the following information:

Lead promoter (name, organisation and email address)	Peter Wakefield Vice-Chair Railfuture East Anglia peter.wakefield@railfuture.org.uk
Sponsoring MP(s) (name, constituency and email address)	Matt Hancock MP West Suffolk matt.hancock.mp@parliament.uk
*Impacted line/ Location	Haverhill to Cambridge
Amount of track reopened to passenger rail services, if applicable (to the nearest mile)	15 miles
Number of new stations proposed, if applicable (include site postcodes where possible)	Four new stations: Sawston (near CB22 3TJ) Granta Park (near CB21 6GP) Linton (near CB21 4NW) Haverhill (near CB9 7LR or CB9 0BQ)

*to be used in the publication of Ideas Fund bid detail on gov.uk

3. Bid summary

Provide a description of the proposed project; defining the intervention, service levels and/or infrastructure requirements. Where details (such as service frequencies) form part of the feasibility work required, please identify this in your response.

The proposal relates to reopening the railway line between Cambridge and Haverhill which until its closure in 1967 provided a link via two routes to Marks Tey on the Great Eastern Main line, one via Sudbury beyond which the line is still open as shown in **Map 1**.

This closure was particularly unfortunate in Haverhill's case, as around that time it was chosen for considerable expansion as one of the 'London Overspill' towns and the following decade witnessed a considerable increase in population, a trend that continues today.

Infrastructure

For the reopening proposal, trains from Cambridge would travel on the existing West Anglia Main Line as far as Shelford and would then diverge onto the reopened railway via Sawston, Granta Park and Linton to Haverhill. The major stations on the line would be Haverhill (population 27,000¹

¹ The population figures used in this document are typically those taken from the 2011 census rounded to the nearest 500. More recent and projected future figures are described where used.

and with a substantial catchment area from nearby villages) and Granta Park (serving 4,000 people working at the Science Park). Intermediate stations serving Sawston (population 7,000) and Linton (population 4,500) could be provided to serve these substantial local communities. This alignment in the context of the local railway network is shown in **Map 2**. The alignment of the closed railway is ideal as it links major employment and housing, is direct and largely unobstructed.

Service levels

The initial service frequency would be half hourly – this could potentially be accommodated on substantially single track infrastructure with a dynamic loop for passing, although double track would provide flexibility for future growth and timetabling, making the service more robust and thus mitigating against the importing of perturbation onto the wider and very busy Cambridge area railway network.

Electrification would support the line's integration into the local railway network and allow trains such as Greater Anglia's new Class 720 five car Electric Multiple Units to operate, seating 540, so 1080 seats per hour with a half hourly frequency, or double that using 10 car trains.

Fastest journey times from Haverhill are estimated to be Granta Park 11 mins, Cambridge South 17 mins, Cambridge Central 20 mins, Cambridge North 26 mins and Ely 39 mins.

Integration with the existing network

The line from Shelford (Shepreth Branch Junction) to Cambridge will be remodelled as part of the East West Rail project and will incorporate a new station at Cambridge South. This remodelling will increase the number of tracks from two to four, providing enough capacity to include a half hourly service from Haverhill, which could be extended to serve Cambridge North, located next to the large business and science parks, or destinations to the east such as via Newmarket and a reinstated Newmarket West Curve to the soon to be reopened station at Soham and on to Ely, or to Wisbech via Waterbeach New Town.

The service is assumed to be operated from the existing train fleet and train-crew located at Cambridge, so no additional facilities would be needed on the Haverhill line itself.

Alternatives

The line could alternatively be developed and operated as a:

1. light rail line as part of a future Cambridge-wide light rail network;
2. or as part of a future strategic railway, that is tram-train enabled;
3. or as a the first part of a future strategic Cambridge - Haverhill - Sudbury - Colchester and/or Halstead - Braintree -Witham - Chelmsford railway to considerably reduce journey times and improve connectivity and industrial agglomeration benefits from Cambridgeshire via Suffolk to Essex. (**Map 9**)

Is the project already within the remit of Network Rail's management and control process for enhancements? If so, what stage is the project at? Has there been any other previous assessments of this proposal? What was the outcome? What has changed since previous reviews?

2015 Cambridge to Haverhill Corridor Study

The scheme is not within the GRIP process but was assessed at part of the Cambridge to Haverhill Corridor Study² produced by WSP Parsons Brinckerhoff for Cambridgeshire County Council in November 2015. The objective was to assist the Greater Cambridge City Deal in determining whether the reopening should move forward to a more detailed study, either within the present Cambridge to Haverhill corridor study or as a separate exercise.

The scope included:

- Identifying the strategic rationale for rail;
- A desk assessment of aerial images and OS Mastermap, supplemented by targeted site visits to key areas, to identify at a high level the current physical status of the former alignment;
- Where the corridor is physically blocked, identifying (at a high level) a potential solution, which might involve relocating the existing use or diverting the railway away from the former alignment;
- Identifying potential station locations along the alignment at each of Haverhill, Linton, Granta Park, and Babraham/Sawston amongst others. This has included identifying the scope for park-and-ride at each of these;
- Identifying (again at a high level) an assumed service/stopping pattern, along with the passenger capacity it may provide, broad journey times, the diagram(s) and loop(s) likely to be required, and the potential operating arrangements;
- Estimating the capital cost on an order-of-magnitude basis; and
- Carrying out a high level economic appraisal, including indicative estimates of demand and revenue.

The economic appraisal also included appraisal of a bus rapid transit (BRT) alternative on the disused rail corridor.

The conclusion included the following points:

- The rail scheme would have a BCR of 0.99. Substantial further work would be required to refine the economic assessment in more detail
- The indicative capital cost of the options presented for rail are substantial and cannot be funded within the current City Deal allocation
- In any case, the reopening could not take place within the current timescale (through to 2020) allowed for tranche 1 of the City Deal funding

The suggested next steps included the following comment:

- “It may be appropriate for further work to be undertaken by the relevant local authorities and central government to determine the wider viability of the railway through other decision and funding mechanisms.”

So at the time the scheme was beyond the funding arrangements of the Greater Cambridge City Deal (since renamed the Greater Cambridge Partnership) which had commissioned the study.

²

https://citydeallive.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transportprojects/A1307_Rail_Viability_Technical_note_27.11.2015.pdf

Recent Ambitions

However, in the intervening four years the ambitions of the region have developed along with the funding which is available. The area now comes under the Cambridgeshire and Peterborough Combined Authority (CPCA), which is currently taking forward plans to reopen the railway from March to Wisbech. The line also runs between two new Sub-national Transport Bodies – England's Economic Heartland (EEH) and Transport East.

4. Financial overview of the proposal

Please provide details of the potential third party contribution for the work you are seeking to fund through the Ideas Fund. This should include the amount, the terms and percentage of the total costs. Please include any other relevant financial considerations, for example information on potential third party funding for the delivery of the project as a whole.

Funding for the bid

Currently, no organisation has been asked to underwrite 25% of the costs to match any funding received as part of the Reopening Your Railway Fund. However given the statements above, if this bid is successful we are sure that Suffolk CC, CPCA and the Greater Cambridge Partnership, Haverhill Town Council and Railfuture could raise the necessary funding. Their support for improving transport on this corridor, including suggestions of rail, is detailed below in the local plans in the Rationale for Intervention section.

Third Party Funding for the reopening

Potential third-party funding for the capital costs of scheme delivery proposals has not at this stage been identified, but the railway is at the heart of an area which is receiving strong focus on infrastructure investment tied in with employment and housing via CPCA, Greater Cambridge Partnership and Transport East, with the CPCA looking at mechanisms to increase the level of funding from the uplift in land values.

What will the funding will pay for? For example, to support further research to investigate potential benefits for local tourism or carry out a feasibility study on infrastructure changes to help support a subsequent SOBC.

The £66,000 for the next stage of the proposal will enable consultants to produce a proportionate and focused (minimum) Strategic Outline Business Case (SOBC). This would take the following form with approximate percentages indicated.

Clear expression of the Case for Change detailing why something needs to be done. This stage is key and requires a robust evidence base [25%]

- Transport data analysis
- Socio economic data analysis
- Stakeholder engagement to capture current problems / issues in the area

Objective setting – in the light of the problems / issues which have been identified [5%]

Option generation – drawing on the work undertaken to date, and scoping out other options which could conceivably meet the objectives [5%]. This would include station location and alternative routes to the Great Eastern Main Line.

High level analysis to confirm that rail-based options are the most effective in meeting the objectives set [10%]

Establishing technical ‘proof of concept’ (or otherwise) of the rail options under consideration – drawing on engagement with rail industry stakeholders – to demonstrate sufficiently that the options are deliverable [20%]

Developing a compelling qualitative narrative of the economic, social and environmental benefits which may arise from the improved connectivity – drawing on engagement with local stakeholders / public [15%]

Quantifying the cost and benefits where possible / proportionate using existing tool / high level approaches but not undertaking detailed modelling [20%].

Are there any financial dependencies or risks in delivery of the work proposed to be funded through the Ideas Fund?

We are not aware of any dependencies or risks.

5. Strategic overview of the proposal

Rationale for Intervention

Provide a high-level explanation of what your project aims to achieve, including a summary of the problems/opportunities the project looks to address, providing supporting evidence where appropriate. This should include consideration of how the project aligns with local and national policy. What is the transport problem? Have you considered other transport modes to deliver the outcomes and if so, why is rail the appropriate solution?

Haverhill is a town that regards itself very much as a “left behind” settlement. With a population of 27,000 set to grow to around 40,000 by the beginning of the next decade, it has more housing allocated than local jobs planned so will be looking to places further away for employment, in particular Cambridge 18 miles away with significantly higher housing costs.

Haverhill has poor facilities in its town centre and the barrier of a heavily congested and dangerous road that leads its population to the excellent job, educational, health, retail and leisure opportunities and facilities located in its major regional centre of Cambridge. Young people in particular are badly served by living in the town. The bus service is slow and unreliable due to the congestion both along the route and in Cambridge itself.

Local Plans

The importance of this town to city connection is recognised in local plans, and articulated in the Haverhill Vision 2031 report³ prepared by Planning and Growth, St Edmundsbury Borough Council.

“The town has a high level of out-commuting: in 2001, nearly 50% of Haverhill’s employed population commuted to work elsewhere. Over 20% went to Cambridgeshire, 8.2% to Essex, and a tiny proportion (1.8%) to Bury St Edmunds. It is thought that one of the key workplaces attracting Haverhill people is Addenbrookes Hospital. The A1307 towards Cambridge and the M11 has a poor accident record and is severely congested in places, especially at Linton, at peak times.”

3

democracy.westsuffolk.gov.uk/Data/St%20Edmundsbury%20Sustainable%20Development%20Working%20Party/20140908/Agenda/S/DW%20SE%2014%2009%2008%20repF109.appB%20-%20Haverhill%20Vision%202031.pdf

The Transport Strategy for Cambridge and South Cambridgeshire⁴ by Cambridgeshire County Council identifies it as a focus for introducing High Quality Transport.

“On the corridor to Haverhill, a High Quality Passenger Transport option could be the reopening of the railway, with potential for a number of new stations that might include Sawston, Granta Park and Linton as well as Haverhill itself.”

“Committed and future growth in the corridor: Haverhill – up to 4,260 homes (2009-2031). Granta Park – up to 3,200 new jobs. Babraham Research Campus – up to 1,000 new jobs.”

The Cambridgeshire County Council Local Transport Plan⁵ shows a reopened railway to Haverhill which is reproduced as **Map 3**. The Local Transport Plan is now the responsibility of the CPCA which is currently preparing a new transport plan, but in the interim has adopted the existing Cambridgeshire County Council plan.

Greater Cambridge

Haverhill must be considered a part of Greater Cambridge, even though it is administratively in the county of Suffolk. It is tucked away on the southwest corner of Suffolk with no relationship to its county town of Ipswich. Haverhill is firmly linked to its main economic resource of **Greater Cambridge – thus the aim of the railway is to link Haverhill even more firmly but sustainably into it.**

Cambridge is a global centre for knowledge based industries. It is a key part of the new UK economy, literally a world leader in the area of high tech and bio-tech industries.

Firms choose to locate in Greater Cambridge – despite the high cost of doing so – owing to the availability of skilled, innovative staff, and the high concentration of other knowledge-intensive (KI) businesses. Companies benefit from being located close to one another, either physically or through good transport connectivity, as it facilitates collaboration and competition. This allows them to learn and benefit from each other's best practices, reduce costs by sharing resources, and have access to an extensive pool of skilled labour. All of this needs a high quality reliable transport network.

Cambridge's economic success is characterised by significantly higher average level of salary per head than the national average: **£41,100 in Cambridge, compared to £26,000 for Haverhill and £29,000 for the UK**, together with a highly skilled workforce: 34% hold degree-level qualifications, compared to the national average of 17%, and UK-leading rates of innovation. Within Cambridge, there are 341 patent applications per 100,000 people: more patents per person than the next six cities combined.⁶

However, even though there is a continuously growing number of businesses wanting to join the Cambridge hi-tech / KI cluster of over 1,400 companies, increasing road congestion and thus increasingly poor connectivity, risks companies that wish to invest, moving to other clusters overseas. The railway will serve to invigorate Haverhill and at the same time help make Greater Cambridge more attractive to investors as it adds a new and dynamic link to the region's growing railway network, enabling rapid movement of the growing number (currently 60,000) of employees into and across this large and very productive area. There is no better way of linking Haverhill, Granta Park, The Cambridge Biomedical Campus, Cambridge station developments, Cambridge Science and Business Parks at Cambridge North, than by one train journey using the railway's unbeatable attributes of safety, volume and velocity. The links to London and Stansted and

⁴ www.scambs.gov.uk/media/11028/transport-strategy-for-cambridge-and-south-cambridgeshire.pdf

⁵ www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/local-transport-plan/

⁶ Source Cambridgeshire and Peterborough Combined Authority (CPCA)

Gatwick Airports are just as important and will be available with just one change of train, Heathrow with just two.

For Haverhill an 18 minute train journey to Cambridge would significantly improve the quality of life for its average citizen and lead to a reinvigoration of the town.

Transport Aims

The reopening of the railway from Haverhill to Cambridge North aims to directly link the following stations by a high quality congestion-free public transport mode that will also help both decarbonise and decongest the overcrowded road network in SE Cambridgeshire, as well as provide Haverhill with access to all the significant employment and growth of Cambridge, which in turn lacks affordable housing.

- Haverhill: population 27,000 growing to around 40,000 but with a substantial catchment area from nearby villages
- Linton: population 4,500
- Granta Park: serving 4,000 people working at the science park, and the nearby villages of Great and Little Abington with a population of 1,500.
- Sawston: serving 7,000 people and the Babraham Research Park of over 1,000 employees, just 1 mile from the station site to the north. Huawei is constructing a major research centre about 1 mile to the south.
- Shelford (for Great Shelford, Stapleford and Little Shelford): existing station on the West Anglia Mainline serving the local population of 7,000.
- Cambridge South which will serve the Cambridge Bio medical Campus with short term plans for an overall workforce of 30,000. It is predicted that by 2025 an unsustainable 35,000 daily trips will take place into the Campus then out again.
- Cambridge Central
- Cambridge North

The reopened railway would link about 40,000 people now (rising to 53,000) directly with significant employment centres.

At the moment these places are linked by a conventional bus service with a scheduled journey time throughout the day of 75 minutes for the 20 miles from Haverhill to Cambridge, with a small number of express services scheduled for 55 minutes, but the service is in practice severely affected by peak time traffic congestion leading to unpredictable and very extended journey times.

Why rail?

Regarding alternatives, there have been relatively recent attempts to operate “Quality Bus Partnership” services between Haverhill and Cambridge, initially at 20 minute intervals, but then reduced to 30 mins. The main problem is length of journey time, with severe peak delays as described in the Greater Cambridge City Access Study⁷.

“Cambridge is currently the 16th most congested city in the country. During 2019, people spent an average of 71 hrs driving time in congestion. Over the last ten years, traffic levels have increased by 10% and Cambridge’s peak AM and PM periods, when the city experiences highest traffic volumes and worst congestion, have lengthened by up to 2.5 hours.”

⁷ www.greatercambridge.org.uk/city-access

Also the service needs to support shift workers, at hospitals or offices at Granta Park or elsewhere in Cambridge, so needs to be available at both ends of the shift.

A dedicated “bus-road” is being promoted by the Greater Cambridge Partnership to a new park-and-ride site close to the Granta Park Research Park. However this would only benefit Haverhill residents with cars wishing to access Cambridge, and would discourage modal shift from cars, so is difficult to see how this fits in with any future strategic transport plans. It has not yet been presented to a public enquiry.

The CAM metro network proposed by the CPCA would involve running rubber tyred vehicles to Haverhill as part of a £4bn Cambridge wide network. However, this is at an early stage of development, with high levels of funding requirements and the proposed use of new, but currently undecided, vehicle technology, so it is not possible at present to assess whether it is a viable alternative to rail’s known costs and qualities.

Freight

There are opportunities for bulk rail traffic from the existing and expanding huge grain silos/stores at Linton right by the projected railway, whilst Haverhill is the centre for road based logistics companies serving an economy based on the large industrial area on the southern side of the town. Referencing the climate change emergency – it is likely there will have to a big shift from road to rail as a part of the national effort to decarbonise our economy. A future intermodal terminal at Haverhill will be a possibility.

What impact might the project have on levelling up outcomes?

Haverhill and Ely are about equidistant from Cambridge, both very much within the Cambridge Travel to Work Area (TTWA). Ely is currently seen as a more successful and vibrant place. The table below compares the public transport linking each town with Cambridge and compares some aspects of each, showing how the provision for Ely is considerably better, which in turn reflects on the prospects for the people and the town.

People spend the money they earn elsewhere in their local town. But whilst Ely is where people want to go to, Haverhill is where they live because they have to. Put a train service on, people will want to live in Haverhill and prosperity will gradually grow as will the town centre.

Ely is the successful town based on excellent railway connectivity that Haverhill should aim to emulate. The Biomedical Campus transport review⁸ from 2018 shows that on a snapshot study day, 1,403 employees came in from Haverhill postcode CB9, of whom only 100 to 200 used the bus (including patients). Most drove in their cars. From Ely large numbers also travel to work at the Cambridge Biomedical Campus. Most use the train and bike for the last mile.

The reinstatement of the railway would transform journey times and punctuality along the corridor, leading to a significant modal shift towards public transport, and increased employment choice.

⁸ [scams.moderngov.co.uk/documents/s110158/Biomedical Campus Transport Needs Review Part 1.pdf](https://scams.moderngov.co.uk/documents/s110158/Biomedical_Campus_Transport_Needs_Review_Part_1.pdf)

Fig 1. Table showing comparison of Ely and Haverhill

	Ely	Haverhill
Population	18,000	27,000
Distance from Cambridge	15 miles	19 miles
Public transport	15 to 20 mins by frequent rail service	75 mins by bus (55 mins by limited number of express buses)
Public transport between 08:00 and 09:00	7 trains (with a total of 25 carriages)	3 buses
Average wage (against £41,700 in Cambridge)	£33,000	£26,000
Average house price (against £456,320 in Cambridge)	£299,052	£256,318
Journey to hospital for healthcare	35 mins (train then bus or cycle)	60 mins by bus (40 mins by express bus)
Early / late services	Very early to very late, 3 trains per hour. Young people have an almost metro like service for college, or a night out. Fast, safe brightly lit.	Buses each hour that take up to 75 minutes. No real spontaneity for college or a night out as the service is slow. At night dark and bus stops unlit.
Town Centre	Vibrant, varied and successful. Many hundreds take advantage of the big town facilities of Cambridge every day just 20 minutes away. Bike plus train is a very well used combination for the last mile at each end for fast door to door journeys with good cycle parking at each end of the journey	Haverhill is a larger place. But its town centre is slowly dying, dull and the opposite to vibrant.

What would be the impact if this project was not taken forward?

If this scheme is not taken forward, Haverhill would remain relatively isolated, with poor access to employment compared to other large towns in the region. It would remain reliant on connectivity provided by the slow and congestion prone bus service and road. So in the event of the proposal not being delivered, there will be continued frustration amongst the local population associated with limited public transport options and the ongoing prospect of traffic delays and congestion for journeys on the A1307 to/from Cambridge.

From a public acceptability perspective, there is widespread support for enhanced rail services (see **Map 6** and **Map 7**) and increased access to the rail network, with previous surveys establishing that the proposal would be strongly supported by residents in Haverhill, Linton and the surrounding area. A station within Haverhill in particular, is supported by the local business community due to the potential economic benefits of the proposal in terms of increasing Haverhill's attractiveness as a place to live and work.

There are anticipated safety implications associated with not taking forward this proposal. In terms of safety and accidents, a review of casualty data suggests that there are major road safety issues throughout the A1307 corridor. Whilst new stations with parking facilities at Haverhill, Linton, Granta Park and Sawston **could** generate additional traffic within the towns/villages, the promotion of active travel should mitigate this. At a more strategic level, encouraging a transfer of trips from private car to public transport and therefore an overall reduction in car miles on the road network should deliver large positive impacts on road safety along the A1307 corridor.

The inward movement of the necessarily skilled employees to Babraham Research Park, Granta Park but above all to Haverhill, will still be very difficult unless a modal switch to rail is achieved. Haverhill's own knowledge based industry will always be at a disadvantage and never reach its full potential.

Project Dependencies & Risks

Confirm project constraints and/or dependencies. These could include planning restrictions, stakeholder support, construction and capacity constraints.

Planning restrictions

We are not aware of any specific restrictions. The former route from Haverhill to Shelford is shown as a basis for the reopening, but this is only indicative so an alternative route could be used for specific local circumstances.

Stakeholder support

1. Great Anglia TOC supportive, see Stakeholder Management subsection.
2. Local MP, Right Honourable Matt Hancock, is very supportive, see Stakeholder Management subsection.
3. Community very supportive, see **Map 6** and **Map 7**.
4. Cambridgeshire and Peterborough Combined Authority: "Tension" with CPCA "Cambridge Autonomous Metro" project as the Mayor feels a railway would damage the business case of the yet to be approved Cambridge Autonomous Metro. Neighbouring authorities are currently waiting to see how these plans progress so are currently unwilling to publicly support alternatives.
5. Cambridgeshire County Council, on behalf of the Greater Cambridge City Deal (now the Greater Cambridge Partnership) commissioned the Cambridge to Haverhill Corridor Study⁹ which indicated that whilst a busway and rail scheme would have broadly similar BCR, the capital costs *"are substantial and cannot be funded within the current City Deal allocation"*. It also stated that *"...a Cambridge to Haverhill railway could ultimately form part of a more strategic railway from Cambridge to Colchester, via Haverhill and Sudbury, including the existing Sudbury to Marks Tey branch"*. The more recent Cambridge Biomedical Campus

⁹ citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/A1307_Rail_Viability_Technical_note_27.11.2015.pdf

Transport Needs Review¹⁰ reflected on this work commenting that *“Should this strategic rail link be made, there would be significant benefit to the cluster of Cambridge Bio Medical Staff that live in the Haverhill area.”*

Construction

Most of the route will be straightforward to construct, following the existing dismantled railway line. There are a number of public road crossing which would require the construction of bridges. The most significant piece of construction would involve crossing the widened A11 trunk road at Granta Park, where a short viaduct will be required.

Capacity Constraints

For access to Cambridge the service relies on the capacity boost from four tracking the railway from Shepreth Branch Junction, via a new station at Cambridge South, to Cambridge as part of the East West Rail Line. This is scheduled for opening in about 2030. This view is supported by Greater Anglia, the train operating company. The line follows the existing railway alignment so there are no known issues due to SSSI or Ancient Woodland.

What are the key risks and issues faced by the proposed project and how can these be mitigated?

The scheme is helped by the existence of the largely unobstructed trackbed of the former railway alignment. The 2015 Cambridge to Haverhill Corridor Study¹¹ classified the status of the line as:

- Red – significant issue and/or risk which would most likely require a significant piece of infrastructure / significant solution including realignment (where the original alignment cannot be achieved);
- Amber – major issue and/or risk which may require additional consideration including realignment; and
- Green – generally no major physical constraints but further review is required.

Map 4 shows the status for each section of the line. The majority of the route is shown as green, with red sections covering the following significant issues:

- Crossing the A11 and A505 at Granta Park, and the need to provide a station at the start of the double track section here. Options are to either follow the old alignment (requiring purchase of buildings) or new alignments a short distance to the north or south. All would require a new bridge over the main roads.
- Linton - The former station site is now commercial premises, with the station building in commercial use and a new building across the former trackbed – to avoid the original station site the line could be adjusted onto adjacent fields to the south.
- Bartlow and Bartlow Hills – have been colour coded red, but although the alignment goes close to the scheduled monument the single track alignment is unobstructed

Map 5 summarises the main issues which would be encountered along the existing alignment.

There is also a footpath and cycle route alongside the bridge which takes the A1301 over the railway which is currently at ground level so would need a bridge.

¹⁰ scambs.moderngov.co.uk/documents/s110158/Biomedical%20Campus%20Transport%20Needs%20Review%20Part%201.pdf

¹¹ citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/A1307_Rail_Viability_Technical_note_27.11.2015.pdf

Crossings

Historical mapping and photographs suggest that the line was originally single-track except at stations. It was grade-separated at main highways but not necessarily at farm accesses and footpath crossings.

Although the main highways are grade separated, some of the bridges are no longer in place. Farm crossings would need to be assessed. There is a strong drive to reduce the number of crossing so there will be pressure to have crossings only where there is very low risk, or where there is no practical alternative.

Haverhill station site

Restoring the line to the original station in Haverhill would involve a number of issues, including the need to cross the A1307. The 2015 study identified a number of station sites as shown on the map, but all of these sites involve the line crossing the A1307. The location of the station needs to be looked at in more detail.

Stakeholder Management

Please Identify the key stakeholders for your bid, their interest in the bid and how you plan to work with them. What train operator(s) might be involved in delivering the proposed services? Have you engaged with them at this stage? Do you have their support?,

1. Member of Parliament for Haverhill: The bid has the support of the Rt Hon Matt Hancock MP:

"Matt would very much like to support your bid to the DfT for restoring rail services from Haverhill to Cambridge.

.....

Kind regards, Elizabeth

Elizabeth Hitchcock

Office of Rt Hon Matt Hancock MP"

2. The Greater Anglia Train Operating Company supports the bid with the following response received from Jamie Burles, their Managing Director, on 2 November 2020:

"I'm pleased to confirm we are happy to support the idea in principle and we would be happy to operate such a service, if the proposal was successful.

I would work on the basis that a very strong business case will be necessary and to be pragmatic about the potential timescales for the achievement of this aim. We are still fighting hard for investment in rail infrastructure schemes which benefit even greater numbers of people on some key strategic rail routes across our region, so I think it will be a long haul to realise this aspiration. I wouldn't underestimate the capacity issues either, even if Cambridge South and East West have happened, but as I understand it, this part of the process is about securing funding for an initial study, so that should bring out the key issues and costs if this idea moves to the next stage.

Remember too that the wider business and economic case will be crucial as, even if the infrastructure was funded and restored, the day-to-day operational cost of the service is unlikely to be covered by farebox revenue. As I say, we're very happy to affirm our support, it's just important to outline some of the issues to address to try and secure a successful outcome."

3. Haverhill Town Council voted unanimously on 26 January 2021 in support of this bid at its full council meeting:

“Haverhill Town Council resolved to write to you to express support in principle for your bid to the Restoring Your Railway fund.

You will be aware that Haverhill Town Council has been extremely supportive of any plans for the restoration of a strategic public mass transport link to the Cambridge economic sub-region. We understand your particular focus is on new rail links, or resurrecting old links, with a preference for “heavy rail” because of its direct connections to existing routes. You will remember that we have previously supported the concept of a sustainable transport system for Cambridge itself along the lines now proposed by the Cambridge & Peterborough Combined Authority (CPCA) and originally suggested by the Cambridge Connect campaign group.

There are various solutions to creating this link from Cambridge, whether it be your own, that proposed by the CPCA, or from the Greater Cambridge Partnership, for rapid mass public transport.

The residents of Haverhill and surrounding villages have waited many years for a proposal finally to come to fruition and therefore Haverhill Town Council will continue to express support for all those endeavouring to do this. We urge everyone to put aside political and authority rivalry, and nostalgia, by coalescing their efforts around what is most achievable with a reliable, environmentally sound, and affordable solution. This would unlock Haverhill’s potential for employment generation, provide options for housing along the route chosen and bring economic growth to the area.

If you can create a vision that every strategic player can sign up to, then we fully support you.”

4. Stapleford Parish Council sent a letter of support on 1 March 2021:

“Stapleford Parish Council would like to express support for the bid to Restoring your Railway fund to reopen the railway from Haverhill to Cambridge which is being led by Railfuture East Anglia.

The reopened railway would transform travel between the many communities and businesses along the Haverhill to Cambridge as it broadly follows the old railway alignment passing through this parish to the local Shelford Station.

In addition, reopening the line would significantly reduce the carbon emissions from cars and other associated pollutants such as tyre and brake dust, and reduce the significant road congestion which can add more than an hour to the journey time into Cambridge at peak times.

Stapleford Parish Council believes providing the railway would bring significant benefit to the local population through improved air quality.”

What other support is there for the bid and how do you plan to maintain this? Are local communities supportive of the bid and can you provide any evidence of this support?

Very significant public support has been shown by the RailHaverhill¹² reopening campaign group which has collected thousands of petition signatures supporting the reopening of the railway line. Up to the end of 2017 a total of 4662 people signed the petition. The following number lived or worked in each of the counties (note that people appear under more than one county if they live and work in different counties).

- Cambridgeshire 1887
- Suffolk 3219
- Essex 619

¹² www.railhaverhill.co.uk

Map 6 and **Map 7** show the distribution of where people who have signed the petition live – covering the whole of Haverhill and communities around Haverhill along the line to Cambridge. The strongest support is of course from Haverhill, and some nearby villages, but there is also strong support from Linton (which would be an intermediate stop on the line) and also from Cambridge which would benefit from access to jobs at Granta Park.

Railfuture engages actively with local authorities, responding to consultations, contributing to local plans, and attending meetings to present the case for the railway network to be developed alongside jobs and housing in the region. Haverhill would become part of this continuing process.

What opposition is there to the bid (if any)? How do you plan to overcome this?

We are not aware of any coordinated opposition at this stage.

6. Socio-economic benefits of the project

In presenting the socio-economic benefits of the project please provide information on the population, employment and gross weekly earnings statistics for the local authority district(s) impacted by the project and the geographic area of the project's origin and destination to help make the case for your bid, where available.

Economy

At present, a lack of rail infrastructure within Haverhill limits travel opportunities and the growth potential of the town.

Development of Haverhill and the other stations will increase access to the rail network throughout the corridor, enhancing the attractiveness of Haverhill as a place to work and live, thereby having a strong positive impact in terms of economic development. Connectivity between Haverhill and the surrounding area with Greater Cambridge will be increased, with the new station helping to tackle congestion on a key regional freight and employment corridor (A1307) supporting local and regional economic performance and development growth along this corridor.

The average house price in Haverhill is £200,000 less than that in Cambridge. That is of course is an advantage if you live in Haverhill and work in Cambridge. However the disparity is also an indicator of the lack of high skilled employment opportunity in Haverhill itself. This in turn is emphasised by the difference in average wage (£41,100 in Cambridge, compared to £26,000 for Haverhill and £29,000 for the UK).

Population, employment and gross weekly earnings statistics

Haverhill is in West Suffolk District, with an estimated population of 179,045 in mid-2019. The gross weekly pay is tabulated below, with other figures for comparison. West Suffolk is substantially behind South Cambridgeshire and Cambridge, and below that of the national figures, with a median which has declined year on year. 95,300 people are considered economically active (53.2% of the population).

Fig 2. Table Comparing 2019 Gross Weekly Pay Haverhill/West Suffolk and Cambridge¹³

	Median	YoY change	Mean	YoY change
West Suffolk	460.7	-2.3	579.2	1.3
South Cambridgeshire	632.4	10.6	745.5	3.9
Cambridge	557.2	0.6	648.1	-0.9
England	482	3.5	580	2.8
UK	479.1	4.2	471.2	2.9

Fig 3. Table showing 2019 employment numbers Haverhill/West Suffolk¹⁴

	West Suffolk	%
Economically Active	95300	86.1
In employment	93200	84
Employees	82100	74.1
Self employed	11100	9.9
Unemployed	2100	2.3

The restored railway from Haverhill will efficiently and directly connect to Linton, Sawston, Shelford, Cambridge South, Cambridge Central, Cambridge North and Waterbeach New Town. Haverhill regards itself as a “left behind town” – the railway would certainly be busy offering young people access to the very different world of the major regional centre of Cambridge in a few minutes. The committed home building will soon bring the population up to 45,000. **Map 14** shows the key resources at each of the stations on the line including the number of knowledge based jobs at each location – there is continued demand for knowledge based R&D office blocks in Cambridge¹⁵.

Buses run at 2 per hour but provide overall poor journey times. But although the mode must be seen as an important connecting link, it does not provide the capacity and speed to encourage the necessary modal shift for those who can choose to transfer from car to public transport. It is a journey time that puts those who have to use the bus for work or leisure purposes at a definite quality of life disadvantage.

The railway will give rapid access right across the Cambridge conurbation with its high concentrations of workers around the railway stations, all the main industrial zones, including the huge developments planned at Cambridge North and Waterbeach, improving quality of life and

¹³ www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/placeofresidencebylocalauthorityashet
[able8](https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/placeofresidencebylocalauthorityashet)

¹⁴ www.nomisweb.co.uk/reports/lmp/la/1820328123/report.aspx?town=haverhill

¹⁵ www.cambridgenetwork.co.uk/news/demand-offices-and-laboratories-are-all-time-high-being-driven-knowledge-intensive-industries

wellbeing through an inclusive transport system, accessible to all, emphasising sustainable and active travel. **Map 16** shows Cambridge with the main area for jobs, healthcare and education.

- Easy access to Cambridge Biomedical Campus; Cambridge Central Station high tech zone; Cambridge North Science and Business Parks; Waterbeach Business Park.
- Easier access to the regional hospitals at Cambridge South station.
- Easy access to the regional night economy of Cambridge and London
- Easy access to jobs for low paid shift workers

Transport benefits

Please provide an overview of the transport benefits that the project could deliver, with consideration of expected levels of demand (including assessments of population catchment areas), journey time savings and new journey opportunities created by the project. Please also outline how your project will integrate with other modes of transport such as cycle routes, local bus services and adequate station car parking facilities.

(Note: at this stage the expected transport benefits may only be qualitative, and if development of this is part of the feasibility/ideas work needed, please state this).

Population and Catchment Areas and Integration with other modes of transport

Haverhill: had a population of 27,000 in 2011 and the local plan indicates substantial new housing of about 7,000 units. It is anticipated that most Haverhill rail users would access the station by walking and cycling. Ely has a similar urban topography, with a station on the periphery of the town where access is mainly by walking and cycle, supporting an annual footfall of nearly 3 million. However a park-and-ride facility at Haverhill station should be provided in order to intercept road traffic travelling westward from the upper and mid Stour Valley in Suffolk and the upper and mid Colne Valley in Essex. See local **Map 17**.

Linton: the local plan has allocated few housing units to Linton “owing to the congested and high casualty” A1307 trunk road passing through it. A station here would serve the village with good active routes for people to access the station on the southern periphery by walking or cycle.

Granta Park: this station will serve the nearby Granta Park research facility. This is a site of international significance currently hosting nearly 4,000 research specialists. Most users of the station would walk or cycle into the Park, less than 5 minutes’ walk away. The station would also serve the nearby Babraham Research Centre with its 1,000+ employees. Little Abington village is close. A small park-and-ride site should be provided at this station site for local residents use, but not to attract users on the adjacent (M11)/A11 trunk road. See local **Map 18**.

Sawston: the local plan has allocated 540 housing units to this mature settlement of nearly 8,000 inhabitants. This build-out will bring the population to over 10,000 people. It is poorly served at the moment with its nearest station being Whittlesford Parkway. The new station will be on the northern periphery of the village and with the provision of good active travel facilities would be accessed mainly by walking and cycling. Babraham Research institute is just 1 mile away. See local **Map 18**.

Shelford: an existing station and potential stopping point on the West Anglia Main Line serving Stapleford, Great Shelford and Little Shelford with a population of 7,000. There is no car parking space available so most users access the station on foot or by cycle.

Cambridge South: the local plan has this station opening in 2025. Its function is primarily to service the Cambridge Biomedical Campus (CBC), with a predicted footfall of 9 million a year. It is expected that the principal access will be by walking and cycle. **A report recently published by the Greater Cambridge Partnership (GCP) says that by 2031, the CBC is expected to see 26,000 workers accessing the campus, with 25,100 patients and visitors also needing access. This, the GCP warns, equates to 67,500 daily trips to the biomedical campus, 46,400 of which are predicted to be made by car “if current travel patterns continue”.** There are very large well established suburbs to the east and sizeable new estates to the west. A large sixth form college is within 5 minutes’ walk. See local **Map 19**.

Cambridge Central: this station is at the heart of the built up area of Cambridge and serves the historic centre with its ancient college buildings and traditional Central Business District functions. However, the area around the station has become a major business hub with thousands of jobs, largely high tech research, based in the many newly built multi-storey blocks. The station serves several large regional schools and colleges, within 10 minutes’ walk. The current footfall of the station is nearly 12 million per year. Access is mainly by walking and cycling, and through a co-located bus station. A large car park and taxi-rank is provided. See local **Map 20**.

Cambridge North: in the local plan for many years, this station is now three years old, with footfall approaching 1 million per year. The station has good access to the nearby business and science parks as well as to the large and mature housing estates to the west and southeast over the river Cam. A new suburb is planned that will add about 15,000 more inhabitants as well as 20,000 more jobs. The current number of high skilled jobs within a mile of the station is about 20,000. Access is by car via the large railway park-and-ride site, by walking and by cycling. There is potential for very good bus links to a wide area from the station, though these links have yet to be developed properly. See local **Map 21**.

Wider Connectivity

Besides Cambridge, the restored railway would enormously improve Haverhill’s wider connectivity, with frequent connections available at Cambridge South or Cambridge Central to Royston, Stevenage, London King’s Cross-St Pancras, London Blackfriars, London Bridge, Croydon, Gatwick Airport, Brighton, Ely, Norwich, London Liverpool Street, Tottenham Hale, Stratford, Peterborough, the North of England, Scotland, East and West Midlands, Newmarket, Bury and Ipswich – most of these destinations with only one change of train in Cambridge as shown on **Map 15**. Bedford, Milton Keynes and Oxford via East West Rail will be available by the end of the decade, and this will also help the EWRL business case, so will extract additional benefit from this already committed scheme.

Bike and Train

In the Cambridge area it cannot be stressed too much that the bike culture has never died away. Bike and train must be seen as natural partners, with rail perfect for fast longer journeys and bike for the last mile. Every station existing and proposed must be linked to and through its communities by quality bike and footpaths, active travel and good bus connections where appropriate.

Journey time savings and new journey opportunities

The transport corridor is currently served by conventional bus services, with the table below recording the journey times for the normal daytime service (13) and the peak only express service (X13). The time savings offered by a rail service are substantial and probably underestimated, as at peak times the bus journey times are often considerably longer due to congestion. The railway would open up Cambridge North as a practical destination for jobs and education from Haverhill.

Fig 4. Comparative timings between existing bus 13, 13A, X13 and a railway service

Journey time	13/13A	X13	Railway (+)	Time saving
Haverhill	0	0	0	
Great Abington / Granta Park	44		11	33
Addenbrooke's / Cambridge South	61	41	19	22
Opp Station Rd / Cambridge Station	69	49	22	27
Drummer Street	76	56	34 (*)	22
Cambridge North			27	

(*) connection with 5 min interchange and 7 min bus journey

(+) fastest journey times excluding stops at Linton, Sawston and Shelford

Wider benefits

Please provide an overview of the wider economic benefits that the project could deliver, with consideration of additional job opportunities, improving access to key services and facilitating new development. Please also outline the anticipated environmental impact and/or benefits of the project. For example, does the project serve an area covered by an Air Quality Management Area.

(Note: at this stage the expected wider economic benefits may only be qualitative, and if development of these forms part of the feasibility/ideas work needed please state this).

The development of Haverhill, Granta Park, Linton and Sawston stations and interchanges could be expected to deliver a wide number of benefits, including at national level improved connectivity leading to better social inclusivity outcomes, economic efficiencies, decarbonisation, with better air quality (particularly important in Cambridge) helping to drive down other emissions such as tyre particulates. Delivery of the stations will increase access to the rail network for many more residents on the A1307 corridor, as well as delivering a wide range of local social, economic and environmental benefits by providing an attractive rail alternative for current users of the A1307. The opening of the new stations will increase the attractiveness of Haverhill in particular, which will lead to an increase in housing demand and therefore help support current development plans across the area.

In terms of Wider Economic Benefits, a new Haverhill station would be expected to deliver agglomeration benefits within the town. The opening of the station would improve accessibility for businesses and workers within the area, as it can be considered that the size of the town and the relatively high number of businesses will be enhanced by the positive effects in terms of agglomeration.

The station development will also have positive impacts on transport costs for local residents and the wider area. In particular, the reduction in journey times will enhance opportunities for commuters who travel to key destinations, such as Cambridge South, Central and North and London. The reduction in journey times could also positively impact on the number of people willing to enter the labour market or those willing to work more hours if their commuting time is reduced. This will lead to a higher productivity of the labour market across the A1307 corridor.

In more detail these wider benefits are:

1. Haverhill Regeneration

Although there are several deprived areas within Haverhill, many people live in the town but work elsewhere, particularly in Cambridge. Haverhill's housing stock is considerably cheaper than that found in Cambridge, for example in February 2021, the average house price in Haverhill was £256,318 compared to the average price in Cambridge of £456,334. This disparity is no doubt exacerbated by substandard transport links but has resulted in many essential workers, particularly those in health care, **having** to live in Haverhill.

In contrast to the projected lack of jobs in Haverhill, the approved development area of North East Cambridge¹⁶ centred around Cambridge North railway station, has provision for 20,000 new jobs plus 8,000 new homes. This associated housing in North East Cambridge is for about 10,500 people of employable age, a shortfall of 9,500 people against jobs. It is essential that Haverhill is connected to this development by fast electric trains directly to Cambridge North. The Cambridge Science Park and the various Business Parks, close to Cambridge North station, already employ some 20,000 people. The Haverhill based sector of the workforce is further penalised by having to use a slow bus journey or a car over a congested road each way each day. It simply needs the better public transport that only rail can provide.

New analysis by Smarter Cambridge Transport¹⁷ of developments in the planning pipeline up to 2031 show that new jobs are being created at 50% above these forecasts. The Local Plans forecast 44,100 new jobs in Cambridge and South Cambridgeshire between 2011 and 2031. Up to March 2020, 15,400 new jobs had already been created, but a further 54,180 jobs are to be created at major developments in the planning pipeline, bringing the total to 69,580, around 50% higher than the original forecast. These jobs are distributed to Cambridge North 29,000, Cambridge Central 7,500, Cambridge South 5,000, Granta Park 2,100, Waterbeach New Town 4,000, Cambridge East (new station assumed for the Fulbourn area) 1,900 and Whittlesford Parkway 4,680. At the ratio used in the current Local Plans, this would imply a need for 52,500 new homes, or 19,000 more than are currently planned. Worse still, employment sites are being built out much more quickly than housing.

Many young people in tertiary education want to take up places in Cambridge tertiary colleges, amongst the best in the UK, but are put off from doing so by both bus and car journeys. Their life chances are adversely affected, if in unquantifiable ways; health care access is limited in Haverhill, there is no hospital and an extremely poor doctor to patient ratio. Many patients have to use the slow bus service or if they have access to a car, travel over stressful, slow dangerous roads. The ongoing planned population growth will cater for those who have to live in Haverhill, not because they want to. This is no way to regenerate the town. Increased population yes, but no economic prosperity.

The railway line will provide the socially inclusive access to jobs as well as better access to healthcare and educational opportunities. Haverhill is to expand significantly over the next decades but the people who move in must want to live there, not because they have to. The town must not be allowed to become a hidden township out of sight over the Gog Magog Hills. Only a quality railway link can provide that positive outcome.

2. Job Opportunities

A railway from Haverhill to Cambridge North will undoubtedly provide quality access to significant and growing job opportunities as outlined in the transport benefits section, with substantial job

¹⁶ www.greatercambridgeplanning.org/emerging-plans-and-guidance/north-east-cambridge-area-action-plan/

¹⁷ www.smartertransport.uk

opportunities via stations at Granta Park, Cambridge South, Cambridge Central and Cambridge North and Cambridge East.

However, there is already a small science park within Haverhill itself. It is owned by Cambridge City Council. The railway would put this science park within a few minutes of Cambridge, not well over an hour as it is currently. This facility would be most attractive to new start-up companies. They would be able to recruit from the skilled workforce in Cambridge who currently will not contemplate a daily journey to Haverhill. As companies move into Haverhill they can recruit locally too, bringing locally produced prosperity to town. Then skilled workers will want to live in Haverhill. Currently rentals are much lower than in Cambridge but few businesses take advantage of the site¹⁸. The railway will also bring Haverhill into reasonable journey times of many other knowledge based industrial centres, including London and Stevenage (**Map 16**).

3. Health

The Haverhill to Cambridge corridor encompasses the Biomedical Campus with Addenbrooke's and Royal Papworth & Rosie Maternity Hospitals. These are Haverhill residents' main health care centres. They are some of the best in the world but access from Haverhill is, as repeatedly stated here, poor. **Although these are served by the current bus service, the railway will provide a step change in speed, capacity and reliability.**

The Biomedical Campus Transport Needs Review (2019)¹⁹ records the significance of Haverhill and the Biomedical Campus for staff:

1. *"most staff live within the Wider Study Area, with the majority living within Cambridge, Haverhill or East Cambridgeshire"*
2. *"reinforces the importance of the Cambridge-Haverhill corridor for staff travelling from Haverhill and those travelling from Saffron Walden and North Essex."*
3. *891 members of staff live in the CB1+CB2+CB3 (Cambridge) and "1,403 members of staff live in the CB9 (Haverhill) postcode district"*
4. *and about patients:*
"The largest number of patients originate from Cambridge, Haverhill and East Cambridgeshire"

4. Education

Haverhill's 2031 vision describes the importance of Cambridge in providing higher level education for Haverhill²⁰:

"In recent years there has been improvement in educational attainment at Haverhill's secondary schools with Samuel Ward Academy achieving above national average results in 2011 and 2012 at Key Stage Four/GCSE. West Suffolk College manages the LEAP Centre on the High Street which provides advice on education, training and skills opportunities in the area. However, many people have to go to Bury St Edmunds or Cambridge for further and higher education."

Recently (Feb 2021) the well regarded Samuel Ward School in Haverhill told us it is obviously very proud of its Sixth Form status. It heavily played down the need for 6th form student travel out of Haverhill in particular toward Cambridge. Furthermore it stressed a good proportion of those initially taking places within Cambridge gravitate back to Samuel Ward after a term of a weary travel commute.

However as we say elsewhere, Haverhill tertiary students have the right to choose a sixth form college in Cambridge. Hills Road College has some of the best outcomes in the UK, so if transport

¹⁸ <https://www.haverhillresearchpark.com/>

¹⁹ <https://scambs.moderngov.co.uk/documents/s110158/Biomedical%20Campus%20Transport%20Needs%20Review%20Part%201.pdf>

²⁰ https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/HH-Vision_2015v8-hi-res-compressed.pdf

links are denying Haverhill young people the undoubted benefits of attendance there, those transport links must be rectified.

The general principal here is that young people transitioning between dependence to independence with nights out in Cambridge, attending a new school with new friends to discover, are not able to do with the same freedom and safety of their peers in Ely, Royston or King's Lynn.

The major regional tertiary college for vocational and skills acquisition is the Cambridge Regional College close to Cambridge North station. Four thousand students attend each day. This total includes just 30 young people from the Haverhill CB9 post code attending on a daily basis. It is a heroic journey by public transport. It is obvious that inadequate quality transport links are depriving the region's (and nation's) economy of significant skills acquisition as well as blighting the life chances of young people.

5. Facilitating new development

In addition to 4,260 homes already planned (2009-2031), some 3,650 new homes (up to 2040) have either received planning consents or are proposed by West Suffolk District Council (WSDC) across two sites in Haverhill as shown in **Map 8**.

Cambridgeshire, Suffolk, Essex are all seeing notable growth, so Haverhill is set to experience an increase in housing stock of regional significance.

These additional homes will add about 15,000 people to an existing population of around 30,000, bringing the population up to about 45,000 by 2040. But again we must note that the Haverhill economy is not providing jobs for that growth. The local plan has identified just 370 jobs across these two sites.

A view from a prominent local politician (In 2020) ... "There is very little commercial land now available in town with the Business Park having just gained permission for 5 more warehouses, an estimated 200 extra HGV movements a day along the A1307, and of course [they provide] very little employment compared to manufacturing facilities". This indicates that although the existing and planned housing stock of Haverhill is already of importance due to the contribution it represents to regional targets, it is above all, providing external economies with high numbers of their respective workforces, for example Greater Cambridge, particularly at the many and varied activities undertaken at the Cambridge Bio-Medical Campus. There are issues with a number of other housing developments in Suffolk, which may lead to pressure for more housing to be allocated to Haverhill, including the development at Mildenhall being rescinded as the air base is remaining open, and the proposed new town just west of Bury St Edmunds no longer certain."

6. Environmental impact

The railway itself will have low environmental impact with an electrified line having no emissions at use, and will become a part of the route to achieving net-zero carbon emissions from transport no later than 2050.

General impact:

1. Cambridge to Shelford: trains for Haverhill will travel on an existing railway.
2. From Shelford to Haverhill the railway will follow more or less the original route. An outline environmental assessment is shown on **Map 4** and **Map 5**.

7. Project deliverability

What will be the impact of the project on the existing railway infrastructure and operations? Please set out the impact both during the construction phase and 'business as usual' once the work is completed.

The Haverhill to Cambridge restored railway would re-join the current national network just south of Shelford station. The site is a large one in Network Rail ownership and will pose no physical or engineering problems.

The restoration from Haverhill of an all-day train service of 2 tph would pose few difficulties on the main line it joins at Shelford. However, a few hundred metres to the north is the junction with the King's Cross via Stevenage line. North of this point there would be very real capacity issues if the current double track north to Cambridge Central station was to be left as is.

However, the planned but not yet built East West Rail line faces the same problem, so as part of this scheme the route is to be four tracked up to and through Cambridge Station. This will provide the required capacity for both East West Rail and the service from Haverhill. Mitigation of additional platform capacity requirement at Cambridge could be achieved by linking the Haverhill service with those terminating from the north e.g. from the Ipswich line or the projected service from Wisbech.

The Haverhill restored railway would join a considerable regional railway network, with frequent train services, all with recently introduced higher capacity trains by the Thameslink/Great Northern and Greater Anglia train operating companies. As in any network when a new link is introduced, there would be considerable but manageable new traffic joining the network.

Please provide an estimate of the proposed capital costs to deliver and operate this project?

The reopened line would be approximately 15 miles long and have the following structures detailed on **Maps 10 to 13**. The only bridge which still exists is near Stapleford which is in active use, although there is now a parallel cycle path which would need routing over the railway. The bridge over the A11 by Granta Park is the most significant structure required, as the dual-carriageway road it would need to cross has been built since the line closed. Other bridges along the line were simply to carry the line over minor public roads serving the villages. There are two public roads which cross the line on the level and a number of crossings for private lanes and footpaths. Note that the line passed predominantly through farmland and farm crossings are not included in the totals below.

Fig 5. Table showing existing bridges and level crossings Shelford exclusive to Haverhill & proposed stations.

Area	Bridges	Public crossings	Private crossings	Footpaths	Stations
Stapleford	1				
Sawston	1	1	1	2	1
Granta Park	1		2	1	1
Linton	2			4	1
Bartlow	3		3	1	
Cardinal's Green		1	1	1	
Haverhill				2	1
Total	8	2	7	11	4

2015 Cambridge to Haverhill Corridor Study as a basis

The 2015 Cambridge to Haverhill Corridor Study²¹ estimated the capital cost to be £388.7m and £3.9m annual operating costs based on a contingency of 60% of capital costs and an optimism bias of 60% of capital costs applied. Operating costs have been assumed annually as 1% of the full capital costs. Note that these costs are estimates of how much the scheme will have cost when it opens in 2025, so have been increased above present day prices. Note too that these costs assume a station in the centre of Haverhill. Even accounting for 10 years of inflated construction costs this is very high. The recently reopened Borders Railway cost approximately the same as this, but is about twice the length and has twice the number of stations.

If the railway to Haverhill could be delivered for the same cost per mile as the Borders Railway, then the cost would fall by half, and the Benefit to Cost Ratio (BCR) would immediately reach the figure of 2.0.

²¹ citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/A1307_Rail_Viability_Technical_note_27.11.2015.pdf

Fig 6. Table showing benefits and costs and ratio of railway restoration as concluded by the 2015 report

Rail - Single	
Benefits	
Revenue	268.8
Journey Time	31.2
Non User	32.3
Total Benefits (a)	332.2
Costs	
Capital	261.3
Operating	68.7
Indirect Taxation	6.34
Total Costs (b)	336.3
Net Present Value (a-b)	
Net Present Value	-4.1
Benefit Cost Ratio (a/b)	
Benefit Cost Ratio	0.99

A number of other reasons why the 2015 costings and BCR need to be revisited are:

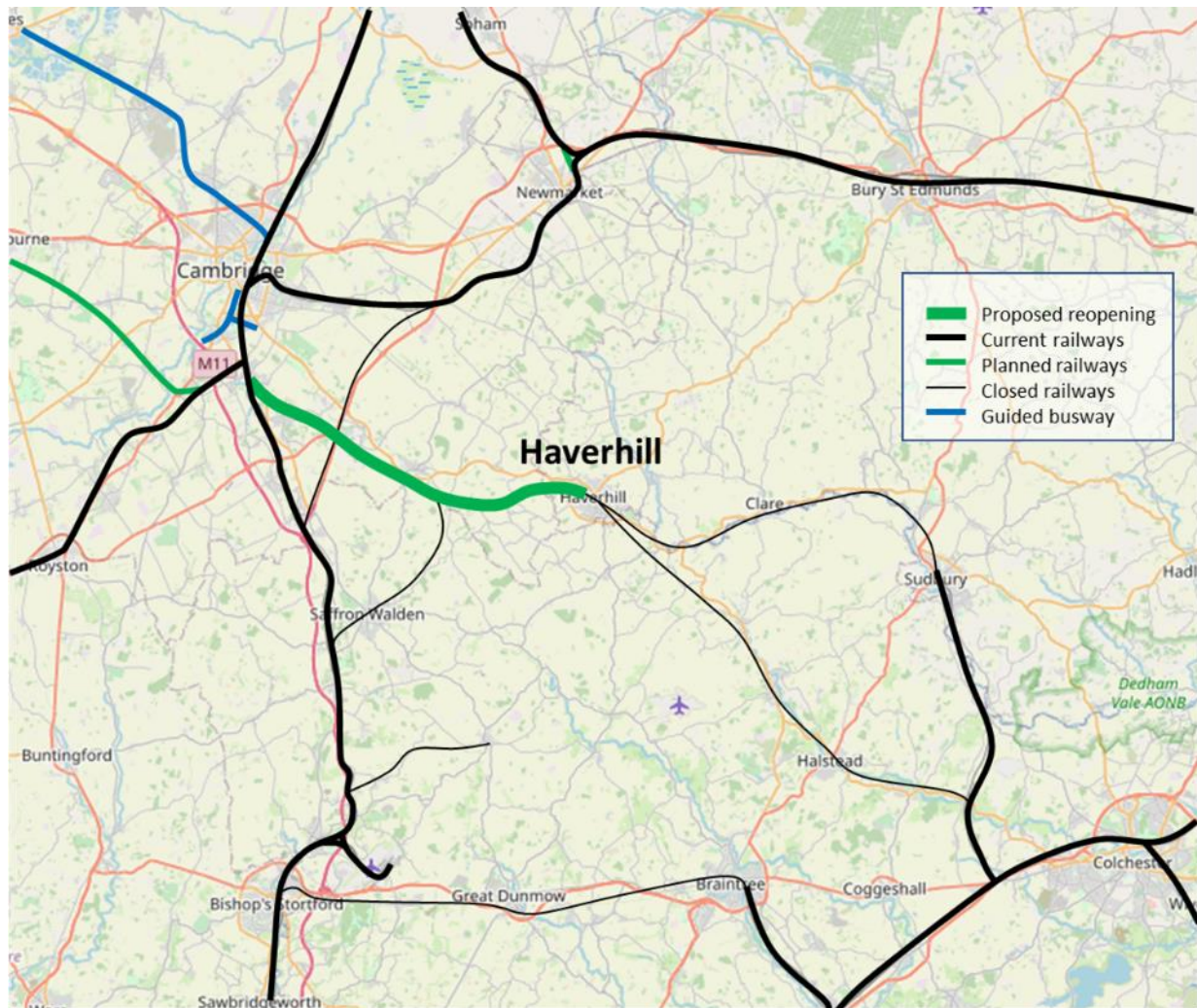
- The capital cost contains a very high figure of 60% for risk and contingency
- The study assumes an expensive route to the centre of Haverhill; other lower cost options should be studied
- Passenger growth has been assumed to be low with the figure for 15 years given as 15%, whereas rail travel to Cambridge has seen growth of 25% in the last 5 years alone
- Haverhill's population is expected to increase by over 30% by 2025 which again makes the study's modest 15% increase look very pessimistic
- The wider economic benefits have not yet been assessed. This typically adds an additional 15% of benefits
- A figure of 28% for the modal share for rail into Cambridge could be pessimistic – Ely has a figure of 40%
- There are a number of other rail schemes which are due to be delivered in the next 10 years, for example the East West Rail link from Cambridge to Oxford, which will magnify the benefits of the Haverhill scheme. A proposed new station at Addenbrooke's (Cambridge South) will provide significant additional journey time benefits to rail passengers from a reopened Haverhill line

Please provide an outline programme for the delivery of the SOBC, including estimated timescale from start to delivery. If the development of an outline programme is an aspect of the proposed feasibility work, please state this.

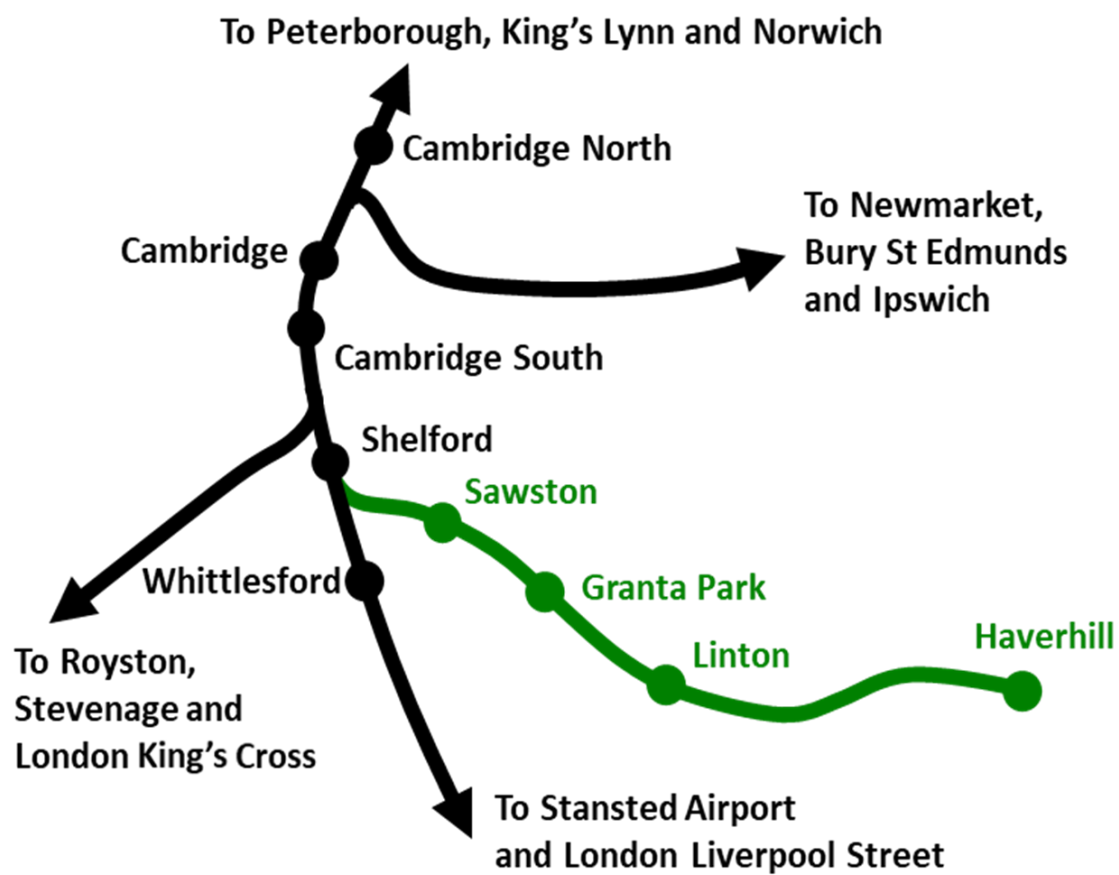
The study which is the scope of this funding bid is estimated to take 6 months, so assuming a start in the first half of 2021 would be complete by the end of 2021. This study would also look at the project timescales.

8. Maps of your proposed project

Map 1. The current rail and guided bus network in relation to lines to Haverhill closed in the 1960s

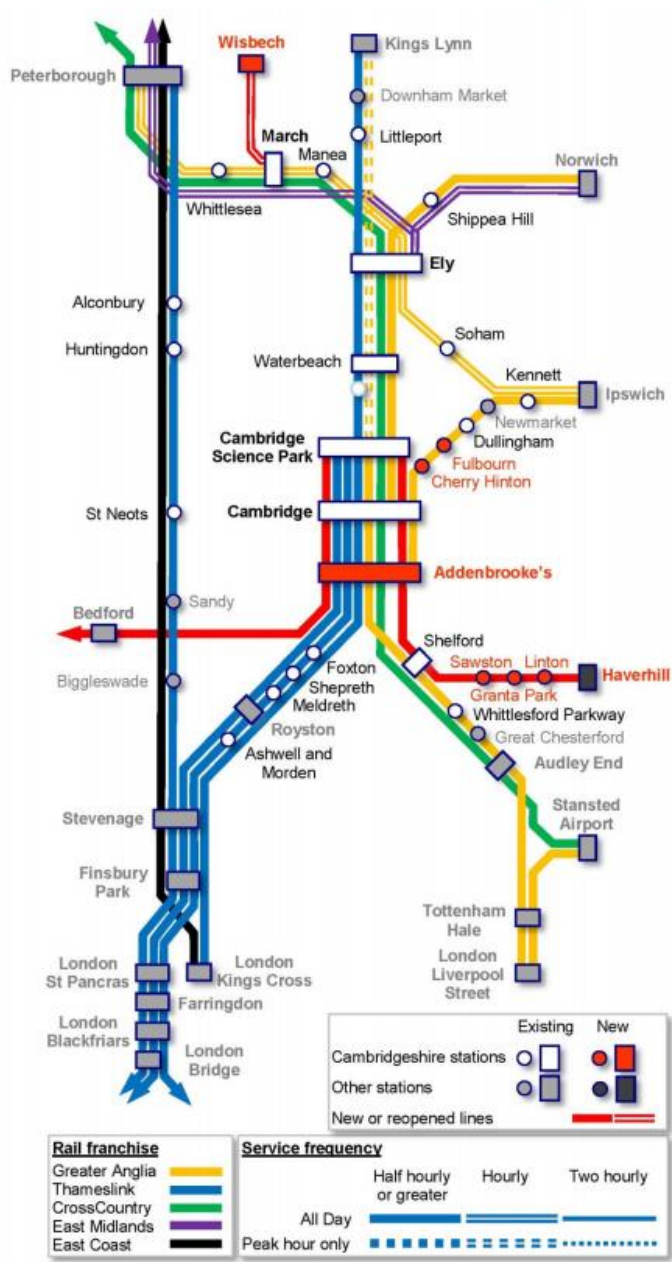


Map 2. The reopened railway line in the context of the current railway network



Map 3. Cambridgeshire County Council Local Transport Plan showing the railway to Haverhill

Figure 4.8. Further opportunities for rail in the medium to longer term.

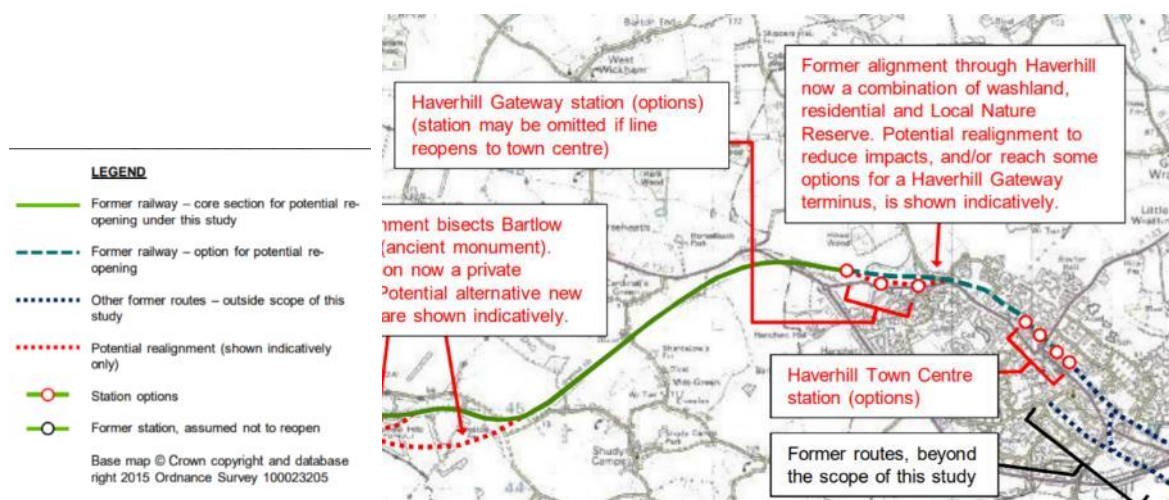
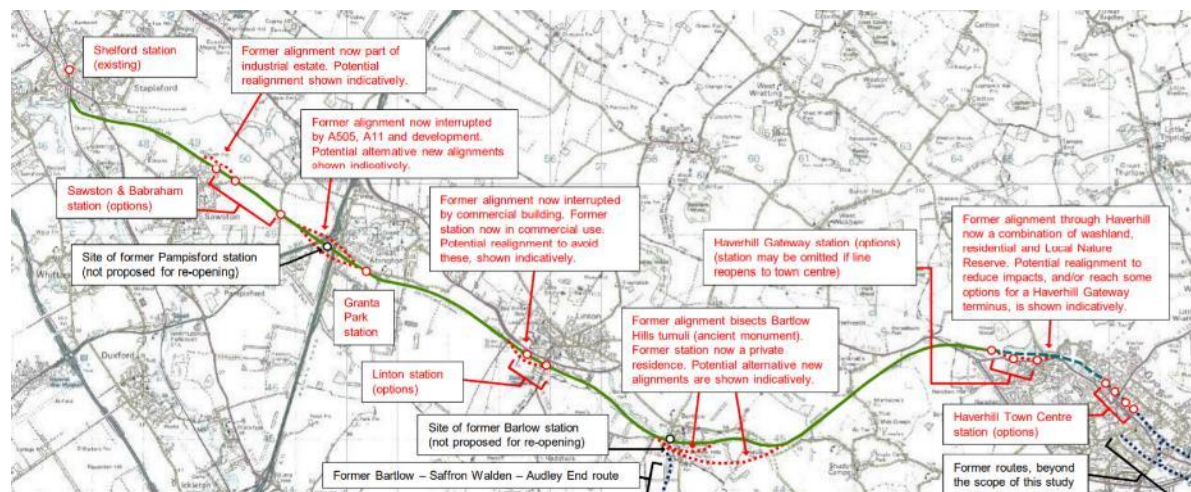


Map 4: Red, Amber, Green status of the line from the 2015 Cambridge to Haverhill Corridor Study

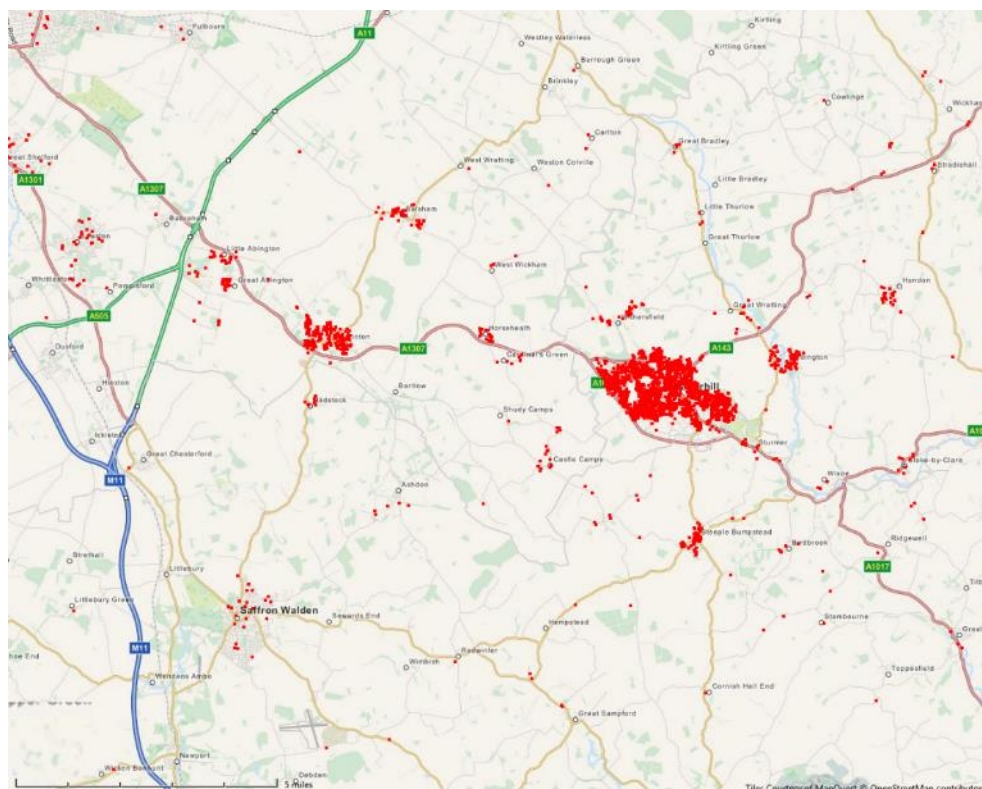


- Red – significant issue and/or risk which would most likely require a significant piece of infrastructure / significant solution including realignment (where the original alignment cannot be achieved);
- Amber – major issue and/or risk which may require additional consideration including realignment;
- Green – generally no major physical constraints but further review is required.

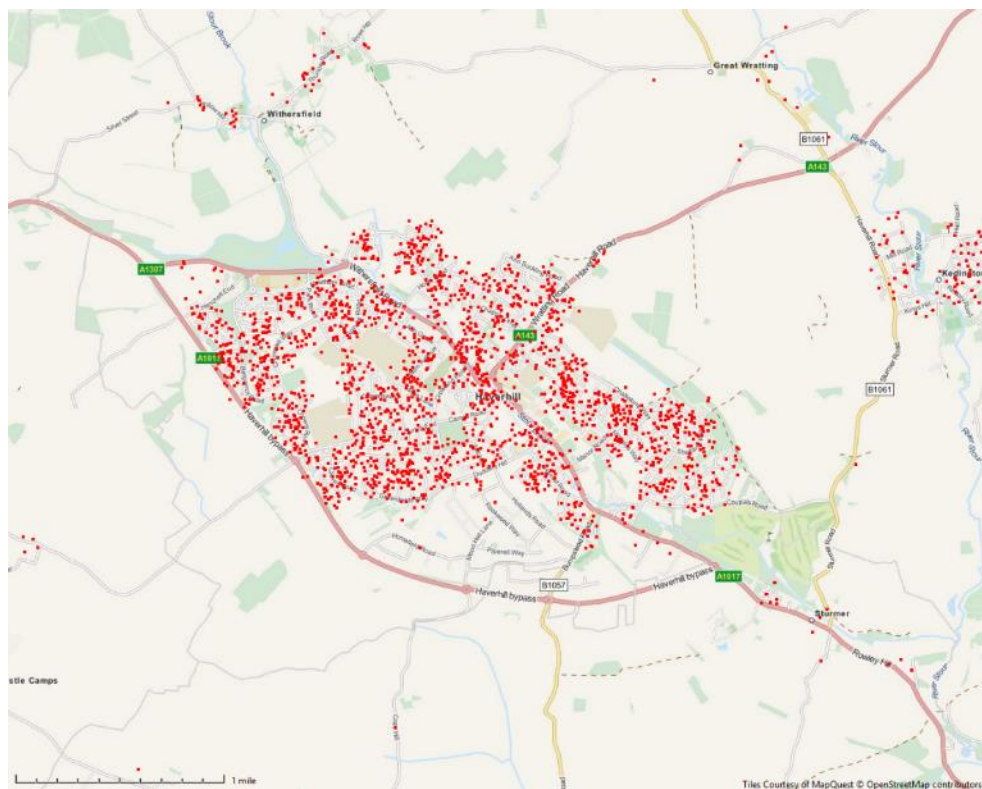
Map 5. Potential realignments to indicate potential environmental issues: from the 2015 Cambridge to Haverhill Corridor Study



Map 6. Petition support along the line with Linton and Haverhill particularly prominent from postcode information from petition supporters

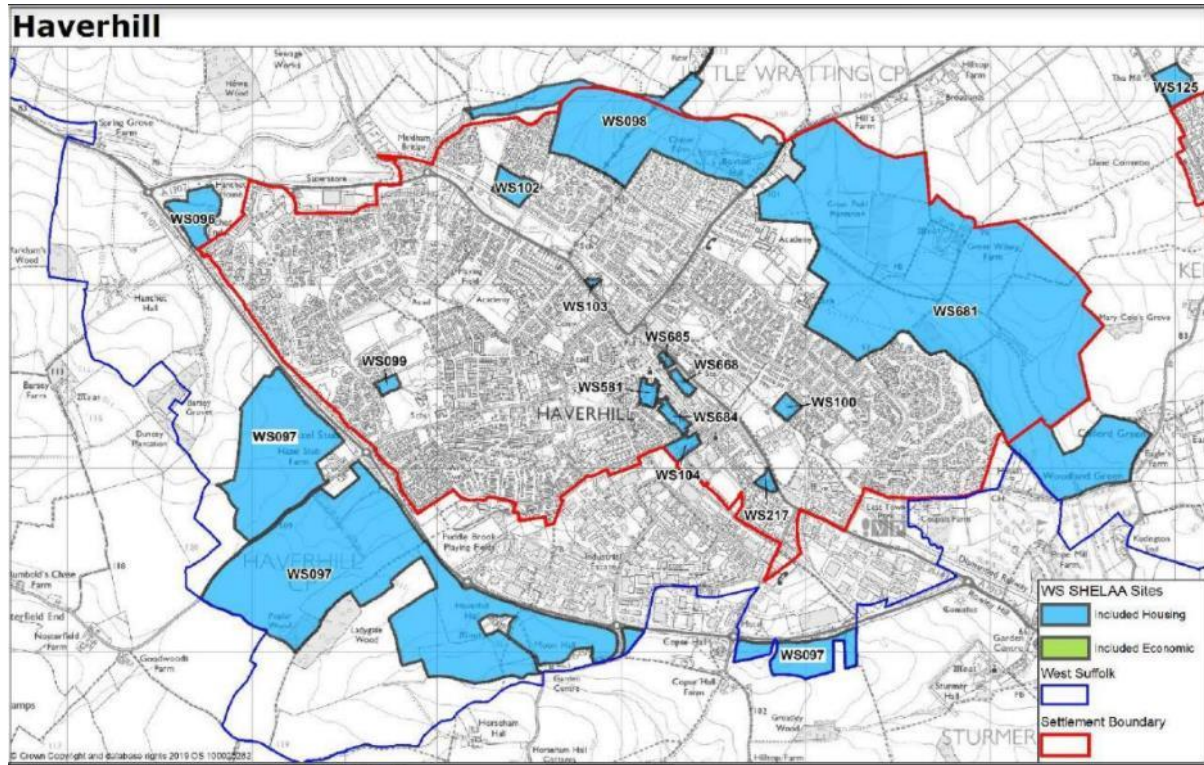


Map 7. Detail of petition support from Haverhill covering the whole of the housed area

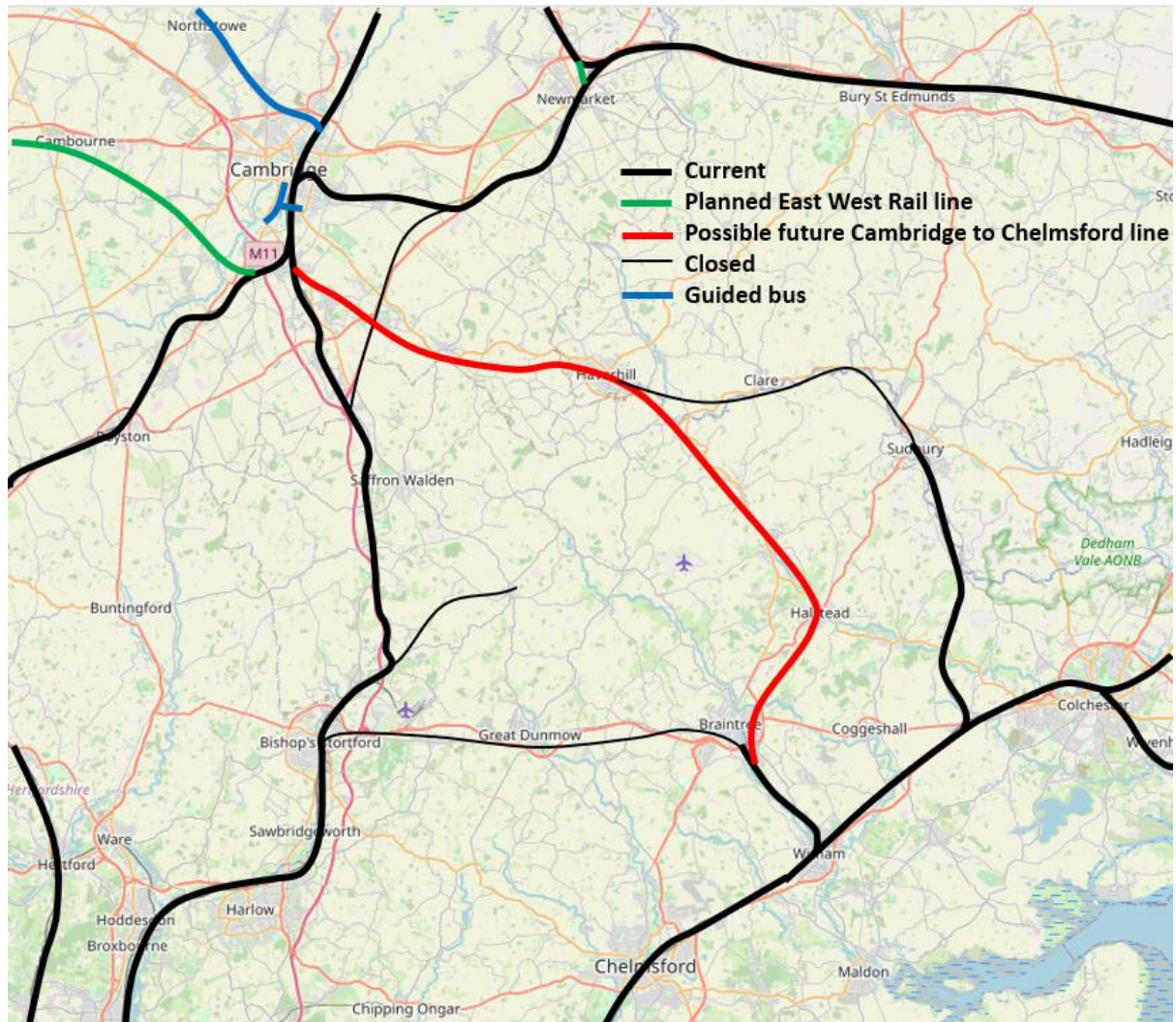


Each red dot represents postcode of signatory on petition calling for the restoration of the railway (2018)

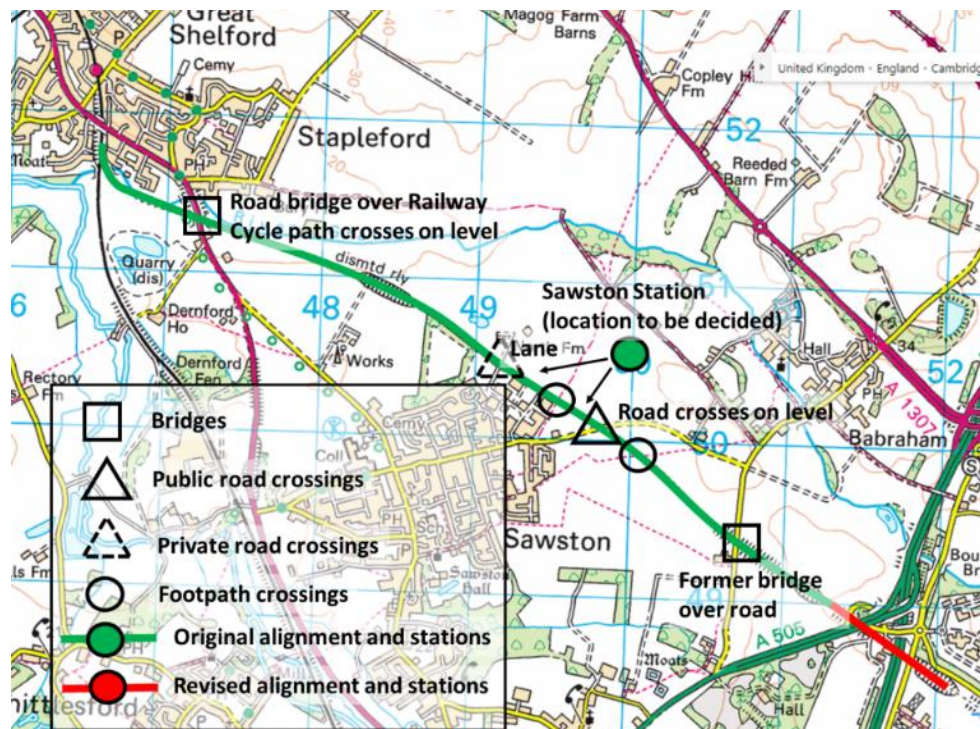
Map 8. The West Suffolk District Council Strategic Housing and Economic Land Availability Assessment (SHELAA): the Haverhill districts under study for further growth for 4,000 additional homes



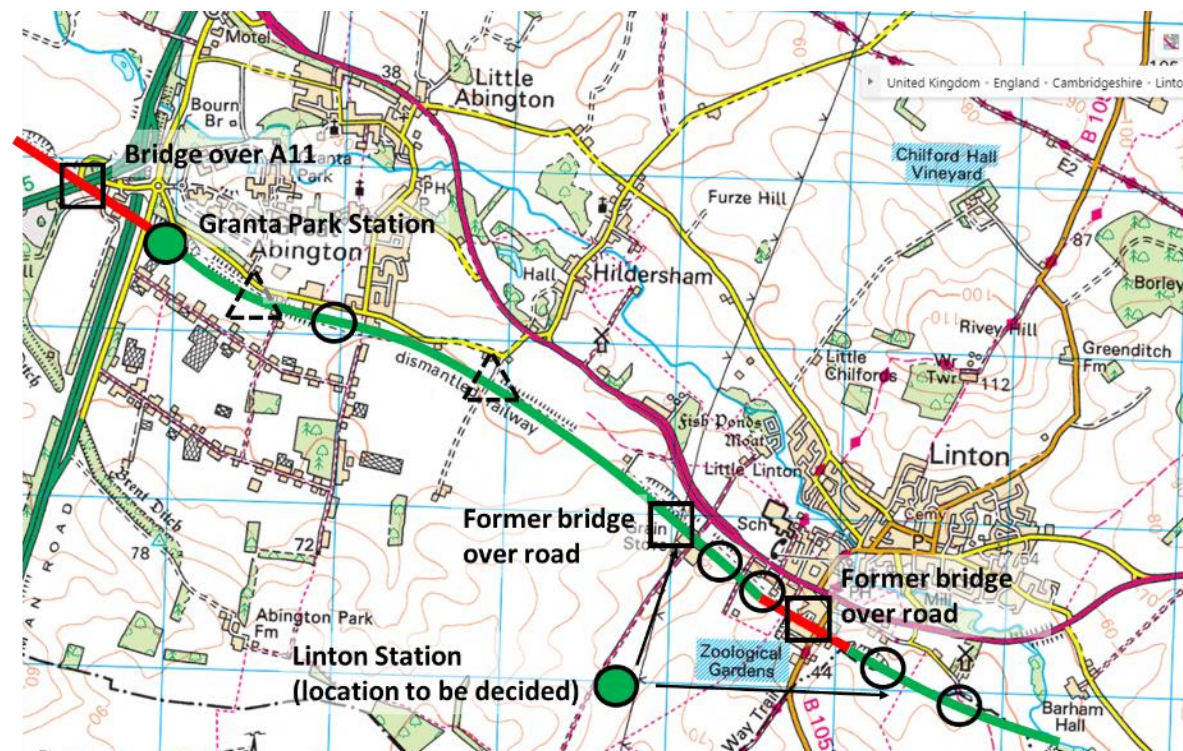
Map 9. The reopened line from Shelford to Haverhill as part of a future Cambridge to Chelmsford link (this would further develop Haverhill's connectivity)



Map 10. Structures and crossings in the Stapleford and Sawston areas



Map 11. Structures and crossings in the Granta Park and Linton areas (see key on map 10)

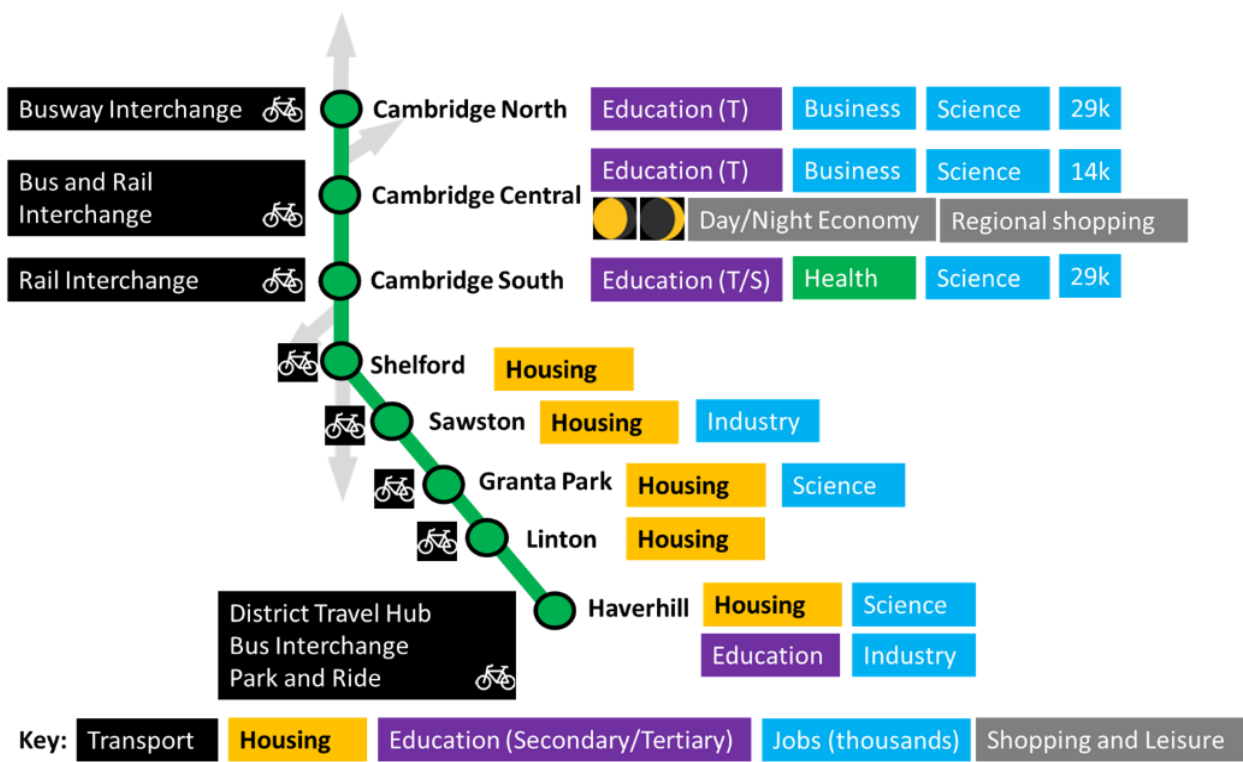


The map shows the Linton area in North Yorkshire. Key features include:

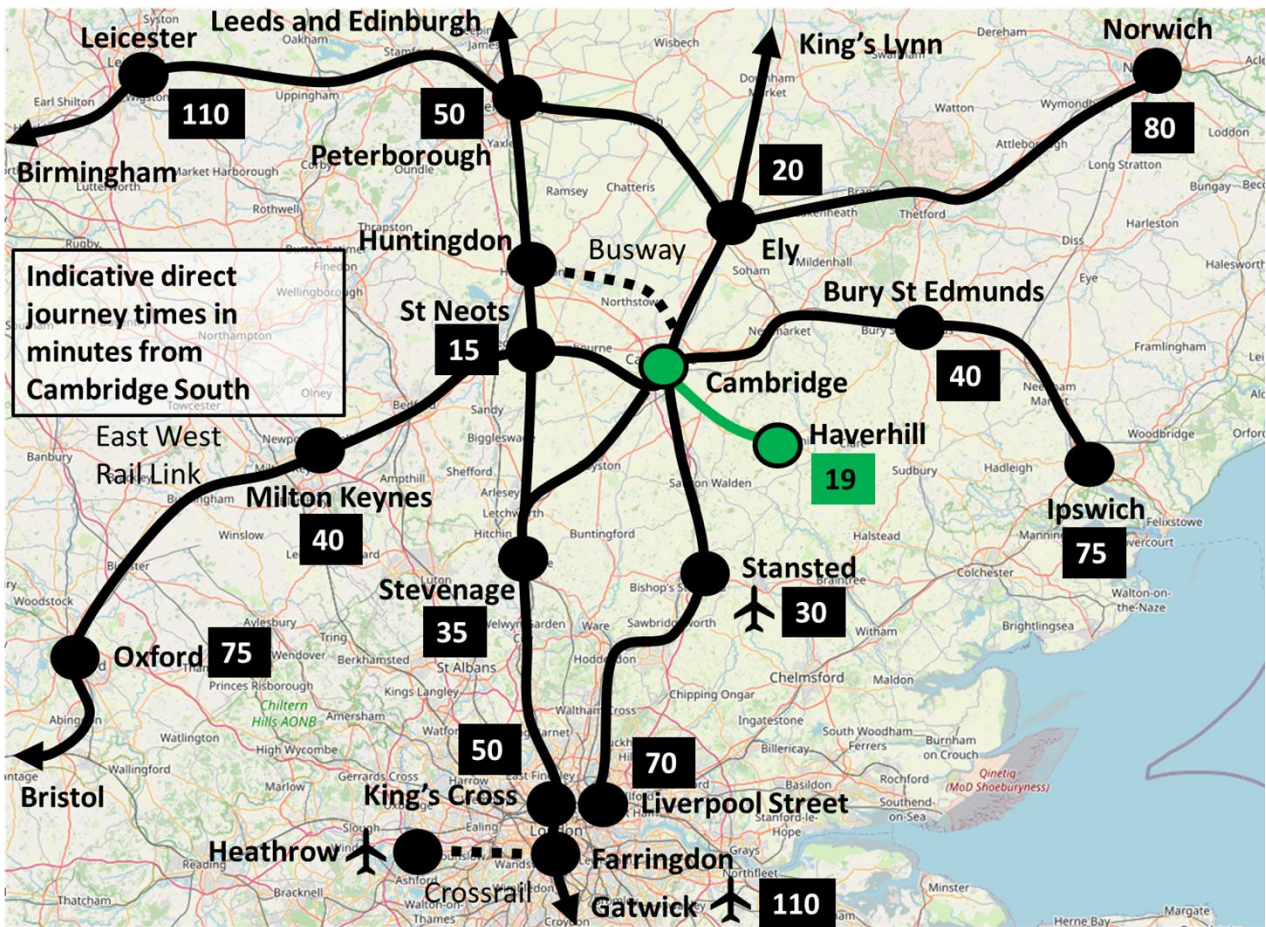
- Linton**: A village in the upper left corner.
- Horseheath**: A village in the upper right corner.
- Barham Hall**: A large estate in the center-left.
- Bartlow**: A village in the center-right.
- Westoe Farm**: A farm in the lower right corner.
- Former railway alignment**: A dashed line running horizontally across the center of the map.
- Farm lanes crossing railway alignment**: Several small lines crossing the railway alignment, marked with 'X' symbols.
- Former bridges over Road**: A series of small rectangular symbols along the railway alignment, indicating former bridges.
- Former bridge over Road**: A larger rectangular symbol on the right side of the map, indicating a former bridge.
- Shardelov Fm**: A farm in the lower right corner.
- Moat**: A feature near the bottom right corner.
- Wrtwr**: A feature near the bottom right corner.
- Cumulus**: A feature near the bottom right corner.
- Shudy Can**: A feature near the bottom right corner.

This map illustrates the proposed rail alignment for the Haverhill project. The alignment is shown as a red dashed line, starting from the north and running through the town. A red circle marks a 'Possible travel hub station' located near Hanchett Hall. The map also shows the 'Original alignment' as a solid red line. Various landmarks and roads are labeled, including Silver Street Fm, Horse Heath Park, Hanchett Hall, Hanchett End, Hazel Stub, and Haverhill Hall. The map includes a grid of roads and a network of yellow lines representing the existing rail infrastructure.

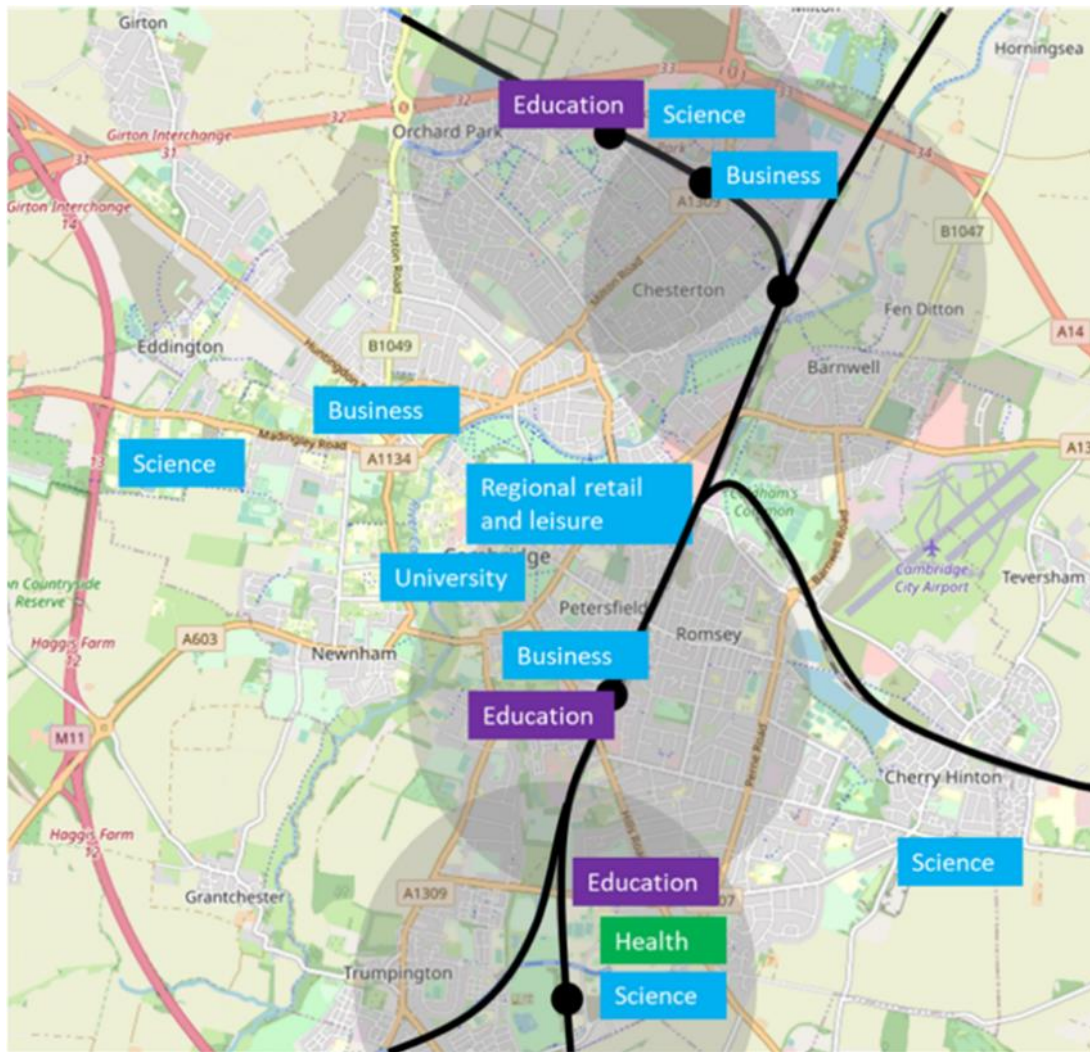
Map 14. Route map with local resources



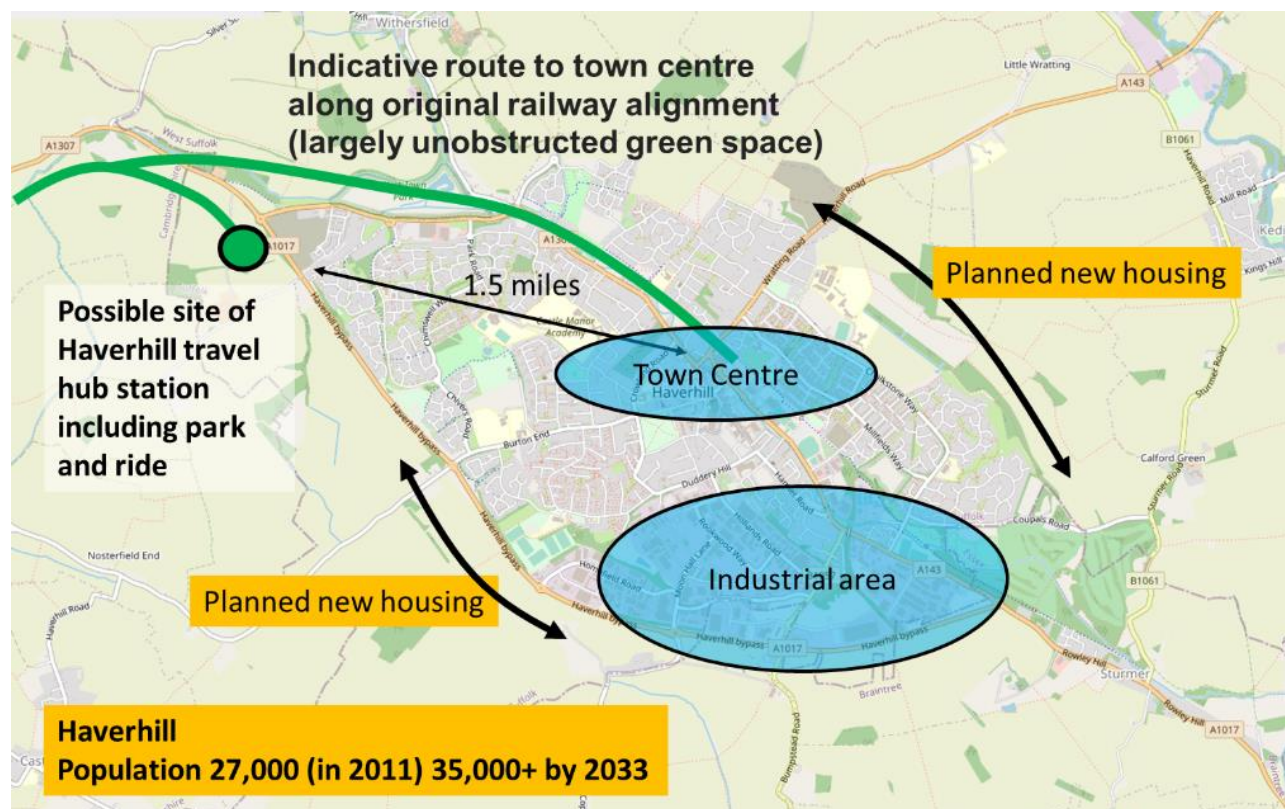
Map 15. Wider area rail connectivity



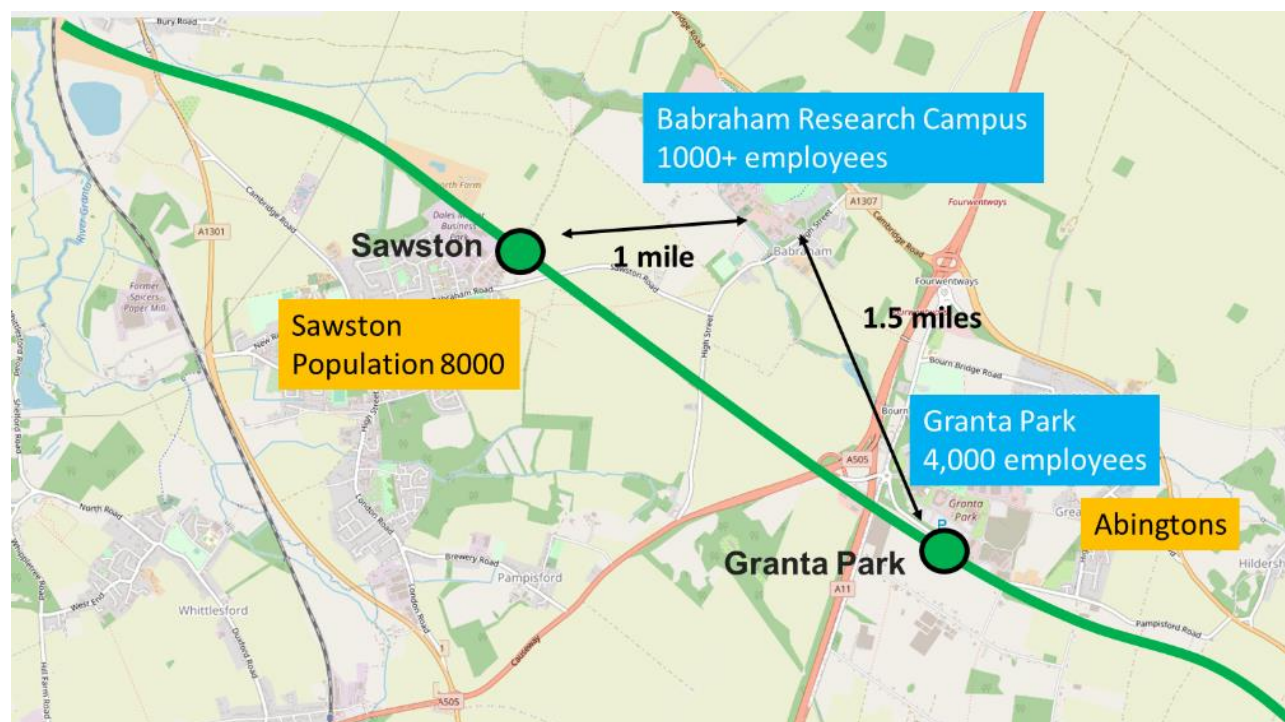
Map 16. Jobs, Health, Education and Leisure in Cambridge



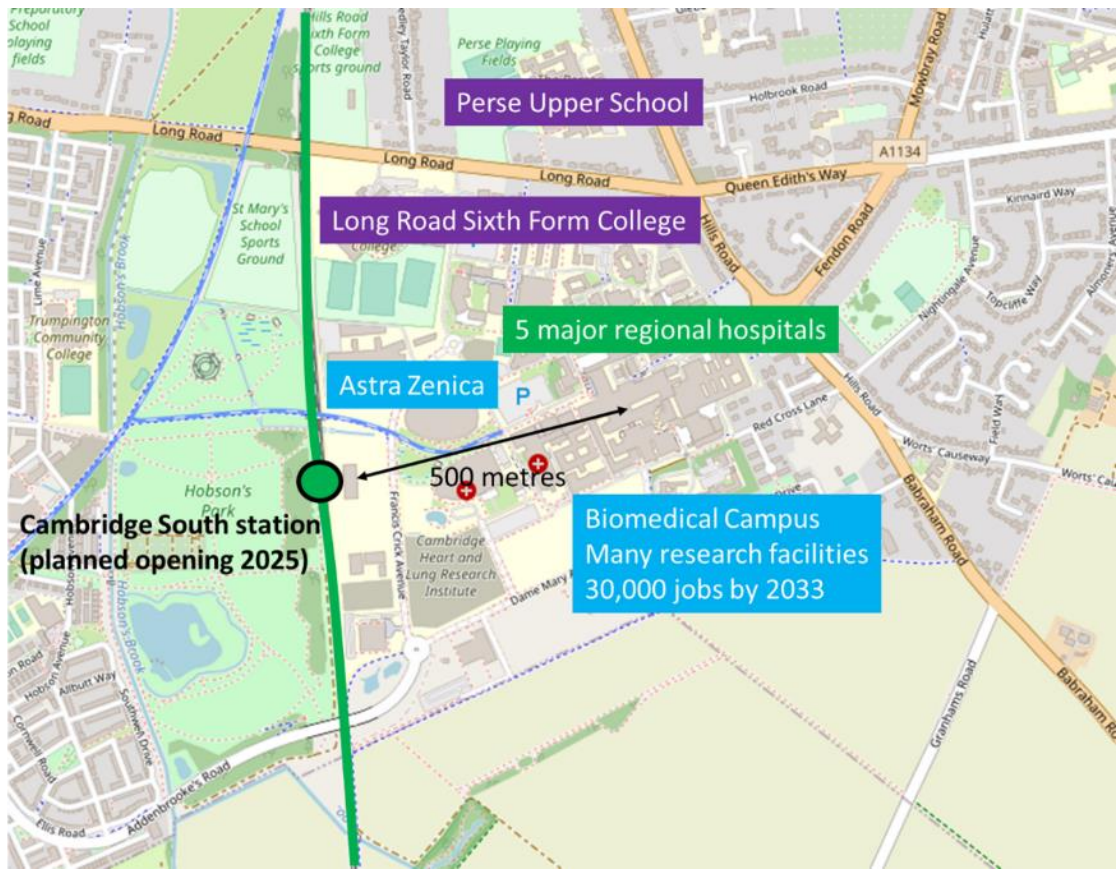
Map 17. Haverhill area local map (indicative)



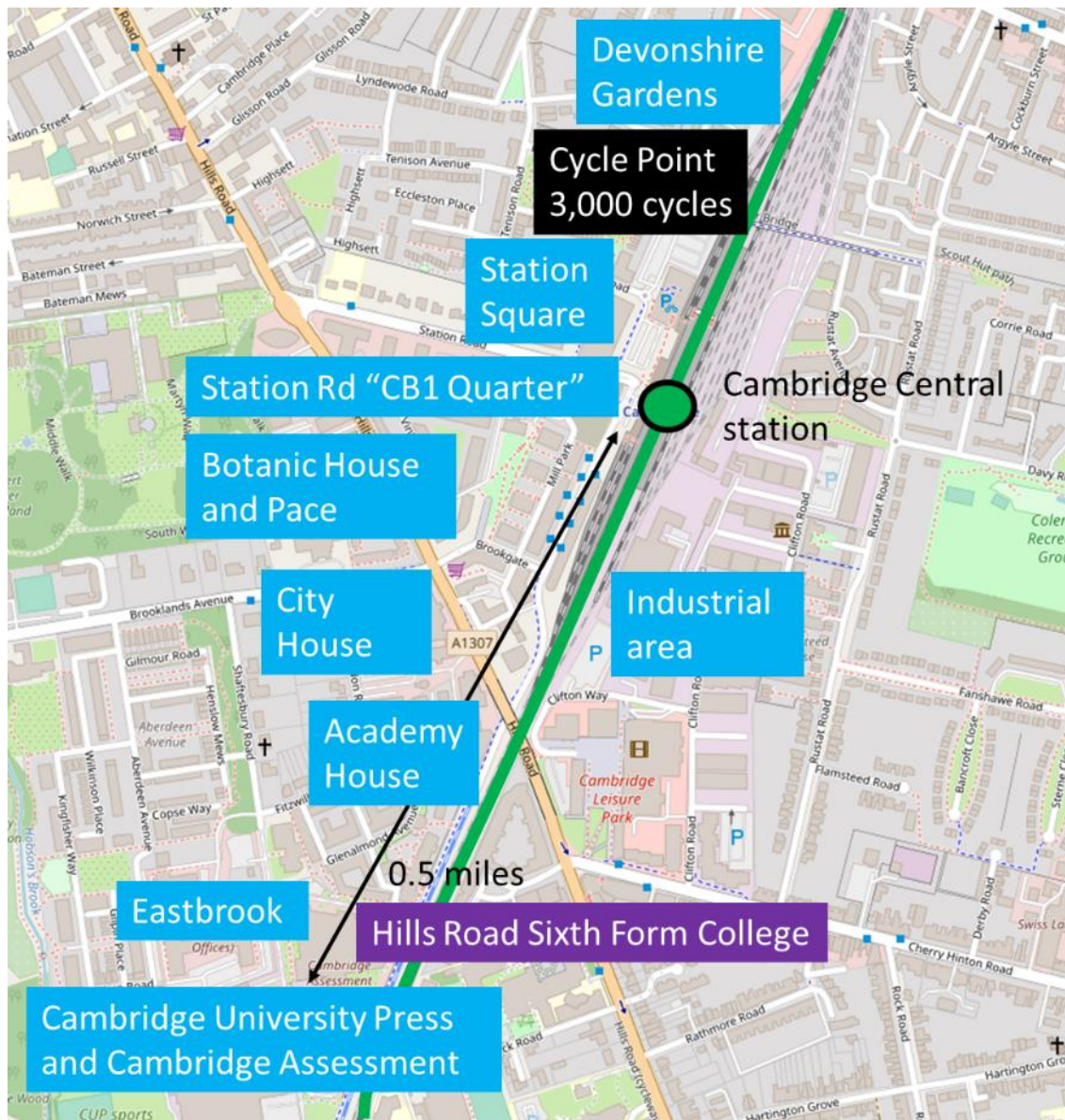
Map 18. Sawston and Granta Park local map (indicative)



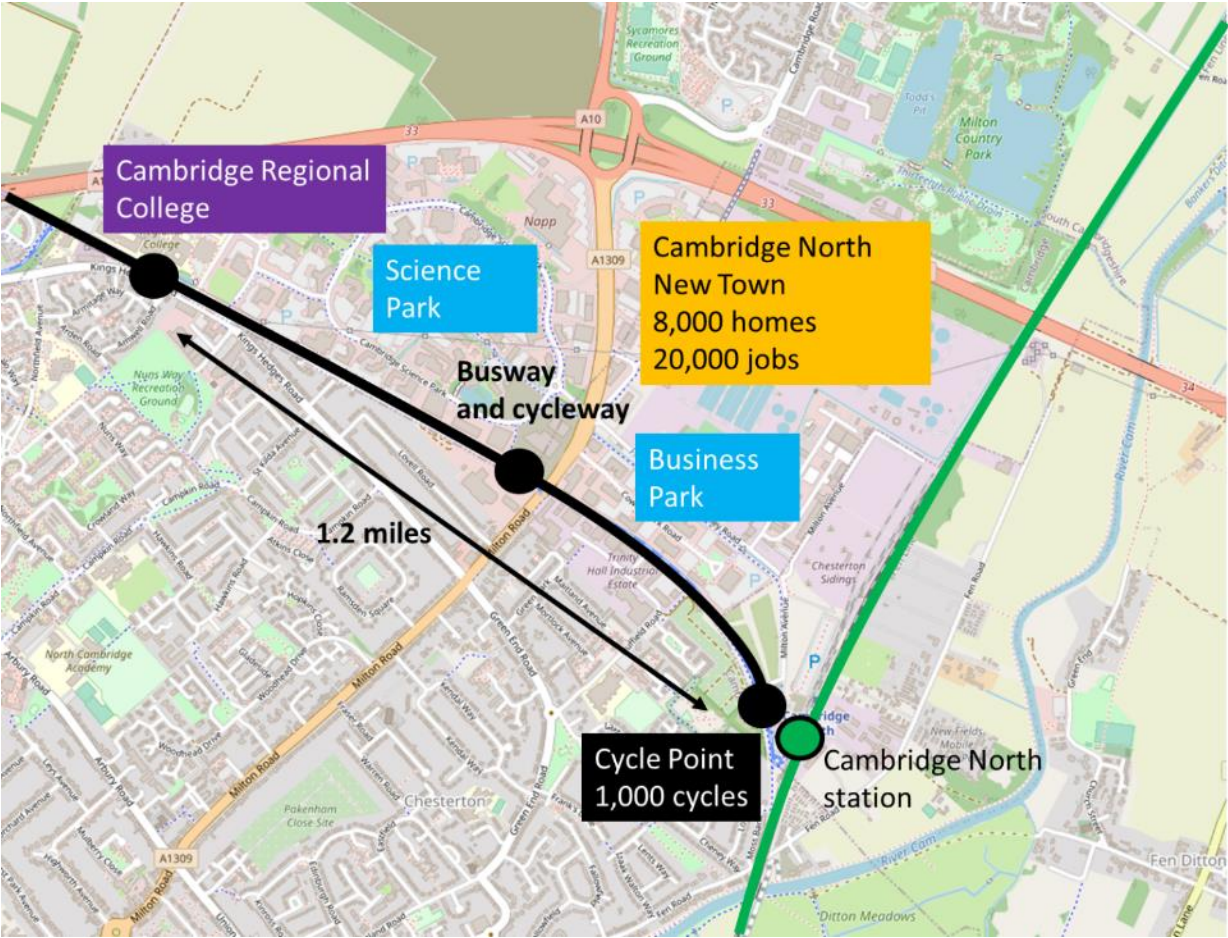
Map 19. Cambridge South local map



Map 20. Cambridge Central local map



Map 21. Cambridge North local map



9. Additional information request

Are you happy for DfT and its advisers to use the attached contact details to request further information regarding the application if necessary?	Yes
Do you consent to your contact details being added to a communications distribution list that would mean you are kept up to date on new developments related to this subject area?	Yes
Do you consent to the outline details of this proposal being published as part of communicating about the Restoring Your Railway Fund to stakeholders and the wider public?	Yes
Do you consent to the details of this proposal being shared internally and with approved third parties to facilitate the review and assessment of the proposal?	Yes

10. Checklist

Please ensure that all submissions to the Ideas Fund contain;

- ✓ A completed Ideas Fund application form
- ✓ A completed 'Additional information request' (Section 9)
- ✓ An email or letter from the MP(s) confirming bid sponsorship

RYP 319 Haverhill

Aim: Reopen the railway line between Cambridge and Haverhill (fifteen miles) with four new stations.		Scheme type	Disused line and new stations
		Region	South East
Overall comment: The applicant presents a strong proposal, compelling narrative and clearly outlines significant wider benefits. However, some stakeholders support the Cambridgeshire Autonomous Metro (CAM), which would ease the overall congestion in Cambridge surroundings. Haverhill is one of the terminating stops in CAM. Reopening the railway is a cheaper alternative to CAM which is estimated to be £4 billion. The cost figures and BCR ratio are calculated in 2015 and they are not adjusted. Also, benefit-cost ratio (BCR)= 0.99, which could be higher if BCR assumptions are reviewed. This proposal has potential as a Tram Train scheme.			
Scheme Criteria	Review of Proposal Content	Further Considerations for any future Business Case submissions (Orange – areas requiring further detail, Black – suggestions to strengthen case)	
The scheme has the potential to deliver significant wider benefits – homes, jobs, GDP	<ul style="list-style-type: none">The proposal presents a strong case for change with clearly described wider socio-economic benefits.There are clear links to the newly approved development area in North-East Cambridge, centered around Cambridge North railway station, which has provision for 20,000 new jobs plus 8,000 new dwellings. The proposal also highlights that the transport links will provide improved access to the six forms.The proposal has clearly identified the links to local policies and strategy documents.	<ul style="list-style-type: none">To strengthen the case for change, the applicant should seek to demonstrate further narrative and evidence based on the job opportunities in Haverhill.	
The scheme has credible potential transport benefits	<ul style="list-style-type: none">It was demonstrated in the local plans that there will be 7,000 new dwellings.Journey time savings were also evidenced as part of the proposal.	<ul style="list-style-type: none">As part of any future work, the applicant should undertake further exploratory work to understand how the scheme will integrate with the cycling network and existing bus services.	
The scheme is credible in deliverability and potential cost	<ul style="list-style-type: none">The proposal highlights that the site is currently owned by Network Rail.An indicative BCR value of 0.99 is provided however the applicant should review the scheme cost estimates as they were produced in 2015 and will require updating which will in turn impact the BCR.	<ul style="list-style-type: none">Update the cost estimates and breakdown, including an uplift from 2015 to 2021, to produce a revised BCR ratio.The proposal also requires an estimated delivery timescale.	
The impact of the scheme on the railway is likely to be proportionate and acceptable – both during the work and in ‘steady state’	<ul style="list-style-type: none">It was stated in the proposal that the construction would have few difficulties on the main line it joins at Stelford. However, there would be significant capacity issues if the current double track north of Cambridge Central is left as it is.	<ul style="list-style-type: none">The proposal requires consideration of the impacts construction of the scheme will have on the existing rail network, including any tradeoffs or how potential impacts could be minimised.To strengthen the proposal, a timetable analysis should be undertaken to understand the impact on existing services.	
There is support for the scheme	<ul style="list-style-type: none">There is support from Greater Anglia, Haverhill Town Council, Stapleford Parish Council. Strong support from local people is also evidenced.No support letter from Network Rail was included in the proposal.	<ul style="list-style-type: none">Demonstrate further evidence on engagement with Network Rail.	
The scheme has the potential for leveraging third party funding	<ul style="list-style-type: none">The proposal states that Suffolk County Council, Cambridgeshire & Peterborough Combined Authority (CPCA) and the Greater Cambridge Partnership, Haverhill Town Council and Railfuture might raise the necessary funding, however the proposal lacks evidence to support such a commitment.	<ul style="list-style-type: none">Demonstrate evidence of the commitment from the third-party funders.	
Other additional information required	Network Rail light rail team noted that this proposal has potential as a Tram Train scheme, especially if the access to West Anglia Main Line (WAML) into Cambridge is required. A light rail solution would reduce capital infrastructure costs for the reinstatement to Haverhill. The development of a Tram Train fleet in the area could also tie with other opportunities such as Wisbech. A light rail solution was noted as an alternative by the Bidder and it would be beneficial if the Bidder were to develop this option further, assessing benefits against the current proposal.		

Rt Hon Matt Hancock MP

CC: Peter Wakefield, Rail Future East Anglia and Lucy Frazer MP

Dear Matt,

Restoring Your Railway Ideas Fund – RYR 319 Haverhill

Thank you for your application to the third round of the Restoring Your Railway Ideas Fund. The Fund has continued to generate a high level of interest, with 89 applications received for this round.

All applications have been evaluated and reviewed by the Restoring Your Railway Ideas Fund Panel, which I chaired. The Panel comprised of Luke Hall MP, Former Minister of State for Regional Growth and Local Government, Sir Peter Hendy, Chair of Network Rail, Jackie Sadek, CEO UK Regeneration, and Isabel Dedring, Former London Deputy Mayor for Transport.

Our discussion and assessment found that your proposal may be suitable for Restoring Your Railway funding in principle. However, due to the volume of strong applications received in this Ideas Fund round and the limited funding available, we are not able to recommend that your proposal progress to the next stage at this time. This is currently the last round of the Ideas Fund for the foreseeable future and the proposal is a good case for future development.

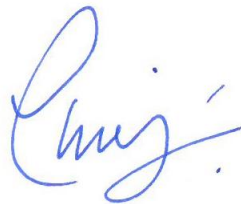
This is usually through the Rail Network Enhancement Pipeline (RNEP) and early development can often be funded locally to enable projects to enter RNEP at a later stage.

While RNEP funding for this spending period is fully committed, I have asked the team to keep the scheme under review for a future point.

We have identified that your scheme may be suitable for a future application to the Levelling Up Fund. More detail can be found in the attached fact sheet detailing other funding routes you may want to explore. My officials will be happy to provide further advice.

If you have any questions, please contact the Restoring Your Railway Team via email at restoringyourrailway@dft.gov.uk.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Chris', with a stylized flourish at the end.

Chris Heaton-Harris MP

Minister of State for Transport