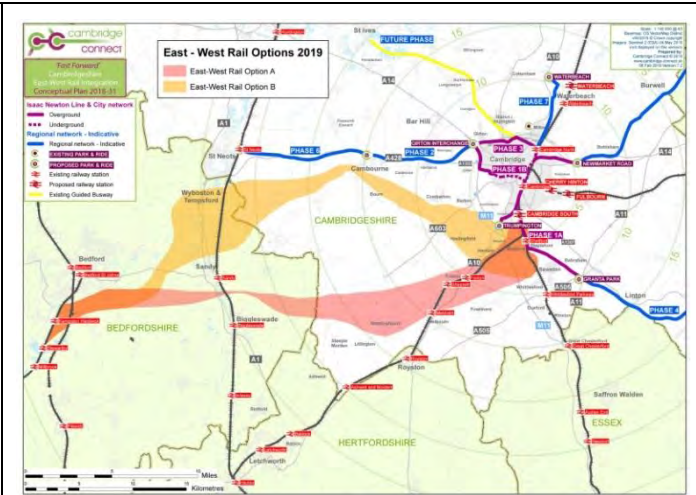


East-West Rail Bedford to Cambridge Section Public Consultation March 2019

Submission by Cambridge Connect



11 March 2019 (v1)



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Supporting sustainable and enduring solutions for Cambridge transport

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1 Introduction

- 1.1 Cambridge Connect was initiated in 2016 to promote a strategic and sustainable approach to public transport in the Cambridge region. Emphasis is placed on the potential of light rail as part of that strategy, and on an integrated and multi-modal approach to meeting transport needs. We recognise local-region solutions need to be linked to, and planned in coordination with, broader inter-regional transport strategies.
- 1.2 East-West Rail is extremely important to the long-term transport strategy for the Cambridge region. In particular, it will support economic development across the Cambridge to Oxford arc and beyond, and will do so by providing a fast, frequent, reliable and sustainable transport connection between these important centres.
- 1.3 Many of the benefits of East-West Rail will fail to be realised if there is no effective linked network of public transport serving the local points of destination. For example, if travel is impeded by congestion and poor transport links on arrival at Cambridge, overall travel times between destinations will remain poor, and some of the gains from East-West Rail will be lost. A light rail network serving the local Cambridge city and region has potential to play a vital complementary role to East-West Rail, enhancing the overall speed of connections door to door, and magnifying the benefits and attractiveness of East-West Rail, thus further stimulating the economic, social and environmental benefits of the East-West Rail investment.
- 1.4 Cambridge Connect has identified priority needs for light rail in the Cambridge region, and has designed a city and local-region network to meet long-term needs (Figure 1). The light rail network would serve the historic city with a short underground component in the core, and provide dedicated surface lines to link the local region's major residential and employment centres, taking into account projected growth.
- 1.5 The network would follow existing and former rail alignments where practical, connect with existing major transport arteries, and adopt existing busway alignments. A well-distributed network connects the local region to the city, designed to be complementary to, and support, rail services on the inter-regional lines. This network will enable and encourage greater public transport patronage, and improve access for all to the inter-regional rail network.
- 1.6 Within Cambridge city, the 'Isaac Newton Line' would connect the Girton Interchange to Granta Park via Eddington, the University West Campus, city centre, Cambridge Central Rail Station, Addenbrookes, and Sawston (Figure 2). At a minimum, direct points of access to East-West Rail would be provided at Cambridge Central Rail Station and at Cambridge South.
- 1.7 To the west of Cambridge, a light rail line would extend to St Neots / Wyboston / Tempsford via Cambourne. To the south, it would extend to Haverhill via Addenbrookes, Sawston and Granta Park, with a spur to Trumpington. To the north it would link to the Science Park and Waterbeach, while to the east a line would link to the Marshalls airfield area. There is potential to convert the northern busway to St Ives to light rail, and eventually link Huntingdon.
- 1.8 Using light rail, Cambridge Connect is both scalable in capacity and extendible to key destinations as demand and finances allow. Cambridge Connect is coordinating with Railfuture and UK Tram and engaging with residents and local, regional and national organisations in developing these proposals.



Figure 1. The Cambridge Connect regional network

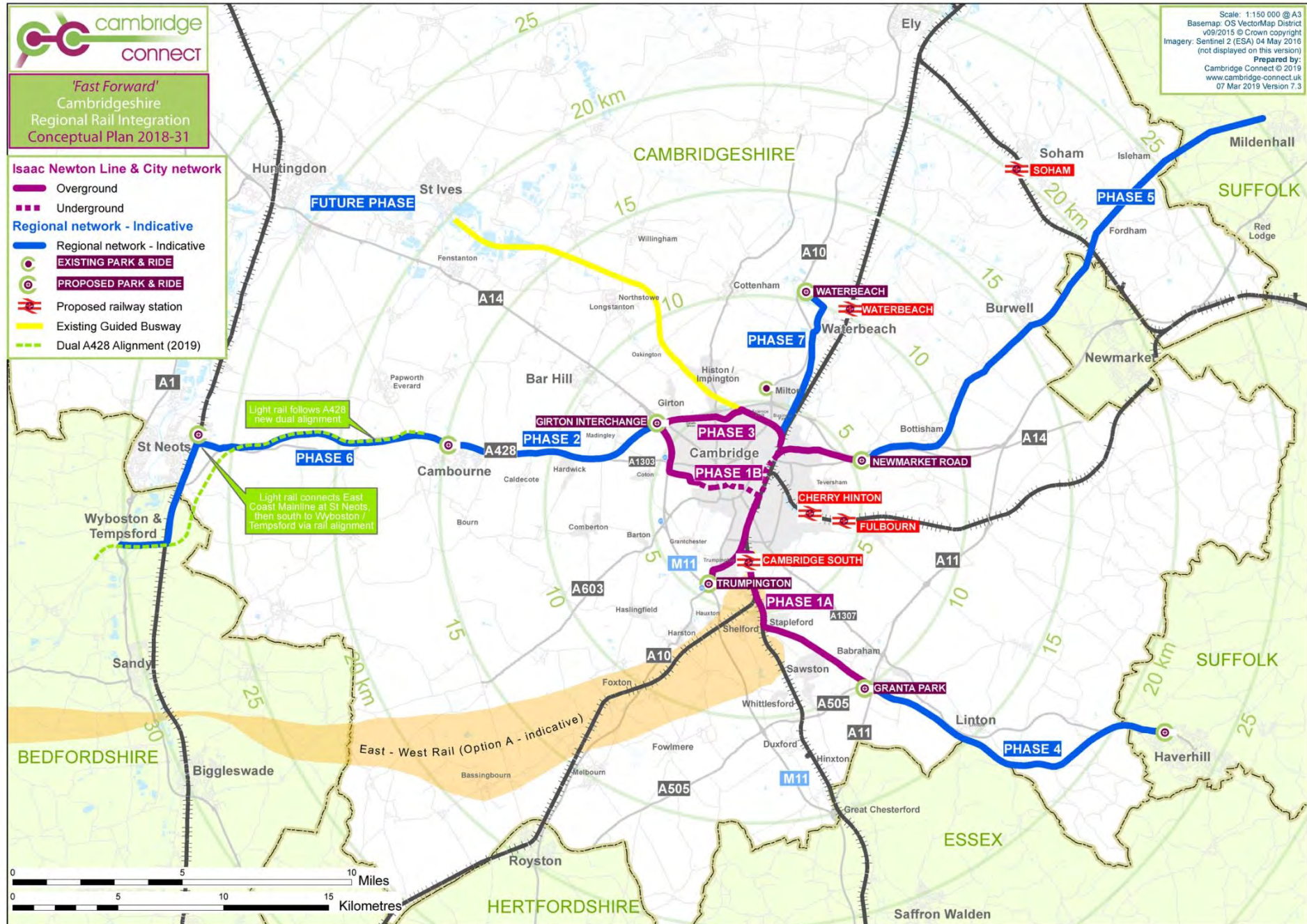
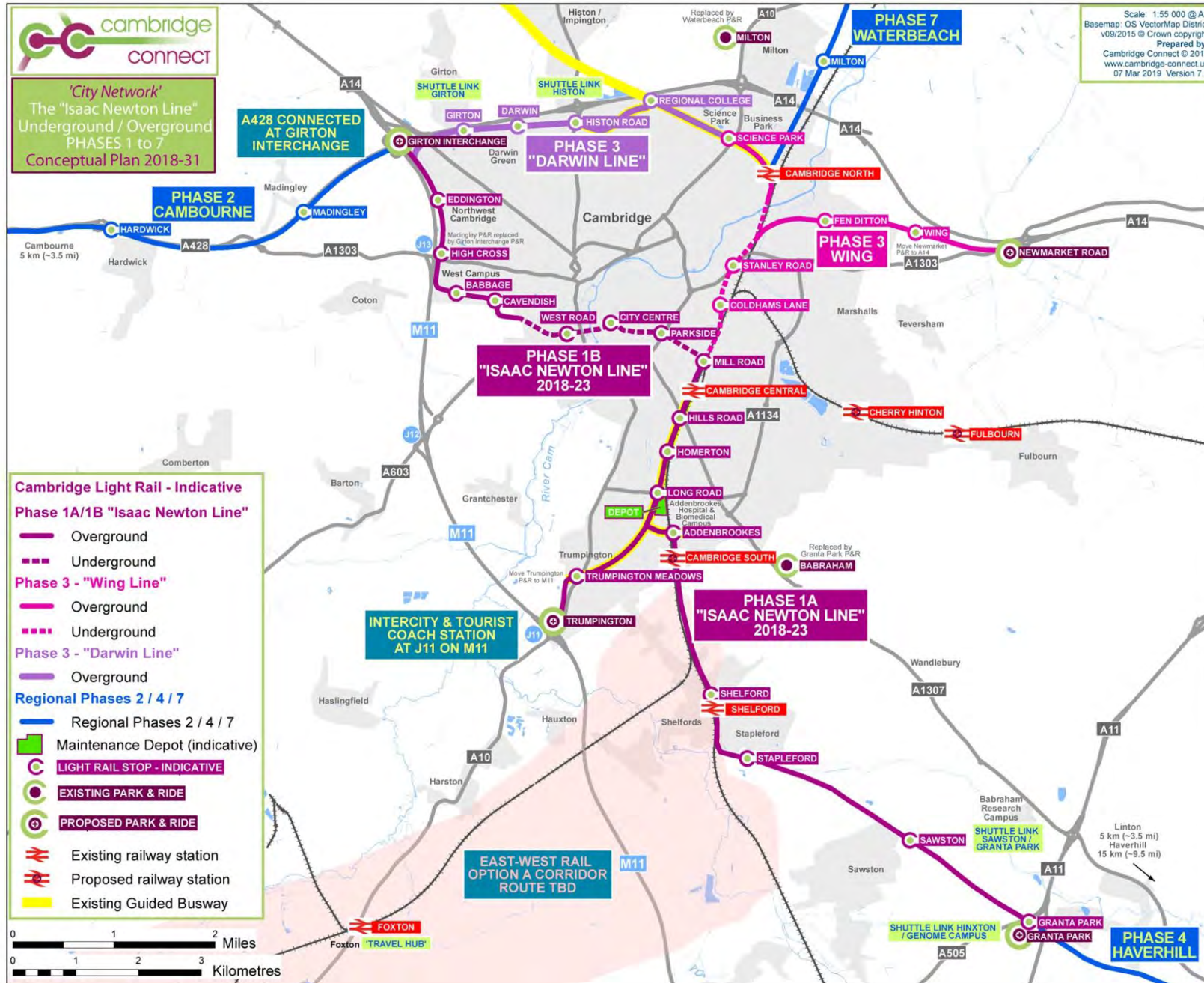


Figure 2. The Cambridge Connect city network



2 The purpose of East-West Rail

- 2.1 We understand the primary purpose of East-West Rail is to support and stimulate economic growth and opportunities in the region by providing fast inter-regional connectivity and greater rail capacity between the key strategic centres of Cambridge, Milton Keynes and Oxford, and additionally to Norwich and Ipswich. This link would support rapid and reliable public transport passenger services between these centres, stimulating interactions and opportunities for business and education across every sector, although particularly in fields vital to the UK economy such as science, medicine and technology. There are a range of other objectives to be taken into account, such as enhancing the movement of freight by rail, supporting existing and new communities, and contributing to addressing climate change.
- 2.2 We understand the inter-regional network has been designed as a fast heavy rail line capable of making journey times between the main destinations of Oxford, Milton Keynes and Cambridge significantly faster and easier than by road or by existing, less direct, rail alternatives. Moreover, this route would not be subject to the congestion that plagues the road network.
- 2.3 Our understanding is that the primary role of East-West Rail is not to provide frequent, closely-spaced stops serving suburbs / villages along the route or close to the main destinations (e.g. in Cambridge city). That is, it is assumed there would be relatively few stations where stops are made along the line, and that slower 'local commuter' services are not at present being planned.
- 2.4 To minimise journey times, the route should be as short as possible, which should also help to minimise costs. The number of stops along the line also needs to be balanced against the need to maintain shorter journey times. While accessible stops are needed along the line to generate patronage, and for the service to be sufficiently useful, more stops carry the penalty of increasing journey times.
- 2.5 As such, we expect that stops on East-West Rail will be carefully considered in terms of their patronage-generating opportunities, their overall usefulness, their costs, and their impact on journey times. In addition, deviations along the route carry time and cost penalties, although may offer counter-balancing accessibility and / or patronage gains. There are no doubt additional factors and constraints that need to be considered, such as technical requirements of integration with the existing rail network.
- 2.6 Cambridge Connect assumes that the five corridors presented for public consultation have been derived taking all these factors into account in a detailed and robust appraisal. We recognise that this appraisal was a major undertaking that necessarily considered a very wide range of criteria that influenced the shortlisted choices.

3 East-West Rail route corridors

- 3.1 Cambridge Connect has considered the five route options put forward by East-West Rail in the section from Bedford to Cambridge in the context of the light rail network proposed by Cambridge Connect (Figures 3 & 4). Cambridge Connect has taken it as read that the five options presented for consultation are those determined by detailed evidence and analysis that are within accepted parameters of acceptability for the East-West Rail scheme to be practical and viable for delivery, and that all other options have been rejected.
- 3.2 Cambridge Connect has examined the East-West Rail options presented in terms of their likely strategic benefits, cost-effectiveness, and practicality. Our response focuses consideration on



those aspects related to the degree of compatibility, complementarity and mutual benefit of the East-West Rail options presented with the light rail network proposed by Cambridge Connect.

- 3.3 Broad economic, environmental and social consequences have been considered in strategic terms, although it has not been possible within this response to evaluate the options in terms of their detailed economic, environmental and social impacts.
- 3.4 Given that the Combined Authority and Greater Cambridge Partnership have endorsed a 'metro' with a spatial network similar to that proposed by Cambridge Connect, some of our comments may also be applicable to the 'CAM' scheme as proposed by those agencies, although our comments relate more specifically to a light rail network.
- 3.5 None of the EW Rail options directly serve St Neots, which is one of the largest towns in Cambridgeshire, with a population of ~31,200 in the 2011 Census (Cambridgeshire County Council 2014). St Neots and the associated centres of Wyboston and Tempsford are rapidly growing, and the population of St Neots and the nearby urban extensions is expected to exceed 40,000 by 2031.
- 3.6 While none of the EW Rail options serve St Neots directly, four of the five options serve the Wyboston / Tempsford areas. This suggests that the EW Rail route option appraisal identified strong benefits to connecting these centres on the alignment.
- 3.7 However, many of the potential benefits of routing EW Rail to these locations could be realized by the Cambridge Connect line to the St Neots area. For example, the journey time from St Neots to Cambridge by light rail, including stops, would be approximately 30 minutes and this would be on a segregated line not subject to congestion. In principle, the same would apply should the 'CAM' network proposed by the Combined Authority be built (see Section 7).



Figure 3. East-West Rail Options A & B

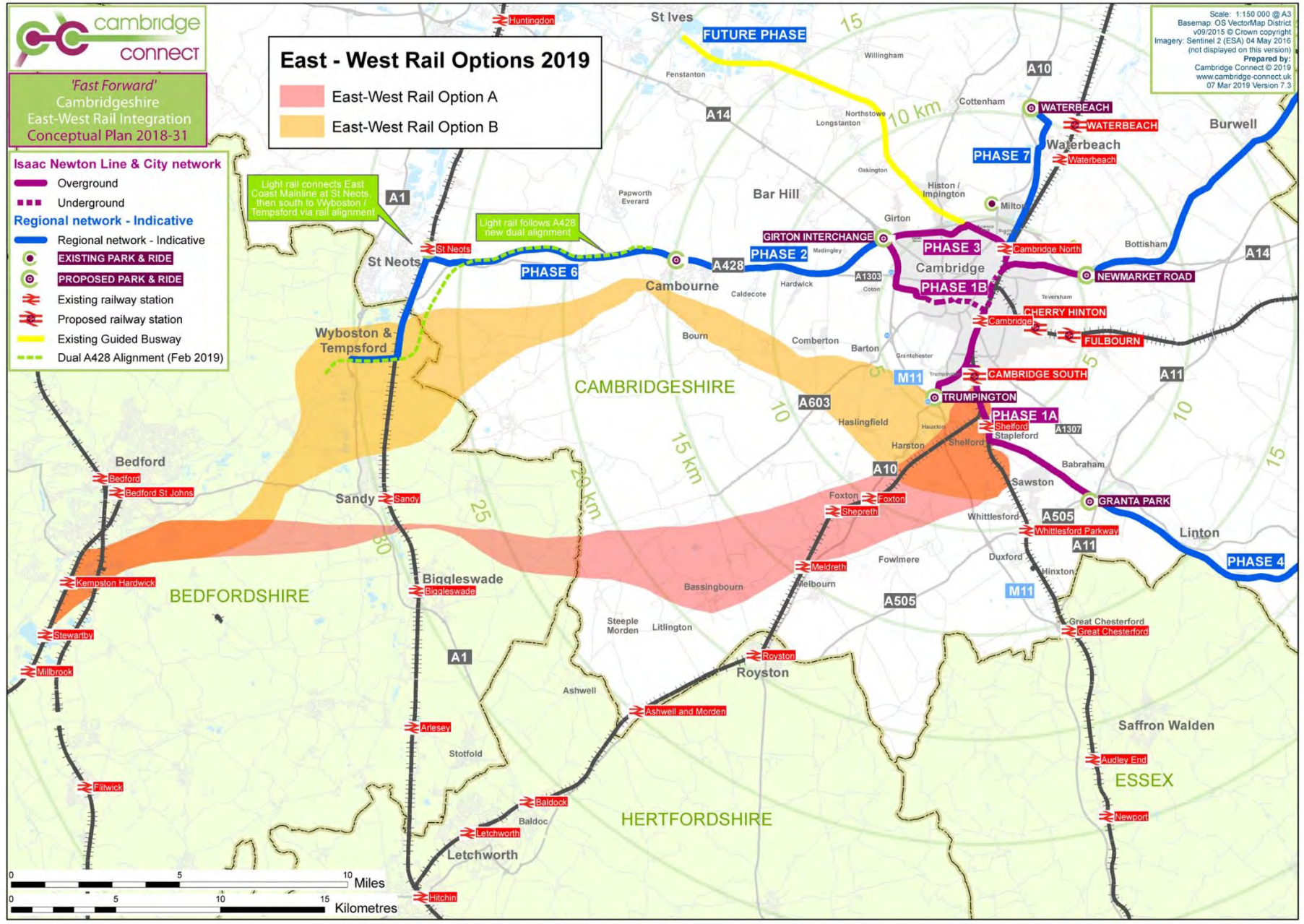
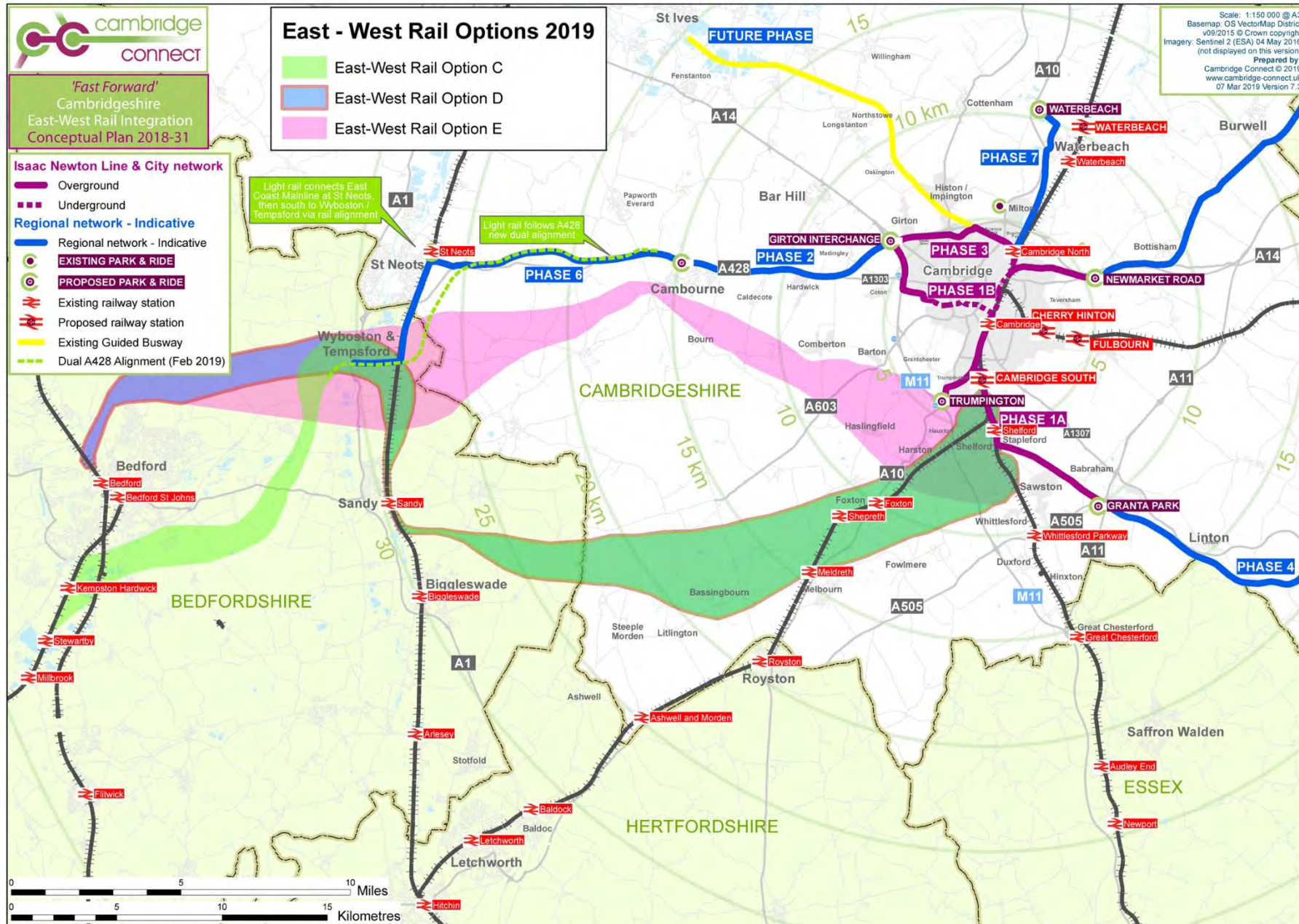


Figure 4. East-West Rail Options C, D & E



4 EW Rail Options A, C & D

- 4.1 EW Rail Option A is the cheapest, most direct, and fastest intercity link westward to Oxford. As an intercity regional service, this has advantages.
- 4.2 EW Rail Option A, C & D all pass near Bassingbourn, which seems potentially beneficial to serve the identified potential future housing growth at this site.
- 4.3 EW Rail Options A, C and D are all complementary to the Cambridge Connect route to St Neots via Cambourne.

5 EW Rail Options B & E

- 5.1 Options B & E would enable Cambourne residents to travel to the Cambridge South Rail Station (proposed), and thence to Cambridge Central Rail Station.
- 5.2 Options B & E would not link Cambourne residents directly to the University of Cambridge West Campus, Cambridge City, and nor the Cambridge Science Park, which are important employment destinations for Cambourne residents. Options B & E therefore offer residents fairly restricted utility gains by linking to the south of city.
- 5.3 Options B & E via Cambourne would to some extent 'compete' with the Cambridge Connect route to St Neots via Cambourne. The Cambridge Connect route also links to Cambridge South Rail Station (serving Addenbrookes) via the city centre, although it would take longer than EW Rail Options B & E because it takes a longer route via the city and also because of stops *en route*.
- 5.4 If both EW Rail via Cambourne and Cambridge Connect were built, some travel demand would be divided between them. This could impact patronage on both schemes as patronage is lost to each other.

6 Cambridge Connect line to St Neots

- 6.1 Cambridge Connect enables residents of St Neots and Cambourne access to Eddington, West Campus, Cambridge City, the Science Park, Cambridge Central Rail Station and Cambridge South Rail Station (Addenbrookes). The journey time from St Neots to Cambridge by light rail would be approximately 30 minutes, including stops, on a segregated line not subject to congestion.
- 6.2 The Cambridge Connect St Neots line satisfies multiple objectives, serving key Cambridge employment, commercial, educational, research and medical centres and therefore maximizing potential demand on the route.
- 6.3 The Cambridge Connect St Neots line would connect smaller towns and villages along the route, such as Caldecote and Hardwick, which would be less practicable on an intercity line such as EW Rail.
- 6.4 None of the options presented for EW Rail link directly to St Neots, where a connection to the East Coast Mainline can be made. Potentially this link could be made at a new point further south on the East Coast Mainline, for example near Sandy, although this could have knock-on implications for services on this track (and for St Neots) because of the introduction of the additional stop.



7 The Cambridge 'metro'

- 7.1 The 'Mass Transit options for Cambridge' study (Steer Davies Gleave 2018) concluded that:
- ❑ A mass transit system is needed in Cambridge;
 - ❑ Investment needs to be made with a long-term strategy;
 - ❑ The route network proposed by Cambridge Connect represents broadly the best model for mass transit in the region, although this study did not specifically consider the EW Rail route options currently presented;
 - ❑ Light rail is the best available technical solution to meet mass transit needs in local region extending within approximately a 20-25 km radius from Cambridge;
 - ❑ Light rail was considered by the study to be unaffordable. However, we consider the methodology used to evaluate costs in the study was poorly substantiated by evidence and hence in the view of Cambridge Connect this conclusion is unreliable;
 - ❑ The rubber-tyred Cambridgeshire Autonomous Metro, or 'CAM', was proposed as a means to achieve the mass transit objectives at less cost than light rail, although this possible solution is relatively new and unproven, and hence carries a higher degree of risk.
- 7.2 In January 2019 the Combined Authority and Greater Cambridge Partnership published more information on their vision for a Cambridge 'metro', with the network again largely consistent with that proposed by Cambridge Connect. This vision for 'CAM' remains based on a form of articulated, rubber-tyred, bus rather than light rail.
- 7.3 Cambridge Connect strongly supports the overall strategy to develop an integrated, strategically connected, 'metro' for the local region. On the basis of evidence seen to date, and risk, we do not currently support the articulated bus proposed as the mode to run on this network. Cambridge Connect also supports several minor exceptions in the routes selected for the 'metro' (e.g. links to the Girton Interchange and Eddington).

8 Integration with EW Rail

- 8.1 Cambridge Connect is designed to integrate light rail with the heavy rail network at:
- ❑ Cambridge Central Rail Station;
 - ❑ Cambridge North Rail Station;
 - ❑ Cambridge South Rail Station (proposed);
 - ❑ Waterbeach Rail Station;
 - ❑ Shelford Rail Station;
 - ❑ St Neots Rail Station.
- 8.2 Cambridge Connect is designed to provide multimodal links to bus / coach and Park & Ride services at key interchanges – for example the A11 / A505, Junction 11 on the M11 / A10 and at the Girton Interchange on the A428 / A14 / M11.
- 8.3 The number of connecting stops on Cambridge Connect network enables more people to gain faster and better access to the heavy rail stations, from where they can interchange to make longer-distance journeys, including on EW Rail.



- 8.4 The Cambridge Connect network, by helping to facilitate public access to the heavy rail network, will help to drive patronage on EW Rail and contribute to the development of a more sustainable transport model for the south-east region.
- 8.5 EW Rail will also help drive patronage on Cambridge Connect. Therefore, we view Cambridge Connect and EW Rail as creating and working with a mutually beneficial relationship.

9 Conclusion

- 9.1 Infrastructure developments need to be fit-for-purpose for the region and its anticipated growth with a planning horizon into the 2030s and beyond. The key drivers of economy, population, demand, education, science & technology, environment & heritage, and social & cultural values all need to be taken into account with a long-term view, and these need to be balanced against the cost and investment needed for future generations.
- 9.2 EW Rail is a very important addition to the regional public transport network, and Cambridge Connect strongly supports its development.
- 9.3 While EW Rail will fulfil important objectives for improving inter-regional links between Cambridge, Oxford and Milton Keynes, and other locations beyond, this scheme is not designed – and neither is suited to – serving more local public transport needs.
- 9.4 Cambridge Connect is designed to be complementary to EW Rail by providing that reliable, fast and frequent public transport service into the heart of Cambridge and by ensuring both are interconnected at appropriate heavy rail stations, allowing easy interchange between the inter-regional heavy rail system and more local region light rail network.
- 9.5 EW Rail options via Cambourne (B & E), and possibly via Wyboston / Tempsford, seem to be confusing the purpose of EW Rail as a fast inter-regional line extending across the arc from Ipswich, Norwich, Cambridge, Milton Keynes and Oxford with a more suburban / local region role connecting regional residents. We believe this latter suburban / local region role would be better served with a complementary local region ‘metro’ network using light rail.
- 9.6 In combination, we consider the best overall solution would be EW Rail Option A coupled with Cambridge Connect extending to St Neots and Wyboston / Tempsford via Cambourne. In this way, EW Rail would fulfil its intended fast and efficient intercity link role, at substantially less cost, and Cambridge Connect would provide its intended suburban / local region and city service role.
- 9.7 Working together, we consider that EW Rail and Cambridge Connect would be a world-class combination that would bring very substantial economic, social and environmental benefits to the region.

10 References

- Cambridgeshire County Council 2012. Cambridgeshire Insight population projections by Cambridgeshire County Council Research Group based on 2011 Census / Office of National Statistics and projected growth.
- Steer Davies Gleave 2018. Greater Cambridge Mass Transit Options Assessment Report. Final Report to the Greater Cambridge Partnership and Cambridgeshire and Peterborough Combined Authority. January 2018, Ref: 23201001.

