# Future Mobility Zones Fund
## Application Form – Outline Proposal

Department for Transport

This application is for the creation of a single Future Mobility Zone (FMZ). **One application form must be completed for the proposed zone, regardless of how many individual schemes it contains**. Please include all relevant information within your completed application form.

## Applicant Information

**City region name:** Cambridgeshire and Peterborough Combined Authority

**Bid manager name and position:** Dan Clarke – Partnerships and Strategy Manager

**Contact telephone number:** 01223 729079

**Email address:** daniel.clarke@cambridgeshire.gov.uk

**Postal address:** Room 324, Shire Hall, Castle Street, Cambridge, CB3 0AP

## SECTION A – Name, location and description of the FMZ

### A1. FMZ name and location (please provide a map of the area in an annex):

The Greater Cambridge Future Mobility Zone (FMZ) – will be focussed on Cambridge City and the area covered by South Cambridgeshire District Council but will work with travellers from across the whole travel to work area and will scale at pace from Greater Cambridge across the Cambridgeshire and Peterborough Combined Authority (CPCA) area including Peterborough, Fenland, East Cambridgeshire and Huntingdonshire.

### A2. FMZ description

The Greater Cambridge area is located within the Cambridgeshire and Peterborough Combined Authority (CPCA) area and has an internationally significant reputation and considerable growth in employment and housing. Greater Cambridge is leading the way in sustainable mobility as the UK's number one cycling city as part of the CPCA's overall transport strategy that also includes plans for a world leading autonomous metro system (CAM).

Greater Cambridge will become a model for how cities can harness new and emerging mobility technologies to create a public transport system for all that is better than the car. It will do this by creating an integrated, end to end mobility system, putting the traveller at its heart.

The FMZ will deliver a number of schemes that will come together with existing infrastructure investment plans to create a world class transport system:

•Tackling the first/last mile challenge to allow seamless travel to homes, work, education and leisure, through demand responsive transport, micro-mobility solutions and autonomous shuttles;

•Implementing smart network management to create a better traveller experience which supports our shift to sustainable modes, making it easy for drivers to link to the public transport system at the edge of the City, managing demand and making more efficient use of limited road space for deliveries, parking and routing;

•Use advanced data techniques to improve the traveller experience with better information and more convenient payment options. In addition, gaining a deeper understanding of travellers' experiences and why they make the choices they do, so we can build a mobility system tailored to support travellers making sustainable choices.

We will build on Cambridge's innovation networks to create a mobility marketplace to support innovators who want to develop new products, helping them to pilot and grow new solutions for the benefit of the UK, opening up opportunities using our international connections.

## SECTION B – The Strategic Case

B1. Background - What are the zone's objectives?

Greater Cambridge is growing rapidly with plans set to deliver 33,500 new homes and 44,000 additional jobs by 2031. Congestion is already a significant issue and if we carry on as we are, by 2031 the time travellers spend in congestion will double. To address this issue we need to get 1 in 4 people out of their cars and onto more sustainable modes.

Existing CPCA and Greater Cambridge Partnership (GCP) schemes focus on providing high quality public transport (HQPT) and cycling infrastructure to reduce congestion and enable growth in both jobs and housing. Given the substantial levels of modal shift required, the provision of such infrastructure alone is necessary, but not sufficient. Different types of transport services need to be provided to extend the range of options available to travellers, making public and sustainable transport more attractive options. Understanding what encourages travellers to adopt sustainable modes of transport will support policy development and encourage the behaviour changes required to achieve modal shift.

The objectives of the FMZ are therefore to:

•Complement CPCA and GCP infrastructure schemes by addressing gaps in service provision, particularly first/last mile and the development of a mobility marketplace to achieve this;

•Enable equitable access to employment and education opportunities for those living inside and outside Greater Cambridge;

•Remove barriers to the use of both public and sustainable transport, and improve the traveller experience;

•Understand traveller behaviour and influences upon it, so that future interventions can be as targeted and impactful as possible

The zone will help to deliver our ambition to create prosperity and improve quality of life now and into the future. It will do this by supporting the creation of a 'world-class transport network' built around the needs of all travellers, making sustainable modes more attractive than the car.

## B2. Strategic Case - What does the FMZ contribute to the programme objectives?

The Cambridgeshire And Peterborough Independent Economic Review (CPIER) report https://www.cpier.org.uk/ explicitly draws the link between transport and economic success, better places and quality of life of residents, and states the important role of public transport to 'connect students to education and widen employment opportunities, as well as working to alleviate loneliness and isolation among the elderly'. One of the reports key recommendations is:

'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. These should include the use of better digital technology to enable more efficient use of current transport resources'

Cambridge has a global brand thanks to the success of the University of Cambridge and more recently the growth of significant business clusters. The CPIER report identified the importance of Cambridge to the UK and recommended that 'The UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority'

The clusters identified by the CPIER report will support the CPCA in leading the way on the governments 'Grand Challenges' set out in the UK Industrial Strategy, doing so in a way which is bonding specialisms into a single innovation ecosystem which pioneers and exemplifies better living.

The emerging Local Industrial Strategy is focussed on the interventions which will support business growth in a way that is global, productive, and inclusive. The Future Mobility strand is one of the key areas of ambition as we recognise that harnessing new and emerging technology to help address issues such as congestion, pollution and improved connectivity will support our growth ambitions and help to create better places.

The CPCA commissioned report 'Cambridgeshire and Peterborough Strategic Bus Review: Options Report' sets out significant improvements needed to public transport that will enhance the network, including: a minimum level of service; committed equity of access for areas of deprivation; evolve a turn up and go network, and enhancing access to key employment sites. The report supports the approaches taken in the Future Mobility Zone (FMZ) proposal articulating how they play an integral part in supporting the ambitions of Greater Cambridge in delivering a world class, fully integrated public transport network that is sustainable, equitable and reduces congestion, moving people away from the private car by making public transport a more attractive option. The FMZ will be for the benefit of all our residents, those accessing employment, education, leisure and residents outside of the FMZ that travel into or through the zone.

The schemes that constitute the FMZ are described under 4 main themes:

a) Addressing the 'First/Last Mile Challenge' to provide travellers with an end to end service that is fully integrated across the transport network;

b) Providing smart network operations including active management of logistics to minimise disruption caused by deliveries, and the use of integrated real time data, machine learning and technology to improve journey times and reliability;

c) Providing a better experience for all travellers including better information and travel planning, as well as payment options that foster the shift to sustainable modes. In addition, understanding what encourages travellers to adopt more sustainable modes by trialling and analysing a number of behavioural interventions;

d) Delivering a supporting infrastructure which underpins the schemes including a data platform, account based ticketing and a mobility marketplace.

Each theme is now described in more detail:

**a) THE 'FIRST/LAST MILE CHALLENGE'**

**Demand responsive travel linking rural areas to travel hubs/employment sites**: providing people living outside urban areas with a better level of service that is more cost effective and environmentally friendly than the current scheduled rural bus network can offer. This will support the proposition for the Cambridgeshire Autonomous Metro (CAM), by connecting the wider sub region into the network without generating additional car trips. It will also help address the issue of travel into the dispersed network of campuses/business parks located in rural and peri-urban areas which are currently not served by public transport meaning that businesses are investing significantly in their own private transport, which has the unintended consequence of undermining the viability of the local transport network.

Scheme:

• We will develop a proposition for an app-based Demand Responsive Service which connects the dispersed suburban, peri-urban and rural population into the core transport network. We will look to integrate the service into the wider network through a Mobility as a Service (MaaS) pilot. This will also support out-of-hours and irregular working patterns so that those people also have choices for better journeys. This is particularly relevant for providing integrated transport services for shift workers at both Addenbrookes and Royal Papworth hospitals on the Cambridge Biomedical Campus (CBC), including those who are lower paid or for whom transport would otherwise present a barrier to employment. In this way, this scheme will provide wider socio-economic benefits. In the short term the focus will be connecting people to the rail network, busway, and network of park and ride travel hubs that already exist and have good onward connections into the city, and to the existing rail network.

This will support better access to employment opportunities and education which will benefit low income families. Over the medium term the focus will switch to connecting people to the CAM network as it rolls out, ensuring the benefits of the Mayor's investment in strategic infrastructure reach the whole CPCA sub-region so that no residents are left behind.

There is the potential to scale schemes at pace into other areas within the CPCA boundary; Peterborough, Fenland, Huntingdonshire and East Cambs, as well as a roll out across the Oxford-Milton Keynes (MK)-Cambridge arc. This would create a future mobility system that can support the ambitious plans for approx. 1 million houses to be built, in addition to significant business development across the arc.

Demand Responsive Services provide the opportunity for a mobility marketplace that combines new and existing modes of transport and encourages private sector investment and participation.

**Smart mobility in the city:** this addresses the need to disperse people to and from the core public transport network, with a particular emphasis on business parks and campuses (some of which are ~2km from end to end) and the historic city centre. This has potential applicability across small cities in the UK which cannot and will never afford the extensive fixed public transport network that can be justified in the largest conurbations. It will maximise the benefit of the fixed infrastructure that exists, by providing fast, convenient, reliable connections from that network to their ultimate destination. These solutions will require demand management measures ensuring alternative means of movement are in place, and will help to address issues of congestion and poor air quality.

Schemes

• Greater Cambridge already has experience of working with Micro Mobility providers (OfO and Mobike). We plan to build on that experience by working with a variety of micro mobility providers; floating bike; fixed bike; electric bike and scooters to develop models that work for both the city and the providers. Part of this work will be developing mechanisms for data sharing which will support cities transport planning and the development of policies which will support the way cities engage with providers. This will become a blueprint for how cities in the UK and across the world can ensure micro-mobility supports cities transport policies.

• Autonomous Shuttles – Working with the University of Cambridge, Greater Cambridge has developed a draft Autonomous Vehicle (AV)strategy which sets out a roadmap for how AV's can support the areas transport plans, including last mile. The strategy identifies a short term opportunity that builds on the current CCAV3 funded project; T-CABS. The CCAV3 project will deliver 12 seater autonomous shuttles on the southern section of the guided busway serving an overnight market from the bio-medical campus (which includes two large hospitals) the central station and a park and ride. The initial vehicle trial will begin this year and eventually expand to 6 vehicles. The FMZ will extend this pilot off the busway and onto the Cambridge Biomedical Campus creating a service that more closely supports first/last mile.

• Deliver a further autonomous vehicle pilot which demonstrates a first/last mile use case based on opportunities identified within the AV strategy. This will see an autonomous vehicle linking an employment cluster and transport hub scaling up from the CCAV3 project to another location in the city and potentially using a different vehicle type. This will begin to show the valuable role autonomous vehicles can play in first last mile, and we will work on a business case that supports their deployment.

• Integration into the wider network. To make accessing first/last mile solutions as easy as possible and to better integrate it into the wider transport eco-system we will link these projects to the development of a MaaS deployment, including the provision of better travel data and planning facilities.

**b) SMART NETWORK OPERATIONS:**

**First and Last mile logistics**

Deliveries and servicing are clearly essential to the economic wellbeing of Greater Cambridge and the whole CPCA, but these vehicles cause significant disruption to the efficient and effective functioning of the transport network including air pollution, delays to public transport and an un-inviting environment for cycling. These schemes will explore and deliver better ways to get goods from the outskirts of Cambridge into the city centre and business parks, thus reducing the impact of deliveries on congestion and poor air quality.

Schemes

• Exploring the potential of dual use vehicles – re-purposing vehicles for deliveries

• Building on existing cycle logistics provisions. This includes working with existing and potential new operators to increase the take up of existing cycle delivery services and develop new services e.g. different types of goods and services being delivered by bike.

• Improve routing options with kerbside data, addressing kerbside access issues with bookable virtual bays and maximising space utilisation with dynamic flexible kerbs

• Access management; exploring how access restrictions can be used to improve and encourage the adoption of different logistics arrangements in the city, with the aim of making cycling and walking more attractive, whilst at the same time improving air quality and the city centre environment. This includes how the urban realm can be changed and managed to encourage desirable behaviours and outcomes with respect to deliveries and servicing.

**Use of integrated real time data, machine learning and technology.**

Currently there is little active management of the road network with the emphasis on reactive responses to problems once they have arisen. We will actively manage the road network in a way that supports more sustainable modes. This includes using improved real-time data and machine learning to provide messaging which encourages drivers to switch to public transport before they enter the city, managing demand for road space including parking which will support re-allocation to more sustainable modes as well as creating places for people that are not car dominated. This will support people in making better travel choices.

In the Cambridge region, the A14m is nearing completion and will be one of the ‘smartest’ sections of road in the country. In addition, there are already plans in place to improve the A428 and a bid to include the M11 Smart Motorway proposal in RIS2. These planned works offer a significant opportunity to enhance the road network management and to ensure that we take a strategic approach across both the local and strategic network. The proposed FMZ schemes will have the potential to build on this work and scale across the Oxford – Cambridge arc allowing strategic management of the wider network and east-west journeys giving travellers access to better information to make more informed choices.

Schemes

• Better integration and management of the local and strategic network with a supporting data collection regime and the ability to exchange data more easily between the local and strategic network. This will then inform strategies such as the more intelligent use of Variable Message Screens (VMS)/messaging signs to manage traffic coming into Cambridge.

• Management of the local road network, including better management of kerb. The project will include work to put better information into the connected car which will allow drivers to make more informed choices. As part of this work we will aim to improve routing options with kerbside data, addressing kerbside access issues with bookable virtual bays, maximising space utilisation with dynamic flexible kerbs for deliveries, tourist coaches and on-demand transport. We will also support EV charging with improved kerbside management and robustly manage on-street parking, exploring pricing as a mechanism to control demand.

• Technology and emerging innovation can support the more intelligent use of signals and ideas such as green wave for cyclists. We will build on work already progressing in this area as part of the GCP.

• The GCP are currently exploring how demand management could help to manage the network, whether as a low emission zone to manage polluting vehicles, a work place parking levy to manage demand for car users travelling into employment sites, road pricing or a congestion charge. Part of the FMZ work will be to collaborate with the GCP on how new technology could support these options in ways that maximise the opportunities for using new mobility models and technologies to benefit travellers.

• Collect data on ridership, origin and destination to inform schemes within the FMZ as well as the work currently on-going by the 'Bus Reform Task Group' at optimising the current network.

**c) BETTER CUSTOMER EXPERIENCE AND BEHAVIOURAL INSIGHTS FOR MODE SHIFT**

Piloting and testing behavioural interventions that encourage people to shift from car-based commuting to either public transport, walking or cycling. We have extensive evidence from survey and consultation work with passengers that tells us their priorities for the public transport network, and what they perceive would be needed for them to switch from car to public transport, or to walking or cycling.

We also know that what people expect and report that they will do, and what they actually do, does not always tally, and that there are small 'friction' factors that deter people from leaving their cars behind.

We are developing propositions for a reshaped bus network that focuses on feeding the Cambridge Autonomous Metro and rail network and plugging gaps where there are significant flows not supported by the CAM network. In the short term the network must also provide better cross-city services to connect Phase 1 CAM schemes before the central tunnelled section is opened. This will be focused on the areas where evidence shows that public transport is currently not competitive with the car, and where there are the biggest number of people currently commuting by car.

We propose to develop a batch of small, robustly evaluated pilots which investigate the impact of behavioural ('nudge') interventions. These will make use of methods such as randomised control trials where possible. To support this work we will work with the University of Cambridge and the What Works Centre for Local Economic Growth. We will also look to engage with the Behavioural Insights Unit at the Cabinet Office and draw on the cross-governmental Trials Advisory Panel. This will ensure that the trials have strong academic rigour and that we develop an understanding of the interventions that actually work and how they can be made scalable and easily transferable to others cities.

Schemes;

• Ticketing and Payments trials – We have recently completed a study which sets out how we can deliver 'open account based' ticketing. This will be important for the FMZ as it will allow us to experiment with different tokens for travel, better integration with incentives for travel and subsidies or free travel for low income families and those seeking work. We will build on our work with businesses in Cambridge to explore how this could enable them to incentivise their staff to use public transport. As part of this work we will also explore how loyalty schemes such as the Business Improvement Districts loyalty card could be used to reward behaviours.

• Pricing trials – support access to the transport system for low income families and students – We will work with operators to experiment with fare pricing including; flat fare; off-peak; a full range of student fares and zonal pricing. We also propose to look at dynamic pricing trials; looking at capacity management and pricing differentials based on capacity. To support access to the transport system for low income families we will experiment with free/subsidised travel to determine whether providing free travel helps mode shift, or changes working behaviours (including whether such measures assist those people who are currently unemployed to secure jobs, or if those working a limited number of hours are able to extend their working time as a result of improved travel options

• Provision of free or cheap bikes, electric bikes to test whether they encourage mode shift or change labour market outcomes. What if all new affordable housing provided a free bike to new residents? Provision of cargo bikes directly; sharing schemes in new developments, or potentially run by supermarkets/retailers which allows us to track impact on behaviours for shopping.

• Better Integration – We will carry out a trial of 'MaaS' to understand how we can better integrate transport modes within the city and create a much more unified transport experience. The trial will look to measure the impact of 'MaaS' on the number of travellers it supports in getting out of their private cars and using public transport. This will help cities better understand how MaaS can support the reduction of congestion and understand any unintended consequences such as an increase in the use of taxis.

• Better Information; look at how the provision of improved real-time information, journey planning tools, wayfinding and information can help make journeys easier. This builds upon existing investments in these tools including a travel planner, which encourages sustainable modes as well as 'Smart Panels' (Screens with live transport information for buildings) developed in collaboration with the University of Cambridge

**SUPPORTING INFRASTRUCTURE**

To support these proposals the FMZ programme will deliver the following underpinning work streams;

**Data**: Greater Cambridge already has significant experience of working with transit data and we propose to build on this work to develop a highly scalable, sustainable data architecture which supports mobility. This will be made up of;

• A data platform which will be designed to be open to support the Mobility Marketplace; contain data that will support operators and service providers; support scheme development policy making and planning. The platform will have a number of tools for modelling and visualisation and will support our work with the Centre for Digital Built Britain on Digital Twins which bring Transport, Air Quality, Energy and Land Use planning into one environment.

We will also maintain and extend our existing real-time data platform (Intelligent City Platform) built by the University of Cambridge, which is used as a sandbox, that supports advanced research within the university. As we collect and use more data, trust and data ethics are increasingly important and we will develop a data guardian/data trust framework that will bring transparency to our data work.

• Supported by this framework, the key bus operator in Cambridge will be using city data and their own data to improve demand planning and predictions and will look to optimise their network. They will do this by using data to reduce incidents and improve the safety of bus journeys.

• Work with British Standards Institute (BSI) to ensure that we take a standards based approach and to help them develop new mobility standards where needed.

**Ticketing**: Through research that we have already undertaken, ticketing has been identified as a key barrier to using public transport. As part of the FMZ we will put in place an open account based ticketing system that will reduce friction for travellers within the region. It will also support the proposed trials on ticketing, payments and pricing.

**Develop a mobility marketplace**: As well as the proposed core schemes we would look to create a marketplace for new mobility providers, encouraging innovators to come into Cambridge to help deliver the objectives of the city. To support this we will deliver a mobility testbed and marketplace by;

• Supporting the proposal by XXX to develop a future mobility accelerator which will give companies access to; a live transport operation to test and trial products - to prove concepts, access specialist expertise and support from XXX's senior management team with access to a global business development team to accelerate their global growth. We will also work closely with the Wayra accelerator and build on our existing links to other incubator spaces in Cambridge including the Judge Business School and Future Business Centre.

• Working closely with Cambridge business networks including Cambridge Wireless which has an automotive and transport special interest group, Cambridge Network and Cambridge Ahead who represent a number of the large employers in the area

• Giving companies access to assets and connectivity. Greater Cambridge is currently exploring 5G connectivity which may become available during the funding period and will support autonomous vehicle trials; work with connected cars and the deployment of sensor networks.

• Working on policy and legislative barriers to new innovation with local and national Government as well as with innovators and SME's to understand how policy and legislation acts as barrier and how it needs to adapt to unlock innovation.

• Working with the Connected Places Catapult who will act as a convener of SME's that are working in the mobility space.

**Connectivity** – Connectivity, Fibre, Mobile, Wi-Fi and LPWan will underpin a number of new mobility models, 5G will support autonomous and connected vehicles as well as next generation wayfinding and information. Public Access Wi-Fi and mobile supports travellers getting information and LPWan lowers the cost of data collection. These technologies rely on the ready availability of fibre. The Connecting Cambridgeshire programme is investing up to £80 million to ensure that connectivity is available across the county, and has plans to invest in new technologies such as 5G. This investment will support our ambitions for the FMZ. The Connecting Cambridgeshire team have been working with the CPCA and the GCP to ensure that any new infrastructure scheme includes ducting to support connectivity,

**Evaluation Framework**

We plan to put in place a rigorous evaluation process that will measure the impact of the schemes on numerous factors including economy, sustainability, behaviour and well-being. This will help develop business cases and templates that will be shared with other cities. Our primary goal will be to create solutions that are scalable and economically sustainable and our success will be based on how well solutions developed in the Cambridge FMZ can scale. This will be semi-independent monitoring & evaluation and we will look to monitor outcomes as we go along in a digital twin of the city.

This work will include:

• Working with What Works Centre for Local Economic Growth
• Measuring health impacts in conjunction with the Centre for Diet and Activity Research (CEDAR)
• A robust data collection framework supported by the data platform
• Work with the Connected Places Catapult on delivering an evaluation framework
• University of Cambridge will establish a 'Future Mobility Task Force' at the University of Cambridge which will work with GCP to pursue the triple bottom line of exploiting 'New Mobility' options, delivering excellent public transport services, and improving community health and welfare.

**Knowledge Transfer**

We will work closely with colleagues in Peterborough to rapidly scale trials and prototypes from the Greater Cambridge area into another city quickly adding significant value and demonstrating scalability. We aim to add value to Peterborough and other areas within the CPCA through economies of scale when deploying underpinning infrastructure. The close organisation integration between the two cities will allow us to demonstrate scalability at pace.

The Smart Cambridge programme is part of a network of cities that includes Oxford, Milton Keynes, Peterborough, Exeter and Greenwich which was set up to help accelerate the take up of future mobility and smart city solutions. We will build on this core network to ensure that we are working closely with other cities particularly across the Cambridge - MK -Oxford arc which will support the scaling of schemes, the potential for economies of scale and the ability to pull in learning from other cities. We will also;

• Work with the Connected Places Catapult on developing templates and business cases which will support knowledge transfer – we will utilise the extensive city network the Catapult has both within the UK and abroad.

• Work with BSI to support the adoption of new mobility standards as well as utilising their networks for knowledge transfer

• We will work with the University of Cambridge on the dissemination of learnings, using their extensive knowledge transfer networks.

• Work with the Knowledge Transfer Network

• We will work with cities within our current network and other cities both in the UK and abroad to ensure that the model and services developed in Cambridge scale to other areas.

## B3. Global significance

Cambridge is not only an internationally recognised city but a global brand in its own right. It has an international reputation for shaping the future and creating innovations that generate excitement and change in equal measure.

The city has attracted some of the biggest names in technology and biotechnology including Apple, Amazon, Samsung and Astra Zeneca. The University of Cambridge is leading the world in the development of AI, machine learning and Big Data, and companies like ARM are powering autonomous vehicles and the internet of things.

Notwithstanding its remarkable heritage, Cambridge is typical of many cities within the UK and across the world that:

• Are relatively small, and therefore have an economic profile for funding public transport which is significantly different from that of larger cities such as London or Stockholm;

• Have a constrained geographical extent and a travel for work area that covers significant rural areas, market towns and links to other cities;

• Have travellers who feel they have no option but to use the private car and are therefore highly sceptical about alternative modes of transport;

• Have a significant proportion of the population who are ageing and have mobility challenges or may experience these over the next decade;

• Have a historic centre with constrained space leading to conflict between the modes;

• Have a population who are increasingly concerned by air pollution and congestion, and have expectations that public sector bodies will address these issues;

• See the necessity of providing a significantly improved transport network on an appropriate scale and at a cost which is affordable.

Cities with some or all of these characteristics are concerned to meet the first/last mile challenge and provide sustainable, integrated end to end transport services in ways that suit their scale, passenger numbers and available budgets. Small cities have to manage the network even more carefully than those whose scale is larger, since narrow roads get congested more easily disrupting the entire transport system, and air quality can deteriorate quickly in confined spaces. Where tight spaces make dedicated bus or cycle lanes impossible, innovative solutions are required to shift people out of their cars.

The Greater Cambridge FMZ will provide highly relevant models and approaches that are transferrable to similar cities worldwide, demonstrating how cities can harness new and emerging technologies in the mobility space to create a public transport system that is a better alternative to the car.

Each scheme within the FMZ would include knowledge transfer deliverables including an exportable template. By including these in the scope from the start, they would be an integral part of the schemes rather than later additions.

Although significant further work is required, it is anticipated that these would include:

• Contextual information about where the approach has been successfully applied and where it has been more problematic (and why), so that other cities can get an understanding of applicability and critical success factors;

• Project management materials including plans, approaches and risks

• Procurement materials to enable other cities to make faster progress. It may be possible to extend procurements in some circumstances to include other cities to leverage purchasing power and save time and cost;

• Sharing of evaluation materials;

• Stakeholder groups and events to transfer knowledge, including those with other parts of the CPCA area and the Oxford – Cambridge arc.

It is anticipated that this would include collaboration with the Connected Places Catapult, the University of Cambridge and other bodies responsible for disseminating knowledge to ensure that the FMZ's success could be replicated as widely as possible.

## SECTION C – The financial case

**C1. Financial case – scheme costs**

## SECTION D – The management case

**D1. Management case – Delivery and risk management**

Our current expectations for key milestones are as follows:

| | |
|---|---|
| 2019 | Full team mobilisation<br>Detailed scoping and high level planning<br>Soft market testing<br>Set up of expert panels<br>Procurement preparation<br>Put in place supporting data architecture |
| Late 2019-early 2020 | Procurements (from frameworks where possible)<br>Detailed planning |
| 2020-2021 | Phase 1 (early scheme) implementation. Early schemes could include for example:<br>• Micro-mobility provision<br>• Cycle logistics<br>• Behavioural baselining<br>• DRT<br><br>Introduce Mobility Market place<br><br>Evaluation and dissemination of lessons learned and knowledge gained |
| 2021-2023 | Phase 2 scheme implementation<br><br>Evaluation and dissemination of lessons learned and knowledge gained continues throughout this period. |

Key technical risks and mitigations include:

| Technical risks | Proposed mitigations |
|---|---|
| Lengthy procurement processes could delay the schemes and there result in less successful/incomplete outcomes | • Use of existing frameworks to reduce timescales<br>• Use of existing procurement specialists to advise on most efficient routes<br>• Use of specialists where required to ensure successful outcomes where procurements are required |
| Existing legislation could prevent some innovations from being deployed | • Take legal advice where necessary<br>• Work closely with the DfT to explore boundaries and options |
| Lack of availability of data could prevent 'frictionless' network operation and could detract from overall traveller experience | • FMZ schemes include better data provision from sensors<br>• The mobility market place will encourage sharing of non-commercially sensitive data |

## D2. Management case – Governance

Do you have governance processes in place to deliver the scheme?

☒ Yes ☐ No

The governance of delivery in the area is via the Combined Authority Board and GCP Executive Board, and these will be used for the governance of FMZ schemes as appropriate. Regular reporting to the CPCA takes place via a number of meetings, including a monthly Major Infrastructure Board where FMZ schemes will also be included.

The joint Senior Responsible Owners are Paul Raynes, Director of Strategy and Delivery for the CPCA and Rachel Stopard, GCP Chief Executive.

The FMZ would work closely with the CPCA's 'Bus Reform Task Force', who are currently producing a brief for making the business case for the options in the bus service act (including ticketing, franchising and enhanced partnerships). We will ensure that the FMZ aligns with this programme to ensure maximum value to both programmes.

The FMZ would comply with the CPCA assurance framework which is there to ensure; accountability, including public engagement; probity; transparency; legal compliance and value for money.

# SECTION E – The commercial case

## E1. Commercial Case

We have engaged with our key public transport operator's including XXX and XXX and their eco-system of providers. We have also worked with our network of providers, networks and organisations who are working in the mobility space. This has included BSI, Connected Places Catapult, the University of Cambridge and providers of new mobility solutions.

If successful we would conduct a deeper market engagement exercise which would be carried out in partnership with BSI and the Catapult.

If a suitable framework agreement is available then this will be our preferred route to market. Tenders will be invited from all suppliers on the framework agreement, or relevant Lot within the framework if it is broken down by Lots.

If there are many suppliers the procurement team will carry out a capability assessment before inviting bids by providing brief details of the requirement and asking suppliers if they consider they have the capability and capacity to carry out the work and whether they wish to bid if the requirement is advertised.

If a suitable framework agreement isn't available then we will advertise the contract opportunity as follows:

- Under £2,000 – Obtain best value
- Under £25K – 3 quotes
- Under £100K – use the RFQ process

- Over £100K – we will work with our procurement team on the best way to expedite Procurement but ensure that we are meeting EU procurement regulations

Where schemes are first of a kind and there is only one supplier we can use exemption regulations.

The nature of the schemes proposed will necessitate us taking a different approach to procurement and we propose using two further mechanisms:

• Innovation partnerships - Innovation partnerships have been introduced as part of the PCR 2015 reforms. They are intended to overcome the current discontinuity between ideas developed in a PCP contract, based on a research and development procurement, and full scale deployment of the developed solution with a commercial contract. We would use procurement pilots which if successful could be scaled to full schemes without the need for a further procurement process.

• SBRI - The Small Business Research Initiative (SBRI) is a well-established process to connect public sector challenges with innovative ideas from industry, supporting companies to generate economic growth and enabling improvement in achieving government objectives.

Due to the work of the Smart Cambridge and Connecting Cambridgeshire programmes, we have strong relationships with a rich and active 'ecosystem' of technology organisations, and this is often underpinned by world leading and internationally renowned research by the University of Cambridge.

## SECTION F – Additionality

### F1. Additionality

Significant investment in transport has already been made, is underway or is being planned including:

• GCP - one of a number of 'City Deals' agreed by central government in 2013. It is worth up to £500 million in funding to 2030 for transport infrastructure to boost economic growth. £100m of government funding has been made available for transport improvements until 2020. A further fund of up to £400m will be available if initial investments are successful in supporting economic growth. Government funding is being matched with local funding, for example through Section 106 agreements with developers, and we are exploring private funding opportunities. Delivery of initial schemes is already complete and is delivering benefits to travellers with a large number of schemes scheduled to be delivered over the next 5 years.

• CAM Metro – the CPCA are investing significant funding into developing this which will provide a high-quality, fast and reliable transport network that will transform transport connectivity across the Greater Cambridge region. The vision for the project is an expansive metro network that seamlessly connects Cambridge city centre, key rail stations (Cambridge, Cambridge North and future Cambridge South), major city fringe employment sites and key 'satellite' growth areas, both within Cambridge and the wider region. CAM will operate entirely segregated from traffic through Central Cambridge through an underground tunnel, ensuring fast and reliable services unaffected by traffic congestion. Services will be provided by electric, low-floor 'trackless metro' vehicles.

Past investments including the Cambridgeshire Guided Busway also provide very valuable assets which are already being used to support new innovations including autonomous vehicles.

These existing CPCA and GCP schemes focus on providing high quality public transport (HQPT) and cycling infrastructure to reduce congestion and enable growth in both jobs and housing. Given the substantial levels of modal shift required, the provision of such infrastructure alone is necessary but not sufficient. Different types of transport services need to be made available to extend the range of options available to travellers so that public and sustainable transport become more attractive options. Understanding what encourages travellers to adopt more sustainable modes of transport will encourage the behaviour changes required to achieve modal shift.

The FMZ funding envisages new schemes that build upon the foundations of past, current and planned initiatives, and provide a substantial opportunity to maximise the return on those investments by developing new transport modes, models and services to create a truly future facing transport system. The schemes identified in this document will also use data, digital infrastructure and systems in an integrated way to transform the customer experience for all, especially those on low incomes and/or excluded from jobs and educational opportunities in Greater Cambridge by a current lack of access.

Additionality will be extended by the transferability of the schemes to other parts of the CPCA area, with the data and supporting digital infrastructure supporting CPCA work across the area. We will look to transfer knowledge to other UK and international cities.

A significant area of focus for knowledge transfer will be the Oxford – Cambridge arc. We envisage extending our close working relationship with the 'England Economic Heartland' (EEH) sub-national body as they develop their transport strategy for the corridor. Being amongst the UK's most productive, successful and fast growing cities, Cambridge, Milton Keynes and Oxford host a highly skilled labour force, cutting edge research facilities and technology clusters which compete on the world stage, so it is essential that this vital workforce can engage in employment and educational opportunities across the whole arc.

The FMZ schemes laid out in this proposal including a delivery of robust first/last mile services, will improve and expand travel choices for people via new and improved transport interventions. Delivering these initiatives regionally will facilitate a step change in how more people can move seamlessly on reliable, clean and affordable transport systems.

## SECTION G – Declarations

| G1. Senior Responsible Owner Declaration | |
|---|---|
| As Senior Responsible Owner for Cambridgeshire and Peterborough Combined Authority, I hereby submit this request for approval to DfT on behalf of Cambridgeshire and Peterborough Combined Authority and confirm that I have the necessary authority to do so.<br><br>I confirm that Cambridgeshire and Peterborough Combined Authority will have all the necessary statutory powers in place to ensure the planned timescales in the application can be realised. | |
| Name: Paul Raynes | Signed:  |
| Position: Director of Strategy and Delivery | |

| G2. Section 151 Officer Declaration – not required at this stage | |
|---|---|
| As Section 151 Officer for Cambridgeshire and Peterborough Combined Authority I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Cambridgeshire and Peterborough Combined Authority<br><br>• has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution;<br>• accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties;<br>• accepts responsibility for meeting any ongoing revenue and capital requirements in relation to the scheme;<br>• accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested and that no DfT funding will be provided after 2022/23;<br>• Confirms that the authority has the necessary governance and assurance arrangements in place and the authority can provide, if required, evidence of a stakeholder analysis and communications plan in place. | |
| Name: | Signed: |

## Submission of Bids

**The deadline for bids is: 23:59pm on 24 May 2019.**

An electronic copy (including supporting material) should be submitted to:
FutureMobilityZones@dft.gov.uk

However, if you must send hard copies of papers, please provide three copies to:

Fran McMahon
Future Mobility Zones
Department for Transport
3/27, Great Minster House
33 Horseferry Road
London
SW1P 4DR