

Cambridgeshire and Peterborough Local Transport Plan: Cambridgeshire Autonomous Metro (CAM) sub-strategy

Local Transport Plan

Background

The Local Transport Plan (LTP) was published in March 2020 and was the first for Cambridgeshire and Peterborough. The Plan describes how transport interventions will help to address current and future challenges and opportunities for Cambridgeshire and Peterborough. It sets out the overarching policies and strategies needed to secure growth and ensure that planned large-scale development can take place in the county in a sustainable way.

The LTP provides a robust platform for the planning and delivery of the Authority's ambitious programme of priority transport schemes. The Authority continues to work closely with its partners in spatial planning and the delivery of transport priorities to identify the most appropriate time to refresh the LTP and/or its supporting daughter documents.

This document outlines the CAM draft sub-strategy, which is a daughter document of the LTP. It provides the policy framework for the CAM and contributes to the wider policy platform for the delivery of growth in the CPCA region. Schemes which form part of the CAM will be expected to be compliant with the policies in this document.

Vision, Goals and Objectives

The overarching vision for the Local Transport Plan is:

To deliver a world-class transport network for Cambridgeshire and Peterborough that supports sustainable growth and opportunity for all











This vision guides the Authority's overall direction of this sub-strategy and the underpinning sub-strategies. From the vision the Authority developed a number of key goals. These three goals are intended to outline what wider outcomes we want the transport network in Cambridgeshire and Peterborough to achieve.

- **Economy:** Deliver economic growth and opportunity for all our communities.
- **Society:** Provide an accessible transport system to ensure everyone can thrive and be healthy.
- **Environment:** Protect and enhance our environment and implement measures to achieve net zero carbon.

The LTP's overarching vision to deliver a world-class transport network for Cambridgeshire and Peterborough that supports sustainable growth and opportunity for all can only be realised if a public transport system that offers a genuine alternative to the car is implemented.

The LTP's ten objectives are strongly aligned to the goals outlined above. These form the basis against which transport schemes (such as CAM) should be and are assessed.

Local Transport Plan objectives

Goal	Objective
Economy	 Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues
	 Connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity
	 Ensure all of our region's businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports
	 Build a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability
Society	 Embed a safe systems approach into all planning and transport operations to achieve Vision Zero – zero fatalities or serious injuries
	 Promote social inclusion through the provision of a sustainable transport network that is affordable and accessible for all
	 Provide 'healthy streets' and high-quality public realm that puts people first and promotes active lifestyles
	 Ensure transport initiatives improve air quality across the region to meet good practice standards
Environment	 Deliver a transport network that protects and enhances our natural, historic and built environments
	 Reduce emissions to 'net zero' by 2050 to minimise the impact of transport and travel on climate change

Supporting sub-strategies

The LTP sets out a plan to tackle Cambridgeshire and Peterborough's transport challenges. The Authority's overarching vision is to create a transport system in which active travel modes and public transport (including CAM) are natural choices for the majority of journeys because they are affordable, healthy, convenient and safe alternatives to the private car.

The Authority continues to develop and iterate the supporting strategies for each specific area of transport planning that complement the LTP and will ensure its delivery. In addition, locational transport plans and strategies will evolve that focus

on the transport improvements within a specific area and therefore will be updated in a timely manner.

One of the strategies underpinning the LTP is this sub-strategy for CAM.

The Cambridgeshire Autonomous Metro – Policy Alignment

The need for CAM

To date, economic growth in the region has not been matched by basic infrastructure, particularly transport. To nurture and sustain this growth, new infrastructure is needed to support the delivery of new jobs and new homes and enable existing communities to benefit from greater access to transport options, jobs and opportunities.

CAM will connect key regional centres of employment, existing settlements, key railway stations, new homes and planned growth, to create a platform for sustainable and inclusive growth. CAM will transform people's day-to-day lives, by connecting communities and creating new jobs and widening access to opportunities across the region.

Introduction to CAM

One of the LTP's key objectives is to connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity. In order to achieve this objective, the LTP outlines how large-scale investment in public transport must provide extra capacity for people to travel sustainably across the region.

The vision is intended to capture the aspirations for Cambridgeshire and Peterborough's transport network, reflecting future ambition to provide:

'A world-class transport network' – Cambridgeshire and Peterborough aspire toward a transport system of the highest quality on a global stage, which meets the needs of residents, businesses, and visitors.

The Cambridgeshire Autonomous Metro (CAM) forms part of these enhanced infrastructure plans. The vision of the CAM is to 'act locally, impact nationally, and attract globally'. The CAM will act locally by delivering a fast, reliable, convenient, integrated transport network made world-class by deploying the latest technologies. It will support the sustainable growth of the local economy, unlocking new homes, creating new jobs and opportunities for more people, while protecting and enhancing the environment.

The benefits of CAM extend far beyond the region – it will have national and global impact. Through connecting employment sites and increasing the region's attractiveness to highly skilled experts, tech companies and international investor capital, the CAM will make the region's tech cluster larger and more concentrated.

Additionally, the first-mover benefits from the development of the CAM, including the accumulation of skills and intellectual property, could birth a new growth industry, complementing existing sectors, and offering commercial opportunities if applied to

small and medium-sized cities across the globe. These factors will enable future growth of knowledge-intensive sectors, stimulate entrepreneurship activity, and help Cambridgeshire and Peterborough compete with tech hubs globally, supporting greater economic growth across the UK as a whole.

Alignment to Local Transport Plan (LTP)

Better connecting people, markets and businesses, and future transport provision will help to improve regional productivity and this is set out in the LTP. This will help the Authority to deliver its economic vision and improve quality of life for all. Public transport such as CAM will play a key part in achieving those outcomes.

CAM is an essential component of the overarching LTP vision and transport strategy as it will deliver a step change in connectivity, helping to deliver agglomeration benefits, and encouraging modal shift to low-carbon modes.

Alignment with Cambridgeshire and Peterborough Independent Economic Review

The Cambridgeshire and Peterborough Independent Economic Review (CPIER) published its final report in September 2018. The report was developed by the Cambridgeshire and Peterborough Independent Economic Commission, chaired by Dame Kate Barker. The findings from the review form the basis of a number of key regional policies and strategies, including the Local Transport Plan and the Local Industrial Strategy to name a couple.

The report evidences the fast rate of economic and employment growth in the region and highlights the importance of planning now to ensure that strong growth will be sustainable and more inclusive. The report highlighted the potential transformation benefits of CAM stating *“in areas of more dense population, ambitious new projects such as the introduction of a form of rapid transit through the Cambridge Autonomous Metro (CAM) could transform the economy and many people’s day-to-day lives. These can provide for continued sustainable growth”*.


The CPIER report demonstrated that economic growth in the region has not been matched by investment in basic infrastructure, particularly transport. It recommended that:



“A package of transport, and other infrastructure projects to alleviate the growing pains of Greater Cambridge, should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term.”


A key conclusion to the report is that closer alignment between spatial and transport planning can allow economic growth without driving increased travel. Therefore, it is essential that CAM schemes are considered when new developments and plans for future growth.



Alignment between CAM objectives and the Local Transport Plan objectives


The table below sets out the Authority’s objectives for the CAM and how they support its overall aims and objectives.




Goal	Objective	CAM Objective	CAM sub-objective	Desirable
<p>Economy</p>	 <p>Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues</p>	<p>CAM 1: Promote economic growth and opportunity</p> <p>CAM 2: Support the acceleration of housing delivery as set out in existing and emerging Local Plans</p>	<ul style="list-style-type: none"> • CAM-E1: CAM will facilitate greater productivity in Greater Cambridge and the wider region (including Garden Villages) through enhanced efficiencies in travel • CAM-E2: Support new employment by enhancing sustainable access to and attractiveness of key existing and planned employment zones and major areas of housing growth: <ul style="list-style-type: none"> - New settlements and enterprise zones already included in existing adopted Local Plans - Future growth as identified in Local Plans - New Garden Village settlements - Existing settlements with anticipated employment growth (including growth of offices, research and laboratories facilities) <p>Supporting the development of</p> <ul style="list-style-type: none"> - New settlements being brought forward by any future development corporations created in the Oxford-Cambridge corridor. • CAM-E3: Increase labour market catchment through linking jobs with 	<ul style="list-style-type: none"> • 24/7 operation • Utilisation of smart infrastructure

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
			<p>homes and better connecting more people and places to underpin a wider transport network for Cambridgeshire and Peterborough that is grounded in active travel and frequent, reliable and convenient public transport</p> <ul style="list-style-type: none"> • CAM-E4: Serve and support new areas for sustainable housing development contained within emerging and future Local Plans • CAM-E5: Provide overall transport capacity to enable and accommodate future employment and housing growth 	
		<p>Connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity</p>	<ul style="list-style-type: none"> • CAM-E6: Improve transport connectivity to/with existing and new settlements • CAM-E7: Improve journey time reliability • CAM-E8: Direct high-quality public transport access to key housing sites (short and longer term) 	
		<p>Ensure all of our region's businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports</p>	<ul style="list-style-type: none"> • CAM-E9: Directly serve and link into transport hubs (where appropriate) including existing and planned rail stations (to facilitate the necessary outward and inward commuting to/from Cambridge) 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	 <p data-bbox="506 831 837 1086">Build a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability</p>		<ul data-bbox="1167 256 1715 1385" style="list-style-type: none"> <li data-bbox="1167 256 1630 363">• CAM-E10; At transport hubs, support easy and rapid mode changes and transfers <li data-bbox="1167 368 1715 512">• CAM-E11: Integrate with active travel and other transport initiatives that provide safe first and last mile connectivity to CAM <li data-bbox="1167 517 1715 699">• CAM-E12: CAM will be fully integrated with the public transport network, including support the development of and connection to demand response modes <li data-bbox="1167 703 1715 810">• CAM-E13: Integration with other modes, including active travel, rail, bus and coaches <li data-bbox="1167 831 1715 1013">• CAM-E14: Integrated with main arterial corridors, including the projected East West Rail route and the upgraded A428, and key LTP infrastructure projects <li data-bbox="1167 1018 1715 1200">• CAM-E15: CAM is anticipated to be segregated as a default assumption; subject to full demand and transport planning analysis to justify the need for segregation <li data-bbox="1167 1204 1715 1385">• CAM-E16: CAM will use future ready technology, infrastructure and concepts of operations that delivery safe, reliable, regular, resilient and inclusive transport 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
			<ul style="list-style-type: none"> • CAM-E17: CAM will commence delivery in late 2024 and will be delivered in next decade • CAM-E18: CAM will be designed to ensure that it is future proofed and flexible in terms of capacity and technology so that any advances in technology do not unduly delay the programme • CAM-E19: CAM will utilise sustainable, highly flexible, zero emission vehicles • CAM-E20: CAM will be designed to maximise passenger trips in both directions and across the whole day 	
Society	 <p>Embed a safe systems approach into all planning and transport operations to achieve Vision Zero – zero fatalities or serious injuries</p>	CAM 3: Promote Equity	<ul style="list-style-type: none"> • CAM-S1: The CAM network will be safe and secure – safe by design, safe in construction and safe in operation – to meet all standards and global best practice • CAM-S2: CAM will meet all planning and environmental requirements 	
	 <p>Promote social inclusion through the provision of a sustainable transport network that is</p>		<ul style="list-style-type: none"> • CAM-S3: CAM will ensure an affordable and fair fare structure is in place that is comparable to any public transport service offered within the UK 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	affordable and accessible for all		<ul style="list-style-type: none"> • CAM-S4: CAM will be fully compatible with a county-wide future integrated ticketing regime • CAM-S5: CAM will promote seamless connectivity between regional settlements, major city fringe employment sites and key satellite growth areas across Cambridgeshire and Peterborough • CAM-S6: Facilitates seamless cross country and city journeys to outlying regional settlements, urban fringe employment sites and key satellite growth areas • CAM-S7: CAM will improve opportunities for all residents and communities • CAM-S8: CAM will promote high quality public realm at stations • CAM-S9: Reduces adverse impacts of public transport provision on city, urban and village centres 	
	 Provide 'healthy streets' and high-quality public realm that puts people first and promotes active lifestyles		<ul style="list-style-type: none"> • CAM-S10: CAM will support and be complementary to active travel modes 	

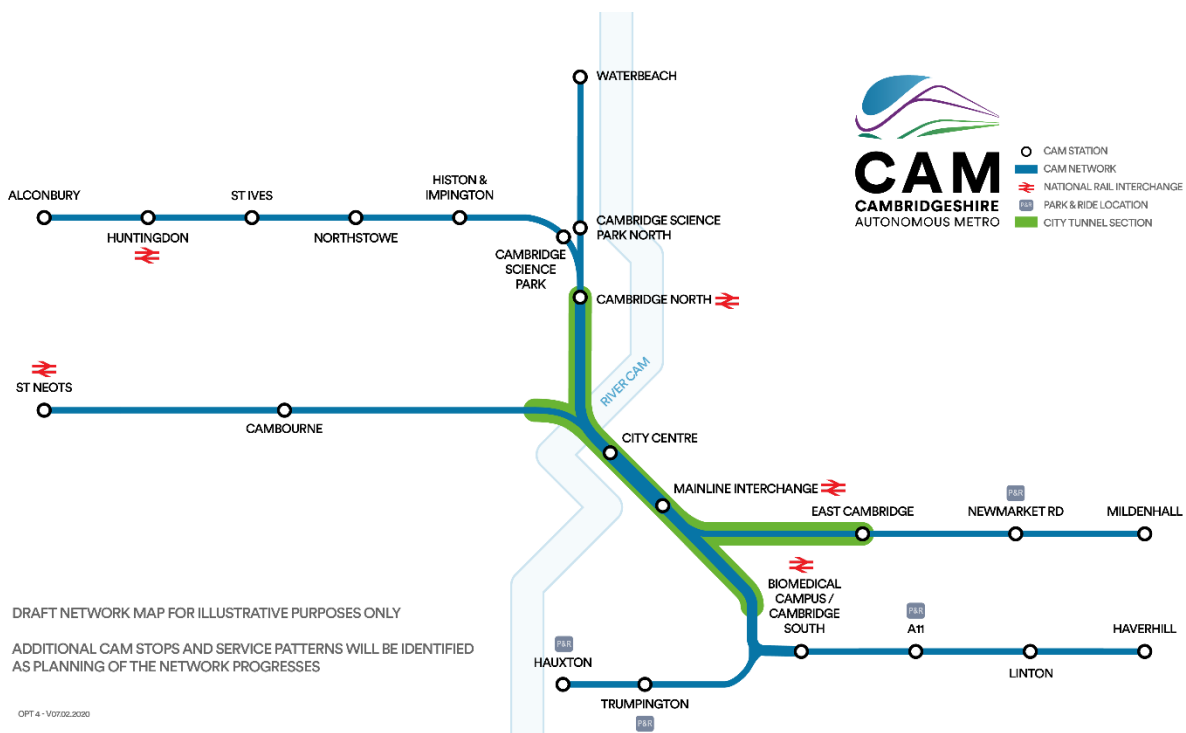
Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	 <p>Ensure transport initiatives improve air quality across the region to meet good practice standards</p>		<ul style="list-style-type: none"> • CAM-S11: CAM will support measures that will result in an improvement in air quality • CAM-S12: CAM will derive its power primarily from ‘cleaner’ or less carbon-intensive energy sources, such as wind, solar and hydroelectric power rather than carbon-intensive sources such as fossil fuels 	
Environment	 <p>Deliver a transport network that protects and enhances our natural, historic and built environments</p>	<p>CAM 4: Promote sustainable growth and development (including factors effecting environment, heritage, biodiversity and community)</p>	<ul style="list-style-type: none"> • CAM-EV1: CAM will support and enhance environmental sustainability (delivering biodiversity net gains. <ul style="list-style-type: none"> - Minimise adverse impacts on conservation areas, heritage and natural community assets, including protecting the character of towns and villages and the city of Cambridge, whilst avoiding encouraging unsustainable village fringe development. - Meets net gain requirements and where possible offers additional visual and environmental enhancements 	
	 <p>Reduce emissions to ‘net zero’ by 2050 to minimise the impact of</p>		<ul style="list-style-type: none"> • CAM-EV2: CAM infrastructure will utilise zero emissions vehicles; other public transport zero 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	transport and travel on climate change		emissions vehicles should be able to use sections of the CAM infrastructure if they are CAM compatible <ul style="list-style-type: none"> • CAM-S11: Improve air quality • CAM-S12: Promote low carbon economy 	

CAM Network

The CAM programme is comprised of several main elements to be delivered over time:

- The City Tunnel Section, including underground tunnels and planned major interchange hubs at the city centre and at the mainline railway station, under the city of Cambridge;
- Inner Corridors, often referred to as the ‘GCP Corridors’; and
- Regional Routes to extend the system to reach Garden Villages, employment sites and other major housing and employment locations.



Maximise opportunities to link with other transport initiatives and expand the CAM network beyond the currently planned network will continue to be explored by the Authority, and as such, all planned network components must be designed to properly link with one another and not preclude future linkages.

In line with CAM Policies E9 and E14, these projected routes will need to complement and be integrated with other major transport infrastructure developments along the corridors they serve. National government’s commitment to an East-West Rail route and proposed new heavy rail improvements and/or station developments at St Neots, West of Cambourne, Cambridge South, and Waterbeach will need to be taken into account in developing business cases.

Subject to receipt of the necessary powers and consents and funding, the Regional Routes are planned to become operational from late 2024 onwards.

CAM is designed to provide a best-in-class passenger experience in terms of journey time reliability, smoothness of ride, vehicle and stop quality, level boarding, fully

electric operation and off-vehicle ticketing. CAM is currently anticipated to be segregated as a default assumption.

To enhance safety and reduce operating costs it is expected CAM will eventually become driverless once autonomous vehicles have been approved for use in the UK and the appropriate safety regulations have been established.

The CAM scheme is scalable and has the potential to further increase carrying capacity in line with the future demands as it is encouraged and support a modal shift away from the private car following the scheme's introduction.

The LTP ambition

The Authority's core transport strategies aim to encourage the shift to active travel and public transport: from providing sustainable connectivity to and within new developments, to delivering world-class active travel infrastructure, and a new, more integrated and accessible, public transport network. Major projects, such as CAM and East West Rail (EWR), will provide new journey opportunities, with fast, frequent services and competitive journey times, designed to act as a genuine alternative to the private car.

The Combined Authority will continue to encourage developments in those places where transport can be provided through schemes such as the CAM, including along existing transport corridors and new garden villages.

Complementing CAM will be a comprehensive, better integrated network of local bus services, connecting the suburbs of the urban areas and smaller towns and villages to employment centres across the area and the CAM network. Existing and new transport hubs, interchanges and Park & Ride sites will provide sustainable travel options. These will be better integrated into surrounding local transport networks, acting as travel hubs with high-quality interchange between CAM and local bus and demand-responsive services, together with the active travel network. Local buses – and demand-responsive transport – will be designed to ensure that no one is outside of the reach of safe, reliable public transport, and hence helping to maximise social inclusion for those who lack access to a car.

For CAM to be successful, high-quality interchanges will be needed. This means they will be attractive, safe, inclusive and secure with excellent information and integrated feeder transport arrangements – active travel, rail, bus, taxi and other modes.

To ensure that the CAM system is accessible to our customers and communities, we propose involving our communities, including older people, disabled people and young people in the design and delivery of the CAM system.

CAM 1: Promote economic growth and opportunity

The CPIER highlighted the incredible economic success story of the Greater Cambridge-focused science and tech industries over the last 50 years, underpinned by the presence of the Universities and science parks in and around Cambridge. The area is a global leader in innovation and commercialisation of ideas, and a

magnet for companies across the globe. In the last few years this has delivered employment and business growth far above average. However, CPIER also found that this growth was uneven, with surrounding parts of Cambridgeshire not necessarily sharing in that same level of success. The CPIER also noted the clusters of activity in other towns, for example advanced materials (composites) in Huntingdon.

The Local Industrial Strategy has a priority to improve the long-term capacity of the area by supporting the foundations of productivity. It also has a priority to broaden the base of economic growth, including by spreading the benefits of high growth beyond the Cambridge area. There are, however, signs that constraints on growth are starting to bite. In particular, transport issues will significantly reduce this success if not dealt with.

The CAM, in providing an integrated network through its Regional Routes, will connect many towns and key locations, including science parks. This will help deliver the Local Industrial Strategy priorities. Firstly, the CAM will improve employment opportunities as more residents will have 30 minutes or better access by high quality sustainable travel to key employment locations. Secondly, it will increase the attractiveness of surrounding towns to businesses to establish and expand their operations, thus spreading the growth benefits of the science and tech economy across the wider region.

CAM 2: Support the acceleration of housing delivery

As a result of its strong economy, the world-class education offer and good living environment, this part of Cambridgeshire has seen rapid growth in both employment and households (but also increases in house prices as supply has not kept up with demand). To cater for that growth, local councils in the area have plans in place for an additional 61,000 homes by 2031. The CAM is critical to delivering sustainable transport to support the anticipated growth up to 2031 and beyond.

Much of the new development is on the edge or outside of Cambridge in large-scale developments. These include new settlements on proposed CAM routes at places such as Northstowe, Bourn Airfield, north of Waterbeach, and Alconbury Weald, Huntingdon. Some of these locations will continue to provide housing beyond 2031. The plans for the Greater Cambridge area are also under review to extend them to cover the period to 2040.

As highlighted in the Combined Authority's Growth Ambition Statement, the CAM enables the development of new sustainable settlements along its route. New developments can be designed from the ground-up to be integral with the CAM, including access by active travel, maximising the sustainable travel benefits. As Garden Villages these communities will be exemplars in sustainable ways of living and working, with local community infrastructure, job opportunities and attractive green space and public realm areas. Long-term stewardship of community assets is a feature of Garden Villages. Locations of Garden Villages will be examined through the planning process.

In the March 2020 budget, the government announced that it was going to examine and develop the case for new Development Corporations in the Oxford-Cambridge Arc with a focus on St Neots/Sandy, Cambourne and Cambridge. This included plans to explore the case for a New Town at Cambridge. It is therefore important that the CAM scheme is adaptable and helps to meet the travel demands emerging from these new developments through its integration into the fabric of the development with appropriate interchange and services.

CAM 3: Promote Equity

Integration with the wider passenger transport network

The public transport strategies for Cambridge and Peterborough (previously developed by the County and City Councils) set out the long-term strategy and short-term delivery plan for public transport. As with the other underpinning daughter documents to the LTP, these strategies will be reviewed and refreshed in a timely manner. It is essential that the CAM scheme is fully integrated with the wider public transport network to enhance the opportunities for all. Therefore, it is imperative that CAM delivers the following:

- CAM will be fully integrated and embedded within the public transport provision to ensure a high-quality network with appropriate interchange opportunities are provided;
- The scheme provides services and develop infrastructure that meets the needs of customers; the residents of, employees based within, and visitors to Cambridgeshire and Peterborough, whilst at the same time having regard to economy, efficiency, and effectiveness; and
- CAM will provide a high-quality, integrated passenger transport network to provide people, in both the urban and rural areas, with access to the opportunities and benefits that contribute to the enjoyment of a better quality of life.

Alignment to the Bus Reform Task Force

The Bus Reform Task Force (BRTF) was launched in early 2019 and is exploring the best operating and delivery model for our public transport network. It has three main workstreams: to establish an integrated framework to assess subsidy requirements, to identify and implement tangible short-term improvements to bus services, and to develop and examine the business case for a number of alternative delivery options for bus services in Cambridgeshire and Peterborough. CAM will be aligned with the conclusions from the BRTF that are due to be published in late 2020.

Alignment to emerging public transport schemes (such as East-West Rail and Cambridge South Station)

The Authority continues to explore opportunities to enhance strategic public transport accessibility and support growth through new infrastructure and the connectivity between the CAM and other public transport schemes and networks. The developments in the transport network need to be successfully planned to integrate with the CAM network and the EWR proposals. The interchange and connectivity

between the two networks and the traditional bus network needs to be seamless to maximise the benefits of these complementary modes to reduce the dependency on the private car by offering a real alternative and opportunity to the people of the region. This integration of modes will significantly reduce journey times to major cities elsewhere, creating new opportunities for work and leisure for our residents while supporting expanding the labour market and Cambridgeshire and Peterborough's productivity.

East-West Rail

CAM should complement the new EWR link, serving the smaller communities that the heavy rail line will pass without stopping. It is important to consider how the EWR route relates to the CAM network, to maximise integration between modes and how they will interact. This interaction needs to be understood to ensure that the schemes genuinely complement each other thereby maximising the benefits for all. Providing appropriate and effective interchanges between CAM and EWR that are safe, accessible, sustainable and seamless to provide a fully integrated public transport network that maximises the "offer" between St Neots and Cambridge.

Cambridge South Station

A key element in the development of Cambridge South Station as a multi-modal interchange is understanding the requirements of the users, both existing and potential travellers and how this scheme will seamlessly interact with CAM.

Integration with emerging highways schemes (A428, A10, A505)

The Authority is currently developing schemes within the A428, A10 and A505 corridors and examining how connectivity can be improved along and through the corridor, with a particular focus on improving the "offer" to the people of Cambridgeshire and Peterborough. Any developments and/or improvements to the highway network needs to fully integrate with CAM to ensure a truly seamless network is delivered with adverse impacts minimised wherever possible. Therefore, as and when these schemes and others being developed by the Authority and the Greater Cambridge Partnership, it is essential that due consideration is given to CAM's requirements.

CAM 4: Promote sustainable growth and development

Integration with active travel

- CAM interchanges with easy step free access will ideally located at either major attractors or generators of passengers and within 10 to 15 minutes' walk to key locations ensuring ease of access to major attractors;
- Access should be designed to radiate from CAM stops; and
- Locating the CAM stops at the optimum location for accessibility helps to reinforce the sustainable transport message.