

**Submission to the National Infrastructure Commission on behalf of Oxford City Council:
The Cambridge – Milton Keynes – Oxford ‘Growth Corridor’ call for evidence.**

Oxford City Council is submitting this response in consultation with a range of private and public sector organisations including BMW, Unipart, Great Western Railways, Chiltern Railways, Network Rail, Oxford Bus Company, University of Oxford, Oxford Brookes University, the Fast Growth Cities Network, and Oxfordshire’s Local Enterprise Partnership and County Council. We believe that there are shared aims across the Oxford to Cambridge corridor, and that there is the opportunity to widen the corridor’s economic reach and impact further.

Overview: Oxford is a national economic asset and a global brand, renowned for its research and knowledge economy, built heritage and quality of life. The city’s economic output and employment growth consistently perform above the national trends, and it is a net contributor to the Exchequer. It is a focus for the UK’s knowledge economy and across a range of technology and science growth sectors, with major assets which include two leading universities, links with ‘Big Science’ (space, satellites, nuclear energy and robotics), as well as containing international high value enterprises, for example, BMW Mini (automotive), Oxford University Press (publishing and data) and Centrica (energy), and many life science and computing enterprises. Oxford hosts almost a third of Oxfordshire’s employment; a county with over 30,000 businesses and 3,500 new businesses created yearly, and a GVA per head that is 17% higher than the UK average.

Investment in transport, housing, employment and skills has not matched the city’s growth, and businesses identify that these factors are major constraints (Ipsos Mori 2015). The lack of transport capacity is now a major cost to businesses. The lack of housing supply, choice and affordability make Oxford the least affordable location for housing in the country, creating problems for employment recruitment and retention for enterprise and research, as well as impacting on schools, health and service sectors. The limited commercial property supply has restricted business expansion and foreign direct investment opportunities have been lost. Investment in skills and training has not matched the opportunities created by the economy, leading to skills shortages.

Our economic success would be enhanced significantly if the infrastructure constraints were addressed to allow our research assets and sector strengths to be translated into higher productivity and increased exports. It is our aim to ensure that Oxford continues as the innovation and growth engine of the Oxfordshire ‘Knowledge Spine’ (see Appendix 1), and is a major contributor to a connected regional cluster that is world leading in science, technology and knowledge. It is our aim to grow the range of employment opportunities that are being produced across retail and tourism, construction, engineering and manufacturing, and science, technology and knowledge intensive enterprises.

The Oxfordshire Local Enterprise Partnership (OxLEP) has identified that around £1.4bn over 30 years is needed to deliver county-wide infrastructure investment needed to meet a £6 billion infrastructure funding gap. We recognise that this funding will need to be raised creatively and through a range of different models based on a compelling investment case. We know that there is advantage to be gained through greater collaboration across the Oxford to Cambridge corridor, in jointly addressing growth barriers, and realising new opportunities. We also believe it is essential that we deliver strategic transport and infrastructure which is comprehensive and sustainable in connecting housing and employment locations as well as centre to centre interchanges and promotes public transport ahead of increased road capacity and the private car.

Issues addressed in this response: Below are the points we consider most important in addressing this call for evidence.

- Oxford's potential to create knowledge intensive jobs, and advance science and technology with global impacts.
- Oxford's as yet untapped potential to deliver a step change in house-building across a range of tenures, through major urban extensions and sustainably connected neighbouring settlements, as part of a mix that meets the needs of communities, residents and business.
- The requirement to prioritise the early delivery of reliable, high capacity, sustainable and integrated intra-city public transport and infrastructure networks.
- The requirement to ensure urban connectivity so that corridor-wide networks are part of intra-city networks (mass rapid transit, rail, park and ride, and cycling and walking networks).
- A focus on enabling better sub-regional connectivity across the 'Knowledge Spine' and nearby settlements to ensure the economic benefits of growth in Oxford are felt more widely (e.g. Science Transit investment).
- A need to prioritise rail connectivity across the corridor so services can be extended to Swindon and Bristol. Highways improvements are supported where they are fully integrated with public transport capacity. Cities such as Oxford and Cambridge cannot support increased traffic in their urban areas.
- A need to invest in responsive local skills training, as well as labour mobility within and across the corridor. Both are required to reduce growing inequalities and meet business demand.
- A need to re-think our collective approach to funding and appraising infrastructure investments, recognising that increased Government funding alone, is not enough.

1. What is the vision to maximise growth, maintain a high-quality environment, and deliver jobs and homes over the next thirty years?

The vision, as set out in OxLEP's Strategic Economic Plan, is that by 2030 we will have strengthened Oxfordshire's position as a vibrant, sustainable and inclusive world-leading economy, driven by innovation, enterprise and research excellence. Our aligned *city* vision is to create a world class environment for business, academia, visitors and business, and to guide this, a 10-year Economic Strategy (2013-23) is in place. Strong commitment has been made to housing and jobs growth with targets to provide 100,000 new homes and 85,000 new jobs across the county by 2031, with up to 32,000 new homes and 24,000 additional jobs in Oxford.

The aspiration of the Oxford Transport Strategy is for Oxford to be a place that will provide residents and visitors with a connected transport network which provides a cheaper, greener, faster, safer, smarter and more reliable option than the private car. The rail network serving the city will be modernised and extended. Existing and new stations will be integrated with the city's other transport networks and will provide a first-class passenger experience delivered as part of the planned and current rail network improvements. A new Mass Rapid Transit (MRT) network will provide fast, high-capacity, zero emission transport across the city's busiest transport corridors linking housing and employment areas. The conventional bus and coach network will integrate with MRT and move towards a zero emission fleet, with more advanced vehicles and better infrastructure improving journey speeds, and reliability.

To facilitate continued housing and job growth, the area needs to drive continuous investment in a range of hard and soft community infrastructure to support a growing population, including schools, medical services and sufficient utilities' capacity. All of this needs to be accompanied by a 'Smart City' ethos; combining resident focused planning, use of technology, data, and collaboration to efficiently meet demand.

2. What value could new cross-corridor intercity road and rail links bring? How do these compare to other transport initiatives e.g. intra-city links, or wider infrastructure, priorities?

Currently, rail journeys between Oxford and Cambridge (via London) can take in excess of 3 hours. The only other public transport option, the X5 coach service, takes between 3½ and 4 hours via Milton Keynes and Bedford. In order to deliver a step change in connectivity, growth and housing, we need strategic investment across the corridor and intra-city. Some major commitments have been made, such as East-West Rail and feasibility work on the proposed Expressway-but even with these projects the wider connectivity between homes and employment has not been fully considered, and certainty on the full extent of delivery and ambitious timescales are vitally important factors in securing the benefits of wider investment through business growth and inward investment.

Rail: East West Rail will establish a strategic rail connection between Reading and the Thames Valley via Oxford and the Oxfordshire 'spine' with Milton Keynes and the South East Midlands and Cambridge / East Anglia. It is a vital missing piece in our country's strategic rail network, and will restore a strategic transport corridor of regional and national significance - essential to improving connectivity to drive growth across England.

With Phase I Oxford to Bicester and Marylebone almost complete, Phase 2 will include completion of the Western Section, enabling direct services connecting Reading/Oxford to Bedford, Milton Keynes and Aylesbury and new cross-country routes. Services are expected to start in 2020. This must be bought forward as a priority. Completing East West Rail would provide a minimum of half-hourly trains between Oxford with Milton Keynes and Bedford with travel times of 40 minutes and 60 minutes respectively. The travel time between Oxford-Cambridge would improve significantly to 100-120 minutes. Like our partners, we support early completion of the Western section of East West Rail, in line with Government and Network Rail commitments, along with progression of the central section to complete the connection to Cambridge and any necessary upgrading of the Western Section to allow high frequency traffic.

Western Rail Access to Heathrow (WRAH) should also be bought forward within the same timescale, providing direct access to Heathrow Airport from knowledge and science hotspots in Oxford and Didcot (Science Vale). This investment should be supplemented with direct service to make Oxford a more accessible international gateway.

Great Western Modernisation through the re-signalling and electrification of the main line from London to Newbury, and Oxford and then Bristol and South Wales to 2019 will also bring wider east-west and north-south benefits. This will include the introduction of new Inter-city Express (IEP) trains. We highlight later in this submission the intra-city rail connections, transport and regeneration opportunities, which are integral to the strategic case to deliver development opportunities, housing and employment growth, and labour market mobility.

Road: We need to ensure reliability, speed and capacity from centre to centre maximising public transport opportunities. Therefore, we support investment in inter-city road networks which includes bus lanes and priority, park and ride and public transport facilities which connect employment areas to housing and interchanges. Oxford, Cambridge and our other towns cannot cope with increased car usage in their dense urban areas with historic street patterns.

The A34 functions both as an important part of the national Trunk Road network, connecting south coast ports with the Midlands and North, and as an essential local road providing the principal connection between Didcot, Oxford

and Bicester, also functioning as part of Oxford's ring road. Carrying over 70,000 vehicles per day, it is highly susceptible to incidents and disruptions which result in major congestion, on the western boundary of Oxford, and between Oxford and Didcot. The significant expansion of Bicester will boost demand further, despite rail investment. We support the commitment from Highways England to prioritise either capacity improvements or relief for the A34 through Oxfordshire as part of its spending commitment through its Road Investment Strategy.

Future growth in jobs, population and car ownership will have a significant impact on the highway network's ability to cope with traffic growth. With increased congestion on strategic road networks we need to give priority to bus services through investment in continuous bus corridors and lanes. If Oxfordshire's growth plans are to be achieved, the county needs an effective mobility system that provides a real alternative to the private car and helps to reduce traffic congestion. This is a key aim of both our 'Science Transit' vision (Appendix 2) and new Local Transport Plan.

3. What does that mean for growth and infrastructure investment in your area?

It means supporting the creation of at least 34,000 jobs and 32,000 homes in the city and adjoining areas, and enabling the wider economic vision for Oxfordshire, together with attracting private investment, and strengthening our globally competitive higher education and innovation ecosystem. It will enable sustainable growth where more people can travel more easily from their homes to places of work. In bringing forward the investment in schemes outlined above, we will achieve:

- A thriving knowledge-based economy, using the global connections of Oxford's Universities and large employers to attract new companies, promote new start-ups and enable businesses to attract and retain skilled workers. This will allow businesses to innovate and collectively grow through strong connections and interactions and trade globally.
- Investment in the physical and transport infrastructure enabling economic growth, and delivering a sustainable transport network in line with our transport strategy to 2031 and beyond, adopting reliable low carbon transport modes to support growth.
- A step change in the annual rate of housing development in locations which are easily accessible to the city centre and the other main employment areas by cycle, bus and rail, and providing housing choice and affordable homes to support the needs of those entering our dynamic labour market.
- Sufficient supply of employment land and commercial property and the next generation of digital infrastructure for expanding businesses and inward investment opportunities.
- A high quality of life, by providing safe, inclusive, healthy and convenient travel choices providing access for all to employment, services, retail and leisure opportunities.

4. What steps are currently being taken to realise that vision, and what more needs to be done?

Given the challenges of full employment, with significant job creation potential and housing market pressures, Oxford's ambition is to expand the available skills base and labour market to support further innovation led growth. This will be complemented by greater labour mobility enabled at county and corridor-wide level.

We are already working closely with our pro-growth partners to support the corridor-wide ambition to compete on a global scale. We have jointly established the Fast Growth Cities Network, consisting of Oxford, Cambridge, Milton Keynes, Swindon and Norwich, which aligns with the importance placed on a corridor-wide perspective. These places complement each other because of their ambition to grow, their size, potential and the shared challenges around

infrastructure, housing and skills. The cities are some of the most successful and innovative places in the UK, with capacity to develop further (see Appendix 3). Oxford is located at the centre of this wider corridor with strategic links to the Midlands, London, London Heathrow Airport, and the M4 motorway corridor¹.

5. Why is the area so successful and what have been the key drivers of that success?

Oxford contributes £6.8Bn annually to the national economy and £16,600 tax revenue per capita. Oxford generated £1.15 billion in income tax alone in 2014/15, £226 million more than it did 10 years ago. Oxford's GVA per job is £58,150, the seventh highest of any city in the UK. The city's private sector job growth of 17.8% over the last five years is the fastest outside London. Oxfordshire has had the fastest growing economy of any LEP area since the recession, with growth of over 20% GVA between 2009 and 2013 – more than double the growth rate of core city LEP areas such as Greater Manchester of the Leeds City Region, and higher than Greater London.

The reasons for this success are as follows;

- Oxford is central to one of the top five Technology Innovation Ecosystems in the world fuelled by its universities and 'Big Science' assets which support six of the 'eight great technologies'. The city employs a large number of people in university related education and health sectors, but has also developed a range of sectors including car manufacturing, publishing, tourism, digital sectors and a growing hi-tech sector. With a diverse sector mix and its science assets, Oxford's economy is broad-based and resilient.
- We have a highly-qualified workforce. 67% of our jobs are knowledge intensive and 60.2% of Oxford's residents are qualified to NVQ level 4 or above, compared with the South East at 39%, and England at 36%. We have 44,000 students attending the city's universities.
- The city has an extremely high job density of 1.16, and is the economic focus of an extensive Travel to Work Area. The city supports 131,000 jobs in total; with 100,000 people having their main job in Oxford and 46,000 commuting from outside the city. Investment sustainable public travel support this: Park and Ride, bus and coach routes, and cycling networks. Oxford is one of the leading UK cities in sustainable travel with over 60% of those living and working in the city travelling to work using sustainable modes: walking, cycling or bus.
- Oxford has an attractive natural environment, world-class built heritage and cultural offer. The city is the seventh most visited city in the UK, and is the tourism gateway to the rest of Oxfordshire. We attract approximately 7 million visitors per year, generating £780 million in the local economy.
- Oxford's location is highly accessible with connectivity to London and access to Birmingham as a gateway to the midlands and north, and the ports to the south. The links to Heathrow and Birmingham airports are further drivers of success, which have the potential to be strengthened further with the proposed investments in WRATH (Western Rail Access to Heathrow) and runway capacity at Heathrow.

6. What would make it more successful? What is holding back further growth and greater productivity? What planned or new infrastructure improvements would best support sustainable growth and promote innovation over the long-term?

As the Oxfordshire Innovation Engine² report states, growth in Oxford and in the county has been constrained by insufficient public transport, lack of road network capacity, a shortage of development land for employment, and an

¹ Fast Growth Cities Report, Centre for Cities, 2016

² Oxford Innovation Engine, May 2016

acute shortage of housing and affordable homes. With average house prices sixteen times average wages³ Oxford is the least affordable city in the UK including London. The affordability crisis is a major concern to employers including major employers and businesses, the universities, NHS and services where the rising costs of living, commuting and lack of available affordable housing as barriers to staff recruitment and retention. An Ipsos MORI survey (2015) of 386 SMEs in Oxford confirmed the main problems for businesses in securing staff: cost of living (58%), house prices (32%) and commuting (23%).

To enable economic growth Oxfordshire needs to expand its labour market through population growth and improved accessibility, as well as improving its workforce skills and training. Travel to work patterns (2001-2011) show an increase in inbound commuters from outside the city mainly by car. Within Oxford commuting by bicycle and on foot has increased by almost a third and bus use increased by 11%. Outbound commuters from Oxford to other destinations, such as London, have increased by train and bus. Increased levels of commuting and extended travel to work journeys by car have led to chronic congestion and increasing business costs which are not sustainable.

The Oxfordshire Innovation Engine report lists a number of measures that could significantly improve the rate of growth in the area if better supported with infrastructure and a collaborative approach, including:

- Accommodating additional growth in the Knowledge Spine running between Harwell, Oxford and Bicester to accommodate high tech business and employment.
- Improving the capacity of the strategic and local transport infrastructure, including fast public transport services, growth and developing business networks.
- Encouraging increased institutional investment building upon Oxfordshire's strong, and nationally significant, sectors including life sciences, advanced engineering, satellite and space related technology and the creative and digital sector.
- Meeting the demand for housing and commercial premises to respond to the urgent needs of the growing business base and economy.
- Providing strong public and private sector leadership to realise Oxfordshire's potential through a new and agreed governance structure.

The planned and new infrastructure improvements to support sustainable growth are listed below.

- **Delivery of the Oxford Station Development Masterplan** to provide a national rail interchange, which reflects its strategic significance, accommodates 70% forecast passenger growth to 2026, and capitalises on Oxfordshire's world class economic assets. Station interchanges across the corridor will need to cope with a growth in usage, and are vital supporting infrastructure connecting the passenger with national networks. They must be fit for purpose gateways that enhance passenger experience and provide opportunities for commercial development and regeneration. Delivery of the Oxford Station Masterplan will do just that, unlocking investment in over 200,000 sq. m. of commercial space and well over 1,000 city centre homes.
- **Opening the Cowley Branch Line to passengers** is the next logical step, connecting to employment and housing growth of scale in Oxford's 'Eastern Arc'. This will enable connectivity to over 5,000 new homes as part of an urban-extension, a new university science and employment area, and support employers such as BMW, Unipart and Centrica.

³ Centre for Cities, Cities Outlook 2016

- **Didcot-Oxford Capacity Enhancements**, through four tracking, will accommodate increased demand, enable new and extended services and realise rail's potential as an alternative to the A34.
- **The delivery of a series of sustainable urban extensions** accommodating a range of housing tenures to meet the needs of our dynamic labour market - a major challenge for Oxford. Meeting Oxford's housing need will require sustainable city growth to reduce the dependence on increased and extended commuting.
- **Delivering Mass Rapid Transit Routes** across the city's busiest corridors, where further bus expansion is no longer effective.
- **Expanding the Park & Ride Network** at key entry points to the city.
- **Cycle route improvements** to employment, educational and commercial destinations, extending coverage across residential areas. Achieving this will require a combination of high quality routes, better cycle parking and other measures which make cycling, safer, easier and more attractive for short and medium-distance trips.
- **Complete the infrastructure needs for the Northern Gateway** to create a 1m sq. ft. employment area to build on the strengths of Oxford's economy in health, R&D, and knowledge-based sectors. This requires investment in the A40 and A44, MRT corridors and park and ride expansion.
- **Redeveloping the Osney Mead industrial estate as the next university innovation quarter.** Following investment in the station, a major city centre opportunity will come forward, but only with infrastructure support (access, undergrounding power lines and flood protection) to support city centre based knowledge sector growth through to the 2030s.
- **Implement the Western Conveyance flood relief scheme** to ensure infrastructure, businesses and homes are adequately protected from flooding.

7. Does the corridor require better connectivity to other major centres of growth?

The corridor does require improvements to link with other major centres of growth. At the western end of the corridor there are a series of improvements which are required:

- A40 West: connections to Witney and Cheltenham are important and the road is a major corridor for commuting and road freight.
- A420 West: connections to Swindon and Bristol M4 motorway corridor are important for major enterprises, such as BMW and provide access to wider labour markets
- A34 South: connections to the Science Vale, Reading and Thames Valley and through to the M3 motorway corridor.

8. Does the Cambridge – Milton Keynes – Oxford area form a recognisable corridor? What factors unite the area?

The area shares strategic infrastructure and faces common challenges in supporting growth and economic development. The corridor consists of a number of overlapping 'travel to work areas' centred on Cambridge, Oxford, and Milton Keynes. There is real potential for the corridor to function as a more inter-related set of clusters, which could gain a world-leading international reputation. Research by the Enterprise Research Centre (Appendix 3) suggests the UK has an 'arc of innovation' stretching from Cambridge through Milton Keynes to Oxford and extending to the western M4 motorway corridor.

The corridor includes internationally important educational institutions including Oxford University (ranked 2nd Times Higher Education World University Rankings) Cambridge University (ranked 4th in Times Higher Education World University Rankings), the Open University and University of East Anglia. The corridor encompasses research assets, a

high level of foreign direct investment, and a supply of productive, skilled workers and public, private and academic sector leadership with a collective level of ambition. The Fast Growth Cities feature in the top twenty cities with the densest concentrations of KIBs (knowledge intensive businesses) jobs. Oxford, Cambridge, Milton Keynes, Norwich and Swindon are in 1st, 2nd, 6th, 12th and 16th place respectively with specialisms in research, the digital and financial sectors and advanced engineering/manufacturing. Levels of entrepreneurship and innovation are high with Oxfordshire found to be the most innovative place in the UK⁴. Cambridge, Norwich and Oxford are listed as top twenty cities for the strength of their digital clusters. Cambridge – Milton Keynes – Oxford also has the potential to become a genuine university and technology corridor with the announcement of plans to locate a new university in Central Milton Keynes.

9. Would greater emphasis on corridor-wide planning and decision making benefit local communities and local economies? Would that same emphasis on coordinated planning and decision making provide wider benefits for the UK economy?

We believe comprehensive infrastructure planning across the area, supported by a network of local authorities, with devolved powers and budgets would have positive benefits for our communities and the national economy. Furthermore, we need to re-think our collective approach to funding infrastructure, recognising Government funding alone will not be enough, even with an expected growth in public investment. We need to forward fund infrastructure through creative approaches that pool sufficient public, private and sovereign funds and at the same time, provide long-term certainty of investment. Many public sector organisations have also suggested that more holistic method of appraising infrastructure investments, going beyond the WebTAG approach, would lead to enhanced decision making. Finally, the opportunity to negotiate allocations from additional Government budgets for collaborative science/innovation and transformation along the corridor should be considered.

10. Should adjacent towns and cities be incorporated into the corridor in terms of growth and infrastructure planning?

Within the Oxford Travel to Work Area we have identified a ‘Knowledge Spine’ which links Oxford with the adjacent towns of Bicester and Didcot along the principal road and rail corridors and provides a framework for planning and investment. Oxford also has some links with Swindon based mainly on the automotive sector (BMW Mini) as well as the potential to improve commuting links.

11. Are you aware of any examples of UK or international good practice, for example in respect of new technology, local frameworks or the built environment that are relevant to this review?

The Eindhoven-Leuven-Aachen Triangle (ELAT): ELAT is a cross-border network that links the knowledge regions of Eindhoven, Leuven and Aachen, forming a European technological region. ELAT seeks to build a knowledge economy via cross-border and interregional co-operation and is an example of how this can be developed in the Cambridge – Milton Keynes – Oxford corridor. The collaboration centres on a shared acknowledgement of technological strengths and seeks to better capitalise on its skilled workforce, multinational enterprises and research facilities.

Grenoble and the Rhone-Alps Region: Grenoble (twinned with Oxford) is France’s largest research and development area (25,000 jobs in research private sector institutions and Government agencies). The national, regional and city

⁴ Enterprise Research Council, 2015.

government has invested in essential transport and other infrastructure as an element of a wider economic plan to promote their knowledge economy and focus growth in key locations linking employment with housing and research centres.

Imagine Boston 2030: Boston added nearly 45,000 jobs to its economy between 2010 and 2014 with strong growth in professional services, health care and education. Boston workers are more productive than the average American worker, and their greater productivity adds \$24 billion in incremental productivity to the Boston economy every year. There are clear parallels to be drawn with the highly skilled and productive workforce Oxford boasts.

Wavertree Technology Park Station: The station opened in 2000 with the aim of improving connectivity along Liverpool's 'edge Lane Corridor'.⁵ This is part of the central Liverpool Mayoral Development Zone Linking the M62, the city centre and John Lennon Airport. There are multiple sites along this corridor with potential for innovation-led growth as well as housing growth. It is also home to a high density of IT firms. With regards to the proposal to open new stations at Oxford Science Park and Oxford Business Park, this may be a useful example. Wavertree represents a wider trend of 'hub-and-spoke' development around the peripheries of towns and cities.

Urbed Wolfson Prize submission: This is a plan to create a Garden City of almost 400,000 people by doubling the size of an existing city. To ensure the fictional 'Uxcester' would meet all the tests set by the competition, the authors based the proposals on Oxford. The authors illustrated how the city of Uxcester could double by adding three substantial urban extensions each housing 50,000 people. These lie within a zone 10km from the city centre, a twenty-minute tram ride away, but also solidly within the green belt. The argument was rather than nibbling into fields that surround the city and all its satellite villages, they should take a portion of land from the green belt creating sustainable urban extensions supporting a tram service and a range of facilities.

The submission cited opportunities in Oxfordshire at Barton and south Oxford, to expand Kidlington and extend Abingdon northwards. It also argued for developing the extension in a different way to the housing estates around Witney and Didcot, namely:

- A suburban rail/tram system.
- A flood attenuation scheme to address the issues that affect much of Oxford.
- Enhancement of new country parks in the retained green belt.
- Distinctive, varied and mixed tenure housing.

Conclusion: In conclusion, we would support prioritisation of the following infrastructure investments, and approaches to corridor-wide planning and decision making based on the following elements:

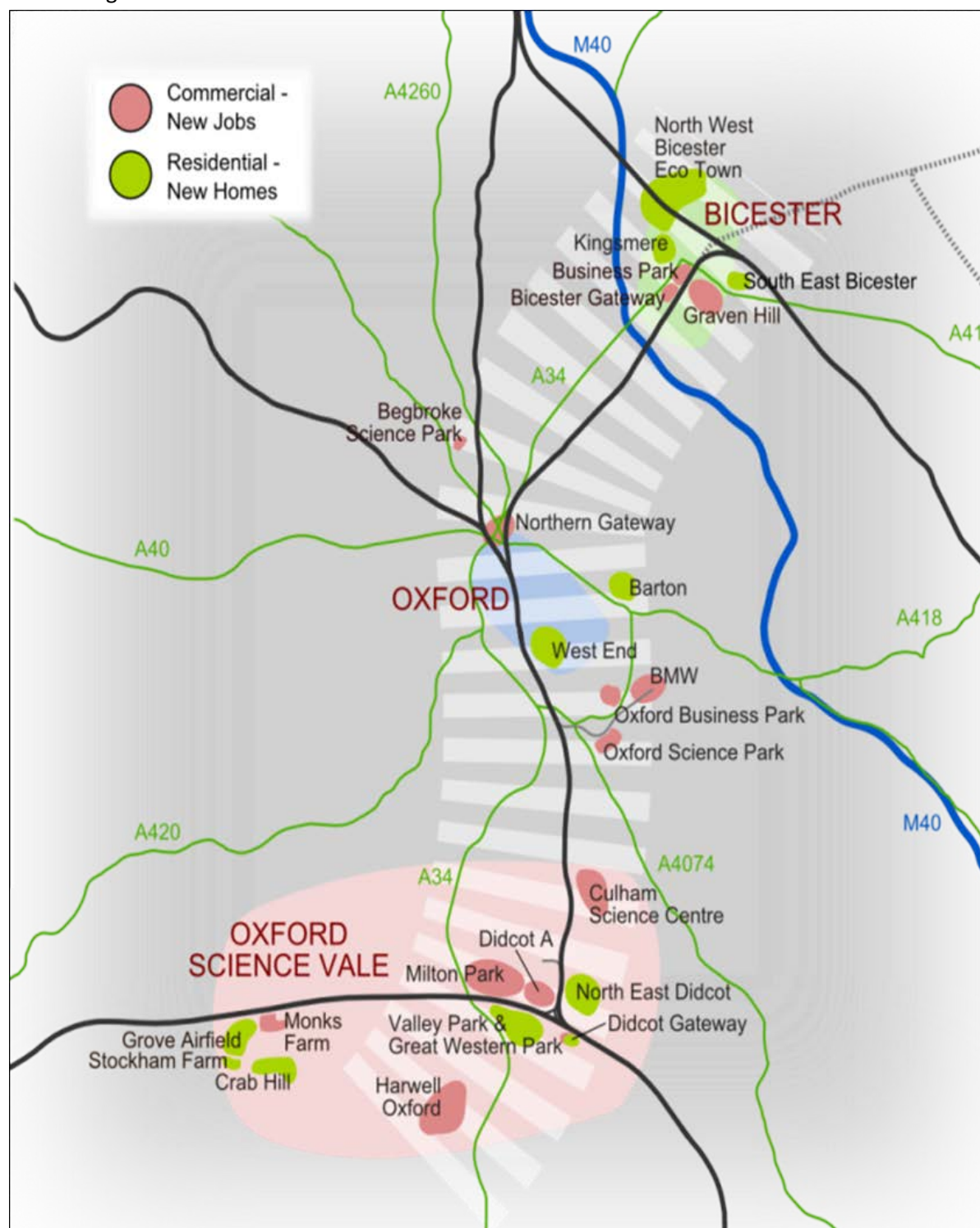
- Fast and full delivery of East-West Rail and linked network enhancements.
- Delivery of the Oxford Station Development Masterplan and opening of the Cowley branch line.
- Relief of the A34 and associated roads, including junctions to A420, A40, A44.
- Enabling faster delivery of a range of ambitious urban extensions to enable a step change in housing delivery.
- Mass Rapid Transit, Park and Ride and cycle network investments as essential elements of strategic infrastructure.
- Adequate attention to accompanying utilities (telecoms, water, power).

⁵ Mayor of Liverpool Vision: Distinctive Neighbourhoods

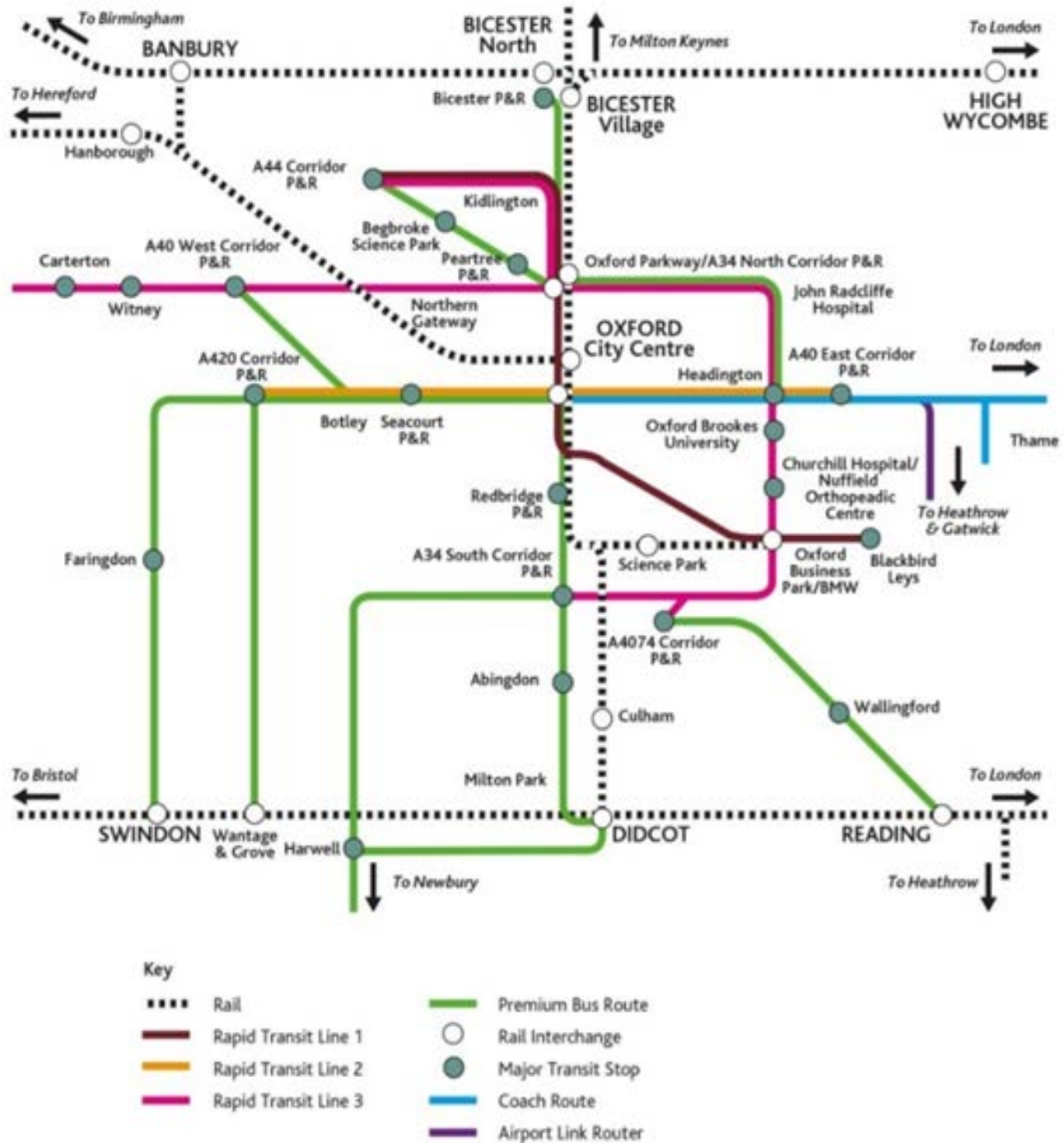
- Accompanying investment in a range of community infrastructure (skills, schools, health, public space, Oxford Flood Alleviation Scheme).
- A need to re-think our collective approach to funding and appraising infrastructure investments.
- Linked to above, greater devolved powers and certainty of budgetary commitments for infrastructure.
- Continued collaboration and planning across the key organisations across the corridor, without the creation of additional regional structures.
- A focus on 'smart' future proofed infrastructure corridor-wide and in cities.

Appendix 1 – The Oxfordshire Knowledge Spine

The creation of high value science-related jobs within the area defined as *Oxfordshire's Knowledge Spine* represents a cornerstone of the economic growth strategy that is the basis of the county's City Deal and Strategic Economic Plan. The Knowledge Spine runs across the county from leading edge research and development at Harwell and Culham in the south, to the life Science Bio Escalator in Oxford, on to the advanced engineering hub at Begbroke, and through to Bicester in the north.



Appendix 2: Oxford Science Transit



UK innovation hotspots



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