
MK2050

MILTON KEYNES STRATEGIC GROWTH STUDY

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PART 1:

THE CASE FOR GROWTH

CHAPTER 1: INTRODUCTION

Context for the Growth Study

Since its designation as a new town in January 1967, Milton Keynes has developed from a collection of villages and small towns in north Buckinghamshire with a combined population of around 60,000 people¹ to become a substantial and thriving new city.

Today, the Study Area for this piece of work, as outlined opposite, is home to a population of approximately 310,000 people. 267,500 of these people live within the Borough area of Milton Keynes which is now a mix of residential neighbourhoods and employment areas surrounding a growing city centre, all served by high-speed grid roads in a framework of exceptional open spaces that give the new city its green character, with a thriving rural hinterland. A further 42,300 people live as near neighbours in adjacent parts of Aylesbury Vale, South Northamptonshire and Central Bedfordshire.

As an intrinsic part of this rapid population growth, Milton Keynes is an important economic hub in the region. There are more than 181,500 jobs in Milton Keynes borough³, many of them in high-tech, knowledge intensive industries, in finance and business services, in the service industries and the logistics sector. The Milton Keynes economy is the third most productive in the UK after London and Slough with GVA per head being almost 27% above the national average⁴.

Some of the figures and data within the Growth Study cover different geographical areas. The geographical area to which a figure quoted relates is referenced in the relevant footnote. Footnotes/References can be found at the end of each Part of the Study to which they refer.

¹This was the population of what subsequently became the Borough of Milton Keynes

MK Futures 2050 Commission

In 2015 the Council determined that it needed a new long-term vision for the city. It established the MK Futures 2050 Commission, a group of individuals from a range of backgrounds – experts in economics, planning, sustainability and city-building – alongside local champions and advisors. The process involved an extensive programme of stakeholder and public engagement together with a series of in-depth research studies on issues such as future transport, economy and sustainability. The Commission published its report, *“Making a Great City Greater”* in July 2016. The report, a Vision built around Six Big Projects to create a stronger future for the city, received unanimous support from Milton Keynes Councillors. A dedicated MK Futures 2050 programme was established to develop and implement the Commission’s recommendations, to be framed around a formal Strategy for 2050 that will set out principles to guide the growth of the Milton Keynes area over the next three decades.

The Strategy will guide future investment and be incorporated in future statutory planning documents including the review of *Plan:MK* and will inform MK Council’s submissions to local plans being prepared by adjoining authorities whilst also supporting the potential for future joint planning between the neighbouring authorities.

The NIC and the Cambridge-Milton Keynes-Oxford Arc

While the MK Futures 2050 Commission was considering the long-term potential of and opportunities for the city, the National Infrastructure Commission (NIC) commenced a strategic project to explore the growth

potential of the Cambridge – Milton Keynes – Oxford Arc and make recommendations to maximise the potential of the area as a single, knowledge-intensive cluster that competes on a global stage, whilst both protecting the area’s high quality environment and securing the homes, and jobs, the region needs.

The NIC’s central finding was that rates of house building across the Arc will need to double if the Arc is to realise its future economic potential. Growth forecasts suggest up to 1.1 million new jobs and 1 million new homes in the period to 2050; this analysis has been accepted subsequently by the national Government⁴. The NIC report also identified the potential for the intensification and expansion of Milton Keynes to a population of “at least 500,000”, re-emphasising the Milton Keynes area as a growth location of national significance.

The Council Partners

Milton Keynes Council and its Partner Authorities of Aylesbury Vale and South Northamptonshire wish to respond positively to this economic growth potential by forging closer relationships to manage and plan for long-term growth at scale. As an important initial step, they have jointly commissioned this Growth Study.

It should be noted that because of the planned unitarisation of both Aylesbury Vale and South Northamptonshire, neither authority will be the decision making organisations moving forward. Nevertheless, the outcomes, together with other evidence, will help current and future authorities within the Study Area to make rapid progress and influence any subsequent wider strategic statutory spatial plans and statutory development plans that may evolve across the area.

This Growth Study and its relationship to the MK Strategy for 2050

This Growth Study and its related research papers build on the evidence and recommendations of the MK Futures 2050 Commission, and support the ambition stated in MK’s Council Plan 2016-22 to plan positively for the doubling of Milton Keynes population by 2050. The Council’s vision for the city is a *“thriving, dynamic European Destination City of 500,000 people and to ensure a fair, hardworking and more equal Milton Keynes for all”*.

The Growth Study builds on the work undertaken by the MK Futures 2050 Commission in 2015-2016 and subsequent work undertaken by David Lock Associates and Integrated Transport Planning (ITP) in 2017 in respect of the possible scale and direction of growth. It has been prepared through engagement with Officers and Members of Milton Keynes, Aylesbury Vale District and South Northamptonshire District Councils, recognising that long-term growth in the MK area is likely to affect parts of adjoining Districts. To plan effectively at scale for such growth must take account of the wider geography of the area which spans administrative boundaries.

Together with other evidence, this Growth Study provides evidence and presents conceptual growth choices that could be used to inform Milton Keynes Council’s Strategy for 2050, a high-level strategy for the growth of the MK area for the next 30 plus years.

The Study Area

The extent of the Study Area is shown in the plan opposite. It includes Milton Keynes Borough plus those settlements and areas adjacent or in close proximity to Milton Keynes which have a clear existing geographical and functional relationship with it (this area can be referred to as the Milton Keynes Metropolitan Area).

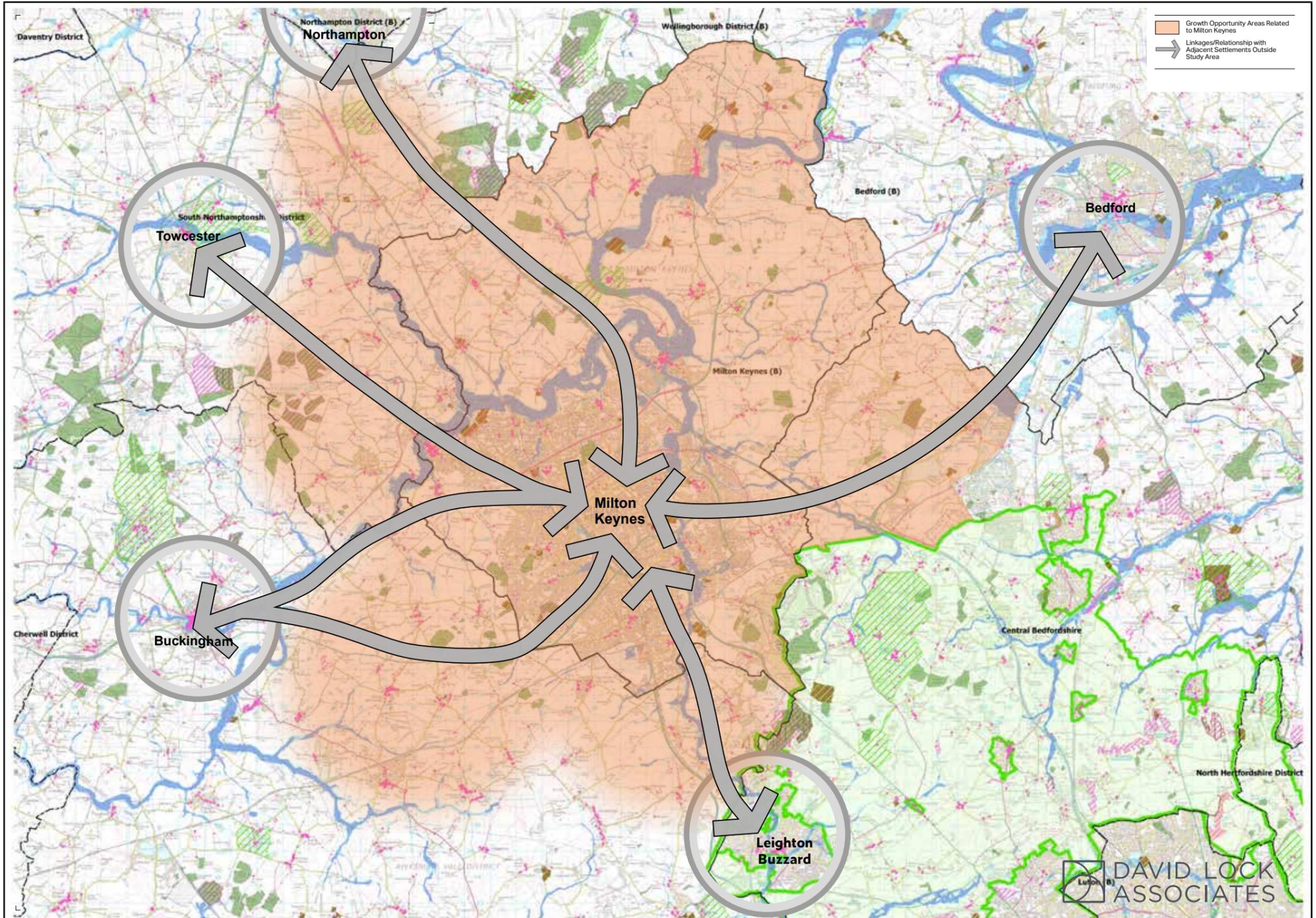
The Study Area was defined and agreed in consultation with the constituent local authorities as part of the confirmation of the Brief for the Study. It is shaped by the existing geography of the area – patterns of interconnectivity between Milton Keynes and the surrounding area in terms of housing market considerations; travel to work areas; and the functional and social relationship between settlements – but is also shaped with a view to how already-planned growth and strategic transport infrastructure might change the pattern of relationships between places. All three authorities already have growth planned within their respective parts of the Study Area in current local plans.

If a study area is based on real geography, and is blind to administrative boundaries, the Partner authorities are free to think about long-term growth in a more strategic manner without arbitrary constraints. **It is within this area that the growth of the population to around 500,000 people could occur.**

Objectives of the Joint Growth Study

The objectives for the Growth Study set out:

- ▶ how the vision and objectives outlined in the MK Futures 2050 Commission report, 'Making a Great City Greater' can be realised in respect of a strategy for growth;
- ▶ options for how best to grow the wider Milton Keynes area to 2050, based on the principles of 'good' growth as defined in relation to the local context, and achieving 'transformational' growth in terms of outcomes for local people;
- ▶ to outline, inform and provide a source of evidence for and test the feasibility of future options to deliver growth to support a population of c.500,000 people in the Study Area by 2050;
- ▶ to inform a number of key strategic decisions to be resolved in the Councils' Growth Strategy to 2050.



STUDY AREA PLAN

Why produce a long-term growth strategy?

The means to draw up long-term plans for an area have been eroded since the abolition of statutory regional planning and the organisations and resources with a remit to operate at a regional or sub-regional scale.

However, the case for growth planned strategically and long-term still exists. The relationships between places, and the ways in which they connect and interact, are dynamic. Demographics, technology, infrastructure and environmental changes all exert pressures on an area to change. The capacity of an area to respond positively to such change is affected by decisions about infrastructure (particularly transport and energy) that are made at a national or sub-national level with far-reaching consequences for local areas.

Even if change is not planned strategically at more than Borough/District level and over the longer-term, places do not stand still and will still change. Across the Growth Study area there are already a further 42,000 homes allocated, or proposed for allocation, in the current rounds of plan making. With all of these homes likely to be completed at some stage between 2035 and 2040, they alone will take the population of the Study Area, which currently stands at approximately 310,000, to around 400,000 people.

Furthermore, if current calculations of MK’s housing need (the OAHN⁵ requirement as established through Plan:MK of 1,767 homes per year⁶) were, for example, to then be rolled forward from 2040 to 2050 to deliver a further 17,760 homes, the population by 2050 would be in

excess of 400,000 people. Given the Study Area would be subject of a higher housing requirement than of Milton Keynes alone, the overall population of the Study Area, using this example, would likely grow well in advance of 400,000 people by 2050 (see Chapter 3 for further details).

This level of growth will require consecutive Local Plans to make provision for substantial development year-on-year. Given that this level of change can be predicted now, it is better to have a growth strategy that accommodates forecast long-term needs than to try to make provision piecemeal. Planning positively, strategically, long-term and at scale can deliver development and communities that are much more cohesive with wider benefits for all.

Since there is now no statutory provision in the plan-making process for 'growth' to be planned at a regional scale, the onus is on local areas to plan for their own future. Examining the opportunities and potential for this is the purpose of this study.

Under the NPPF, all areas have a duty to accommodate their own development needs in terms of new homes and jobs, however this is determined. Many areas are finding it impossible to accommodate all development within their own administrative boundaries, and so a collaborative approach to growth planning is devised with neighbouring authorities which better reflects the wider area’s geography – economic, environmental, social and infrastructure.

The continued success of towns and cities depends on a positive and active approach to managing growth and change. Their choices around investment in mobility networks, economic growth and jobs, cultural development and the role and profile of city centres have an impact across much wider areas.

Benefits of Planned City-scale Growth

One of the principal benefits of planning for future development at-scale is the creation of a long-term 'city-scale' vision, with a strategy that seeks to maximise the value base of the city as a whole. By this we mean by establishing mechanisms and organisations (for example, a locally accountable Development Corporation or similar body) that have a stake in development projects to create capital and revenue receipts for the local authority(ies) as well as the private sector, and the ability to reinvest these receipts back into the local area for the good of all its citizens.

⁵OAHN is the 'objectively assessed housing need' of an area; a calculation done by local authorities to work out how many, and what sort, of homes are needed to meet the future needs of an area's population over a set period, based on current trends. The OAHN for MK to 2031 is calculated out in the Milton Keynes Strategic Housing Market Assessment 2016-2031 (Feb 2017). Whilst OAHN is no longer the methodology for assessing future need, given the most recent and up to date housing requirement of each Study Area authority is based on an OAHN calculation, OAHN has been used as the most comparable measure of housing requirement.



Campbell Park

Benefits of planning beyond Local Plan periods and having a strategic 30 year growth plan

MK was not conceived or built through short-term thinking. Much of its success has a clear line of connection to the original master plan and the city structure, and is due to the financial and policy commitments made at a national and local level to support MK's growth, coupled with shared priorities for investment and delivery embedded in the Development Corporation and its relationship with central government, which survived 40 years of economic cycles and changing politics.

Since the abolition of regional scale planning in the early years of this century, the means to plan at scale and over long periods has been greatly diminished. The impacts of this approach can now be seen in the physical and economic manifestations of growth – spatial planning in which things simply do not join up effectively; failure to co-ordinate infrastructure provision in terms of location and timing; duplication of effort and waste of resources by different bodies deployed in the same geographical area with no clarity of responsibility; and an increasing focus on “site-based solutions” rather than “area-wide strategies”.

As a result, communities who experience growth and development at first hand are often disappointed with the outcomes and disenchanted with the process. Across the UK, benefits that arise from large-scale development and growth are increasingly not experienced by wider populations – there is little ‘growth dividend’ for everyone. All-too-often, what people experience instead is more traffic and congestion, too few school places, lengthy waits for GP appointments, poor local facilities and community services. By planning long-term and holistically, it is more likely that benefits back to local communities will be appropriate and delivered in a timely way because the needs will be planned for and the resources will be available, and more of the value generated from development will be captured and reinvested in the local area.

At the same time, communities have become concerned about the environmental impacts of growth and development that is not properly planned. They see green spaces being lost and roads becoming clogged with no effective mitigation. Yet, as MK has already proved, growth and development that is well planned long-term can improve the environmental capital of a place substantially through the extent and quality of its green and water infrastructure, its landscape framework, and a transport strategy that has managed congestion and air quality.

At a time when planning resources and skills are stretched, and planning ‘processes’ are increasing more in complexity than in effectiveness, the case for developing a comprehensive growth strategy for a 30+ year period which can manage and direct subsequent plan-making activity across wider areas and in greater depth has never been more compelling.

Wider Local Authority Engagement with the Study

Milton Keynes borders five other Council areas – South Northamptonshire to the north west, Aylesbury Vale to the south and west, Central Bedfordshire to the south east, Bedford Borough and Wellingborough to the north east.

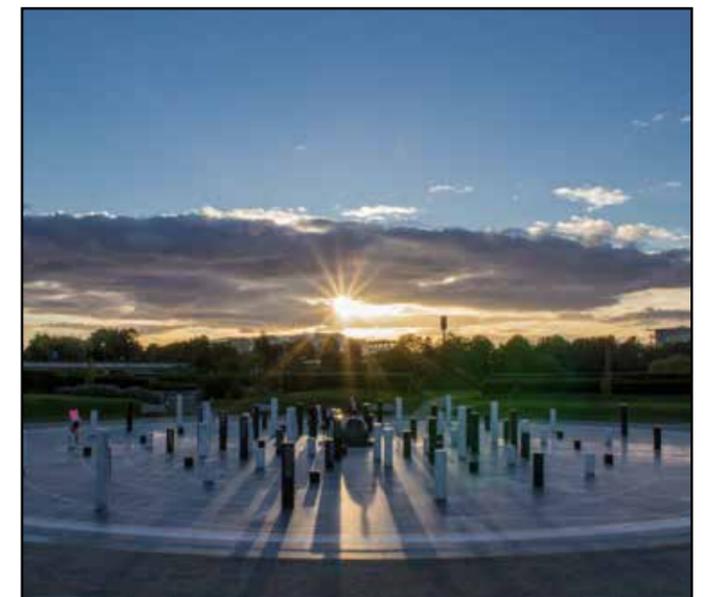
Of these the first three have boundaries that abut the built-up area of MK and are most likely to be directly affected by future development of the new city. All three were invited to join with MKC in commissioning this Study.

Central Beds declined the invitation to partner in the Study but wished to be kept informed. However, so important is the need to explore development and growth potential to the east and south, the Study Area includes those parts of Central Beds which have the closest functional relationship with the Borough. [South Northamptonshire and Aylesbury Vale agreed to play a full part in a joint commission.]

Officers and Members of the three Partner Authorities have met regularly over the course of the study period and have actively engaged in policy workshops and other stakeholder meetings to discuss possibilities and to challenge the consultant team in relation to growth scenarios, spatial options and the emerging growth proposition as it affects land within the Study Area.

Briefings have been held with Officers of Central Bedfordshire Council in 2018 and 2019 to appraise the Council of the scope and purpose of the Growth Study and the emerging potential spatial growth options in terms of scale and locational aspects.

Aside from growth already included within existing allocations in Local Plans, none of the growth options examined in this Study has been tested to the degree that would be required for inclusion within a local plan. Technical and modelling work, together with input from statutory consultees, will be required as part of the further examination of growth options.



Campbell Park



Aylesbury Theatre

CHAPTER 2: MK TODAY - STRENGTHS AND CHALLENGES

The Study Area Today

Milton Keynes is doing well.

It has a successful and growing economy. It is well-loved by the people who live there. It is easy to move around by car. And, until recently, house prices have been relatively affordable. It has a diverse population, and the new town culture persists because it is perceived to be welcoming to newcomers.

Milton Keynes has grown rapidly to become a major urban centre, the largest settlement in the south east of England outside London by population, comparable in size to more established settlements such as Reading and Swindon. In 2017, the Borough was home to 267,500 residents and 181,500 jobs and is forecast to grow significantly in future years. It is regularly found at the top of rankings of cities by job creation rates and GVA per worker⁷.

The Economic Characteristics of the Study Area

The Economic Research Report accompanying this Growth Study, examines the existing economic characteristics of the Study Area. Key features of the Study Area's economy identified in that report are outlined below:

► **Strategic Location:** the location of Milton Keynes, 50 miles north of London along key transport routes and equidistant from the University cities of Oxford and Cambridge, was the primary driver for the designation of the original New Town and continues to benefit the area today. The Study Area is located centrally within the revived Oxford-Cambridge (O2C) Arc and is positioned strategically adjacent to key planned transport infrastructure, meaning it will be well placed to benefit from opportunities related to economies to the east and west in addition to the axis that

connects London in the south and the Midlands to the north. Planned infrastructure and communications investment are key to unlocking future opportunities, however, and the prospective east-west rail links and Expressway will be strategic assets once completed.

- **City Region Economy⁸:** The Study Area's economy is large and highly competitive. It continued to grow strongly even through the recent recession and now contributes over £13.25 billion a year in output (GVA, 2017) to the UK economy. The local economy is much larger than Northampton and Luton and is now comparable with some of England's core cities including Liverpool and Nottingham. The Milton Keynes workforce is one of the most productive in the country, with GVA per worker the third highest in the UK (at almost £73,000 in 2017). Productivity is more than 25% above the UK average. The local workforce is bolstered by comparatively high levels of in-commuting, demonstrating that the area is able to offer a large number of high value jobs to a wide catchment of people.
- **Population:** Milton Keynes has grown significantly in the past four decades, from a population of 69,600 in 1972 to 267,500 in 2017. It is regularly identified as one of the fastest growing areas in the UK.
- **Economic Activity:** A high proportion of local residents are economically active (81.1% compared to the GB average of 78.4%⁹) and there is a higher proportion of people of working age (16-64: 63.7% in Milton Keynes Borough compared to 62.9% in GB).
- **Ageing:** Forecasts show that the proportion of the local population that are over 65 will grow in the future, leading to a higher dependency ratio on the working population.
- **Diversity:** The population is diverse, with more than a quarter of residents (26.1%) being from an ethnic minority background¹⁰. The proportion of school children from a BME family has grown significantly in recent years.

- **A Social Place:** The Study Area is widely considered to be an attractive place to live, work and bring up a family. This recognises not just the high quality of its green spaces and built environment but the activities that contribute to its sense of place and make it a destination for a much larger catchment area – due to its cultural offer, strong retail centre and leisure facilities.
- **Employment:** Employment levels have also grown very significantly over the period, and there are now over 181,500 people employed in Milton Keynes Borough. Economic forecasts suggest that employment will rise by around 60,000 to 2050 simply in a 'business as usual' scenario¹¹, a scenario that does not include the potential impacts arising from growth in the Arc corridor.

- **Economic Development Assets:** The Study Area is a key player in the UK economy, benefiting strongly from its advantageous location within the south east of England while offering comparatively low occupation and employment costs alongside available development land assets. Many land assets within Milton Keynes are owned by the Council and Milton Keynes Development Partnership, which means that these organisations can exert a significant and direct influence on development, expansion and continued growth through the management of these assets.
- **MK Businesses:** Milton Keynes is home to major financial and professional services companies such as PwC, Santander and Mazars which have a significant presence in the city. The area also hosts the global/European/national headquarters of major companies including Mercedes Benz, Suzuki, Volkswagen Audi Group, Scania, Marshalls Amplification.

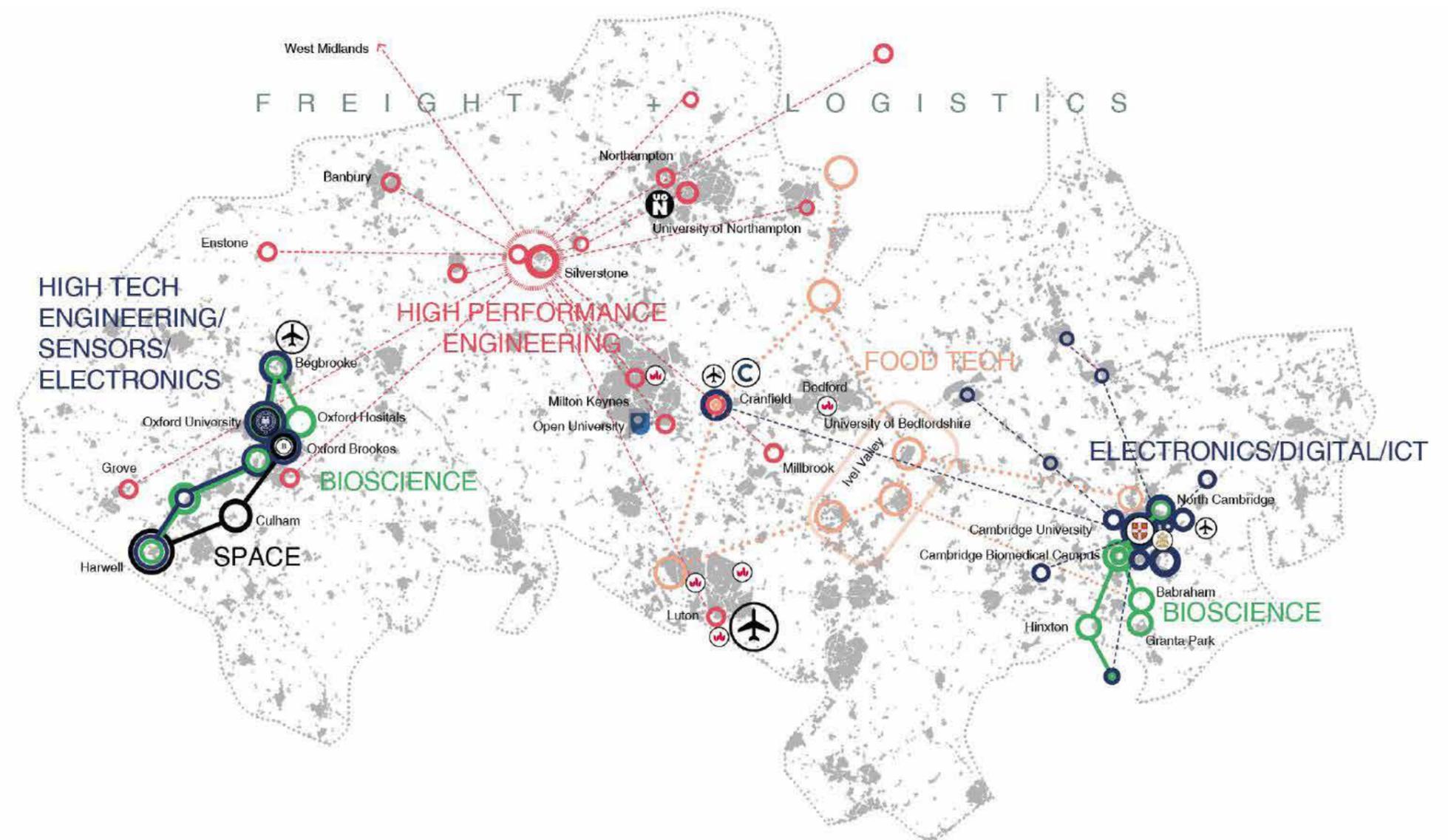
Figure 1: Economic growth in British Cities - 1981 to 2013

Source: *Economic Prospects of Milton Keynes to 2050, Cambridge Econometrics*



- ▶ **Economic Diversity:** The local economy is mixed and relatively diverse, containing a range of sectors and industries which means that whilst there are few elements that make MK's economy distinctive, economic risk is well spread across the business base. Where specialisms do exist, they are focused around engineering and technology (such as high-performance technology and motorsport), and logistics and transport.
- ▶ **Development Opportunities:** There are significant development opportunities across the Study Area. There is a significant area of available development land across Milton Keynes and also opportunities for redevelopment in existing employment centres, including office accommodation within Central Milton Keynes, and wider regeneration. Generally speaking, capacity for development is high.
- ▶ **Higher Education:** The higher education offer in Milton Keynes is evolving significantly. The Study Area benefits from existing HE assets such as Cranfield University to the east and the Open University and Milton Keynes College within the city. The proposed development of MK:U, a new university for the city, will further enhance the higher education offer within the Study Area.
- ▶ **Entrepreneurs:** The Study Area's economy is highly entrepreneurial. The number of active enterprises in Milton Keynes has increased by more than 30% in the last five years. At 85 per 10,000 population, start-up levels are amongst the highest in the UK. And between 2015 and 2016, real wages increased by almost 8%, placing Milton Keynes within the top five of UK cities for average weekly workplace wages.
- ▶ **Innovation:** Milton Keynes is at the forefront of new and innovative technologies, particularly those relating to automated vehicles and smart technologies. MK:Smart is an award-winning programme with a focus on data-driven solutions to supporting economic growth and green technologies. The Connected Places Catapult (created by combining the former Transport Systems Catapult and Future Cities Catapult), the UK's technology and innovation centre for Intelligent Mobility, is based in CMK. Programmes offer opportunities for businesses and individuals and also promote Milton Keynes to an international audience.
- ▶ **Creative Industries:** Furthermore, Milton Keynes has demonstrated strengths in the creative industries sector, with above average (and increasing) levels of employment, the highest concentration of employment in digital industries across the SEMLEP area, and recognition as a key employment location for music, performing and visual arts and publishing. Recent cultural and sporting events have played a significant role in supporting this sector and in bolstering the local economy.

SPECIALISMS ACROSS THE ARC



Specialisms across the Arc [Source:5th Studio for NIC, 2017]

- ▶ **East-West Infrastructure Links:** East-west strategic infrastructure links are currently limited. The proposed development of the Expressway and East-West Rail links will change this, but only if appropriate routes, transport interchanges, stations and junctions are located and designed to allow the city to gain maximum advantage from these investments;
- ▶ **Wellbeing:** MK's framework of high-quality green spaces is as accessible to workers in the new city as to its residents creating a unique working environment. An increasing focus on mental health and wellbeing reveals that visual and physical access to greenspace is hugely beneficial for employees and residents alike¹²,

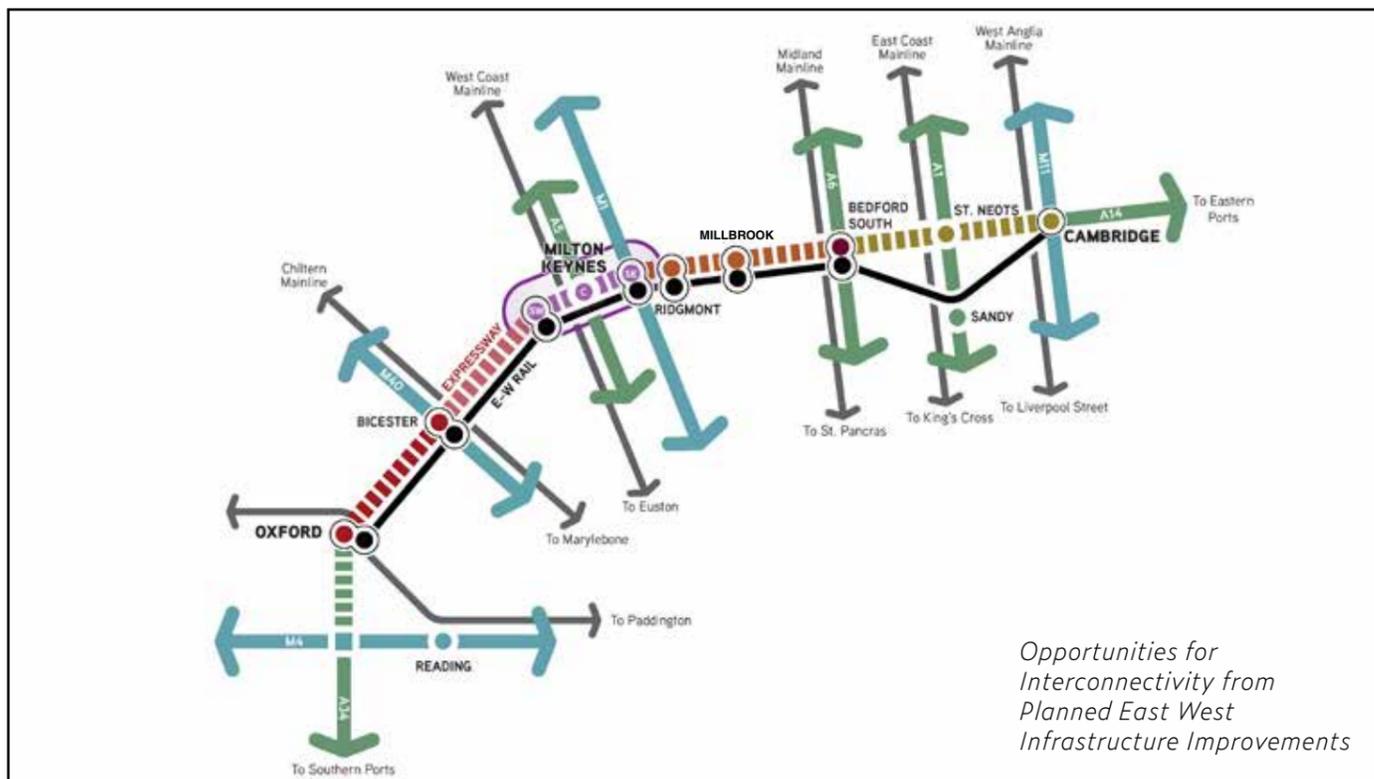
and designing in such greenspace as an integral part of new growth at all scales (together with measures for its management and protection) would build on MK's track record in this regard;

- ▶ **Work-Life Balance:** The diversity and resilience of its economy means that MK has great variety and choice in its job opportunities and the locations and settings for employment. Whilst the city centre will continue to be an economic driver for new jobs, the pattern of relative dispersal of employment locations across the new city means that there are opportunities to live close to work and to walk or cycle to work.

Whilst the Study Area enjoys many advantages compared to competitor locations, its story is not universally positive. Challenges exist, and these can be summarised as follows:

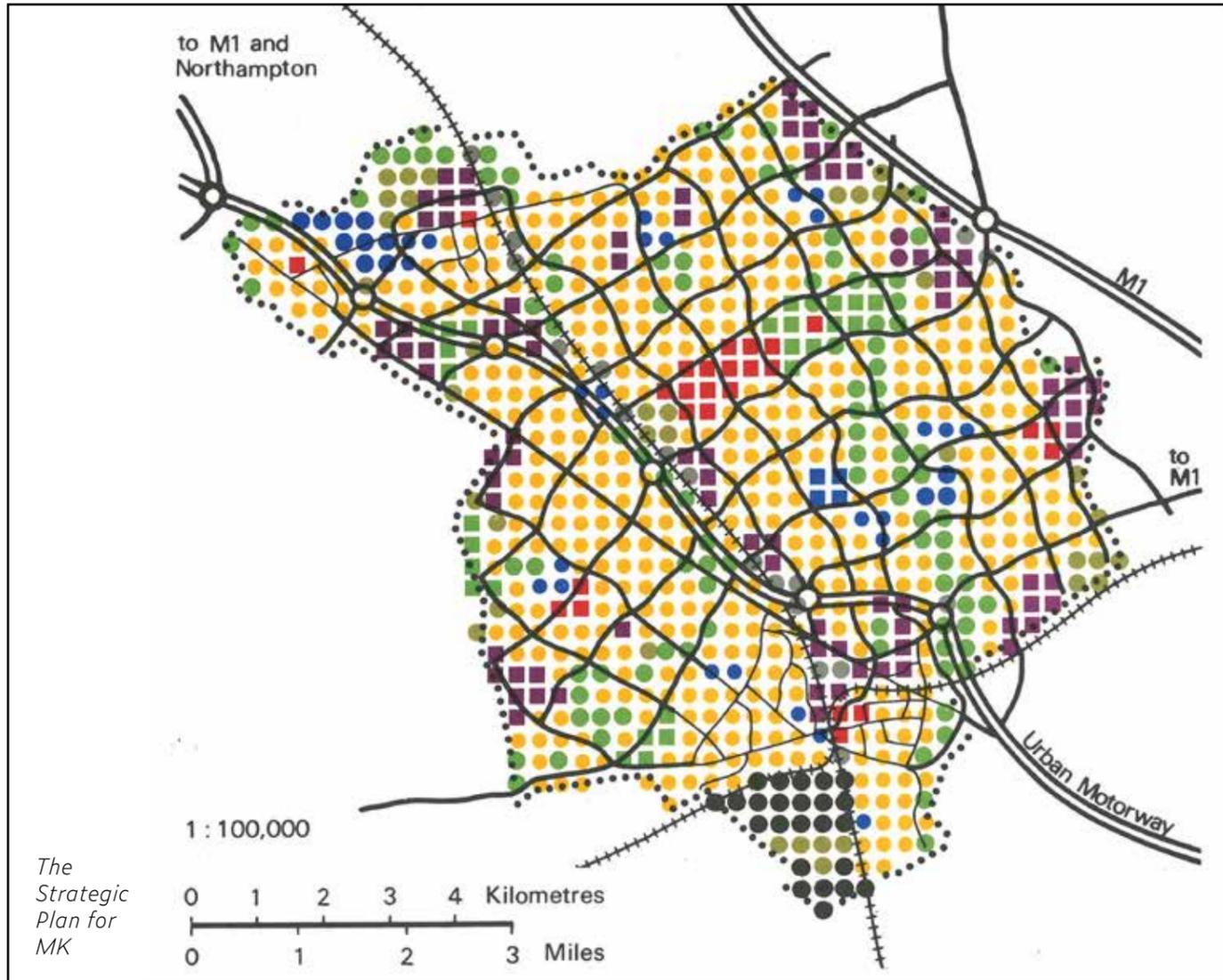
- ▶ **Two Tiered:** The Study Area economy is often described as 'two-tiered'. There are pockets of deprivation and social and economic exclusion across the city. These geographic inequalities are persistent and are linked to poor socio-economic indicators, primarily in the older and longer established neighbourhoods. These areas have high proportions of residents aged 16-74 who are in the "never worked" and long-term unemployed categories.
- ▶ **"Car-Centricity":** When it comes to mobility and connectivity, MK is car-centric. It has been designed around the private car as the primary mode of transport, and the traditional grid square layout of the city and low densities of development constrain the operation of efficient and effective public transport. This restricts opportunities for the most disadvantaged when they look to move around the city to access jobs, services and healthcare. This issue is exacerbated by the relatively low density of development (including employment zones) and dispersal of employment across the city.
- ▶ **Health Disparities:** There are significant health disparities across the communities in the new city such that residents in the poorer neighbourhoods have average life expectancy around 8 years lower than those in the more prosperous parts¹³.
- ▶ **Inactive lifestyles and unhealthy diet:** In 2014 Milton Keynes fell into the top 10 local authorities with the highest proportion of overweight or obese adults: at 72.5%, encompassing almost three-quarters of the population of the Borough¹⁴. While everyone is susceptible to obesity, levels are disproportionately higher in lower socio-economic groups. This is due to many factors but access to work – mobility, skills, information – is a factor, as is an inactive lifestyle with little physical exercise, and the availability of good food locally allied to diet.^{15, 16,}

- ▶ **Sectors Facing Employment Decline:** Some of the sectors which are currently important to the Study Area economy are those most likely to experience employment decline through increased automation. The most obvious example is logistics, but other sectors such as finance and activities such as business administration are also likely to be subject to the influence of AI and other technologies. While some progress is being made to increase activity in the increasingly important digital and creative sectors to provide more jobs, their proportion of the MK economy lags behind other competitor locations.
- ▶ **Regenerating Offices in CMK:** Whilst CMK is the key office location in the Study Area, containing almost half of all B class employment space¹⁷, studies indicate that the quality of some of the accommodation is poor and does not meet the contemporary needs of business¹⁸. As a result there is a considerable degree of vacant office floorspace within CMK.
- ▶ **Matching Labour Needs and Skills:** There is a degree of mis-match between employment needs of firms within the city region economy and the supply of appropriate labour and skills within the resident workforce. In part this is reflected in the high numbers of in-commuters and indicates that there are challenges associated with developing a highly skilled workforce if the benefits to local residents are to be maximised.
- ▶ **House Price and Availability:** housing market pressures in Milton Keynes are higher than in comparator areas (those areas with similar characteristics in this part of the UK), which themselves show greater pressures than the national average. This is particularly evident in terms of house price: current house prices in Milton Keynes are higher than its comparator areas and whilst all these areas have increased over the last 5 years, Milton Keynes has increased by the greatest proportion¹⁹. 70.9% of the council homes in Milton Keynes sold under right to buy are now being rented out privately, considerably more than the average national rate of 40.2% and higher than anywhere else in England²⁰.



- ▶ **Homelessness and Poverty:** In Milton Keynes, 1 in 110 people are homeless²¹, compared to 1 in 206 nationally and 1 in 327 in the south east. This ranks MK as 29th in the top areas in England for highest rates of homelessness, and one of only five local authorities in the top 30 outside of London²². One in 4 children in MK lives below the poverty line, and even in areas of Milton Keynes such as Olney which ranks in the 10%-30% least deprived areas in England²³, over 1 in 10 children live in poverty after housing costs²⁴.
- ▶ **Housing Tenures:** house prices in Milton Keynes have remained consistently above the English national average since 2001, and since 2009 have risen at a notably faster rate than the national average. Whilst the dominant form of housing tenure in Milton Keynes continues to be owner occupation, the sector has declined since 2001. Between 2001-11 the MK private rented sector percentage grew by 97%, higher than both England and the South East region where the percentage growth has been 51% and 45% respectively. This growth is via the conversion of other tenures rather than new build and has resulted in an increase in median rents across all property sizes over the period since 2013/14, suggesting that demand exceeds supply, despite average rents in Milton Keynes now being higher than nationally across England²⁵.
- ▶ **Perceptions:** MK continues to have a profile in the wider world – among the general population but more importantly among investors and decision makers – that belies the reality of its advantages and successes, and the opportunities that it presents to business. Part of the effort in a strategy for MK to 2050 must be to make decision-makers more aware that perceptions do not match reality. There is an opportunity now to plan for change and growth at a scale which can include measures to redress some of these imbalances.





The Spatial Characteristics of the Study Area

Understanding the spatial context of the Study Area, both in terms of its evolution and its existing characteristics, is particularly important to the Growth Study.

Milton Keynes – the Original Plans

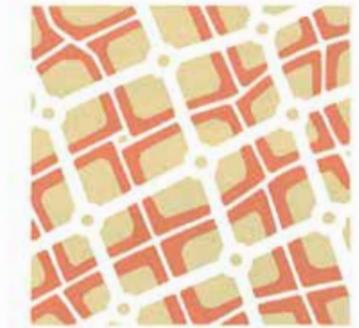
The urban area of Milton Keynes sits at the centre of the Study Area; a new town with a well-established and well-understood pattern of planned growth. The location of the new town, straddling strategic infrastructure (the M1, A5 and West Coast Main Line), was chosen to be exceptionally well-located on the strategic networks with north-south connectivity.

Rather than a traditional radial pattern of movement focused on a city centre, MK was designed as a polycentric new city where origins and destinations for movement were dispersed across a grid to meet a goal of “providing for the use of the private car unrestrained by congestion”²⁶. This grid provided a wide choice of routes for car-based travel as well as an extensive network of connected Redways (shared cycle and pedestrian ways) and leisure routes, both segregated generally, albeit with priority for car movements whenever they met in the grid network.

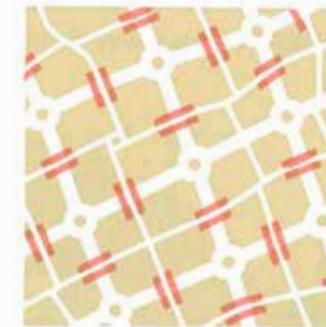
²⁶The Plan for MK Vol 2, pp 280. Delays and stopping time for drivers was designed to be a very small proportion of the overall average journey time which was designed to be between 12-15 minutes maximum, travelling a c.5km distance across the grid.



The grid road structure – retain and complete to speed city-wide movement and protect local areas from through traffic.



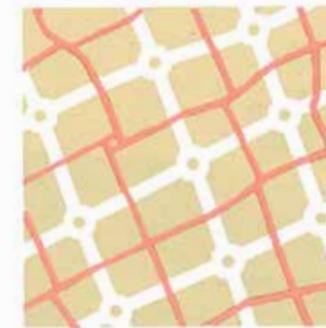
Residential development – concentrate along local routes to build up a familiar, protected and lively street system.



Activity centres – reinforce connections across grid roads by locating facilities at the mid point crossing and bus stop, to provide shelter, surveillance and an identifiable place, as well as information for the grid road traveller.



Open space and reserve land – aggregate towards corner roundabouts to provide a buffer between housing and grid roads, and to offer flexibility of future use.

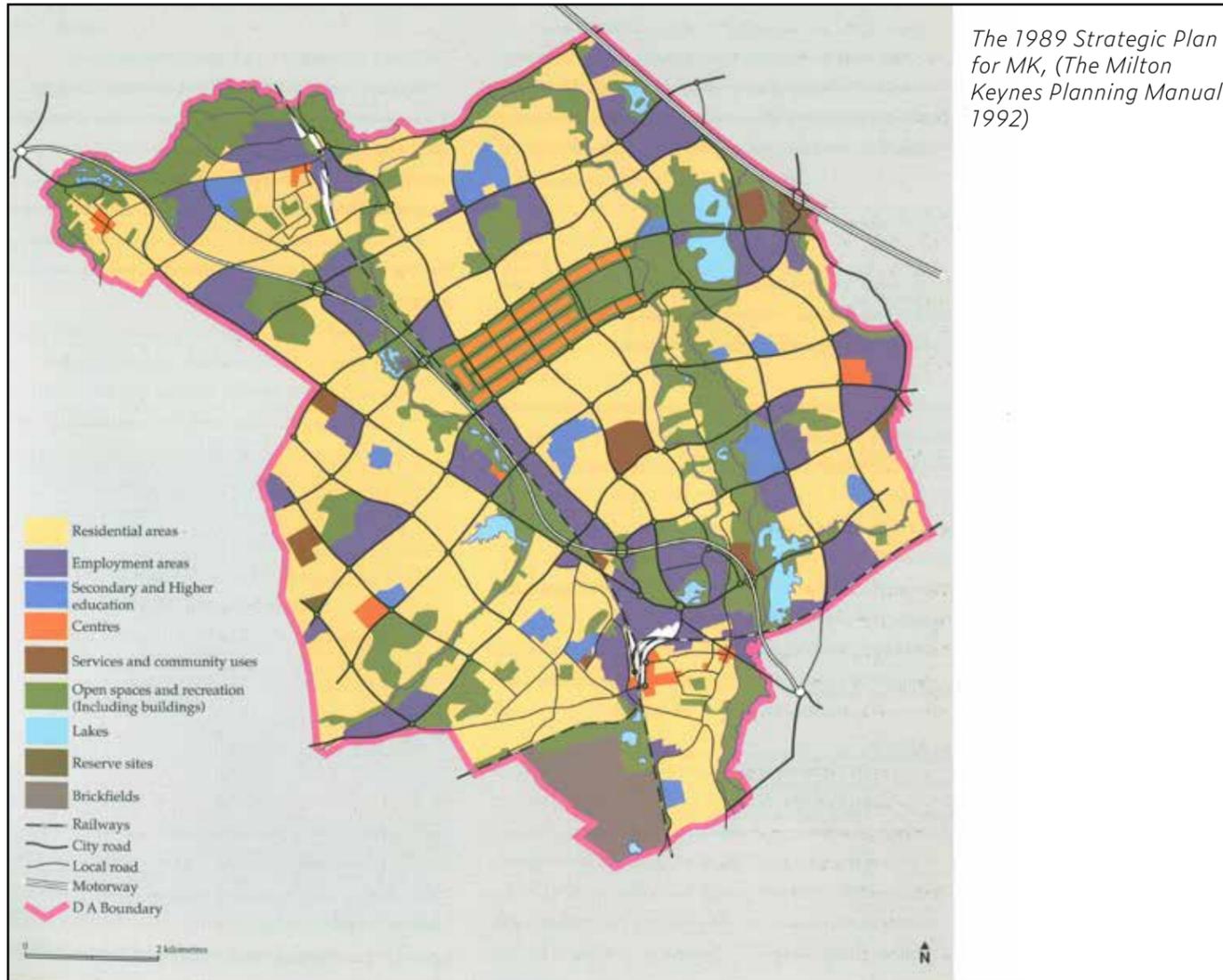


Local routes – plan for continuous integrated movement across and between grid squares, for pedestrians, cyclists and local vehicular traffic.



Employment – locate according to type; small units at activity centres, medium units in some grid square corners, and large units in separate employment areas.

City Structure report extract – MK Development Corporation



The 1989 Strategic Plan for MK, (The Milton Keynes Planning Manual 1992)

Growth within the Designated Area was structured around the following overarching development principles²⁷:

- ▶ **Green and Blue Infrastructure:** Using landscape, open space and water bodies to shape growth and built development areas (with existing features incorporated into new extensive linear parks, the planting of 20 million new trees within a "green-grid" structure, integration of the Grand Union Canal into built development areas as a linear open space, a network of lakes and valley parks incorporating storm-water management, woodland and leisure networks; and city scale landscape-led recreation/leisure assets such as the MK Bowl and Campbell Park);
- ▶ **A Grid of Neighbourhoods:** A loose grid network, where grid squares of approximately 1 sq.km were created by the building of a network of grid roads within 80m wide landscaped corridors, with roundabouts at their intersections and segregated 'Redway' routes for pedestrian and cycle movements;

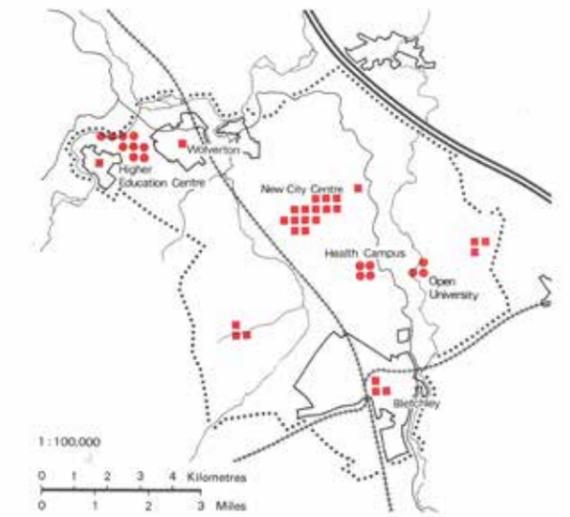
- ▶ **Local Facilities and Services:** Centres of activity (local centres) at or around the mid-points of grid roads to link residential areas (many of which were built at lower densities by today's standards) with smaller areas of higher density development and more active uses at or around local centres;
- ▶ **Dispersed Jobs:** A planned distribution of employment sites across the city with the aim of reducing journey distance to work and spreading peak hour traffic more evenly across the grid. Employment land was built out at relatively low densities and the choice of location for different employment uses was determined on the basis of site characteristics, likely traffic generation, the capacity of the road system and the relationship to other land uses (particularly housing);

- ▶ **Existing Towns and Villages:** Existing towns and villages (plus hamlets and groups of individual buildings) were incorporated sensitively into the fabric of the New City by designing a landscaped setting between new and existing development, and downgrading historic through routes in town and villages to prioritise local access, with new grid roads providing strategic traffic connections;
- ▶ **A City for Cars:** With the expectation that car ownership would increase to 1.5 vehicles per family (and an expectation that almost 90% of households would have cars by the early 1990's), parking standards were generous (with an overall standard of two spaces per dwelling)²⁸;
- ▶ **Low Housing Density:** Densities were planned to achieve a net residential density over the whole city of 20 dwellings to the hectare (allowing a variation in the average over the whole city of between 15 and 25 dph) with indistinguishable densities between public and private sector development.

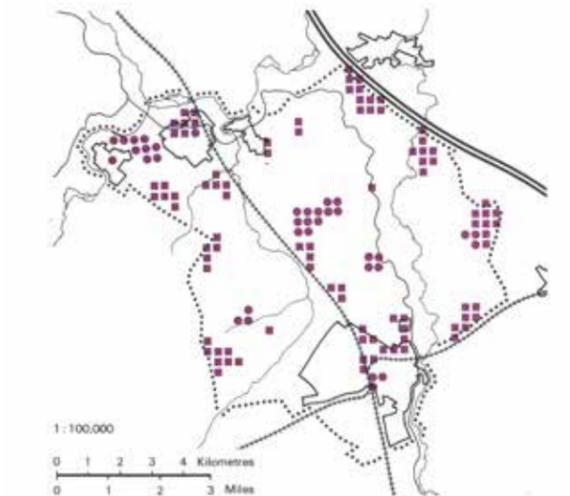
The original planning principles of the new city were reflected in a more intense form within its city centre - **Central Milton Keynes**. Designed to create 'a wide variety of dispersed development within a strong framework of landscaped routes'²⁹, the planned hierarchy of movement through the city centre was focused on direct and prioritised car movements, interspersed with numerous but less direct pedestrian movements.

As with MK as a whole, the city centre extended over a large area and was planned for long-term development, where infrastructure was constructed and completed well in advance of built development to create a consistent utilities, access and landscape framework for a wide range of land uses built over time, and within which a number of undeveloped sites still remain.

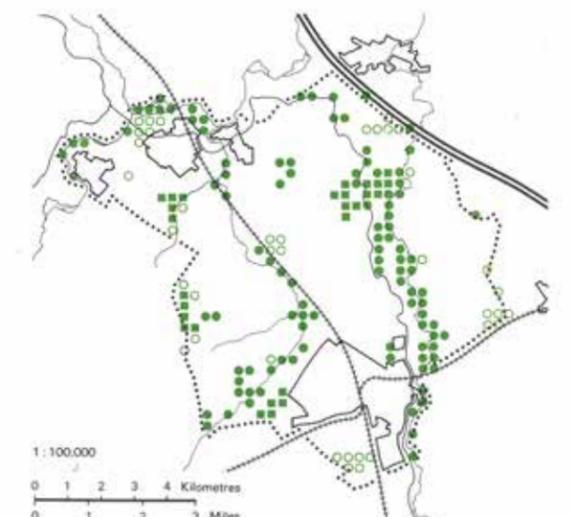
Commercial Centres



Employment Areas



Parks and Open Space



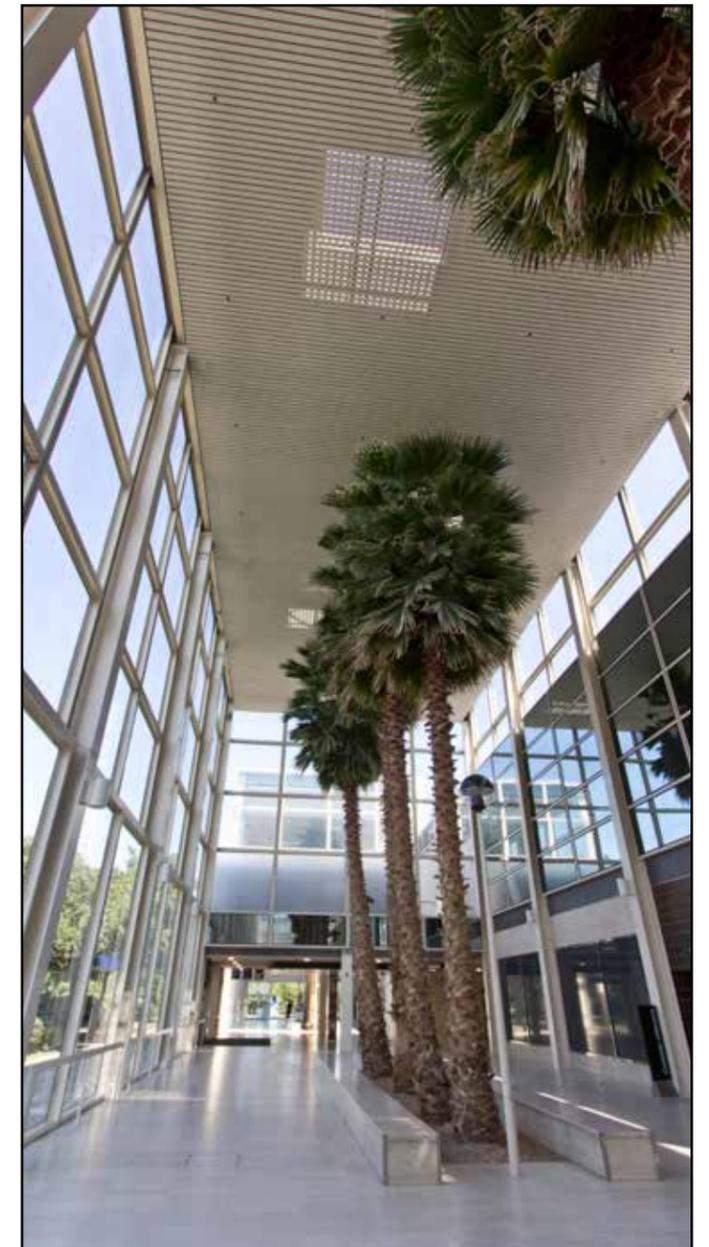
The Planned City in Practice

For the most part, the growth of Milton Keynes has followed these founding principles, creating a relatively polycentric low-density city where until recently movement within and across the city by private vehicle was generally unconstrained.

However, there were a number of notable departures from the original plans which have impacted on the effectiveness of some of its original principles:

- ▶ Despite the planned urban form and its design for ease of car use, public transport was expected to cater for at least a fifth of all journeys in the peak hour³⁰. However, the deregulation of public transport meant that local authorities had much less influence and control over decisions around public transport than might have been expected, and the planned level of patronage has not been achieved. Due to demand, bus routes have become much more CMK focused than originally envisaged, and as a consequence it can be difficult to access certain other parts of the city, with bus travel times failing to match the speed and convenience of the car;
- ▶ In practice, the city is a far less polycentric city than was originally envisaged. Although some large big employers are located outside CMK (e.g. MK Hospital and the OU) and employment land is still dispersed throughout the urban area as per the original plans, market demand for city centre employment space, the density of jobs within CMK and its continued urban development means that movements into and out of the city centre have been more dominant than originally intended. The increasing attractiveness of CMK to the market and the growing trend towards cities as places of economic innovation and enterprise is likely to continue this pattern;
- ▶ Local centres were originally planned as 'activity centres' at the mid-point of a grid road between roundabouts, linked with schools and bus stops and designed to 'relate areas on either side of the main roads by offering facilities useful to both at a common location, thereby helping to avoid fragmentation of the city into inward looking single function zones'³³. In practice, many local centres have been built physically divorced from other destinations such as schools, and the mix of uses and inward-looking design does not always support an effective catchment population which straddles the grid;
- ▶ A number of the original 'reserve sites' within grid squares – a forward thinking aspect of the original plans where sites within establishing neighbourhoods were deliberately safeguarded to be able to meet changing and future needs of local communities over time – have been sold for commercial development. As it is not easy to replicate this model in the current planning system (where 'best value' land disposal took precedence within and on the edges of the Designated Area) the ability to build new community, social or recreation facilities close to these communities – many of which would benefit from new investment – is somewhat compromised;
- ▶ In the years since the dismantling of the Development Corporation/Commission for New Towns, the responsibility for the maintenance and management of green and blue infrastructure within MK has been spread over a much greater range of bodies. The Parks Trust, who during the lifetime of the Corporation were gifted the green infrastructure (with an endowment towards its upkeep) – and who still have an enviable model for long term governance of public assets much sought after by other local authorities – no longer have first refusal on the management and co-ordination of public greenspace, parks and landscape within or around new development areas. The plethora of management regimes, funding models and third parties now responsible for green infrastructure is not only less cost-efficient and complex to manage, but risks breaking down the network of hugely valued green spaces and places framing the city's growth.

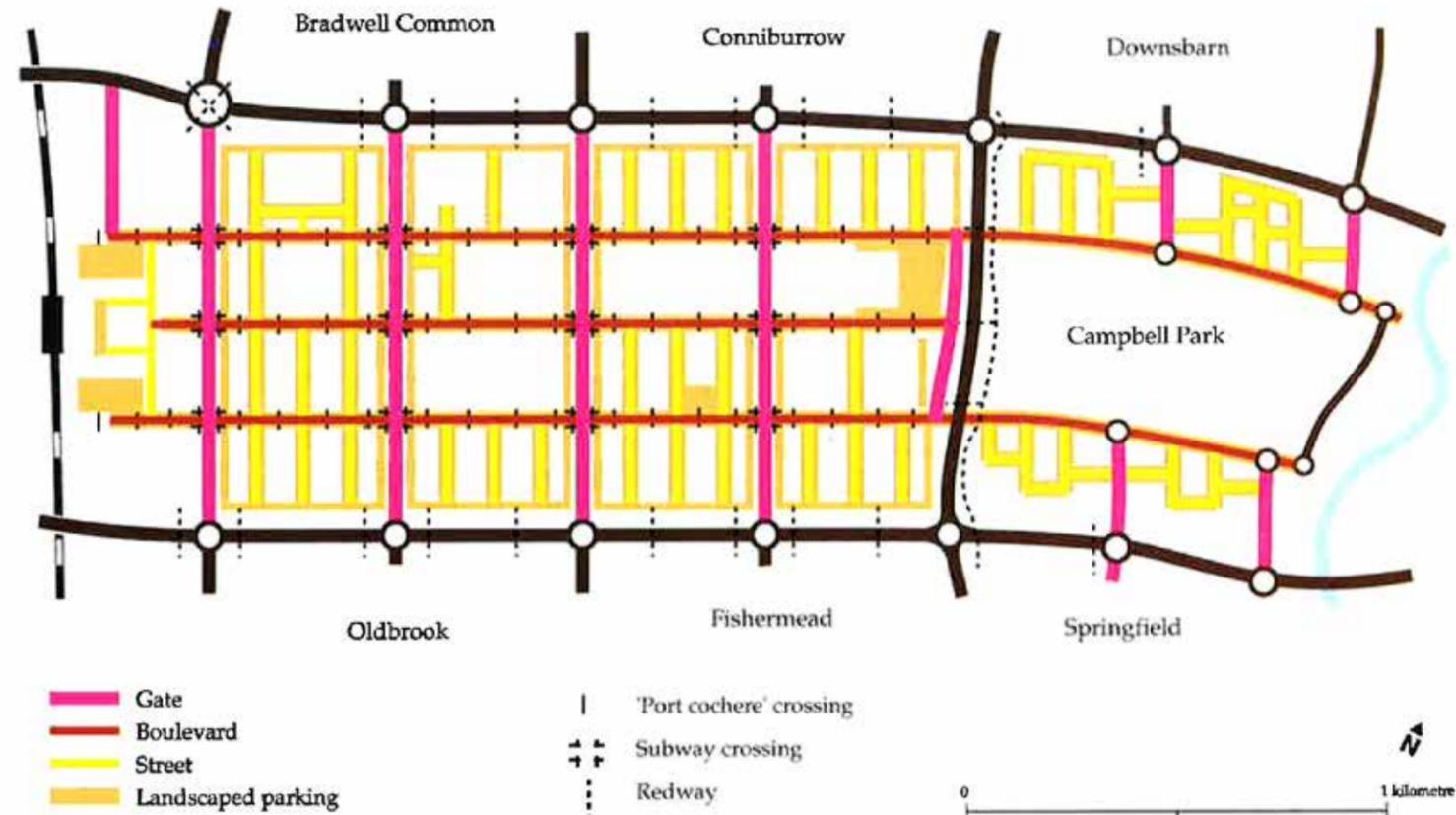
More recently, there has been a move away from the original design principles relating to the MK grid on new developments which edge the city and safeguarded land for infrastructure is no longer automatically passed to the public sector to control or manage. In our view, this change compromises the ability of the 'grid' to provide a continuous and flexible network for strategic green and grey infrastructure – including effective rapid transit connections – throughout the city (see Annex 2 for details).





The CMK Framework in Context

Source: *The Milton Keynes Planning Manual, 1992*



The difference between 'planned' and 'built' is perhaps most notable in **Central Milton Keynes**. Over the years CMK has been extended from the two grid squares originally allocated to also include Milton Keynes Central railway station and its surroundings, and Campbell Park grid square, a large proportion of which is parkland with development sites to its north and south. This has created a very large 'centre' in physical extent compared to the centres of other similar sized towns which are more compact and walkable with a finer 'grain' of urban form, and has spread the 'intensity of land use and activity' very thinly across a large area. This – coupled with ample and reasonably priced parking – tempts those coming to the centre by car to drive not only to their destination, but also to drive between different destinations on a single visit to CMK.

Whilst for the most part, the original framework of infrastructure, public realm and landscape built for the city centre remains little changed from that first constructed, it suffers from a lack of maintenance and renewal. The use of expensive materials at the time CMK was designed and built, and the need to renew large areas of grey and green infrastructure as they simultaneously reach maturity, has put a significant financial burden on the public purse at a time when local authorities are being heavily financially constrained and have competing pressures for their resources. The planned physical framework for CMK development – which defined large regular development parcels and made ample provision for on-plot or adjacent surface car parking – facilitated decisions that responded to the prevailing priorities of the day to create a mix of employment, civic, retail, leisure, cultural and residential uses across a 2 sq.km area, but at a density which in many parts of CMK has not created a

busy, vibrant or animated environment which stimulates the interest of visitors and workers.

Developments such as the Xscape complex and Midsummer Place, whilst commercially successful, are large single developments focused on a narrow range of uses in out-of-centre formats. As such they do not support a finer grain of land use or extend the level or length of public activity beyond their margins. Many of the independent businesses have disappeared from CMK over the past 20 years and despite the number of different activities going on within CMK, because of the highly visible car-dominated public realm over much of its extent and its physical disconnection with the surrounding residential areas, the centre has the feel and character of an out-of-town destination rather than as a place of connection, interaction and activity.

Wolverton looking north west

Pre-existing Towns within the Study Area

At the edge of the new city, the towns that pre-existed MK - Stony Stratford, Wolverton, Newport Pagnell, Bletchley and Woburn Sands - have a strong functional and physical relationship with it. As with the smaller settlements, in Bletchley and Stony Stratford interventions were made to take through traffic out of each centre and onto the grid road network and the A5. In the other original towns this has not happened. Each operates as a centre within the wider Study Area, making a complementary contribution to MK in respect of retail, shopping and leisure activities that is different from the city centre.

In the north, south east and west of the Study Area, the pattern of existing settlements is largely historic. Winslow and Olney are the larger market towns separate from Milton Keynes. Large-scale growth of these existing settlements was not planned as part of the growth of the new town. Growth that has taken place has been incremental (through periodic review of town/village boundaries and infill developments) and has been on a much smaller scale than that in the towns within the Designated Area of MK.

There has been planned growth outside the MK Designated Area that is employment-led, most notably at Cranfield (Airport, University and Technology Park), at Ridgmont (Amazon and others) and at Hanslope Park (Foreign and Commonwealth Office). The market towns of Winslow and Towcester are employment destinations which influence local movement patterns. Each has its own local economy and is a centre for satellite villages, but these towns and their dependent villages also have a relationship with MK as the higher order centre for employment, public services, retail/leisure and rail services.

The Effect on Mobility

Milton Keynes as a whole was designed to provide quick access by car from any point to any point in the city. Its polycentric distribution of employment sites and other key destinations means that Milton Keynes still concentrates a lower proportion of jobs in the city centre than comparable centres³².

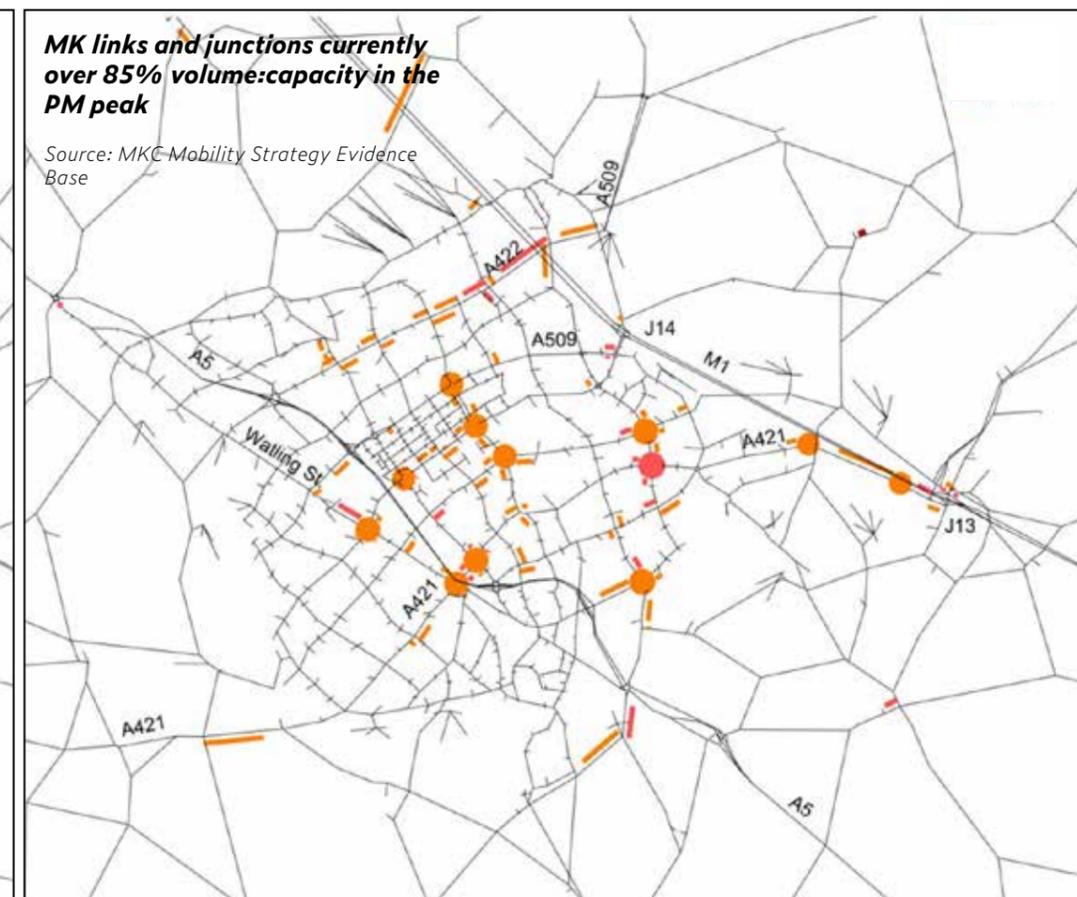
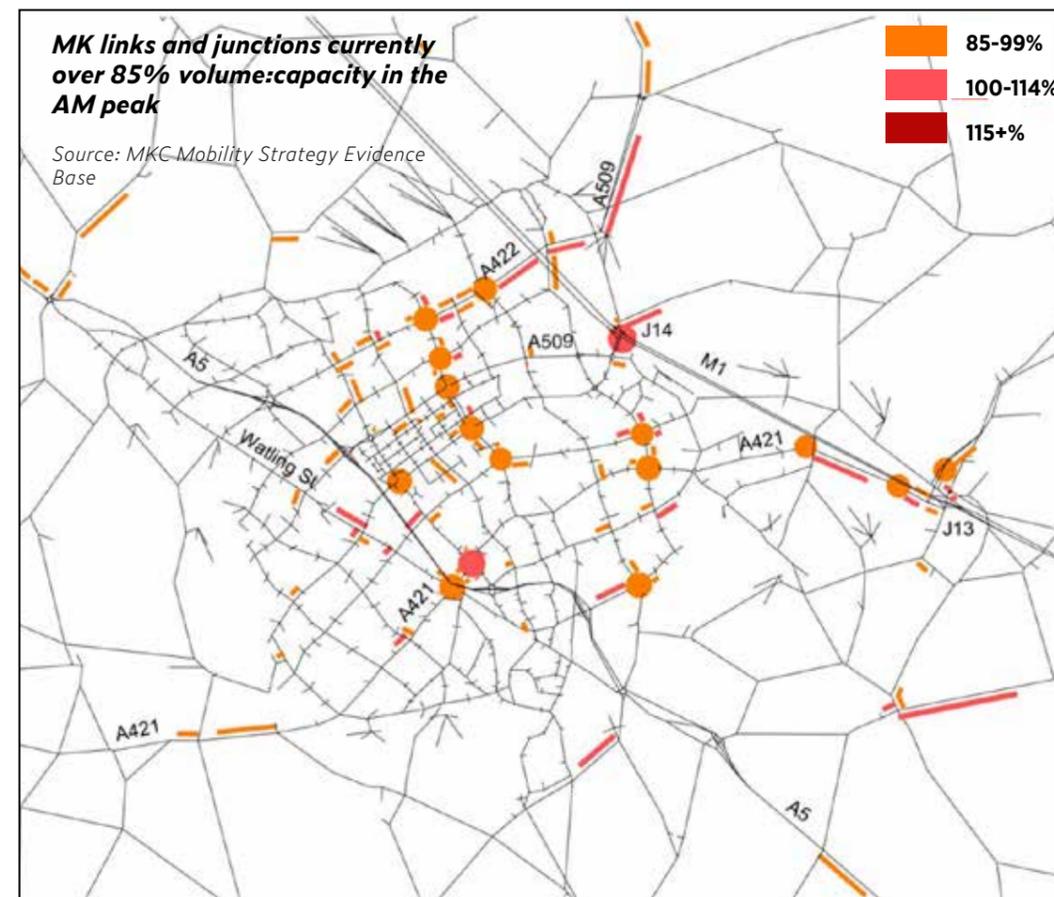
The grid road network continues to offer quick journey times across the city by car and general traffic congestion remains lower in MK than in cities of a comparable size. To accommodate high levels of car use within the urban area, parking levels are very high, with a ratio of parking spaces to jobs at least double that of other cities of comparable size³³, allied with parking charges that are significantly lower.

Over time, Milton Keynes has become more of a radial city than planned. The polycentricity of Milton Keynes has been affected in two ways:

- ▶ Central Milton Keynes has a higher proportion of jobs than originally planned for³⁴, and is a destination which draws movements from outside the Borough to a much greater degree than envisaged. The introduction in more recent years of significant numbers of new homes within CMK has added to the dominance of the city centre as an attractor of trips per se, but also calls for more services and supporting facilities to be focused here, in turn further driving radial movements into CMK from elsewhere;
- ▶ Due to its economic success, good accessibility to London and other destinations by rail, and having land available to accommodate new employment floorspace, Milton Keynes as a whole has continued to experience increasing levels of in-commuting over recent years, affecting the degree of self-containment as a New Town than was originally anticipated and countering continued polycentric growth.

These characteristics are resulting in significant pressure on the Study Area's transport network at certain times of day. Certain junctions at key entry points to MK are now congested during peak hours (for example junctions leading from the M1, B4034 and A422), and average journey times have increased in recent years. This is resulting in increased 'rat-running' within the Study Area, both through villages outside the main urban area, and on local streets through residential grid squares within MK, as people find alternative routes to their destination.

The Council's current Mobility Strategy aims to reduce private car use for commuter trips from the current average of 65% to 50%. However, in the context of a doubling of overall demand for travel in the city as the



population doubles, achieving this target will still result in a 50% increase in traffic levels compared with today. The outcome of this will be continued and significant deterioration in journey times and congestion beyond the Plan:MK period in a 'more of the same', private car led mobility scenario³⁵.

Cycling in MK

Built alongside the grid roads, there is an extensive, 320km network of shared walking and cycle routes, known as 'Redways', that provide segregated, traffic-free routes across the city. However, the network is not well used for day-to-day trips, in large part because car use is so convenient and comparable in terms of speed, but also because routes are sometimes indirect, illegible and not given priority at road junctions.

The Redway network also suffers from maintenance and lighting issues and provision is limited within the city centre. Because Cross-City Redways (as opposed to local Redways) run within grid corridors and align with the network of subways and bridge crossings at grid road intersections, some Redway routes are not well related to active uses (such as local centres). This means there is little natural surveillance, which has led to perceptions

that the network is unsafe. The Redways tend to be perceived as leisure cycling routes³⁸ that are not sufficiently direct for commuting trips, and at present are not perceived as a sufficiently attractive alternative to the car.

Andrew Gilligan, as part of his review on potential investment in cycling for the National Infrastructure Commission, highlighted these concerns and put the case for significant investment in the MK network including more at-grade crossings of the grid roads, an east-west city centre route, improved maintenance, and better promotion³⁷. These recommendations are generally supported, and the way in which improvements can be built into the growth proposition are addressed in Part Three of this report.

³²Unlike comparable cities where at least one third of jobs are located in the city centre, only around 25% of the area's jobs are located in CMK.

³³Mobility and MRT Study, para 2.2

³⁴This economic trend – of increasing dominance of city centres for commercial/economic growth – is set to continue (for details see Growth Study Research Report – Economic Scenarios (Ortus Economic Research Jan 2019))

Using Public Transport in MK

Bus usage is generally much lower than was envisaged in the original plans for MK, where public transport was expected to cater for at least a fifth of all journeys in the peak hour³⁸. Although most grid squares are served, either directly or indirectly, bus services tend to be infrequent and journeys are slow in comparison to the journey times by car³⁹. In part this is a function of the low-density design of MK, which makes the city challenging territory in which to operate commercial bus services. The necessity of picking up sufficient passengers to make the services viable means many routes either meander through grid squares and stop frequently, making the service much slower, or run along grid roads with bus stops further from people's front doors and in less desirable locations alongside fast, busy roads.

Taxis and private hire vehicles are numerous and well organised and operated in the city. For groups of people and families it is often more cost effective and quicker to use taxis for journeys in the city.

Coupled with the low cost of car parking compared with other cities, travel by bus is not cost-competitive with private car use in MK or the wider Study Area. Consequently, bus services are used primarily by people without access to a car, rather than positively selected based on the merits and convenience of the service. Indeed, although levels of satisfaction with the bus network have improved in recent years, they remain among the lowest in the UK⁴⁰.

The original Plan for Milton Keynes envisaged 'equality of access for public and private transport'⁴¹, which is consistent with a number of the goals set out in the plan, including, opportunity and freedom of choice; and easy movement and access, and good communications.

The plan also envisaged that, over time, forms of public transport other than the bus could be installed, "whether of the fixed track or other more sophisticated type"⁴² and

the grid roads were therefore designed with substantial spare capacity to facilitate change. For a number of reasons, including rapid increases in levels of private car ownership over the last 50 years, this aspect of the original MK Plan never came to fruition. As a result, private cars have become the dominant mode of transport within the city.

There are seven railway stations within the Borough of Milton Keynes with the three most well used being Milton Keynes Central, Bletchley and Wolverton, all on the West Coast Mainline providing direct services to London and the Midlands. Outside of the city but within the wider Study Area, there are local stations at Fenny Stratford, Woburn Sands, Aspley Guise and Ridgmont. All are lightly-used, with an hourly service at most times of the day. Investment in East West Rail will improve service frequency at key stations and lengthen platforms at Woburn Sands but no wider investment in facilities or interchanges is planned.



Arriva bus in MK

Journeys to Work

The majority of people working within Milton Keynes choose to travel by car. 65% of people drive to work by car, with a further 7% travelling as passengers (a ratio of just 1 passenger per 9.25 drivers). Only 7% travel to work on foot, 6% by bus and 3% by bike⁴³.

These car-centric patterns of travel give rise to issues that could not easily have been foreseen when the city was being planned:

- ▶ Implications for public health resulting from a lack of physical activity. Almost two thirds of adults in MK are overweight or obese (64.8%) with around 21% of Yr 6 students (age 10–11) being classified as obese⁴⁴ ;
- ▶ Levels of deprivation in Milton Keynes are increasing relative to the rest of the UK , with lower car ownership common in areas with higher levels of deprivation . Those without access to cars do not have affordable and reliable access to the employment, social and leisure opportunities available in Milton Keynes. In total nearly 20% of the Milton Keynes population do not have access to a private car, with approximately 50% of working age population residents not having access to a car at some point during the day. As a result, MK is increasingly considered a 'two-speed city';
- ▶ Today, while all homes in MK are within a 20 minute journey of the city centre by car, only 23% of the population is currently within 20 minutes of the city centre by public transport⁴⁸ This results in significant mobility inequalities in the city for those residents who do not own or have access to a car. Increasing congestion levels resulting from committed growth to 2031 means that even for those with a car, journey times will get considerably worse within MK;
- ▶ A further implication of the car-dependent nature of Milton Keynes is that despite MK being a New Town with relatively new building stock and infrastructure and little 'dirty' industry, and despite its 'green' credentials, emissions of CO2 remain at a high level (currently 14th highest in the UK)⁴⁹;

Elsewhere within the Study Area, analysis of Census travel to work data (2011) indicates that Milton Keynes draws in workers from adjoining settlements such as Bedford, Leighton Buzzard, Luton, Buckingham and Northampton⁵⁰. There are also important movements to Milton Keynes from smaller settlements such as Olney, Cranfield and Towcester and a web of movements between settlements around Milton Keynes. Rural areas outside MK are poorly served by public transport services, and accessibility to higher order services are therefore limited for those in the rural parts of the Study Area without access to a car.

Despite a relatively wide travel-to-work catchment, the majority of trips to workplaces within the MK urban area also originate there. Of the 122,000 work trips with a destination within the borough of Milton Keynes, 78,000 (64%) originate within Milton Keynes⁵¹.

Milton Keynes' polycentric nature results in trips going into, through and around CMK with apparent corridors of north-south and east-west travel demand. The most common commuter destinations are clustered around the centre and include CMK, the hospital and the Open University, with smaller clusters around Bletchley, Shenley Wood, Kingston and Tongwell⁵³.

In recent years, Milton Keynes has established a reputation for innovation in transport and automated vehicles (AV). However, the mobility policy framework within which a comprehensive PT innovation strategy might be embedded is not yet adopted, and policy support for the other elements needed to ensure a meaningful shift in mobility (most notably policy disincentives for car use allied to improvements in other modes) has not been forthcoming.

The Setting for Continued Growth

Outside the urban areas, the landscape character of the Study Area is characterised by a rural landscape comprising undulating claylands or clay plateau farmland, interspersed with shallow river valleys with the wooded Greensand Ridge to the south. Environmental constraints mapping and the landscape character of the Study Area is detailed in Annex 1.

Building on the inherent character and topography of this landscape, green infrastructure was integral to the original plan for Milton Keynes and continues to be so for the city today, making significant contributions to its social, economic and environmental success and helping define and improve its character and identity as a place. The original MK plan set out principles for open space of scales and types to suit a wide variety of needs: from grid road corridors to tree-lined boulevards, community orchards to major civic open spaces such as Campbell Park and strategic green/blue networks through the city such as the Valley Parks.

Since the establishment of the city in 1967 the green layer has grown and matured to become a significant and highly valuable part of the fabric of Milton Keynes. Aside from the grid road corridors, the existing green layer comprises open space parkland corridors and woodland blocks primarily. The woodland blocks have become fragmented over time and now exist around the southern, eastern and northern edges of the city.

The primary elements of Milton Keynes' open space network are focussed along the City's waterways and around its water bodies, providing access to recreation, and wildlife while providing effective storm water management systems.

Storm Water

Strategic water bodies were created across the city to provide attenuation of stormwater to help mitigate the effects of the development and growth of the city on the land and settlements within MK and down-stream through impacts on permeability and run-off.

These water bodies, including Willen, Furzton and Caldecotte lakes, continue to play an important role in attenuation but have also become valuable amenity and recreation assets for the City as well as significant ecological benefits.

The existing system is nearing its designed capacity limit with storm events in recent years leading to localised flooding in some areas.



Willen Lake

Heritage

There is a significant number of heritage assets located within and around Milton Keynes, many of which have been integrated into the existing open space network through the original city plan. Through their positive integration into the open space network they provide recreational and educational benefits while helping to strengthen local character and distinctiveness.

Not all land outside the urban area is virgin landscape; parts of the Study Area exhibit the legacy of former (and to some extent still operational) brickmaking and gravel extraction – including Marston Vale, Linford Lakes, land around Deanshanger/Passenham. However, there are a number of heritage landscape assets of varying types, scale and significance outside the built-up area of Milton Keynes. Features such as Whaddon Chase, the Greensand Ridge, the Ouse Valley, the Grand Union Canal and the Woburn Estate form key elements of the wider landscape.

Green Infrastructure plans exist for a number of these areas, designed to document and reflect heritage and existing character and value, and also to secure funding for future management and improvement. However, recent growth proposals (and pressure for incremental growth) on the edge of the urban area risks undermining strategic objectives for the protection or enhancement of this green infrastructure. No strategic plan is in place for how these features should be protected and enhanced to make a better setting for, and contribution to, existing and new communities, biodiversity and wildlife as part of wider growth proposals.



Ouse Valley



Bletchley Park

Growth Since 1992

Planmaking Context

Within the Designated Area of the new town, the original spatial patterns and development principles for growth have been maintained for the most part, and development within grid squares followed the principles set out in the original MK Plan. The original 'grid' is now substantially 'complete'.

The process by which development sites were planned and allocated changed after the winding up of the Development Corporation in 1992. Control was transferred to the Commission for New Towns, latterly part of English Partnerships which subsequently became the Homes and Communities Agency (HCA). Control over design passed to Milton Keynes Partnership, which remained a major landowner in the city, and design criteria for new development became more similar to those being applied by the HCA on sites it owned across the country.

Between 2004 and 2011 there were two local planning authorities in Milton Keynes: Milton Keynes Partnership (MKP) and Milton Keynes Council (MKC). MKP covered the Northern, Western and Eastern Expansion Areas and remaining sites within the existing grid squares of Oxley Park, Tattenhoe Park and Kingsmead, and was also the Local Planning Authority for land adjoining the A421 (Eagle Farm and Glebe Farm), identified as "strategic reserve" sites. MKC retained planning powers for the remainder of the city and for smaller development within the Expansion Areas.

MKP's long term plans for the area were set out in the 2006 document "A Strategy for Growth to 2031" and reflected in the Regional Spatial Strategy (the South East Plan). However, the change of government in 2010 and the abolition of the regional spatial plans in 2012/13 saw the long-term growth plan for the area revoked.

Thus, over the last 10-15 years local plan growth has occurred through the sequential allocation of a number of individual strategic sites outside but adjoining the

Designated Area. These are sites of between c. 2,000 and 4,500 homes in individual locations around each edge of the city, most notably in the east, west and more recently, the south east and across the M1.

The relatively short-term and fixed term local plan making processes (10-15 year coverage with frequent reviews and no requirement for spatial plans to allocate or safeguard future very long term growth areas or land for city-wide infrastructure improvements) has meant that, in our view, achieving a joined-up approach to truly long term 'whole city' spatial planning and delivery has not been possible.

A resistance from villages outside the Designated Area to entertain the benefits of being part of a planned growth area which includes new and improved strategic green, grey and blue infrastructure, has also curtailed the Council's ability to convince local people that planned growth will deliver the infrastructure and facilities needed to support the growing population.

Impact on Design of Development

The MKP model for expansion beyond the Designated Area moved away from grid squares to large-scale, mixed-use, higher-density development in the hope that this would lead to a greener, more sustainable Milton Keynes, less dependent upon the private car. This led to developments within the grid squares of MK and in CMK being developed at densities higher than those envisaged in the original MKDC plans. Some established areas – such as Bletchley and Wolverton – have also seen redevelopment of brownfield sites at higher densities, especially where these sites are close to railway stations.

Most notably, there was a moving away from the MK Grid/segregated Redway model towards highway designs which supported higher density development, known locally as 'City Streets'. For the most part, the development principles set out in the MKP expansion model were carried forward into the design of the Expansion Areas and strategic reserve sites.

Whilst the design of City Streets within the new expansion areas was based around urban design principles and best practice from elsewhere, the existing structure of the new city within which these developments sit (where public transport priority and connectivity is poor and no moves to disincentivise parking in the city centre have been implemented) means that they have had limited success in achieving a move from car to public transport use and are therefore unable to achieve their objectives. They are also seen by local communities as not 'of MK', and local perception of recent developments has been affected by a move away from some of the other original MK design principles, such as the 80m grid road reserve, grade-separated grid road crossings and the allocation/ safeguarding of reserve sites within new development areas.

Some aspects of the original MK design principles for MK have been retained in policy and site planning (for example, reserving land for future grid road extensions and linear parks on the policies map and in Development Brief SPD documents). However, because these development areas have remained in multiple private land ownerships through the planning, design and delivery stages there have been difficulties in ensuring these requirements are met on the ground.

In the south west of the Study Area, planned allocations to extend the urban area of MK have resulted in development that straddles administrative boundaries. Whilst this development was planned to 'complete' the MK grid by adhering to the original MK designs for the green and grey grid, the absence of formal cross-boundary working arrangements or joint planning mechanisms means that agreeing mitigation of the impacts of this planned growth through planning obligations – which includes key infrastructure – remains unresolved a decade after the proposals were lodged with each authority.

Elsewhere in the Study Area, densities and built form have been largely 'suburban', with a predominance of family homes being built on the edges of villages and towns.



New housing, Brooklands



New housing, Wolverton

Current Risks to Good Growth

Lack of relationship between Strategic Infrastructure and Currently Planned Growth

East West Rail and a new M1-M40 highway connection (the 'Expressway') are likely to influence both the location and type of growth in the Study Area over the next 30 years. However, despite this investment being justified on the grounds that it 'unlocks' growth within the Arc, signs are that these projects are progressing in relative isolation and without linking to other wider mobility initiatives locally.

Emerging growth proposals, such as the new settlement of 5,000 homes in the Marston Vale and settlement expansion to the north of Winslow, have the potential to benefit from enhanced east-west rail services as a result of this central government investment. However, the extent to which growth and infrastructure can be planned in an integrated and complementary manner to maximise the benefit of this investment to local communities and kick start a real and effective shift from car travel to rail and integrated public transport remains to be seen, and to a certain extent depends on the Partner authorities' response to and actions arising from the recommendations of this Study.

Edge Development in Smaller Settlements

Larger villages have recently experienced greater levels of piecemeal (sometime speculative) development on their edges, including Hanslope, Wavendon/Woburn Sands and other villages. Although a number of Parishes now have Neighbourhood Development Plans in place, and some village expansion has taken place on allocated sites, this growth is not generally at a scale that could deliver a level of planned infrastructure to support the village as a whole.

Even local plan development allocations, such as that planned to the north of Winslow, are not being planned at a scale or designed in a way which optimises benefits back to the wider town or maximises the ability of new homes or a more intense mix of activity and land uses to benefit from the planned station and its improved rail services. Similarly at Olney, development is ongoing but not at a scale which could justify or fund key town-wide infrastructure (such as the long-planned Olney bypass).

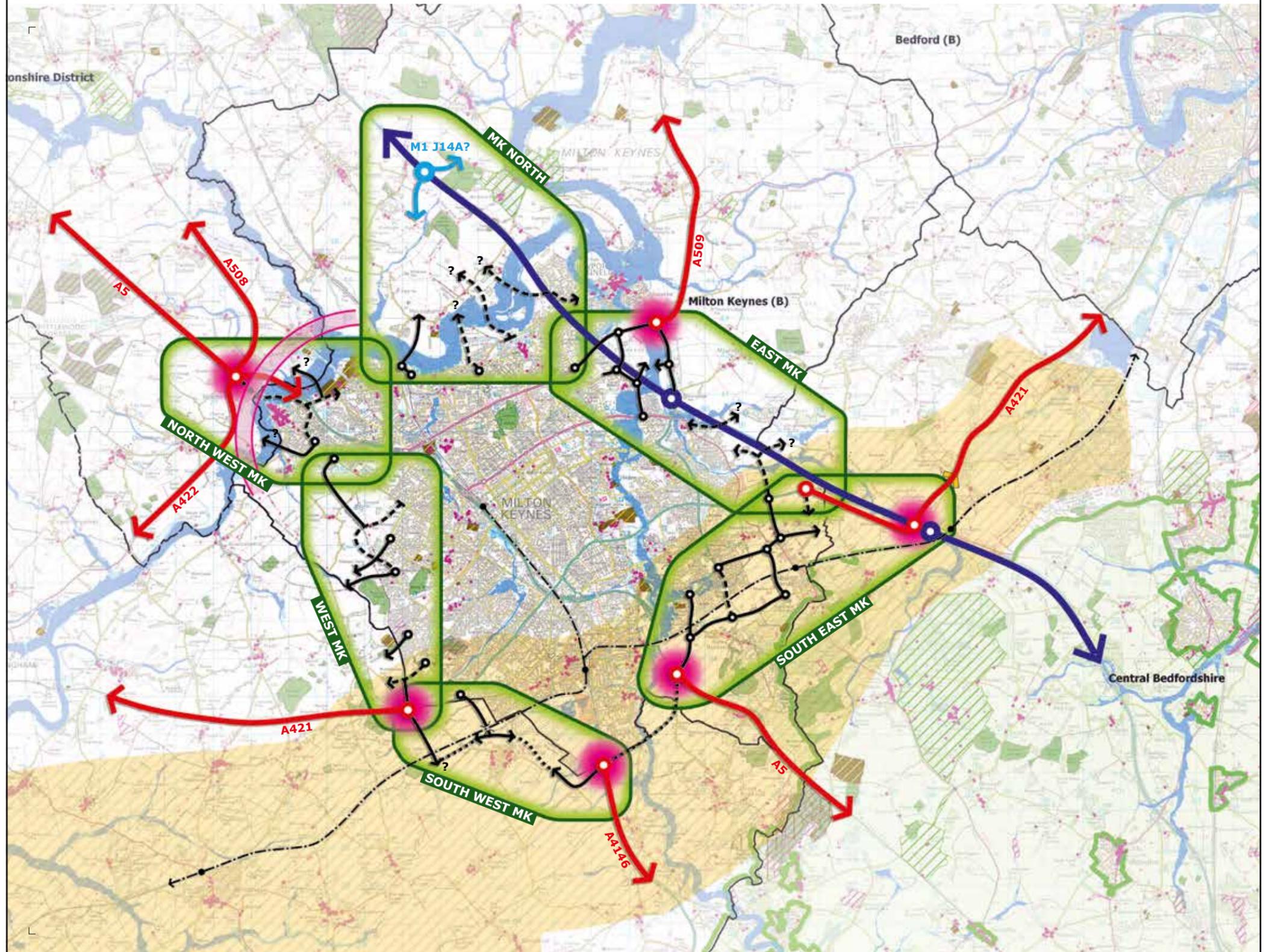
Whilst some may argue that additional development in the larger settlements is not warranted, given their position in the existing settlement hierarchy there will be continued pressure for growth and development at these locations. So by 2050, a 'business as usual' approach to growth planning could see a level of development at these locations of a scale commensurate with that recommended in the Growth Study but without any of the certainty and realisation of wider infrastructure or 'whole village' benefits that a planned long term growth strategy could deliver.



New edge development, Old Stratford

POINTS OF CONNECTION

-  'Pinch-points' on the local network
-  Potential points of connection
-  Oxford to Cambridge Expressway Preferred Corridor B
-  Potential for M1 J14A (no proposal currently in place)



Closing Down 'Points of Connection'

Exploring the potential for new growth which is well-connected within or to the existing urban area must start with an analysis of the current situation.

Some opportunities for new points of connection have already been closed off in MK. Recent developments on the northern edge of the city have been consciously built across the 'ends' of the grid corridors. Grid road reserves south and east of the city are not being consistently retained or extended into new developments. This closes off opportunities for effective new road or RT connections to be made as part of new planned growth which will connect well with the existing network to support a whole-city mobility solution.

Potential 'points of connection' have been identified within the Study Area where opportunities exist to improve connectivity, complete 'missing links' or extend key routes to open up new growth areas, but where 'pinch points' exist currently and current development projects and short term decision making may impact the successful delivery of longer term objectives.

These are shown here on a composite plan, but for the purposes of analysis have been split into six Sub Areas. The characteristics of the 'points of connection' are specific to each area, and the issues and potential solutions are different in each case.

Annex 2 to this Study provides a detailed breakdown and commentary on the existing points of connection. This includes a summary of the existing risks to well-planned growth, and potential ways in which a strategic growth plan for the Study Area could look to address issues relating to each sub-area.

Congestion

Milton Keynes is already one of the fastest growing cities in the UK. Transport modelling undertaken in support of Plan:MK demonstrates that by 2031 the pressure from the planned 30,000 additional homes and increasing employment space in Milton Keynes Borough alone will result in 14% longer journey times and an increasing number of road links and junctions over capacity, even with investment in the highway network.

Looking forward to 2050, and the very substantial additional growth in movement associated with an additional 70,000 people, journey times and traffic congestion are expected to worsen significantly beyond that shown above in a 'more of the same', private car-led mobility scenario.

Research over decades has repeatedly demonstrated that building additional highway capacity in isolation does not solve traffic congestion, and ultimately leads to increased traffic levels. Furthermore, even if additional highway capacity could solve the existing and future congestion problems from a car-based mobility strategy, the mobility inequality issues set out above would not be addressed – locking Milton Keynes into the current trend of being a 'two-speed' city and not addressing existing transport inequalities.

The successful growth of Milton Keynes to 2050 and beyond, and delivery of an efficient 21st Century public transport network, is considered to be intrinsically linked. 'Business as usual' cannot accommodate the Council's aspirations for growth; even if there is significant uptake of autonomous vehicles, leading to more shared travel, and greater capacity can be extracted from the existing highway network, the substantial anticipated growth in population and travel demand necessitates more space-efficient ways of moving people around Milton Keynes.

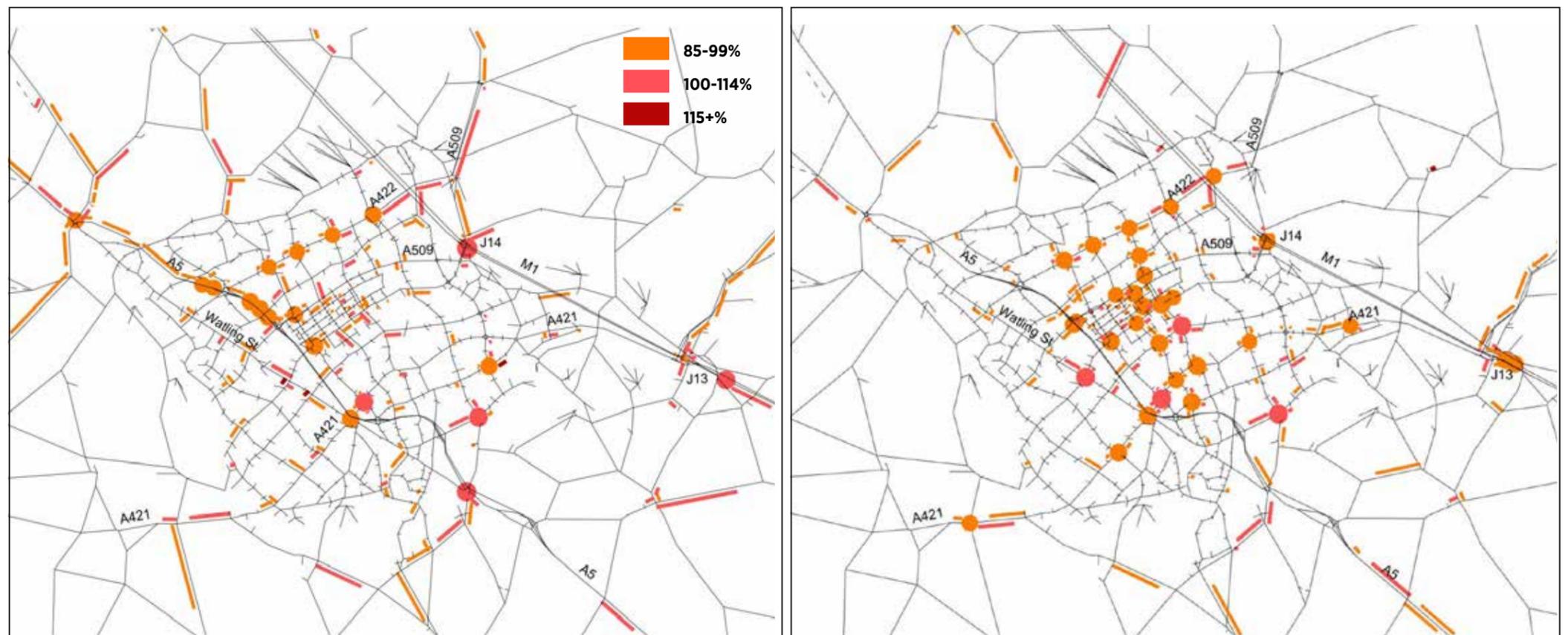
A change in approach from personal mobility to 'smart, shared, sustainable mobility' is essential, not only to reduce overall traffic levels but also to provide a more inclusive transport system for those without access to a car. Change takes time and therefore it is vitally important that the right planning and infrastructure decisions begin to be made now, rather than waiting for gridlock to force a change in approach that will be significantly more difficult to achieve.



Current morning peak hour congestion in MK, H6 Child's Way

Affordability

Unless the current trend of the increasing unaffordability of housing within the Study Area is addressed, then other inclusive growth objectives will be impacted. Typical new homes built today are out of reach for eight in ten (83%) working private renting families in England⁵², even if they use the Government's Help to Buy scheme. Relying on the private sector to deliver growth plans in isolation – even at higher rates of growth – will not deliver the full range, pace and tenures of housing required to meet the needs of the growing population. Other housing delivery models, operationalised through joint delivery vehicles or a locally led development corporation, must form a key strand of the growth strategy for this to be achieved.



Congestion hotspots in 2031 for the AM (left) and PM (right) peak showing all links and junctions with volume to ratio capacity over 85%

Source: MKC Mobility Strategy Evidence Base

CHAPTER 3: WHY GROW?

Why Grow?

It is recognised that places with all of the characteristics that have led in the past to a high level of growth generally have the propensity to continue to grow in the future. And seeking to constrain future growth can imperil hard won success built up over time.

Any great city must be economically successful if it is to fulfil the ambitions of its residents. Therefore, the case for growth is led by the economic future desired by the Milton Keynes area. But economic growth in the future will be different to that in the past. When first planned, MK had the luxury of choosing the business sectors that it would set out to attract. Concentrated and prioritised effort in these sectors delivered the economy on which the new city thrives today. From its beginning to the new city today, many influential factors both internal and external have changed and evolved – governance and government; environmental conditions and regulation; demographics and diversity; technology and communications; the geography and economy of the hinterland. Now that MK's economy is maturing, future growth will be determined by these factors, developing what exists now rather than starting with a clean sheet.

And whilst Milton Keynes city has enjoyed successful growth in the past, there is no guarantee of success in the future. Continued growth that is not properly planned, built and managed may exacerbate pollution, congestion, and upward pressure on house prices, eventually imposing limits not just to future growth but also to productivity and competitive advantages and the performance of the economy.

Complacency and failure to adapt to changing circumstances are perennial risks for any city or area; complacency may stifle growth or may mean that opportunities to address current challenges, increase inclusion and maximise the positive outcomes through future growth are missed.

As the UK's biggest new town, Milton Keynes has experienced rapid growth in the past. The circumstances that made it grow rapidly in the past are still relevant to its capacity to grow in the future. The re-emergence of the O2C Arc as a driver for well-planned growth is an opportunity to shape MK's growth trajectory into the future.

The major question is thus not whether MK should continue to grow at all but rather, how to plan for inevitable growth in order to optimise its benefits for everyone. Economic growth at a strategic scale has the potential to address a number of the challenges in the previous chapter through the development of an inclusive economy which provides opportunity for all. Growth which is solely market-driven, where housing growth continues to lag behind jobs growth, is unlikely to achieve this.

The growth agenda set out in the MK Futures 2050 ambition recognises that growth is about people: adopting an inclusive approach to growth ensures that both existing established communities and new communities in the future benefit from that growth. Future growth should be pursued in a different context to what has come before, placing equal value not only on economic growth but on social and environmental gains, and recognising that changing models of political/governance structures will be needed to secure the same successes that characterised the early growth of the new city.

It is not possible to address the weaknesses in the Milton Keynes city-region economy sustainably without further growth. Growth is needed to create new jobs which are accessible to residents not economically active currently. Growth is needed to create more highly skilled and better paid jobs that increase living standards. And growth is needed to provide the revenues – personal, corporate and taxation – to facilitate investment, whether that be in homes, roads and transport, businesses, facilities and services or social interventions to address inequalities.

A strategy for growth has the power to 'democratise' its benefits; growth means that creating new capital through enterprise is made possible for a wider range of people. This will spread the benefits of growth around, stimulate further and wider innovation, and increase social and economic flexibility.

Growth of the Milton Keynes city-region will not benefit all residents of the city-region as a matter of course. Without a positive, proactive plan for growth, commuting patterns facilitated by new strategic transport connections may change, increasing commuting flows and generating increasing pressures on local transport infrastructure which is already known to be short of capacity and is not accessible to all local residents. Housing growth based solely on current land trading and housebuilder models will not meet the needs of the population as a whole or the level of demand generated by the MK economy, nor deliver the scale of infrastructure and services needed to improve support for existing communities. Strategic growth plans that capture and maximise benefits to local residents will protect against such negative outcomes.

Milton Keynes, along with all UK cities, is competing with other locations around the world for footloose investment, for highly skilled people, for ideas and for new businesses in leading-edge sectors. Embracing growth positively – and ensuring that those who invest here are buying into a 'whole-city' growth ambition – will give the city-region the best opportunity to succeed and to win its fair share of the opportunities on offer.



International Festival, Milton Keynes

The Concept of 'Inclusive' Growth

The definition of inclusive growth is "economic growth that creates opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society" (OECD reference)

Over the course of the last decade, the concept of 'values-based' or 'inclusive growth' has become more prevalent in the UK economic development sphere. It is based on the recognition, articulated by organisations such as the World Bank, that growth in developed economies has not always resulted in reductions in economic inequality or increases in living standards across the board.

Recognising this challenge, it is now common to find the notion of inclusive growth present in regional and local economic strategies and policies, with the aim of ensuring that the benefits of growth are available to all members of an economy or local population.

There are a number of key arguments that sit behind the promotion of inclusive growth from an economic perspective⁵³:

► **Poverty limits growth.** Poverty in a community is insidious. It impacts on individual people and affects their ability to participate in their communities. It limits life-chances, affects happiness and well-being, and, at worst, reduces life expectancy. Poverty in an economy limits disposable income and reduces local spending. Further, poverty lessens social mobility which means that the full range of talents, skills and resources represented in a population cannot be fully taken advantage of within the economy. More dynamic, socially mobile working people increase creativity, innovation and productivity – all of which are good aspects of growth. Inclusive growth allows people to fulfil their potential and to add value to the economy and the communities of which they are part.

► **The economic and fiscal costs of poverty are significant.** Poverty is bad for individuals, but it also creates a drain on public resources. JRF research estimates that the annual cost of poverty to the national public purse is £78 billion⁵⁴. Enabling more people to take up work, and increasing the value of work for all, not only increases the living standards of those employed but also increases tax income and reduces welfare spending. As a result, resources can be freed up to support growth and to realise its benefits.

► **Work no longer assures a route out of poverty.** JRF states⁵⁵ that more than half of people living in poverty in the UK are in a working household. Low paid jobs are often a poverty trap because not only is the pay low, there are limited opportunities for progression and a lack of job or income security (e.g. zero hours contracts). Progression opportunities are also affected by changes in labour markets, where 'hollowing out' increases the number of high and low skilled jobs and reduces mid-level jobs.

► **Disconnected communities miss out on the benefits of growth.** The period since the Brexit vote in 2016 has demonstrated that there is significant division across the UK. Many people and communities feel disconnected from growth and do not experience the benefits that they had anticipated. In itself this is a major impetus for an inclusive growth agenda. Whilst the Milton Keynes city-region has experienced significant economic and population growth over the last three decades, the benefits of this growth have not been experienced universally.

► **Uneven growth.** Research from organisations such as JRF and Centre for Cities has demonstrated growing spatial inequalities between towns and cities in the UK. At the same time, growth has also been uneven within towns and cities – addressing localised disadvantage has proven to be a very significant challenge across the UK. Economic opportunity is influenced significantly by where people live. Ensuring that the residents of any such areas benefit when new jobs are created is at the heart of the inclusive growth agenda.

In the context of the 2050 growth strategy, inclusive growth is also about ensuring that people are at the heart of growth plans; where the living and working environments that are created through planned growth meet people's social as well as economic needs and aspirations.

From a social perspective, the promotion of inclusive growth⁵⁶ :

► **Reflects the needs and aspirations of all sectors of communities,** not just those who shout loudest. Increasingly, planning activities have narrowed in focus and become 'process' not 'outcome' driven. If communities find it difficult to engage in the 'process', then the outcomes will not reflect their needs and will be driven by a narrow set of viewpoints. So, plans for inclusive growth must seek out the input of communities who would not naturally engage (including 'hard to reach' communities⁵⁷ and even those future residents and workers who do not yet 'exist' for a place). Growth plans must also be broadened beyond traditional 'planning activity' to help pave the way towards a better relationship between local stakeholders and those responsible for delivering growth.

► **Creates increased trust between the public and private sector.** In the current system, developers are sometimes sceptical about the local benefits of section 106 payments on planning permissions, and local authorities may not trust developers to deliver positive outcomes alongside profits. An inclusive growth strategy could help both parties feel like they are working towards the same end.

► **Reflects local context as a core part of decision making.** The actions that will deliver the most social value are those that meet the greatest need of the community. Therefore, the more the growth strategy aligns with the needs of the local area, the more the impact from various actions will be maximised.

► **More environmentally sustainable development.**

Inclusive growth supports the environmental agenda by getting people to think holistically (a 'whole town' approach) rather than individually ("my house", "my village") about environmental benefits, and to support growth plans which make these benefits happen.

There is one important proviso to the inclusive growth agenda. **Planning and strategic management** is crucial in seeking to achieve good growth. Growth cannot be fully inclusive unless it is strategically managed and shaped and supported by policies to ensure that opportunities are evenly distributed, that no sections of society are disadvantaged, and that the outcomes of growth benefit all. This can only be achieved through careful, ongoing, consistent and strategic development and enhancement of an area as a place to live, work and visit.

⁵⁷ 'Hard to reach groups' is a loose term which refers to members of society, typically minorities, who the public and third sectors have historically found hard to engage with or offer services and support. These groups include, but are not limited to: ex-offenders, 'NEETs' (Young People Not in Education, Employment or Training), long-term unemployed, disabled, homeless and multi-generational unemployed (source: UK Green Building Council (March 2018))



Community Garden Tidy, Central Milton Keynes

Alternative Scales of Economic Growth

Population and economic growth are already well embedded in plans for Milton Keynes and its surrounding areas. For example, the Local Plan for the city (Plan:MK) is founded on a requirement to build an additional 1,766 new homes each year⁵⁸ to 2031 (i.e. 26,500 new homes between 2016 and 2031). Based on the current target of 1.5 jobs per dwelling, this increase in population would suggest employment growth of around 2,650 per annum (around 39,750 new jobs in the same 15 year period).

The amount of long-term growth cannot be predicted precisely but economic research concludes there are number of reasons why Milton Keynes should plan for significant growth over the next 30 years:

- ▶ 'Business-as-usual' forecasts, based on evidence prepared as part of the Economic Growth and Employment Land Study updated in 2017⁶⁰, indicate that by 2050 the economy of Milton Keynes Borough may grow by around 60,000 jobs.
- ▶ The Oxford-Cambridge Arc is set to accelerate growth across the corridor. The total population across the Arc may rise by as much as 1.6 million to around 5 million by 2050. This significant increase in population necessitates a strategic approach to spatial planning, for people, their homes, for the jobs they will do, and for supporting infrastructure, facilities and services.
- ▶ In the highest growth scenario, the Arc could create up to 1.1 million new jobs, of which around 130,000 could be located in the Milton Keynes area⁶¹.
- ▶ Milton Keynes continues to benefit from London's out-migration of people and jobs and whilst substantial property price inflation may have levelled off temporarily, it is likely that Milton Keynes will continue to benefit from businesses and people locating out of the capital, as well as from Oxford and Cambridge once improved east-west links are in place.

It is inarguable that growth over the period 2017-2050 is coming in any event. The transformational changes recommended by the NIC will generate significant opportunities for the Milton Keynes city-region. Population and economic growth are likely to be at the top end of current projections and, through enhanced interconnectivity across the Arc leading to economic spillovers and synergies, the city-region will have opportunities to attract a variety of high-tech, high-value activities. Some of these would build on current strengths, such as knowledge intensive business services (KIBS) or advanced engineering, whilst others could be new sectors such as new engineering applications (e.g. aerospace), digital and bio-technology.

The *Economic Scenarios* Research undertaken as part of the Growth Study⁶² analysed three future growth scenarios as potential outcomes for the Milton Keynes city-region economy against which to assess possibilities and economic growth objectives defined through growth study policy workshops, liaison with project partners and desk research.

The scenarios articulate outcomes which differ in terms of the scale of growth related to the level and nature of strategic intervention in order to achieve the intended growth (both in terms of scale and inclusivity).

The three scenarios, along with the key assumptions which underpin each, are as follows:

- ▶ **Scenario 1 - Low growth, passive approach.** A passive approach to economic development means the growth of MK is reactive to other drivers (e.g. housing growth). Such growth may capitalise on MK's current strengths but these strengths are not actively promoted and developed in order to deliver the knowledge-intensive, innovative and entrepreneurial economy articulated in the MK2050 Futures ambition. The quality and scale of economic growth is highly influenced by commercial and residential property markets. Weaknesses are not addressed positively.

- ▶ **Scenario 2 - Mid-growth, commuting-based strategy.** Employment growth in MK city-region is significant, supported by a strategy that delivers an attractive offer of employment land and space, excellent infrastructure, a national reputation for innovation and a high density of knowledge-intensive sectors. Local population change –in scale and profile – means that the economy is highly reliant on in-commuting to provide appropriate labour to meet local demand.

- ▶ **Scenario 3 - High growth, strategic approach.** As per Scenario 2, employment growth in the MK city-region is significant, supported by an attractive offer of employment land and space, excellent infrastructure and a national reputation for innovation and a high density of knowledge-intensive sectors. Significant population growth, particularly in economically active age groups, provides a highly skilled local labour force, attracting further investment and underpinning an entrepreneurial culture. In-commuting, facilitated by modes other than the private car and WCML train services, is still an important characteristic and demonstrates the strength of MK as an economic node. However, out-commuting declines as local people are more able to access attractive job opportunities in a flourishing local economy. The Milton Keynes city-region economy develops alongside those across the Arc, leading to catalytic effects and increased synergies.

In order to quantify some of the spatial implications of economic growth at different scales, each of these economic scenarios includes estimates of the additional employment space that would be required by 2050 under each of the three scenarios outlined above (see section 5.6 of the Growth Study Economic Scenarios Research Report for further details).

This analysis focuses on B-class employment space (split into offices, industrial and warehousing)⁶³, and examines the proportion of city-region-wide office-based employment that is located in CMK, thereby presenting alternative outcomes for CMK within the higher growth

scenario. Given that the capacity for new employment floorspace within the Study Area (both within and outwith the existing urban area) is not a constraint on economic growth scenarios⁶⁴, in planning for the longer term, there are no 'showstoppers' that would prevent Milton Keynes from planning for continued growth over the next three decades.

The Economic Scenarios Research Report concludes that the transformational "High growth, strategic approach" scenario 3 offers the best opportunity for the Joint Growth Study partners to achieve their strategic economic development goals. Both the passive development approach (scenario 1) and a strategy which relies on in-commuting to supply the skilled workforce to support growth (scenario 2) would restrict the inclusive growth potential that is at the heart of any growth proposition. It is recommended that Partners should therefore plan for high-end population and employment growth forecasts which, in the case of the economic scenarios, means a focus on Scenario 3 and would entail an ambition to secure between 120,000 and 150,000 new jobs between now and 2050.

This transformational strategy optimises the potential to deliver the economic vision for Milton Keynes in 2050, including inclusive growth, improved mobility and a more viable, vibrant CMK. Under this scenario, economic growth is maximised by the Milton Keynes city-region economy playing its full part in an integrated, globally competitive Arc economy. The infrastructure required to facilitate east-west movement will have been delivered, allowing economic opportunities to be maximised.

It is important to note that this scale of economic growth cannot be realised under the 'business as usual' approach. Interventions that deliver against wider inclusive growth objectives to underpin economic growth – such as transformational mobility – will require strong leadership, effective governance and long-term and consistent commitment. Based on the evidence, these are the most significant potential barriers to planning for and achieving this level of growth in this area.



Scale of Population Growth to Support Economic Growth Objectives

Milton Keynes has a long history of achieving significant housing delivery and population growth; rates of population growth after the inception of the New Town delivered by the Development Corporation averaged between 5,400 and 5,700 new residents per annum between 1970 and 1990.

Since that time population growth in MK has slowed – averaging around 3,450 people per year between 1990 and 2010 – but the number of new homes already committed in Plan:MK (c. 32,000) is anticipated to house an average annual population increase of 5,100 people⁶⁵ to 2031.

This annual population growth figure of 5,100 increases to around 6,100 when the local plan growth already allocated or proposed elsewhere within the Study Area to 2031 (c. 10,000 homes) is taken into account⁶⁶.

The National Infrastructure Commission estimates that the population of the Oxford–Milton Keynes–Cambridge Arc may grow by between 1.4 million and 1.9 million people up to 2050 (under their 'transformational' scenario)⁶⁷. Within this context, the NIC suggests that the population of Milton Keynes may grow to as much as 500,000 in that period⁶⁸.

This broad scale of growth is commensurate with the MK Futures 2050 Vision, endorsed by Milton Keynes Council in 2016⁶⁹. This envisaged growth of the population of Milton Keynes to around 400,000 from its current population of 267,500. Following the NIC report, MKC has expressed its wish⁷⁰ to plan for the growth of Milton Keynes to be able to support a population of 500,000.

Population Growth Considerations

Forecasts of future population are not precise, and over a 30-year time horizon there will be a whole range of outside influences in terms of policy and economics which may affect population growth, housing requirements and delivery of new homes.

Significant growth in the Study Area is already committed: approximately 42,000 new homes across the Study Area are already included in current adopted or proposed Local Plans, to come forward during the next 20 years. This level of growth was based on calculations of an objectively-assessed housing need (or 'OAHN') requirement for each administrative area, the nationally-recognised methodology used for local plan making at the time these plans were prepared and submitted to the Secretary of State for examination⁷¹.

Within the Study Area boundary, current local plans provide housing to accommodate a population growth of c.6,100 people per annum, taking the Study Area population from 309,830 in 2017 to around 395,500 by 2031.

If this current trajectory was to be rolled forward beyond 2031, then by 2050 this would result in a population within the Study Area of 512,000.

In order to achieve the ambitions of the NIC and the economic growth objectives set out above, evidence suggests it will be necessary to deliver growth at this continuing rate of around 5,100 people per annum (equating to around 2,500 homes per year) across the Study Area.

However, planning on the basis of an OAHN growth 'model' - where fixing 15-year minimum housing targets in a series of successive local plans (within which may sit Partial Reviews which may change the shape and rate of this growth) - is not recommended as the optimum model to realise inclusive growth benefits identified in this Study which are considered necessary to secure buy-in to a long term growth plan, and support for growth by local communities.

As such, in determining the scale of ambition for a long-term Growth Strategy to be taken forward by Partner Authorities, consideration was given through Policy Workshops to 'alternative growth scenarios' for population and homes which are not about the 'numbers' but instead focus on what models of planning and delivery would best achieve wider and inclusive growth benefits.

In this context, we observe that the selection of a preferred scenario relates more to the way in which population and housing growth is planned for than how much is proposed. Thus, 'alternatives' in terms of population and housing growth scenarios can be summarised as:

- ▶ **'Business as Usual'** (BAU) planning and delivery models, where growth planning is done on a simple rolling forward of current-trend growth only through successive local plans on a 15 year (or more frequent) cycle; or
- ▶ **'Transformational Growth'** models where, depending on the approach adopted, (a) more certainty and support for market-led housing growth models can be realised through more diverse means of housing delivery and additional funding for advance infrastructure⁷²; or (b) fully inclusive growth objectives can be delivered through a change to long term planning frameworks and new locally-led delivery vehicles such as Development Corporation models⁷³.

If a "BAU" model is adopted - where growth sites are only considered, identified, tested and allocated in response to successive local plan periods in the absence of an agreed long term growth or infrastructure framework - then the ability to deliver inclusive growth solutions which meet the wider aspirations for 'good growth' within the Study Area, or enable long term planning and funding of infrastructure, will be severely curtailed.

In contrast, adopting a 'transformational' model based around a single long term growth plan to 2050 to meet a target population of at least 500,000 could be the means to unlock transformational levels of funding from central government and/or Development Corporation (or similar) delivery model to ensure that more inclusive growth and wider benefits are captured locally. This model would enable current local plan development and infrastructure to 2031 to be set within a longer term growth and delivery framework, whilst confirming a commitment to this continued level of year on year growth (c. 2,500 homes) between 2031 and 2050.

Even under market-led delivery models, having a long-term plan for growth and infrastructure against which successive local plans and development proposals can be assessed will help speed up delivery and provide justification and a consistent and robust framework for funding infrastructure which has whole city benefits.

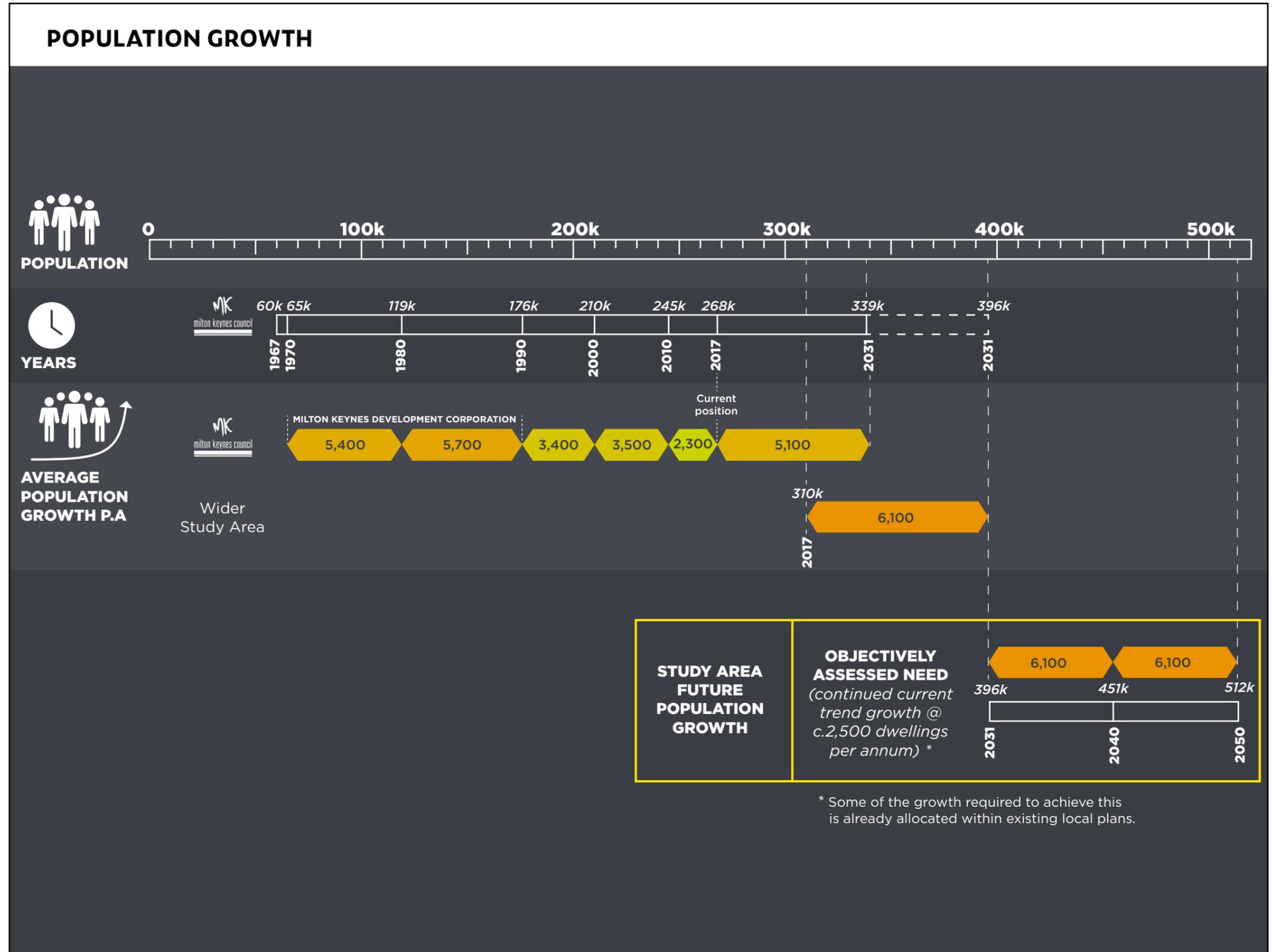
There are no absolute constraints to accommodating this scale of growth within the Study Area. But there is no doubt that managing such an expansion in population as part of sustainable and inclusive growth which maintains, creates and enhances good places will be a significant challenge and one that requires vision, collaborative partnership working, and bold and consistent decision-making.

Making long-term plans which include explicit provision for city-scaled infrastructure changes to support this level of growth to 2050 based on advance or upfront funding and delivery will mean that the city-region in 2050 could look very different than under a 'business as usual' regime, including having delivered on the inclusive growth success criteria.

⁷²This may be achieved through measures currently available to Councils such as a more co-ordinated s106/CIL regime (or resurrected MK Tariff); securing increased government funding through Housing Infrastructure Funds (or similar); strengthened policy requirements to include land for SME builders, Self/Custom Build models etc.

It is therefore recommended that a good growth strategy is not solely 'numbers driven' but is aimed at improving the lives of individual people by planning positively, comprehensively and long-term for levels of integrated growth, infrastructure, environment and social improvements commensurate with the scale of ambition.

With this in mind, from this point on the Growth Study report focuses on how applying a 'place'-led approach to long-term growth at scale -and identifying the policy and delivery mechanisms needed to support this approach - could deliver the recommended economic and population growth ambition in a way that generates 'good' outcomes for both new and existing communities.



CHAPTER 4: HOW TO GROW

How to Grow

The previous section of the Study set out the theory behind the concept of inclusive growth. This section looks at what inclusive growth might feel like within the Study Area, bringing into play the specific characteristics of the Study Area whilst carrying forward the ethos and growth ambition which is embedded within the new city.

Overarching Objectives for Shaping Growth to 2050 – What Does Good Growth Look Like?

The MK Futures 2050 Commission recognised that *“Milton Keynes is at a critical moment of cultural transition. It is moving from adolescence to adulthood, but risks embalming itself through fear of change, swapping a spirit of innovation for one of convention”*⁷⁴.

In considering the sort of growth that would underpin a long term growth strategy in and around Milton Keynes, a starting point would be to take forward the original MK concepts of *innovation, creativity, accessibility, viability, sustainability* and apply that same spirit to meeting the requirements of current and future living.

Adapted from the consultation and evidence provided to the Vision Commission and embedded in Plan:MK, seven high level objectives have governed the thinking around growth to 2050 within the Study Area:

- ▶ It must have **benefits for both existing and new communities**;
- ▶ It must support a move to **more sustainable and active travel** (either 'less', or 'better', travel);
- ▶ It must deliver **infrastructure alongside growth**;
- ▶ It must have benefits in terms of **'green/blue' infrastructure**, as well as 'grey';
- ▶ It must **meet local housing and jobs requirements**, and improve affordability;
- ▶ It must **support sustained and resilient economic (and housing) growth** year on year and beyond statutory plan periods;
- ▶ It must **deliver better** and more consistent **quality of built development** than that which is currently experienced.

The way in which these objectives could structure the Partners' policy themes for a long term Growth Strategy are articulated below:

Providing for growth, planned long-term, that is resilient and future-proofed makes provision for long-term infrastructure planning (including strategic green and blue infrastructure, area-wide mobility systems and services, and sites for future community needs) and makes provision to capture sufficient development value to cover future investment.

This allows for planning much more broadly than the relatively narrow focus of the statutory planning process to provide a comprehensive framework for private investment and for the interrelated planning of many different public service providers.

Planned growth at scale can provide for new spaces and city-scale landscape as part of the holistic design of new communities. Such an approach has served MK well in the past, proving that supported by the right policy levers and investment, a growth plan for 30+ years that transcends local plan periods provides greater certainty for infrastructure design and delivery and allows more precise programming and financial planning of services and facilities. This approach can also incorporate “space to grow well”, ensuring physical and social infrastructure and green infrastructure is planned and delivered alongside population and employment growth to provide a resilient and effective plan for the long-term⁹⁰.

This approach could help deliver on long-term environmental and community objectives not otherwise easily incorporated into conventional development plans.

Capturing the benefits and opportunities from growth for the benefit of both existing and new communities, to ensure that growth is inclusive and reduces inequality in the area, ensuring that future development supports wider regeneration programmes.

Capturing the value from growth to benefit the wider community is embedded in planning policy but is limited to 'mitigating the impact' of new development on the immediately affected communities on a site-by-site basis, and requires mutual agreement. Community Infrastructure Levy (CIL) can extend benefits beyond the immediate site environs, but is still designed only to meet the needs generated by the additional population which new development brings.

Taking a wider view, capturing a significant proportion of the value that arises from the community's consent to development to support the community as a whole can have greater and more holistic benefits. Being able to capture increases in land value (through local s106 tariff as a minimum, through joint delivery vehicles or locally-led development corporation models) allows local authorities to borrow against future receipts to invest in area-wide infrastructure and services to ensure existing communities see the benefits of development and growth too. An added benefit of such an approach is that delivery of development on the ground is accelerated (as no site-by-site negotiations are necessary and all sides are clear about the expected tariff). There are benefits too from enabling the retention of sufficient funding from business rate yield to allow the Council to provide appropriate services to the growing population.

Optimising the benefits arising from investment made by central government within the local area – one of the NIC objectives – is also important. Plans could influence and adapt planned improvements along the infrastructure spines of EWR and the Expressway so that they can be designed to provide local benefits to communities as well as fulfil the NIC vision for 'unlocking' housing and economic growth in the Arc. Cost savings arise in long-term plans through being able to future proof schemes to safeguard and enable longer-term expansion and improvement (the “do it once, do it right” approach).

Growth that delivers mobility for all, through a variety of modes that are integrated into a comprehensive system, that is accessible and available to everyone, and that prioritises all alternatives to reliance on the private car

Successful growth would be that which reduces the need to travel, enables the realisation of a transport system accessible to all, supports active travel, serves the needs of existing and new communities, and complements investments in the strategic transport network in and around the area, all of which must reduce the city's over-reliance on the car⁷⁶.

For the Study Area, simply having an “alternative system” of public transport/cycling/walking to the car is not going to effect change; it has to be linked to giving public transport tangible priority over other modes – both in terms of investment in infrastructure and technology, and prioritising operation to minimise journey times to make the alternative as attractive as possible. This will involve designing-in priority for public transport movement across the existing network and beyond, and reducing the attractiveness of parking through measures to increase cost and reduce availability in parallel to the introduction of new shared and on demand services.

The ability for growth to enable the integration of modes of travel into an inclusive system is an equally important objective for 'success'⁷⁷.

⁷⁷ For MK, this would be growth which integrated walkable neighbourhoods with PT/Redway/cycle priority, app-based travel information, integrated ticketing systems to swap between modes; as well as making effective use of the available road space

Enabling sustainability to be built in at all levels of development, including;

- ▶ **the individual building** through sustainable and energy efficient use of materials and methods of construction;
- ▶ **for local communities**, through increased self-sufficiency in walkable neighbourhoods where the need to travel has been reduced; and **the urban area as a whole**, well-served by city-scale sustainable transport, water management and patterns of development

Sustainability can be effective at many levels. Many individual measures are technology-based and will evolve through construction and operation best-practice over time, whereas others can and should be planned for at a city-scale.

However, unless criteria for sustainability are defined and adopted at the outset, individual decisions may be counter to achieving wider or overall sustainability objectives. A holistic multi-level approach to embedding sustainable design, practice and standards would also address some of the less positive characteristics of the area (such as MK's very high per capita pollutant emission rates).

Embedding the importance of place-making and quality in the design of new places and in sensitive treatment of the existing structure and built form recognising that, whilst places evolve over time, MK's ethos of being 'different by design' should continue, and that to do so requires both exemplary standards of design and MK-specific design responses to be the norm.

The MK Futures 2050 work identified an aspiration for "the quality of place" offered in all of Milton Keynes' urban and rural communities to continue to be a key attractor for new residents, especially creative people and highly skilled knowledge workers; this is an important part of the city's competitive advantage.

One of the fundamental parameters for growth for the Study Area is to create a "new MK of 500,000 people" which builds on its distinctiveness within the UK context – its competitive advantage would be undermined if it is planned to be just like everywhere else. The value of good placemaking is undeniable, and very evident in the local area. What placemaking and design quality means to different people, however, can make it hard to secure universal buy-in to new development and change.

On this basis, successful growth should be that which continues the area's tradition of 'uniqueness, quality and innovation' whilst adapting the design of new growth to meet current and future expectations.

Ensuring that the planning of communities meets the health and wellbeing needs of people, creating diverse, inclusive and accessible communities where activity and interaction is encouraged, and day-to-day facilities can be accessed by walking, cycling and public transport without the need to use a private car.

Planning for all sectors of the population of an area is central to the concept of inclusive growth. Supporting physical and mental health through the built environment requires the creation of compact, walkable neighbourhoods with well-connected, mixed use places connected by pedestrian and cycle-friendly streets that enable people of all ages, abilities and financial means to reach jobs, services, shops and schools easily. Strong, healthy communities flourish in areas that do not rely on cars, and that encourage social interaction in attractive streets, parks and other public spaces⁷⁸.

Inclusive growth objectives include support for a 'narrowing of the gaps' between people in local communities in terms of education, physical and mental health, employment, child poverty, obesity and inactivity, crime, homelessness, etc. This may be through the form and design of development which takes place, or its mixed tenure and affordability, or its ability to capture more value from land to reinvest in community programmes, services and facilities nearby.

Building sufficient homes, of a variety of types, tenures, sizes and in locations that meet the needs of existing and future residents, delivered at the right time to support continued economic growth, so that everyone who wishes to live in the city can afford to do so

The under-delivery of housing is a significant brake on economic growth; in parts of the O2C Arc the unaffordability of housing is already having an adverse impact on investment decisions, creating a disincentive for firms to locate or expanding an area, and the running of services to support a growth economy, such as a lack of housing choice for young people or key workers.

But more than that, the consequences of under-delivery and housing unaffordability have greater consequences, affecting family and generational relationships; job prospects; mental health and even the family nucleus. There is a social and emotional cost to unaffordable housing as well as a financial cost: a home is not just a financial asset, but a foundation of security and stability⁷⁹.

Good growth is that which can tailor what is built to the needs of local residents and the demographics of the population now and into the future and ensure that year on year, sufficient homes of all tenures are built to enable and sustain balanced and settled communities. For the Study Area, plans which include building for adaptability as well as affordability (e.g.. meeting the needs of an aging population as well as young workers); policies to enable 'centre' living in CMK and other accessible centres for younger and older, non-car households; and embracing diversity in mixed communities (for wider social benefits) will result in more sustainable and successful communities.

Parts Two and Three of the Growth Study examine the type of growth which could deliver the above good growth objectives, and where that growth could be located.

It is, however, recognised that the way in which this growth is led, delivered and managed is equally important to achieving the successful outcomes sought.

It may be argued that growth and development within the Study Area has been delivered successfully for many years: its economy and environment are well-established and those coming to invest in the area and build new homes here will continue to do so for many years to come.

So it could be assumed that nothing more is needed: current plan making activities, granting planning permissions for the market to come and build, and collecting development contributions to improve current infrastructure capacity should continue, and growth does not require a long-term growth framework or more active intervention.

On the other hand, the consequences of market-determined growth are often unintended and such unintended consequences could well continue. The needs of communities that are not met by the market require more active intervention. Rolling forward 'more of the same' cannot happen indefinitely; at some point significant investment in new infrastructure and public services will be needed so that the entire city-infrastructure system does not break down. The market is slow to respond to needs above and beyond immediate pressures, and without positive intervention the health, education and mobility of existing communities will start to negatively affect the success of existing places within the Study Area and their economic performance, and eventually the economic success of the Study Area as a whole.

The scale and pace of growth – not only that recommended within the Growth Study beyond 2031, but that which is already set out in plans to 2031 – is highly ambitious. In our view, there is a risk that without a change in wider policy that is endorsed across departments and organisations, such growth may still be delivered but not in a way which realises benefits for the wider population, communities and environment.

As a consequence, Part Four of this Study examines what policy and delivery models might be needed to secure the above good growth objectives, wherever they are spatially located.



Brooklands, Milton Keynes

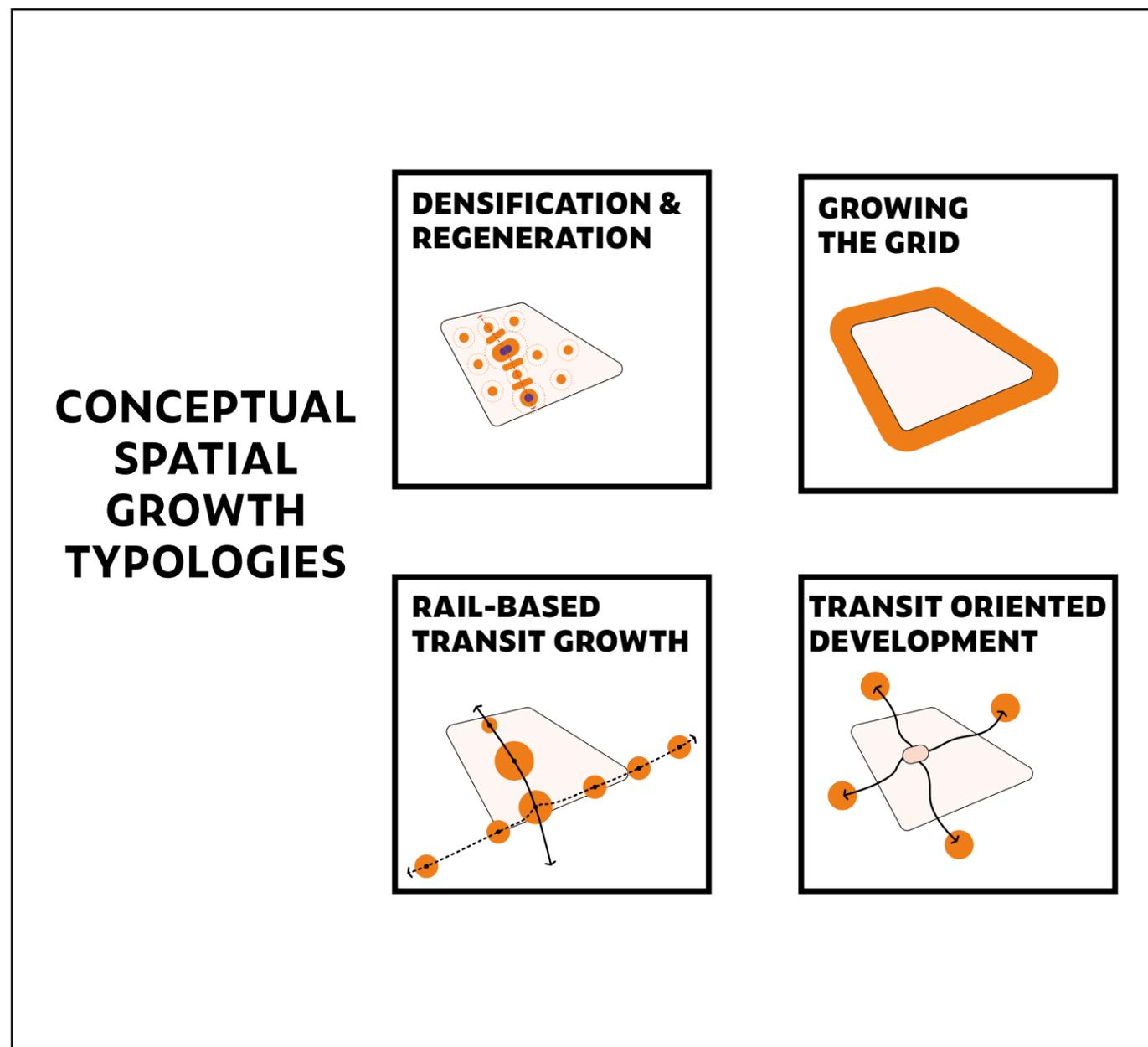
Spatial Choices for Growth

At the city-scale, there are any number of ways in which new growth could be accommodated over the long term. Now that we no longer have statutory regional or strategic planning processes (informed by sub-regional growth studies which could set spatial frameworks combining long term infrastructure planning with the identification of regional or sub-regional growth locations), local plan-making is done by individual local authorities at different times and underpinned by different evidence bases. Local plan making which now starts with a 'call for-sites' process can often lead to decisions on where and how to grow being made in response to an assessment of individual development sites, deemed 'suitable or appropriate' for allocation by virtue of site-specific environmental criteria and the ability of the landowner/market to deliver.

The Growth Study has provided an opportunity to provide a high level analysis of different growth options against overarching objectives which cover not only environmental and delivery considerations but also the social, economic and 'whole-city' growth objectives summarised as the 'inclusive growth agenda'.

Consideration of 'Growth Typologies'

Spatial growth 'typologies' are patterns of growth based around different high level design responses to accommodating development in a given location. The choice of design response often relates to the type of objectives that development must deliver. There are a number of **conceptual spatial growth typologies** which could form 'models' for future growth within the Study Area. Annex 3 sets out a detailed commentary explaining each of these different conceptual typologies - all of which exist at area-wide scales locally, in the UK, or overseas - and what the benefits and challenges might be for each typology in the context of the growth objectives set out in the previous section.



Adaptation of Typologies to 'Place' in the Local Context

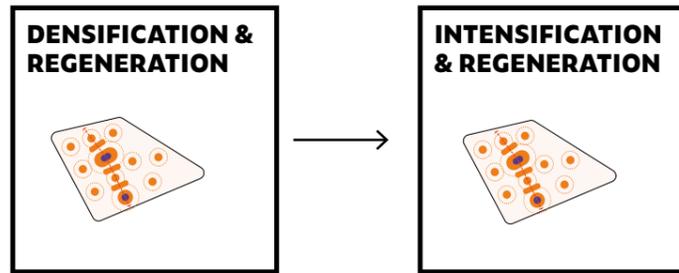
As noted already, the Study Area is not a blank canvas. Not only is there an existing settlement pattern, infrastructure network, environmental context and established resident and working population, the planned nature of Milton Keynes has resulted in a very strong and distinctive design context within which to consider future growth within and related to the city. Elsewhere, specific landscape, historic, and environmental characteristics have governed growth patterns over time.

The conceptual typologies set out in Annex 3 cannot therefore be properly evaluated as growth solutions without applying them to the local context. The appropriateness of each typology as an appropriate growth model for the Study Area depends on the extent to which growth in this form can be adapted to complement and enhance growth to date - the placemaking element of growth - but also the extent to which each pattern of growth delivers the inclusive growth objectives.

When taking into account the existing spatial characteristics of the area - such as topography and landscape, environmental policy constraints, existing connections and existing patterns of mobility and movement - each of the conceptual typologies in Annex 3 has been adapted to offer a best fit solution between 'design principles' and 'place'.

The need to build in inclusive mobility to growth propositions has also affected the way conceptual typologies can be tailored to the local growth context, to ensure that any planned growth supports the mobility solutions - such as rapid transit and active travel - which will best deliver area-wide benefits for the largest number of residents and workers.

The following section of the Growth Study sets out how each of the conceptual typologies has been considered against the characteristics of the Study Area and the places within it, and the design aspects adapted to draw up a growth solution which provides a 'best fit' with 'place' and inclusive growth objectives.



Intensification and Regeneration Opportunities (evolved from Densification)

The application of wholesale 'densification' across the existing urban area – or 'universal' higher density development for all new growth – is not considered a feasible option.

Complex land ownership patterns, the impact on settled communities/large numbers of existing stakeholders; and building at densities which are alien to the existing character and form of the Study Area, mean that this typology alone would not be capable of accommodating the scale or nature of growth sought, nor the speed at which it is needed.

Nevertheless, the benefits arising from more compact forms of development and more intensification of people and activity include greater support for local facilities and services (including public transport), more active travel (walking and cycling), and a well-used public realm will support greater degrees of interaction within and between communities. If done well and appropriately to its context, the regeneration of places at increased densities or a more intensive mix of uses can generate more activity and positive interaction through better use of land for that which communities value.

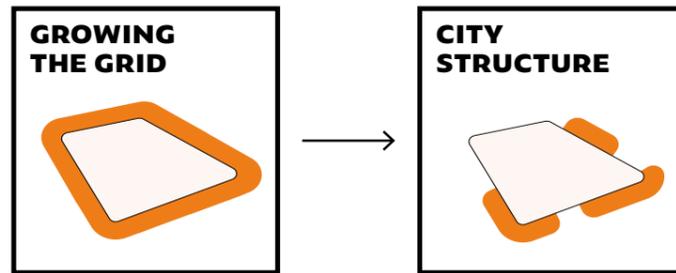
As a result, an evolution of the concept of a 'densification' typology to one of **'intensification and regeneration'** has been applied – a move from a theoretical typology of wholesale 'compact growth at high density' to a more inclusive concept for the Study Area of 'areas of intensification' – of people, mix and activity – and 'regeneration of communities' which can be applied in specific locations where opportunities are greatest.

The Growth Study has identified a number of opportunities within the urban area of Milton Keynes where land uses and activity can be intensified as part of a wider strategy of growth and regeneration supported by rapid transit services without unacceptably impacting existing communities.

Significant regeneration opportunities exist within Milton Keynes in a variety of locations, and to a variety of extents. These have already been identified through the work of MK Council and a programme of estate regeneration is underway. Emerging regeneration and redevelopment proposals can also build in selective intensification of uses and activity in adjacent locations which are or can be served by better public transport/rapid transit for local communities.

Similarly, as part of new TOD communities, areas of more intensified activity can be designed at rapid transit nodes.





City Structure Growth (evolved from the 'Growing the Grid' typology)

The grid system has served Milton Keynes well to date in delivering a new city around its original principles. Most importantly, in the 50 years since its inception the 'grid' (both grid corridors and grid squares) has proved very resilient to change and has incorporated 'space' to grow which means that existing planned communities have 'built in' space to continue their evolution, or to adapt to a changing future.

This characteristic puts MK in an incredibly advantageous position relative to other cities of its scale in that a move to more sustainable forms of movement can be integrated into the existing grid structure without the need to bulldoze, tunnel or flyover existing streets and buildings.

This does not mean that an extension of the grid would be an automatically desirable outcome. A wholesale expansion of the existing grid structure for movement in the context of the scale of growth advocated would act counter to the wider objectives of good growth, most notably in respect of reinforcing current patterns of car borne movement and lower density housing.

Transport modelling undertaken in support of Plan:MK demonstrates that by 2031 the pressure from the planned 30,000 additional homes and increasing employment space in Milton Keynes Borough alone will result in 14% longer journey times and an increasing number of road links and junctions over capacity, even with investment in the highway network. MKC transport modelling has identified that the functionality of the grid road network for private vehicle use will continue to decline at peak hours; without interventions all junctions around Milton Keynes will be over capacity by 2026 if all the proposed economic and housing growth set out in the adopted Core Strategy is realised by this date, let alone any additional planned growth brought forward as part of Plan MK or its review.

Continuing to focus expenditure on the creation of additional capacity for cars through a simple extension of the grid road system only releases capacity for a very short period until it fills up with increased traffic in the peak; creates underused infrastructure for a large part of the day, and is now limited by physical constraints at key junctions. On this basis, it is argued that simply plugging strategic long-term growth locations into the existing MK grid will not be sustainable.

Whilst these considerations suggest that a wholesale extension or replication of a grid is not an appropriate growth model for strategic-scale growth, there are several planned and potential growth locations lying adjacent to the existing urban area of Milton Keynes where key grid corridors are incomplete and 'green' and 'grey' connections are missing, and where the manner in which the 'edge' of Milton Keynes is dealt with is pertinent to the Growth Study.

Significant growth is already allocated or has been proposed through specific development proposals around the margins of the existing urban area (both in MK and cross-border in Aylesbury Vale⁸⁰) and is suggested for longer term growth (between MK and the M1 in Central Beds⁸¹). In considering what forms these new communities should take, the Growth Study has considered whether growth should reflect the spatial 'city structure' characteristics of MK; adopt some 'transitional' pattern of development; or create a new typology incorporating the requirements of new transit-oriented growth.

For these areas, it is advocated that applying the 'city structure' typology as set out in the original plan for MK, modified to support the inclusion of rapid transit priority through nodes of higher density development at transit stops and interchanges, would allow the 'completion' of the grid network so that those parts of the urban area where the grid is currently only partially in place can benefit from access to and support the use of better mobility options.

Adopting the original MK 'city structure' design principles related to the treatment of existing settlements/ villages/ properties lying adjacent to these growth areas (with green buffers, downgrading of local through routes etc.) and would also be beneficial in helping to maintain the individual identity of these places⁸³.

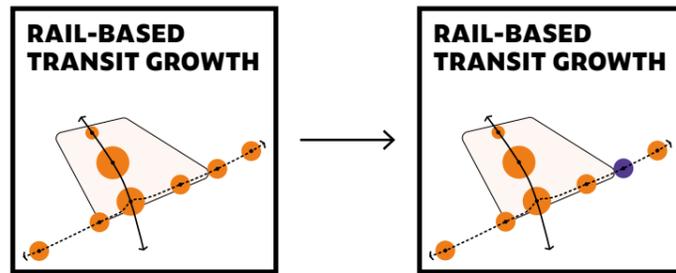
Elsewhere within the Study Area it is considered inappropriate to attempt to impose an extension of the grid or continue a 'City Structure' typology. The expansion of the MK city structure to the north is not only frustrated by the lack of grid corridor reservations (recent developments have been consciously designed to physically close off potential continuations of grid corridors northwards of Newport Road/Wolverton Road) but would also result in multiple crossings of strategic infrastructure and protected/established environments. 'Leapfrogging' these areas with multiple grid corridors to access growth areas further afield would be costly, inefficient and would greatly lengthen journeys made by private car.

Furthermore, extending unrestricted car borne movements over longer distances – underpinned by free/low cost parking at destinations and low levels of congestion outside the peak – is counterproductive when viewed against the success criteria for 'good growth' (such as reducing emissions and the need to travel, tackling obesity and increasing active travel such as cycling and walking). A different growth solution is therefore required for those locations separate from the urban area (see below).

More details on the specific spatial issues relating to new connections at or beyond the 'edges' of the existing urban area are provided in Part 3 and Annex 2 of this Study.



MK City Structure - Infrastructure Delivering Growth



Rail Based Transit Growth Opportunities within the Study Area

The evolution of the 'rail based transit growth' typology to a place-specific typology for the Study Area relates more to the location of new growth related to existing and planned rail stations than to the quantum of growth that might be able to be realised at/over specific rail stations and interchanges.

The extent to which truly integrated development and new stations can be planned as a single development entity varies depending on the location, and is complicated by land ownerships and the disjointed nature of infrastructure projects and development schemes.

Maximising station-related development opportunities where stations exist – such as at Central Milton Keynes and around Bletchley station – remains a valid typology to build into the Growth Study. Both locations are the 'front door' of MK from the wider transport network and as such development and transport interchange facilities (including the interface between rail and RT services) on land above, adjacent and close to these main line stations should be designed in an absolutely integral manner. The fact that significant land is owned by public-owned bodies (Network Rail, MKDP) should make this opportunity easier to realise.

Redevelopment opportunities at Wolverton are more limited due to the amount of redevelopment which has already happened close to the station. Future rail-based transit opportunities for growth in this location will therefore be unlocked by the extent to which rapid transit routes and TODs can link with rail services at Wolverton Station.

The opportunity to introduce a new station on East West Rail south west of Milton Keynes would also enable and unlock 'good growth'. A longstanding objective in previous plans, in the context of the transformational scale of growth advocated the case for a new station is greatly improved. Building in integrated road connections with a new local station would create an effective interchange between rail, rapid transit (and potentially also link to P&R in this location).

However, the current practice of producing standalone site-based development frameworks for allocated sites; the appetite of Partner local authorities to push for higher intensity of use/densities of development at nodes when the market/landowners may be resistant (including cross border agreement to such design solutions); multiple landownerships; and the resistance of Network Rail to facilitate and unlock significant adjoining development through integrated station design with adjacent developments, acts counter to this growth opportunity. Without control of the land and a commitment to integrated and higher density development, funding of 'hard' transport infrastructure along key routes and destinations such new crossings, and the promotion of stations/development over stations, this will be very challenging to achieve in practice⁸⁴.

Within the Study Area, the extent to which new growth can be integrated with combined rail/RT interchanges is dependent on whether existing stations on the East West Rail line (at Winslow, Woburn Sands, Ridgmont and further east at Millbrook/Stewartby) are to be redesigned to support such intensification of use and activity. No such intention has to date been made evident from Network Rail, but until land around the stations is developed at these locations, there remains an opportunity to make a case to statutory agencies and rail operators for rail-based transit growth to be provided, or to acquire land for this purpose through Development Corporation models.

Whilst development at Winslow and Woburn Sands at higher densities, planned to incorporate a wider mix of land uses served by existing stations and rail services, could make some contribution to delivering the type of growth which would support a move to more sustainable and integrated travel patterns for local people. Unless current practice changes the quantum of development which one might expect to be delivered through this typology in other cities or parts of the UK/Europe is not likely to materialise, and the proportion of growth realised through this typology is likely to be lower than the potential opportunity which exists.

Over the very long term – once HS2 is operational and releases capacity on the WCML – additional growth potential may be unlocked through a new station on the West Coast Main Line in the north of MK Borough. However, due to the timescales for HS2 (and the time required for any decision making on such a commitment by Network Rail and others once HS2 is in place), such growth would be highly unlikely to come forward before 2050.

As such, although the recommended growth propositions do not preclude such growth, new WCML station-related growth North of MK is not examined as a growth proposition to meet the needs of the Study Area to 2050.

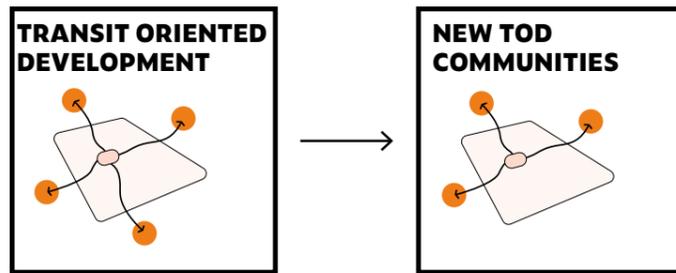


Woburn Sands Station



CB1 Cambridge

⁸⁴ Current Network Rail plans for the design of a standalone Station building and car park at Winslow, unrelated to the adjacent site allocation for residential growth at suburban densities, is a case in point.



New Transit-Orientated Development (or 'TOD') Communities within the Study Area

Transit Oriented Development (TOD) can be defined as compact development with a mix of activity-generating uses (housing, jobs, shops, restaurants, community and social facilities) all with easy walking access to public transport stations or stops.

TOD is not just 'any development near public transport'. It increases 'location efficiency' so people can walk, cycle and take public transport, boosting public transport patronage and minimising the impact of traffic on the community. TOD communities provide a rich mix of housing, jobs, shopping and recreational choices within close proximity to create a sense of community and of place.

A fuller explanation of the TOD typology is set out in Annexes 3 and 4.

TOD principles align well with the mobility and inclusive growth objectives within the Study Area and so remain relevant when considering this typology of growth.

The refinement of the typology relates to the different scales at which TOD can be achieved locally, to support both a move to rapid transit and a rapid transit system which serves existing as well as new communities.

Adapting the concept of Transit Oriented Development for wholly new communities within the Study Area to derive a place-based typology has meant analysing the extent to which different parts of the Study Area could accommodate this scale of standalone or linked growth. Site context, setting and topography have influenced the shape and location of potential TOD Communities identified as part of the spatial framework for the Growth Study.

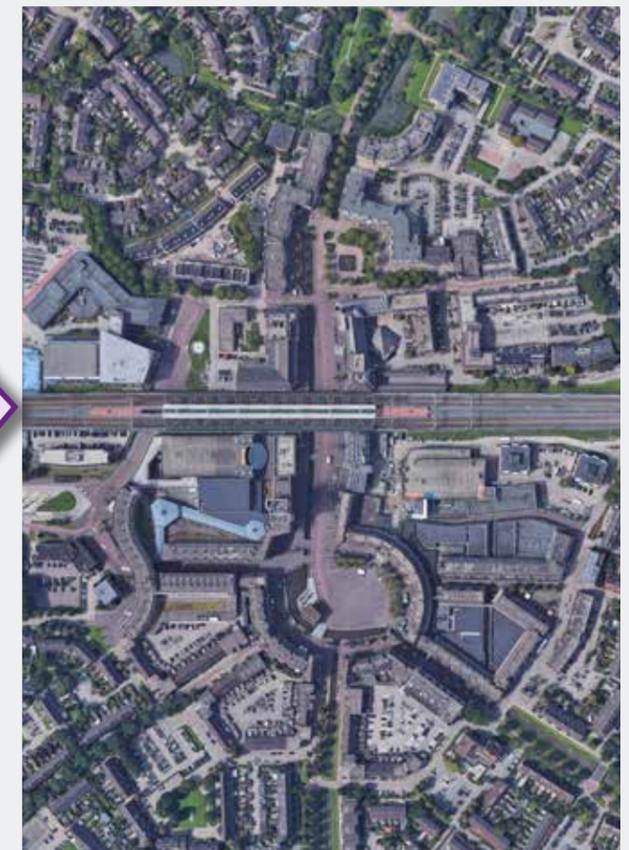
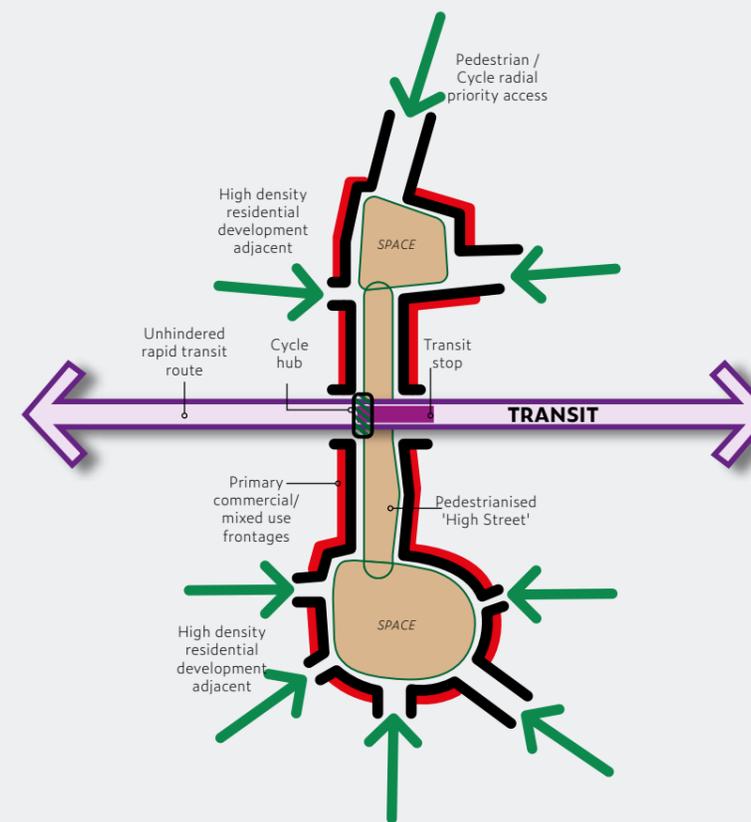
In defining potential growth locations, regard has been had to the ability of these new TOD communities to be of sufficient scale to support active travel to day to day facilities within their confines, but not so distant from MK that they result in dispersed and disconnected communities where the temptation to move around by unsustainable means is perpetuated.

As the 'spaces and places in between' are as important to the effective creation of new TOD communities as the growth locations themselves, no newly-created TOD community would meet the good growth objectives if it was restricted to a 'red line' development footprint and did not build in regional-scale green and grey infrastructure which serves a wider growth function, ensures rapid transit connections are made between new and the existing built up areas, thereby creating a complementary form of growth to that which exists today.

The design of new TOD communities within the Study Area should also safeguard future extensions of any transit network to other existing or new communities within the wider area.

The TOD principles can be extended to different scales of development, thus it is important to consider for all forms of growth - within or outside the urban area - whether elements of TOD growth can be built into development schemes to support a rapid transit network and a move to more active forms of travel.

**TRANSIT - DISTRICT CENTRE PRECEDENT
Houten, Utrecht - Netherlands
(non-car dominated 'Place' at heart of community)**



Houten, Utrecht



Ped/cycle dominated street



Cycle hub integrated in to transit station

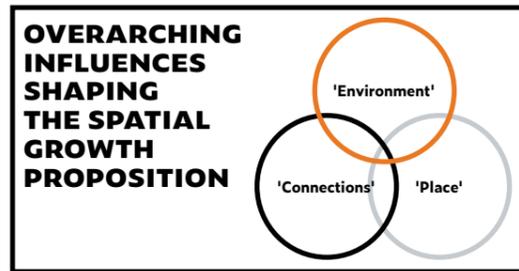
Part One - References

- ² 2017 figures: <https://www.centreforcities.org/city/milton-keynes/>
- ³ Centre for Cities, Cities Outlook 2019
- ⁴ NIC Partnering for Prosperity: A New Deal for the Cambridge-MK-Oxford Arc (Nov 2017) and the Government's Response (Nov 2018)
- ⁶ As outlined in the adopted Plan:MK (March 2019)
- ⁷ Cities Outlook 2018, Centre for Cities
- ⁸ The term 'city-region' is used in the Economic Research Report to refer to the Study Area as defined on the plan on page 7.
- ⁹ ONS Annual Population Survey 2017-2018
- ¹⁰ Milton Keynes Today: Where are we now?, Milton Keynes Futures 2050 Commission
- ¹¹ Milton Keynes Economic Growth and Employment Land Study – Supply and Demand Partial update, (2017), GVA
- ¹² MK Community Foundation Vital Signs (Long Report) 2018
- ¹³ Public Health England figures, 2014
- ¹⁴ Obesity: A Health Needs Assessment for Milton Keynes (April 2014)
- ¹⁵ MK Community Foundation Vital Signs 2017
- ¹⁶ http://www.miltonkeynesccg.nhs.uk/population_health_intelligence/
- ¹⁷ Calculated based on figures provided in Milton Keynes Council and Milton Keynes Development Partnership Employment Land Review and Economic Growth Study (Phase 2 – Delivery Strategy: Final Report) GVA (2015)
- ¹⁸ Ibid.
- ¹⁹ MK SHMA 2016-31 (2017) para 4.76
- ²⁰ Information from Inside Housing, reproduced in The Guardian article "*Milton Keynes: UK capital of 'right-to-buy-to-let'*" 20 January 2018
- ²¹ MKCF Vital Signs Long Report (2018) pp8
- ²² Shelter 'Far from alone: Homelessness in Britain in 2017' (Nov 2017)
- ²³ Indices of Multiple Deprivation, 2015
- ²⁴ MKCF Vital Signs Long Report (2018)
- ²⁵ MK SHMA 2016-31 (2017) paras 4.56-4.65
- ²⁷ More detail can be found in the Plan for Milton Keynes (Vol 1&2) 1970; The Milton Keynes Planning Manual and summary document The Planning for Milton Keynes (both 1992); and the City Structures report (reproduced in 2017)
- ²⁸ The Plan for MK Vol 2 pp 186/7.
- ²⁹ The Milton Keynes Planning Manual 1992 pp 156
- ³⁰ The Plan for MK Vol 2 pp 286.
- ³¹ The Plan for MK Vol 2 pp 306.
- ³⁵ Further details can be found in 2.19-2.25 of the Mobility and MRT Study
- ³⁶ MK50 Futures Report, p20
- ³⁷ Andrew Gilligan, 2018: Running out of road: Investing in cycling in Cambridge, Milton Keynes and Oxford
- ³⁸ The Plan for MK: Vol 2 pp 286
- ³⁹ See evidence in Mobility and MRT Study
- ⁴⁰ MKC Mobility Strategy Evidence Base, p51
- ⁴¹ The Plan for Milton Keynes, Volume 1, p33
- ⁴² The Plan for Milton Keynes, Volume 1, p35
- ⁴³ See Mobility and MRT Study, para 2.10
- ⁴⁴ Public Health England Local Authority Profiles 2018 <https://fingertips.phe.org.uk/profile/health-profiles/data>
- ⁴⁵ MK Futures Report, p16
- ⁴⁶ See Mobility and MRT Study, Figure 2-4
- ⁴⁷ MK50 Futures Report, p46 and Commission Working Paper 11, p13
- ⁴⁸ See Mobility and MRT Study, para 2.14
- ⁴⁹ Centre for Cities Data (2016)
- ⁵⁰ See Mobility and MRT Study, para 2.16
- ⁵¹ Census 2011 WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level)
- ⁵² 'The Availability and Affordability of Housing' Shelter Briefing Note 2017
- ⁵³ Adapted from the Joseph Rowntree Foundation
- ⁵⁴ <https://www.jrf.org.uk/press/poverty-costs-uk-£78-billion-year---jrf-report>
- ⁵⁵ ibid
- ⁵⁶ Adapted from UK Green Building Council (March 2018) 'Social Value in New Development' www.ukgbc.org/wp-content/uploads/2018/03/Social-Value.pdf
- ⁵⁸ Plan:MK March 2019, Milton Keynes Council
- ⁵⁹ Milton Keynes Economic Growth and Employment Land Study – Supply and Demand Partial update, (2017), GVA
- ⁶⁰ Economic Growth and Employment Land Study, 2017, GVA for Milton Keynes Council
- ⁶¹ Cambridge, Milton Keynes, Oxford, Northampton Growth Corridor – Final report for the NIC, 2016, SQW and Cambridge Econometrics
- ⁶² Growth Study Research Report – Economic Scenarios (Ortus Economic Research Jan 2019)
- ⁶³ Potential demand for other land use classes is not quantified, due to the lack of existing analysis regarding these uses (e.g. retail, education, health, etc) and the current supply across the Study Area.
- ⁶⁴ The growth study analysis has examined the estimated quantum of floorspace against land/site availability in current plans, and capacity for growth as part of spatial growth options.
- ⁶⁵ Based on population data from MKDC/MKC/ONS records
- ⁶⁶ This includes the planned growth within the Study Area in the adopted or emerging local plans of MK, AVDC, SNDC and CBC
- ⁶⁷ NIC Partnering for Prosperity 2017 pp 26
- ⁶⁸ NIC Partnering for Prosperity 2017 pp 36
- ⁶⁹ Endorsed at MK Full Council, 20 July 2016
- ⁷⁰ Milton Keynes Council Plan 2016-2022
- ⁷¹ See footnote 5 for definition of OAHN
- ⁷³ See Part Four of this Study and the accompanying Research Paper on Delivering MK2050 (John Walker, Jan 2019) for more details.
- ⁷⁴ Making A Great City Greater, MK Futures 2016
- ⁷⁵ This growth model reflects much of the original approach to the planning of MK, for example, the teardrop lakes or linear parks were built into the original MK Plan (and remain integral parts of the structure of the city 50 years from their inception). Creating new parks, landscape and green infrastructure to frame or create separation between existing settlements and new growth (and passed to the Parks Trust for management in perpetuity) has served the area well.
- ⁷⁶ The MK Futures 2050 work identified this as one of the key challenges and barriers to growth and investment locally
- ⁷⁸ See NHS Healthy New Towns Initiatives (2018)
- ⁷⁹ See 'The Human Cost: How the lack of affordable housing impacts on all aspects of life' (Shelter, 2010 Land East of M1 (Plan:MK Policy SD12); South East Milton Keynes (SEMK) (Plan:MK Policy SD13); 'Greater Salden Chase' (land identified in sub regional studies and part allocated in the VALP); Shenley Park (site allocated in the draft VALP)
- ⁸⁰ Land East of M1 (Plan:MK Policy SD12); South East Milton Keynes (SEMK) (Plan:MK Policy SD13); 'Greater Salden Chase' (land identified in sub regional studies and part allocated in the VALP); Shenley Park (site allocated in the draft VALP)
- ⁸¹ The Aspley Triangle (allocated in MKSM, identified in the Submission CB Local Plan as an area for future growth; planning application for first phase submitted and then withdrawn on grounds of prematurity).
- ⁸² As referenced in the City Structure document (p14)
- ⁸³ p8, The Planning of Milton Keynes (CNT) p23 The MK Planning Manual 1992

PART 2:

GROWTH PROPOSITION TO 2050

CHAPTER 5: SPATIAL GROWTH OPTIONS



Within the Study Area it is evident that now is the time to make some clear and informed decisions about where and how the city of Milton Keynes grows. The area has undergone substantial growth in the past and has accrued many benefits. Growth is set to continue at a rate which will need significant investment in supporting infrastructure, and it is recognised and evidenced locally that there are benefits to planning positively, holistically and over the long-term for such growth.

The economic growth strategy which would secure 'inclusive growth', and the population and housing growth needed to support that strategy, have been identified in Part One of the Growth Study. Having also defined the high level 'inclusive growth' objectives which such economic growth should support, the Study has looked at the way in which this growth could be accommodated spatially; how such growth can deliver against environmental and mobility objectives; and a range of options for where this growth could happen.

Location and spatial choices around growth are key determinants of movement patterns, and vice versa. Identified success criteria for growth relate to the need to make growth more inclusive so that it benefits existing as well as new communities and delivers mobility and accessibility for all.

The overarching influences which have shaped spatial growth considerations can be encapsulated as 'environment', 'connections' and 'place'. Spatial growth options have also recognised – and been shaped by – two other important factors:

- ▶ That, in order to deliver the **pace of growth** sought, any spatial framework cannot disregard (or propose diametrically-opposed propositions to) growth proposals in current development plans and infrastructure project plans. However, to ensure that plans are prepared for the Study Area in a confident, timely and cost-effective manner to facilitate growth and change from now to 2050, the Study and its growth options also include recommendations about how best to design planned growth areas between now and 2025;
- ▶ That there is a need (identified by the Partner Authorities and stakeholders through the policy workshops) for a growth proposition which delivers 'inclusive growth' elements consistently **year on year throughout the next 30 plus years**, rather than a growth plan that only delivers good outcomes as it nears completion ie. at or around 2050.

The Study is not starting with a blank canvas. Milton Keynes has a very distinct pattern of growth and development, and the surrounding area interacts with the new city in ways that are shaped by its distinctive characteristics. This pattern of growth has served the area well over the last 50 years, but evidence indicates that, if MK continues to roll out the same spatial approach over a substantially extended area, it may not be possible to ensure a growth and mobility solution that is inclusive, and growth may therefore not meet the identified success criteria.

Now is the time to make informed and positive choices about the 'growth future' the local authorities within the Study Area should pursue. Choices around mobility and the spatial distribution of growth are intrinsically linked, and it would be unwise to make strategic choices about spatial patterns of development that do not embed improved and inclusive mobility at every level.

Nevertheless, not all types of growth are suitable for all locations. What might be appropriate for one place may not suit another, and growth will not be judged as 'good growth' if it does not respond positively to local circumstances in respecting the environmental and context within which it is placed.

Strategic Growth Options Outside the Borough

The presence of existing and planned east west infrastructure in the south of the urban area of Milton Keynes extends across the Borough into Aylesbury Vale and Central Bedfordshire and is a critical influence on long term growth considerations.

Rail related growth at stations on EWR, the interchange between road and rail (including with the planned Expressway) and the ability for growth plans at scale to also enable strategic green infrastructure assets to be created and enhanced; all require that consideration is given to how future growth can capture or influence the shape of this investment across and beyond administrative boundaries.

The Growth Study brief was clear in setting out that considerations and recommendations for transformational growth for the Study Area should be 'boundary-blind', instead focusing on good geography, strategic infrastructure opportunities and the benefits of whole-settlement placemaking.

The analysis, 'good growth' success criteria, and emerging growth options were discussed and shaped with the Partner authorities, and their input was sought in equal measure through the Policy Workshops. The recommended growth proposition which has emerged as a result of the Study work presents an area-wide spatial framework including potential growth locations within and outwith the Borough of Milton Keynes. This is an approach specifically promoted by the NIC and advocated by government in its response to the NIC's recommendations.

Nonetheless, it is recognised that until such time as strategic plan making is required as part of the statutory planning process, under current planning policy development land requirements are calculated, and local plan making undertaken, on a district by district basis.

The Growth Study makes a number of observations and recommendations in respect of strategic growth options within South Northants and Aylesbury Vale, or in locations which have cross-border implications for growth and infrastructure. Where these straddle administrative boundaries this is noted in the text.

These recommendations are designed to provide the relevant Partner authorities with information and thinking on a potential long term growth strategy for the Milton Keynes area which could also provide benefits for future growth in their respective districts should they decide that a long term approach to planned growth and infrastructure is supported. The extent to which the Growth Strategy for Milton Keynes builds in growth requirements of adjacent authorities will depend on the appetite for and timing of a cross-border growth plan.



This section of the Growth Study sets out a range of spatial growth options in respect of 'what sort of growth' and 'where it should happen'. Details of how the spatial growth options incorporate the 'good growth' requirements of each specific theme are provided, together with how the plan incorporates place-based solutions to the spatial planning and design of new growth.

Plan I opposite shows all the potential options for growth which have been assessed as part of this Growth Study. This shows the full range of opportunities for growth to 2050 and beyond, and what they might look like if they were to be delivered as part of a spatial framework which applies inclusive growth principles to the context of environment, connections and place. Plan I also indicates the spatial relationship between potential growth options and their related infrastructure requirements.

Each component of growth in relation to the range of options shown is set out in Chapters 6 to 9, and further commentary on design and development considerations for each specific growth option is provided in Part Three of the Study.

It should be noted that, to reach a population of 500,000, not all of these growth options will be required to be delivered. However, in order to explore the full range of options and assess how each option might be integrated into a wider growth framework to deliver 'inclusive growth', Plan I and the plans and analysis in Chapters 6 to 9 outline for all potential growth options their opportunities and challenges, together with the potential associated green, blue and grey infrastructure that could be delivered if that growth option were to be taken forward.

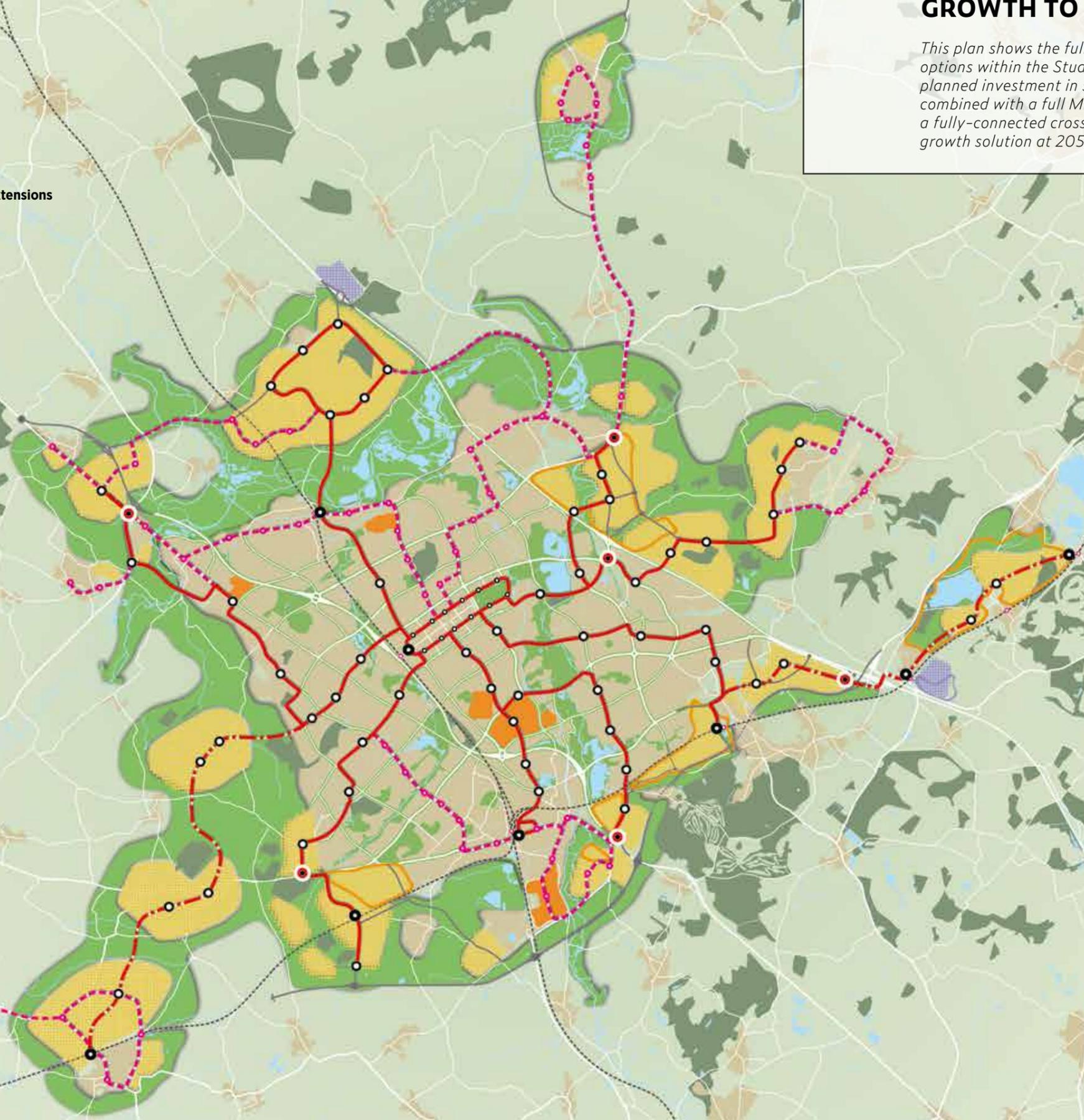
Following the assessment of all growth options, a recommended Spatial Growth Proposition, based on realising inclusive growth outcomes for existing and new communities, is outlined in Chapter 10.

However, decisions around policy futures, mobility and infrastructure priorities and cross-boundary planning will have a great influence on which of these potential locations are selected for growth within and/or beyond the next 30 years.

PLAN I: SPATIAL OPPORTUNITIES FOR GROWTH TO 2050 AND BEYOND

This plan shows the fullest extent of potential growth options within the Study Area unlocked by achieving the planned investment in strategic east-west infrastructure combined with a full MK:RT network, demonstrating a fully-connected cross-boundary transformational growth solution at 2050 and beyond.

-  Potential Growth Option
-  Strategic Green/Blue infrastructure
-  Modelled Rapid Transit Network *
-  Other options for Rapid Transit Network
-  Potential for Cross Border Rapid Transit Network Extensions
-  Regeneration Estates **
-  Railway Station
-  RT Node
-  Park and Ride location
-  Other key new infrastructure links and junctions
-  Allocations or commitments in adopted or draft local plans



* The 'Modelled Rapid Transit network' is the network for which initial modelling has been undertaken as part of this Study. 'Other Options for Rapid Transit Network' are lines/extensions which have not been modelled as part of this Study but which could form part of a RT network.

** It is noted that during the preparation of this study, Milton Keynes Council's policy for regeneration has changed. The estates referenced here are those seven which were originally highlighted as priority estates.

Overall Quantum of Growth to 2050

As part of the analysis of options, a high-level exploration of overall development capacity has been undertaken for each potential development area.

It should be borne in mind that for any potential growth area, housing is only one of a number of land use components to be accommodated within its overall development capacity. The table opposite indicates the number of homes which each individual spatial growth option might deliver. At this stage, for robustness, these numbers are considered as minima. Some of the growth areas include homes already allocated in current local plans: these numbers have been separately recorded in the table.

Study Area: Potential Housing Capacity 2018-2050

		Milton Keynes		Aylesbury Vale		South Northants		Central Beds		
Location		Homes (MK Borough)	Site Incl. in Plan:MK	Homes (North AV)	Incl. in VALP	Homes (South Northants)	Incl. in SNLP	Homes (Western C Beds)	Incl. in CBC LP	TOTAL (o/a Study Area)
1&2	CMK & Campbell Park	7,500	3,535							7,500
3	V7 Regen Corridor MRT Node Based Growth	1,750	799							1,750
4	Other MRT Node Based Intensification Opps.	1,350								1,350
5	MKC Regeneration Estates (In addition to MRT Nodes)	1,725								1,725
6	Other Existing Areas with Intensification Opps.	450								450
7	South East of MK	6,000	3,000							6,000
8	East of M1	10,000	5,000							10,000
9	Cranfield Growth	3,000	0					2,000	0	5,000
10	Olney	1,500	0							1,500
11	North of MK	20,000	0							20,000
12	Eaton Leys (MK&AVDC)	1,000	600	1,200	0					2,200
13	Marston Valley							5,000	5,000	5,000
14	MK boundary to J13 (Aspley Triangle)							3,000	0	3,000
15	South Northants (A5 North Gateway)					5,000	0			5,000
16	South West of MK			13,000	1,855					13,000
17	Winslow Growth			7,500	585					7,500
18	New TOD Communities			10,000	0					10,000
-	Plan:MK Windfall Allowance	1,235	1,235							1,235
	Other LP Sites in Study Area (non-strategic)				906		184		1,193	2,283
-	Existing Commitments	17,538	17,538							17,538
Total		73,048	31,707	31,700	3,346	5,000	184	10,000	6,193	122,031
Total Homes Beyond current LP allocns		41,341		28,354		4,816		3,807		78,318

Note:
 * All housing numbers are assumed as minima at this stage for robustness.
 * Total additional homes with MK urban area > c.12,775

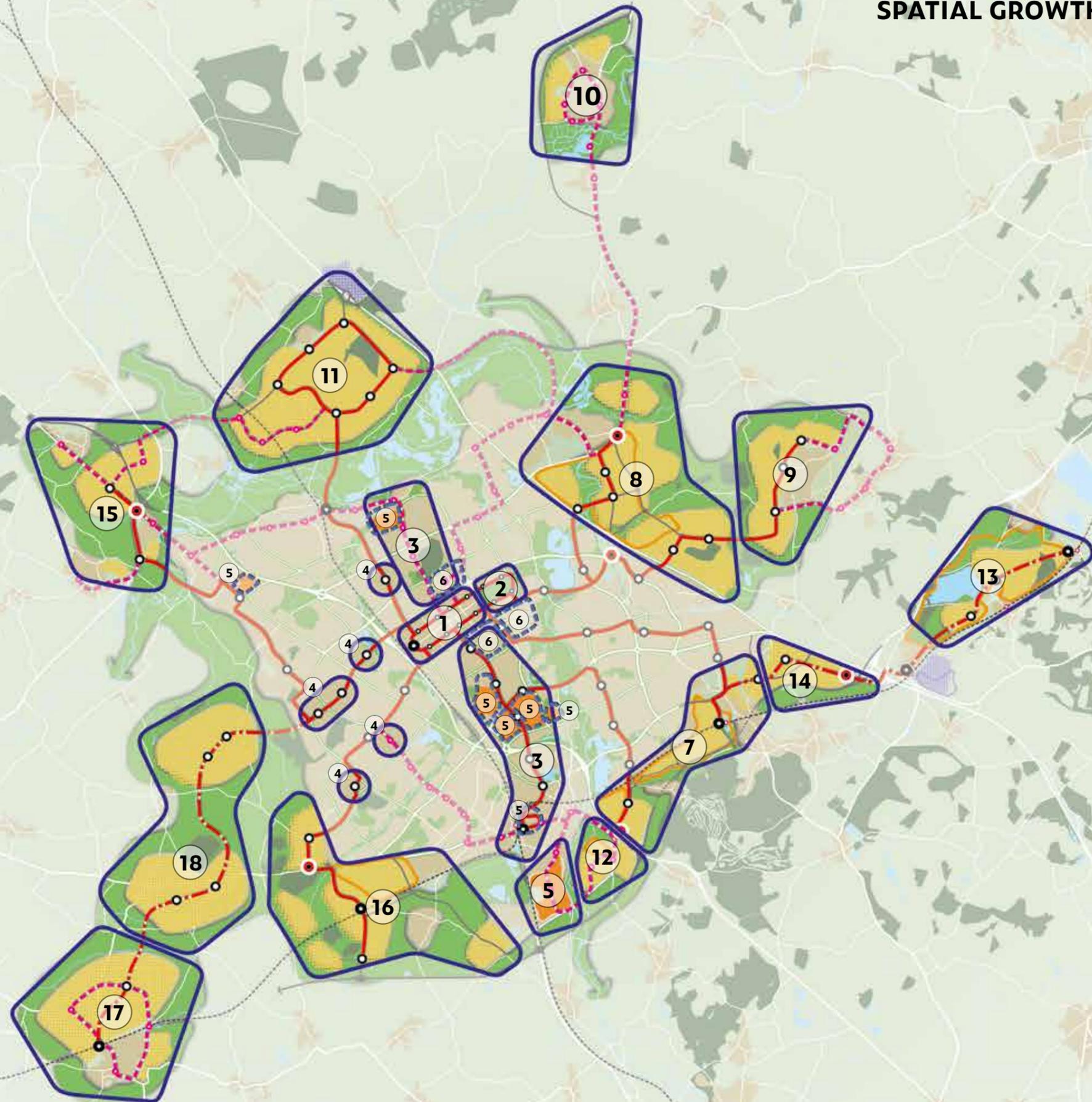
POTENTIAL HOUSING GROWTH AT EACH OF THE SPATIAL GROWTH LOCATION OPTIONS

Towcester

Bedford

Buckingham

Leighton
Buzzard



CHAPTER 6: JOBS FOR ALL

Jobs for All

The growth study recommendations in terms of jobs growth relative to population growth of the Study Area are set out in the Economic Scenarios Research Paper and Part One of this Study, which suggests that to 2050, Partners should adopt a 'high-growth, strategic approach' to economic growth of between 120,000 and 150,000 new jobs as the best way of realising the inclusive and whole-city benefits of economic growth⁸⁵.

Accommodating these jobs will require a significant growth in the floorspace available for employment uses, located strategically around the Study Area in order to meet the needs of an increasingly large business base. In terms of employment space, this suggests the need to plan for between 1.71M and 2.18M sq.m of additional employment floorspace across the B use classes of office/R&D, manufacturing and distribution. Population growth will also drive a growth in a range of local 'service' sectors such as health, education, retail, care and public administration, widening overall employment opportunities as a result.

Over the 30 year period, jobs growth requirements will be met through a combination of new employment development and redevelopment (of employment floorspace/employment sites). The Study Area is likely to retain a level of polycentricity in terms of employment land, and some uses, such as distribution and logistics have specific requirements which govern their location. However, in order to meet wider growth objectives it is recommended that intensification of use and activity and therefore employment densities grow considerably in CMK to underpin its sustainability as a major city centre, support the move to rapid transit, develop economic clusters and to respond positively to the current trend of urbanisation which will allow Milton Keynes to maintain and enhance its competitiveness in the wider UK and global economy.

Outside the existing urban area, new TOD communities also have a role to play in delivering employment land, particularly in the provision of flexible workspace which support co-working and shared workspaces⁸⁶. More detail around the proposition for new TODs are set out in Part Three.



Network Rail HQ interior, Central Milton Keynes



[Source: Santander Development MK]

Santander proposed development, Central Milton Keynes

The spatial proposition for new employment growth

The recommended economic growth proposition outlined in Part One of the study identifies features that have been built into the growth proposition for future employment. Many of these relate to the role and function of Central Milton Keynes in the economy of the Study Area but others have area-wide implications.

The key spatial elements of a jobs growth proposition are summarised below.

Future Role of CMK

In 2050 CMK will be an urban centre serving a city-region population of up to 500,000 people (within the O2C Arc, an area of around 5,000,000 people). Ensuring that CMK can fully play this role must be a central strand of a forward-looking spatial strategy.

In addition, town centres need to develop into hubs that serve a number of purposes; as places to socialise, consume art and culture, live, work and shop. Successful development will create in-built sustainability that ensures that CMK continues to play a crucial role in local economic growth for the city too.

The Economic Scenarios Research Paper has examined the current and future role of Central Milton Keynes (CMK) within the context of the Growth Study objectives⁸⁷. The implications of increasing the proportion of borough-wide office-based employment contained within CMK in order to present alternative outcomes for that location has been tested, and it is concluded that a strategy which increases the proportion of the Study Area's B-class employment based in CMK from 46% (currently⁸⁸) to around 60% would support the inclusive growth objectives set out above (see section 5.6.4 and 6.1.4 of the Research Paper).

This suggests a need to plan for between 361,000 and 459,000 sqm⁸⁹ of additional B-class employment space within CMK over the period to 2050. Further details of how this might materialise as part of an overarching growth proposition for CMK is set out in Part Three.

From Polycentric to Linked Employment Growth

Accommodating the level of new jobs to support the economic growth proposition will require a significant increase in the floorspace available for employment uses.

Within Milton Keynes existing employment areas are dispersed throughout the urban area; some of these are already fully developed and some include undeveloped land. This means that additional floorspace can be located strategically around the Study Area in order to meet the needs of an expanding business base.

Thus, the growth proposition in respect of employment land does not make a wholesale move away from a polycentric approach to employment provision, but is designed to improve the resilience, attractiveness and potential for new, better and complementary growth of industries and sectors at these locations – linked and underpinned by Rapid Transit (RT) – as part of a better connected economy.



Office building, Central Milton Keynes



Red Bull Racing, Milton Keynes

Greater MK as an Innovation Campus

Science and Technology Parks continue to be seen to support the UK economy through commercialisation of science and technology. Without a strong higher education institution (HEI) presence or connection locally, however, the evidence suggests that their potential is much weakened.

Whilst Oxford and Cambridge have strong HEI-backed research assets already well-established in each city (and the Science Park concept is a critical part of their growth), without an existing significant HEI already in place, MK is less well placed to adopt a traditional Science Park-led economic growth model.

However, looking forward, there is accumulating evidence that these circumstances will change. An alternative proposition – and one which is supported as part of the growth proposition – is the creation of an innovation campus, distributed across the city and neighbouring areas with each location providing key elements to a comprehensive innovation ecosystem. The campus would consist of connected centres of innovation, supporting collaboration and interaction across business, innovators and technologists.

The innovation campus could be designed to capture the existing and developing HEI offer in and around MK and gives existing institutions flexibility to organise their involvement. It does not mean that the area is seen as a 'poor relation' to the established world class research HEIs at Oxford and Cambridge; rather, an MK innovation campus would provide opportunities to create better links to these institutions⁹⁰ and exploit the opportunities of the proposed MK:U development.

The innovation campus proposition has a particular synergy with other good growth objectives for the growth study, strengthening MK's place in the economy of the Arc relative to Oxford and Cambridge:

- ▶ The idea of a city-wide campus builds on evidence of how innovation works in cities (compared to out-of-town science and business parks), supporting sectoral diversity under a general theme of innovation and R&D (in contrast to Science Parks which tend to have a limited sector focus);
- ▶ The campus would be a major element in MK's evolution as a 'Smart City' – connecting innovation districts and campuses to the wider city economy, the innovation ecosystem is opened to a wider range of inputs and users (including individuals and businesses that would not consider a Science or Business Park as their natural home);
- ▶ The campus promotes the interaction of people from across a range of disciplines and sectors, through technology, science, digital, the arts and so on;
- ▶ Moves towards a 24/7 urban live-work-play culture means that city-based and integrated innovation campuses are likely to become the real sources of innovation in the future;
- ▶ The proposed rapid transit proposition (MK:RT) would support travel around and interaction across the city-wide campus, as well as providing a test bed for the practical application of innovation in the transport sector, already well established in MK;
- ▶ Sites for new 'mid-urban science/innovation/business parks' – already present in MK – would be well placed to respond to anticipated future trends around live-work culture;
- ▶ Rather than adopting a uniform approach to developing new and existing sites, locations can be developed to offer different and complementary services and facilities to those seeking to use them;
- ▶ Density of development can also vary across the key locations, encompassing higher densities in central areas and lower densities further afield, thereby maintaining and enhancing the future attraction of the local employment offer to suit occupiers of differing scales and sectors.

⁹⁰The key benefits of an innovation campus approach are outlined in Appendix 2 of the Economic Scenarios Research Paper.

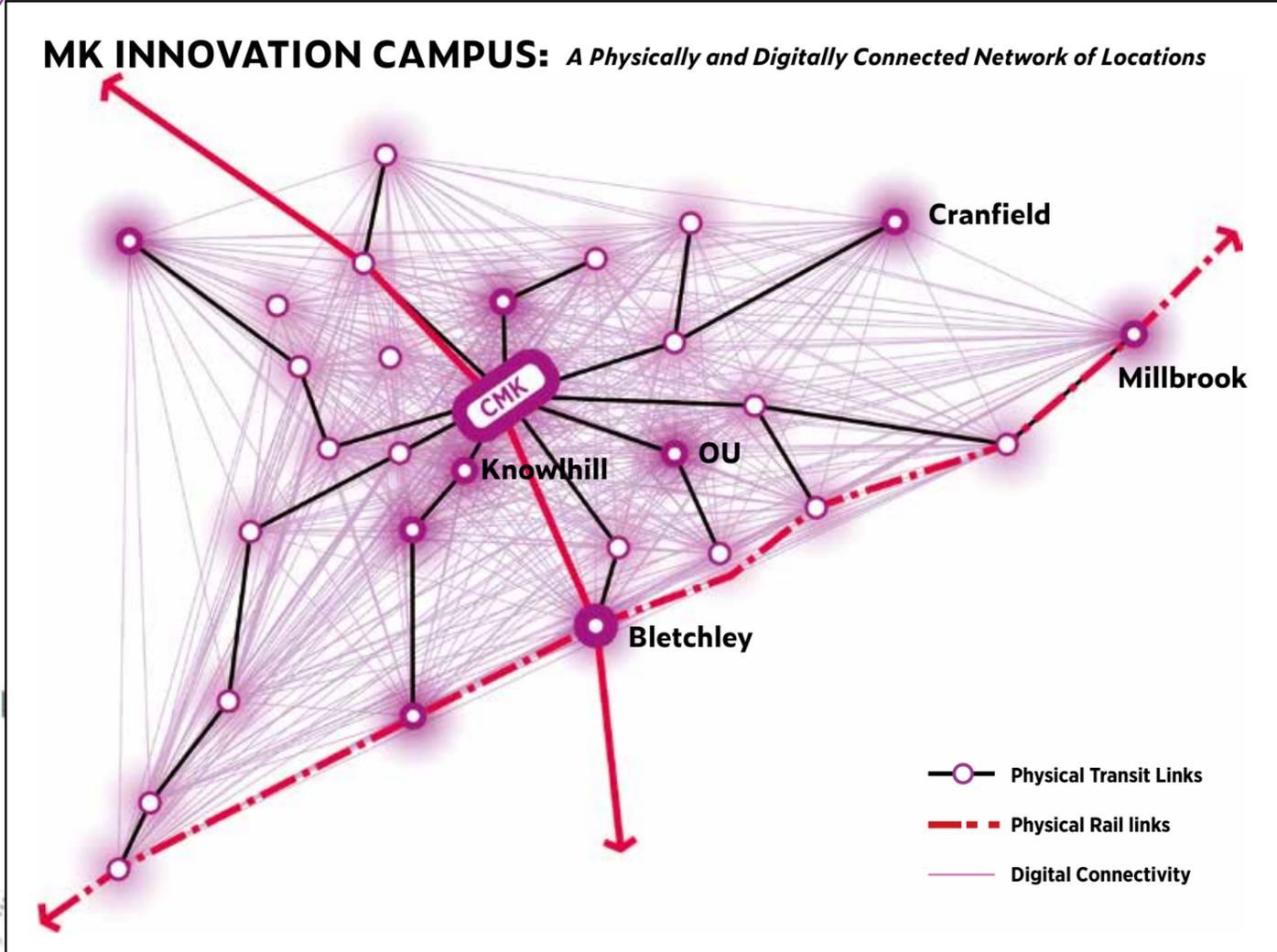
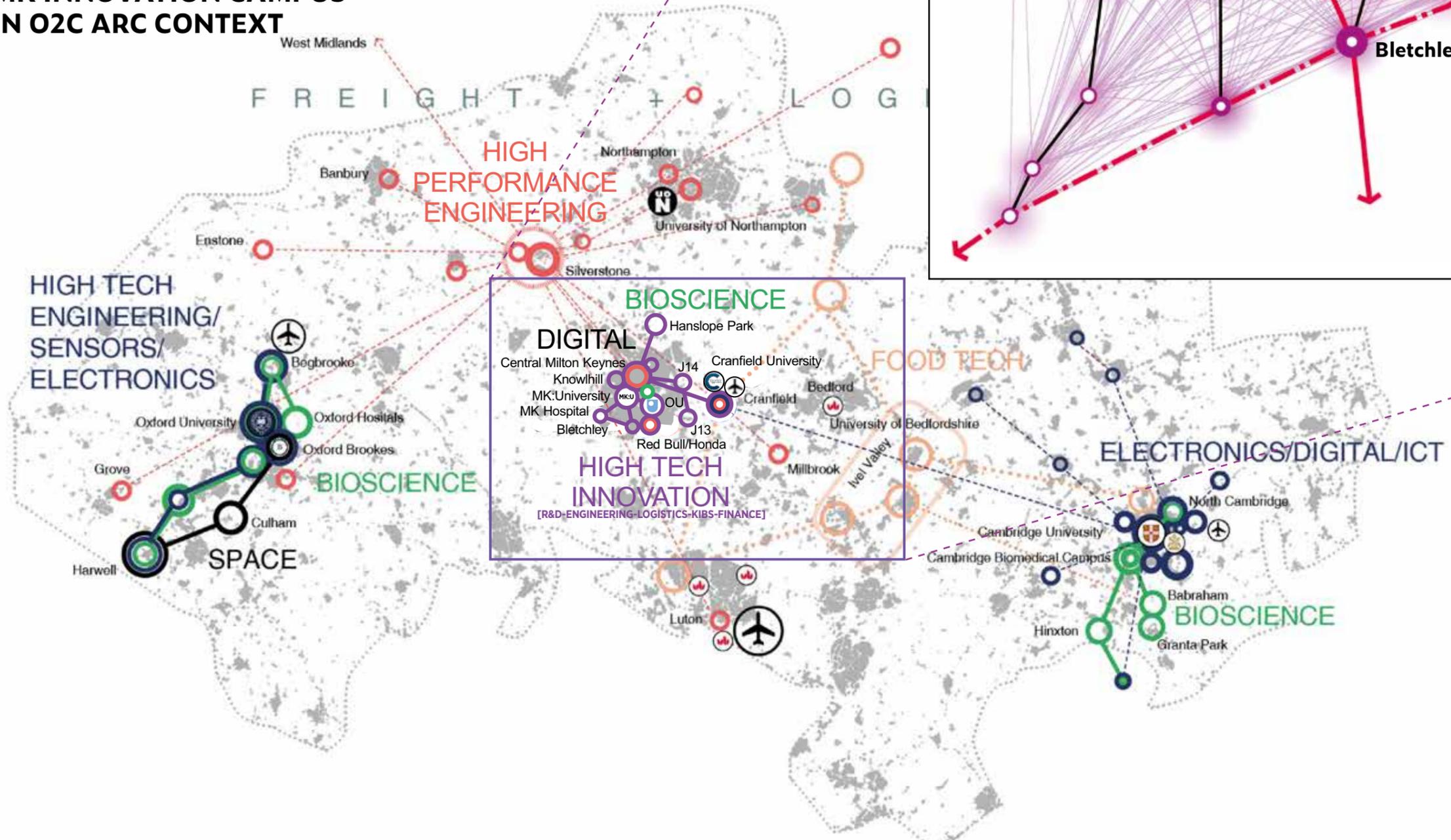


Sainsbury Laboratory, Cambridge University Botanic Garden



Innovation, Catapult Transport Systems

MK INNOVATION CAMPUS IN O2C ARC CONTEXT



EXISTING KEY EMPLOYMENT AREAS WITH GROWTH POTENTIAL

Areas with potential for growth

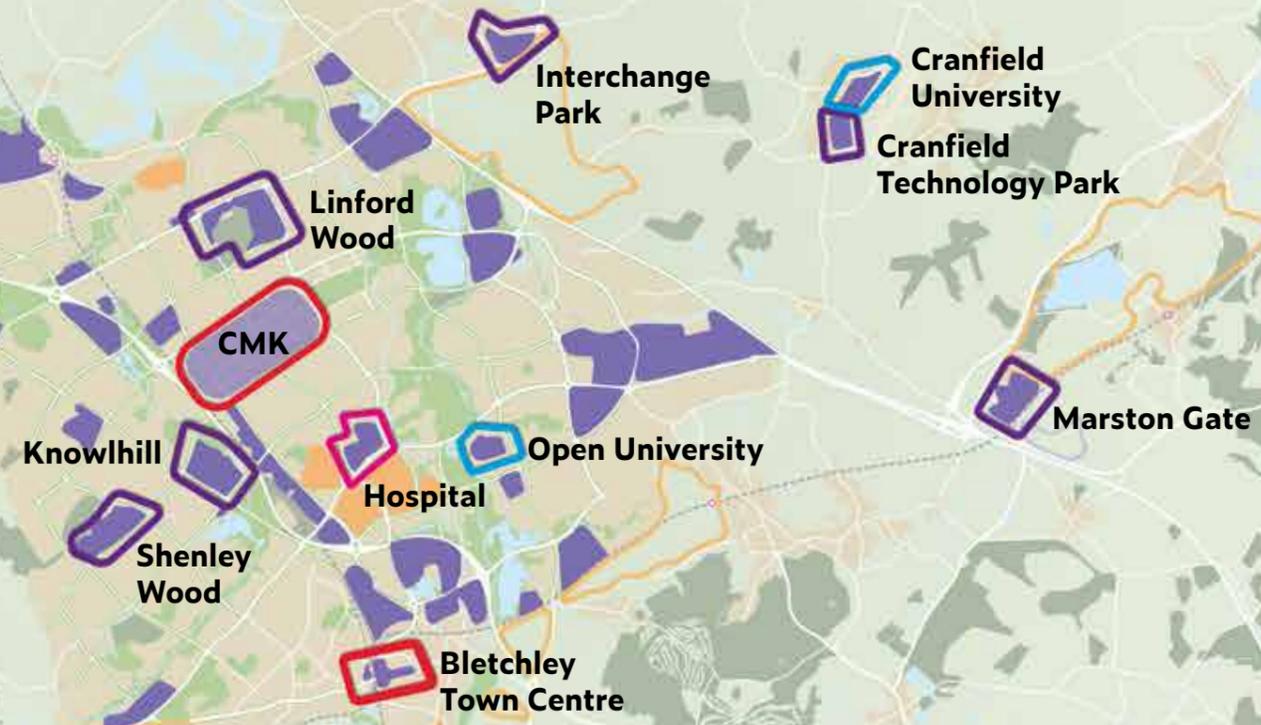
-  CMK / Bletchley Town Centre
-  Primary Healthcare
-  Higher Education
-  Employment

Towcester

Bedford

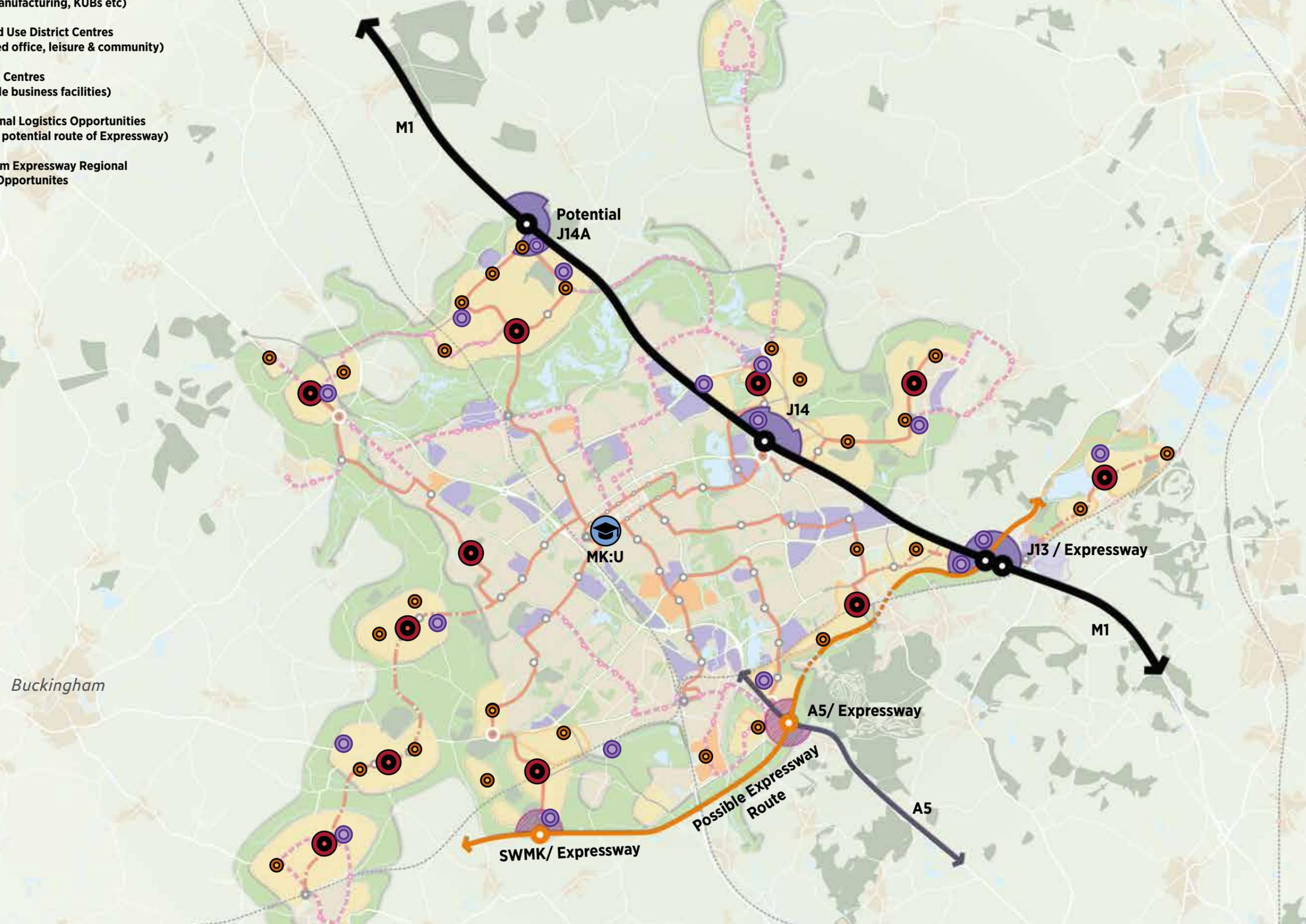
Buckingham

Leighton Buzzard



POTENTIAL NEW EMPLOYMENT AREAS

-  Universities (new and potential to expand)
-  New Employment Areas (Office, manufacturing, KUBs etc)
-  New Mixed Use District Centres (TOD based office, leisure & community)
-  New Local Centres (small scale business facilities)
-  M1 / National Logistics Opportunities (based on potential route of Expressway)
-  Ox-MK-Cam Expressway Regional Logistics Opportunities



Existing Key Employment Areas with Growth Potential

A number of locations have been specifically identified as having potential for intensified employment growth and are highlighted on the plan opposite. The Growth Study has explored how such areas might be shaped and re-imagined to meet the economic growth envisaged over the next 30+ years:

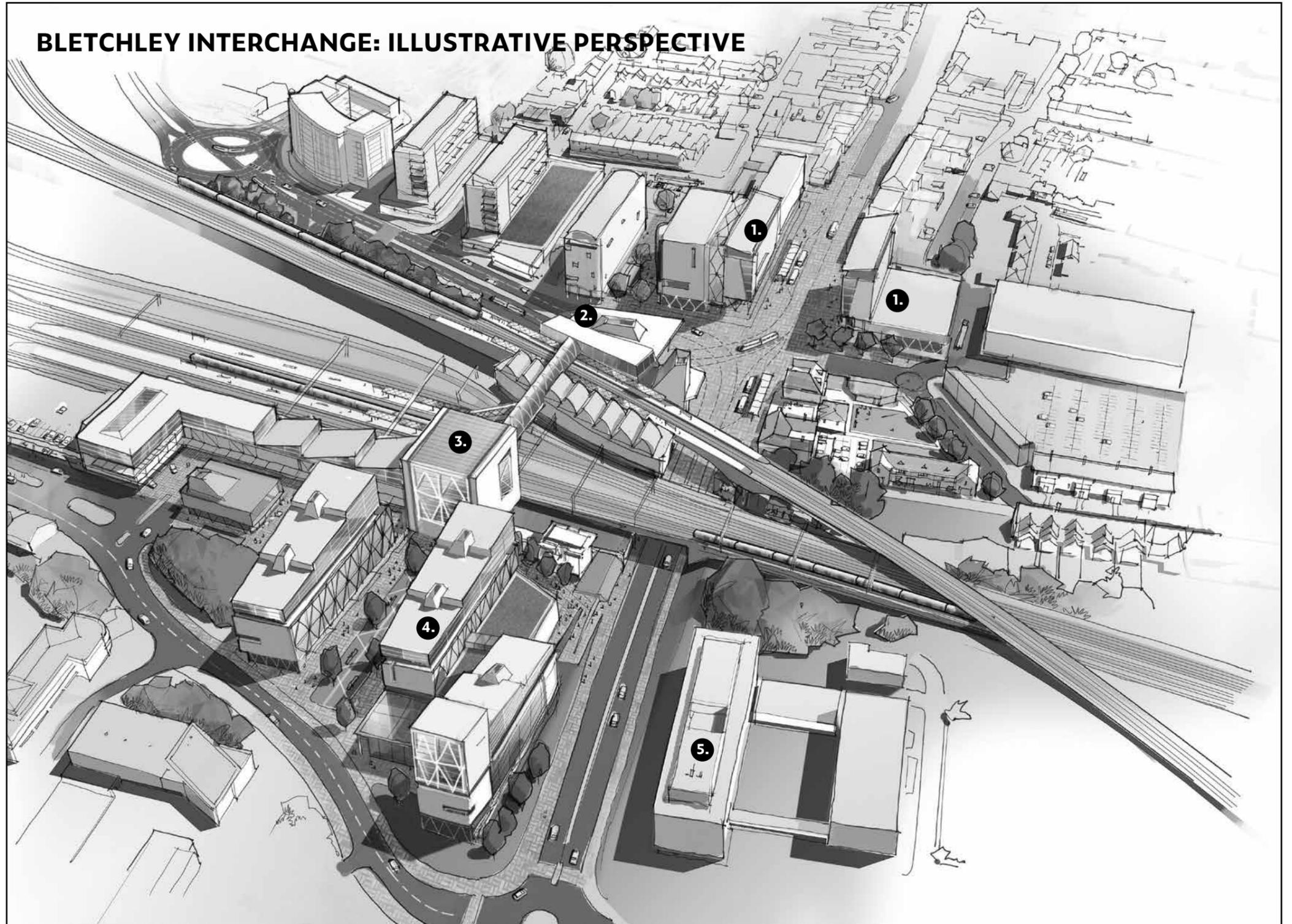
The Changing Role of Bletchley

Bletchley is a key opportunity for economic growth and regeneration, strengthened by its location at the intersection of the WCML and East West Rail. Its capacity to support key connections with the MK:RT network means that it has the potential to become an interchange hub and focus for economic growth both locally and at the regional scale.

Comprehensive economic development centred around the station (to the east, west and at the station itself) could also realise economic regeneration and redevelopment of the wider area and stimulate the transformation of Queensway as a strengthened High Street for Bletchley.

Significant levels of new homes and commercial floorspace could be secured as part of a comprehensive regeneration and development strategy. Further details of how this could be secured are set out in Part Three.

BLETCHLEY INTERCHANGE: ILLUSTRATIVE PERSPECTIVE



1. *Redevelopment of Queensway to re-connect 'High Street' to transport interchange (not private cars)*
2. *New east facing station entrance and east west rail station*
3. *New station building with opportunity for offices above*
4. *Large scale commercial/office focused redevelopment of police and fire station sites*
5. *Re-use or redevelopment of existing office building*



Employment Hubs within the Study Area

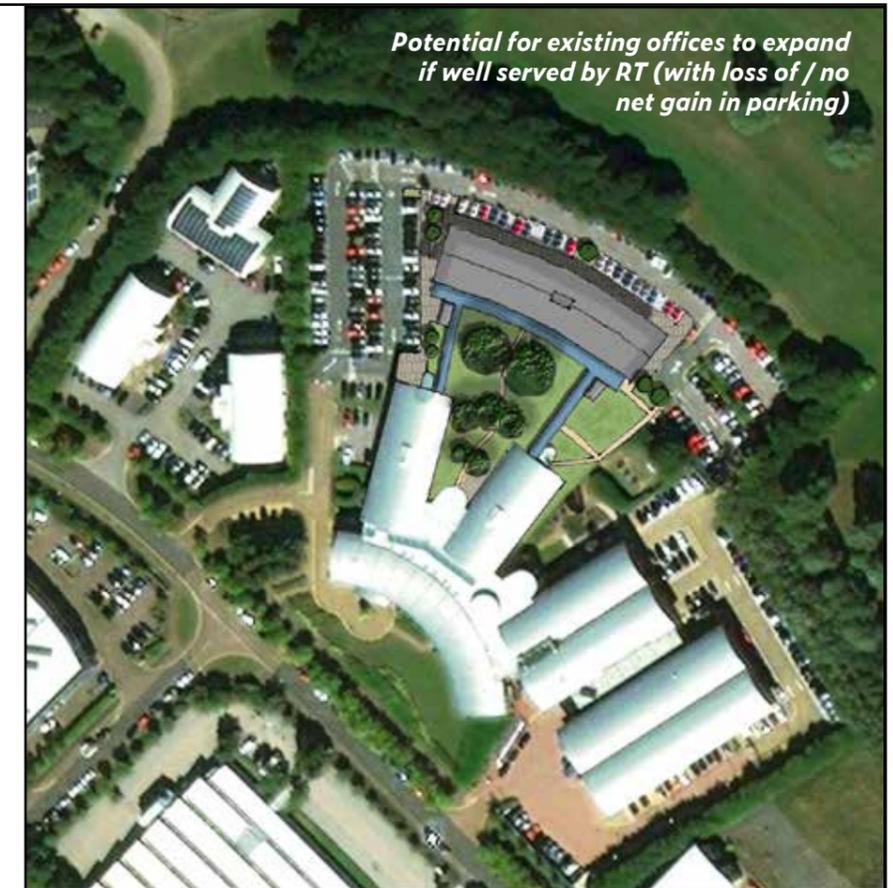
There are a number of existing employment hubs within the urban area where there is physical capacity for further growth, and as part of the MK innovation campus proposition connecting innovation districts and campuses to the wider city economy, further opportunity to support the growth of 'mid-urban science/innovation/business parks'. This is particularly relevant for those locations on the proposed MK:RT network:

- ▶ **Knowlhill and Shenley Wood:** although physically separate today, these hubs would be just one stop apart on the RT network and would have a direct and fast connection to CMK. This generates benefits in terms of market attractiveness for synergetic uses. By way of example, at Shenley Wood higher densities supported by accessibility to RT could stimulate growth of an additional c. 1million sq.ft of employment use (even without the re-purposing of car parking areas).
- ▶ At **Cranfield Technology Park and Interchange Park:** both key employment locations on the edge of the urban area currently dominated by car-based movements and low-density built form. Opportunities for higher density employment development would be realised through direct access to the RT network.

Other employment opportunities would be stimulated by the introduction of RT services, and would also support the population growth of the area. For example, at institutions such as the Open University and Cranfield University, the current 'estate-based' growth plans of these organisations could be extended or adapted to adopt higher densities related to RT.

Future development strategies for other institutions—such as the MK University Hospital and Oakhill Prison – should also recognise and support proposed investment in mobility systems so as not to propose components (such as more or bigger car parks) which run counter to wider delivery objectives in terms of inclusive mobility, accessibility and linked and complementary uses.

KNOWLHILL:



SHENLEY WOOD:



Balance of Employment and Other Uses

Although the economic growth proposition for the Study Area is to direct a higher proportion of new jobs to CMK, the level of growth proposed means that employment levels across the urban area will also grow. There are existing employment locations elsewhere across the urban area – such as Linford Wood, Kiln Farm, Old Wolverton – that are not proposed to be on the direct route of the core RT network but where the introduction of better public transport services would improve the prospects for employment use.

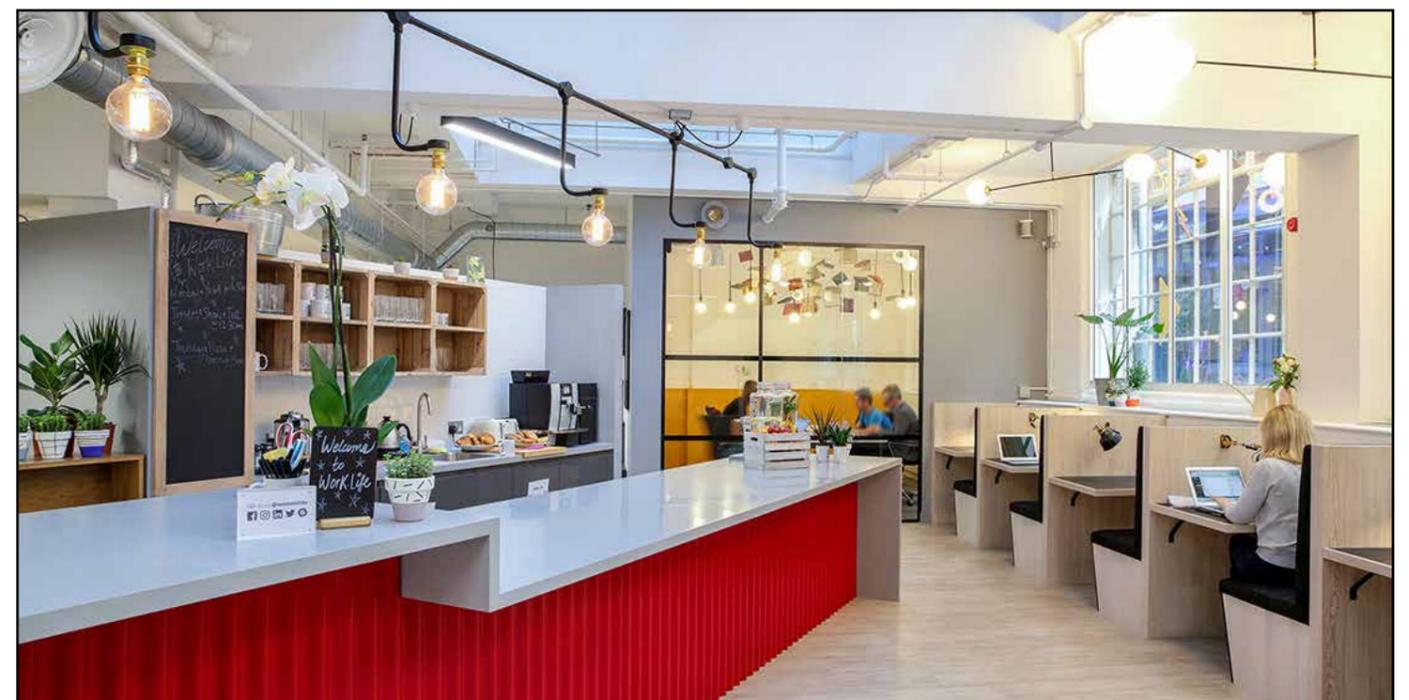
In the event that a case for full or partial redevelopment of these areas is proposed by the market – at the current time, conversion or redevelopment for housing is a common practice but not always conducive to well-planned growth – then the extent to which these sites could be used for other non-residential uses to support the planned long-term growth in population within the urban area should be considered. For example, the size, configuration and location of these sites may be better suited to new schools, sports facilities, medical centres or retirement complexes that meet the needs of local catchment populations within the existing urban area that are likely to have grown in size.

Having an agreed spatial framework which includes planned provision for non-residential uses will allow these decisions to be made in a fully informed manner.

New Employment Growth Areas

The scale of employment growth envisaged to 2050 will also necessitate the creation of new employment areas. The likely requirements of industry and business in terms of land requirements – either in scale or location – over the long-term cannot be predicted with precision. However, the research and analysis undertaken as part of the growth study suggest that there are some key factors to consider when planning for new employment growth requirements over the period to 2050:

- ▶ **The evolution of major employment sectors.** Sectors such as logistics, distribution and large scale manufacturing that currently occupy large areas of employment land and provide a large number of jobs are facing considerable changes in how they operate and the demands they make on the available labour. This has significant implications for spatial planning, particularly in terms of logistics but also the impact of automation on key sectors and jobs;
- ▶ **The nature of work and employment.** The nature of work is evolving leading to changes in the way that businesses and people use commercial space to undertake work. The move towards more collaborative, shared spaces (particularly in, but not limited to, the office sector) is already evident.
- ▶ **Future mobility.** The future will see major changes to the way that people and goods move around both within urban areas, and at the regional scale and beyond.

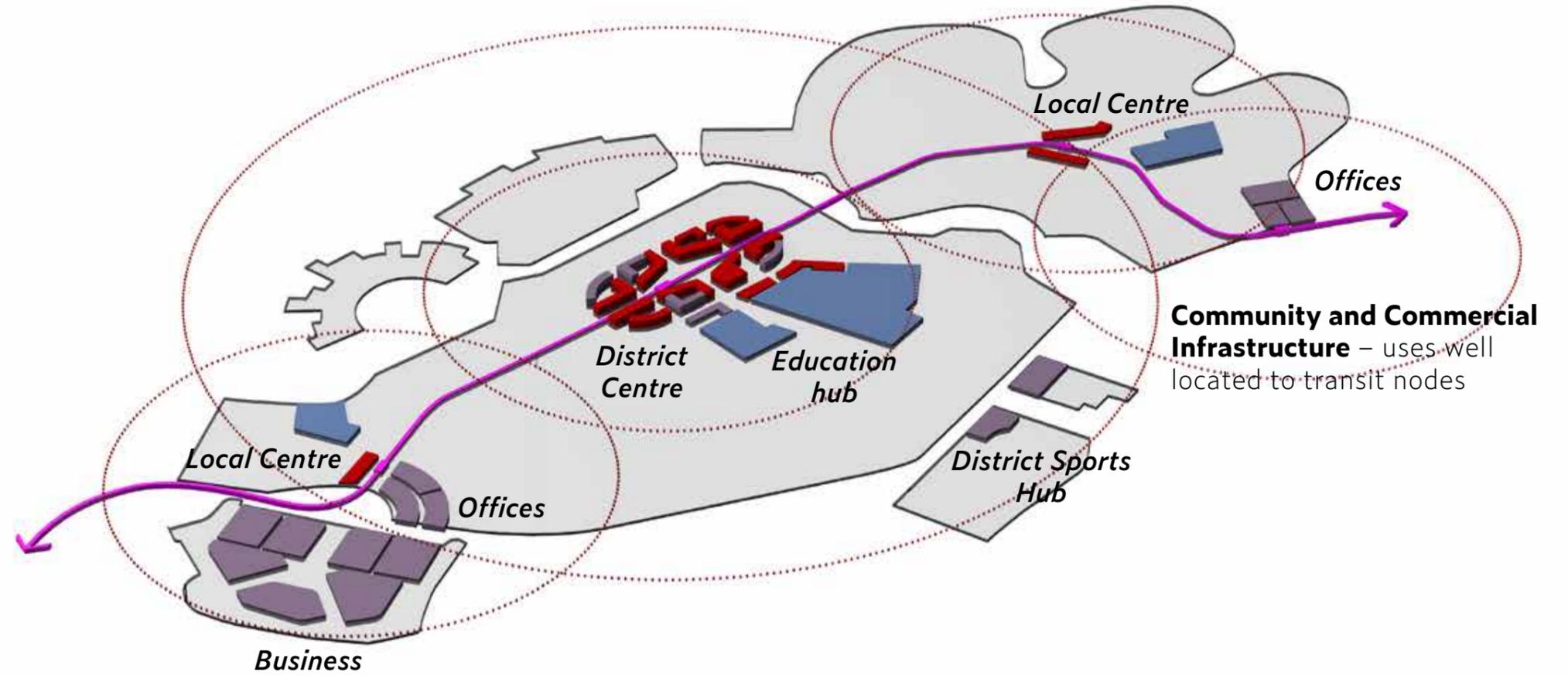


Serviced office environments

New Employment within TOD Communities

The increased capacity for employment within the urban area generally and in CMK in particular – realised through higher intensity of activity connected by RT – will support more collaborative and shared work environments and space.

Similarly, opportunities for new mixed-use centres and employment areas for office, manufacturing and knowledge intensive businesses (“KIBS”) would be key aspects of new Transit Orientated Development (TOD) communities and other new growth locations as part of the growth proposition, supplemented by small-scale business premises in new local centres and employment opportunities within the service, retail and education sectors at the heart of each TOD Community.



The Changing Face of Logistics

A number of additional growth opportunities are stimulated by the strategic infrastructure currently planned in the area and would support the role of the Study Area within the national and regional-scale logistics sector. The Study Area sits squarely within the acknowledged 'golden diamond' for logistics (see diagram opposite) and Milton Keynes has seen significant growth in logistics in recent years⁹¹.

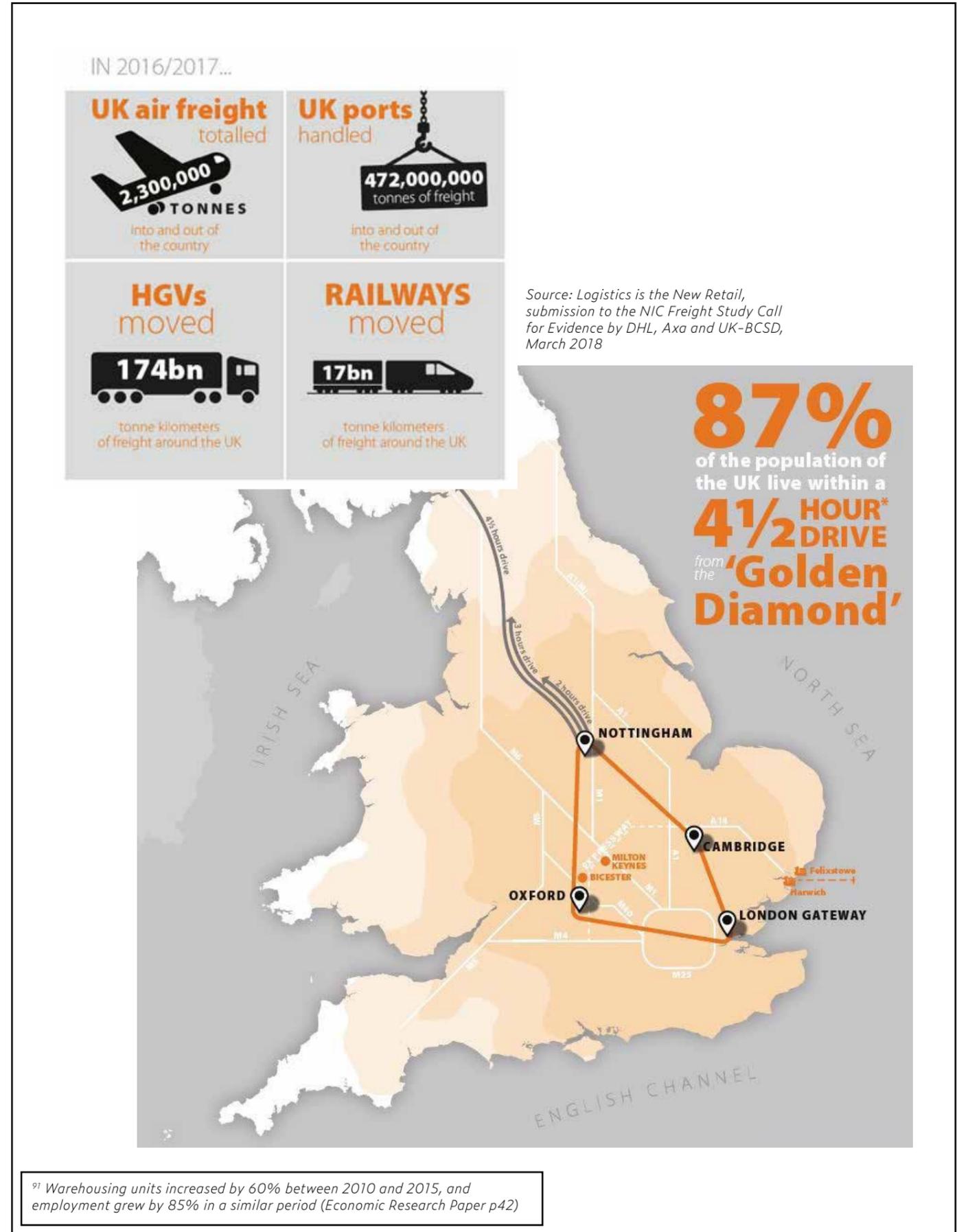
The area's role as a distribution and warehousing hub is clearly growing in significance. This sector faces a less certain future due to changes in respect of autonomous vehicles, smart warehousing and anticipated changes to last mile delivery. However, growth at scale cannot be planned without consideration of how freight will service this growth. Failure to plan and protect land for freight and logistics can result in logistics operators locating further from the centres of towns and cities, moving further from their end users and increasing delivery mileage, emissions and congestion⁹².

Over the course of the period to 2050, those at the forefront of the industry anticipate new models of distribution which supplement the large national or regional distribution facilities with lower 'tiers' of logistics provision, shifting the premises requirements of such businesses to smaller sites more closely related to urban areas⁹³. This has particular spatial implications for the Study Area in terms of the need to support continued growth of national-scale logistics at key locations on the motorway network, but also in respect of regional-scale hubs at key interchanges and what are now known as 'urban consolidation centres' (UCCs) on the edge of urban areas.

In terms of the Growth Study, applying the following 'hierarchy' of logistics facilities provides an optimum balance between demand from the industry for national logistics hubs in this part of the UK and a system which accommodates the requirements of growth at scale whilst minimising delivery distances, trips on the local network and congestion/pollution impacts.

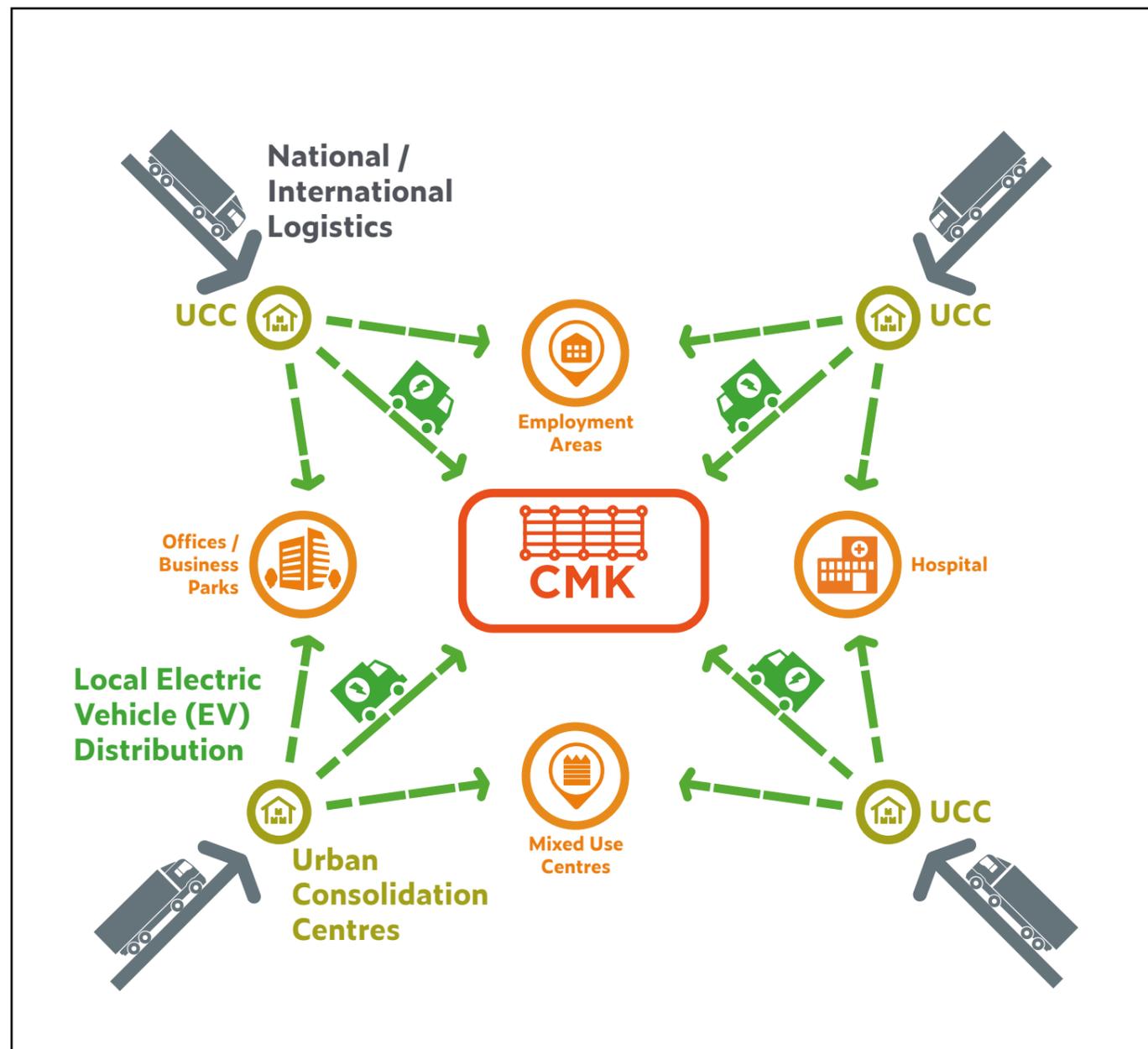


Magna Park, Milton Keynes



The Plan opposite indicates how future logistics requirements can be integrated into the overall spatial growth framework, showing:

- ▶ Continued growth of national logistics facilities at key motorway junctions (M1 J13, J14) and around a potential J14A, which would be necessary if growth were to be proposed to the north of MK;
- ▶ South of MK, accommodate new 'middle tiers' of logistics facilities at key interchanges with the local road network along the route of the Expressway (at SWMK and at the A5 southern gateway), close to the existing urban area and to new growth locations;
- ▶ Potential for urban consolidation centres at existing or new employment locations within the urban area (number and locations to be determined depending on viability and potential take up by big logistics customers such as the Hospital or CMK shopping centre).



CHAPTER 7: MOBILITY FOR ALL

Mobility for All

What are the choices around future mobility solutions which meet the success criteria to deliver 'good growth' in the Study Area?

Transport modelling undertaken in support of Plan:MK demonstrates that by 2031 the pressure from around 30,000 additional homes and increasing employment space will result in 14% longer journey times and an increasing number of key links and junctions operating over capacity **irrespective of continued investment in the highway network.**

It is not feasible to accommodate the required level of additional peak road capacity within the urban area to cater for growth beyond 2031. Even if we will be able to use cleaner ways of moving around by car, share or 'autonomise' our car journeys, or stagger the timing of our key journeys across the day, this will not mitigate the predicted increase in the absolute number of cars on the Study Area's roads. And even if a way could be found to fund and build the required level of additional highway capacity, the mobility inequality issues set out in Part One would not be addressed – locking Milton Keynes even deeper into the current trend of being a 'two-speed' city and constraining life chances for people without access to cars.

There is an intrinsic link between the successful growth of Milton Keynes to 2050 and the delivery of an efficient, 21st century public transport network. 'Business as usual' transport planning is unable to accommodate the Council's aspirations for growth. Even if there is significant uptake of autonomous vehicles resulting in greater capacity in the existing highway network, the substantial anticipated growth in population and travel demand necessitates more efficient ways of moving people around Milton Keynes efficiently, reliably and in substantial numbers. Moving to new 'private' car technologies – however leading edge – is not a whole-city solution and does not deliver against the success criteria in respect of inclusive growth.

Therefore, **whatever spatial options for long-term growth might be adopted**, they cannot be realised without a shift away from current patterns of travel in the Study Area.

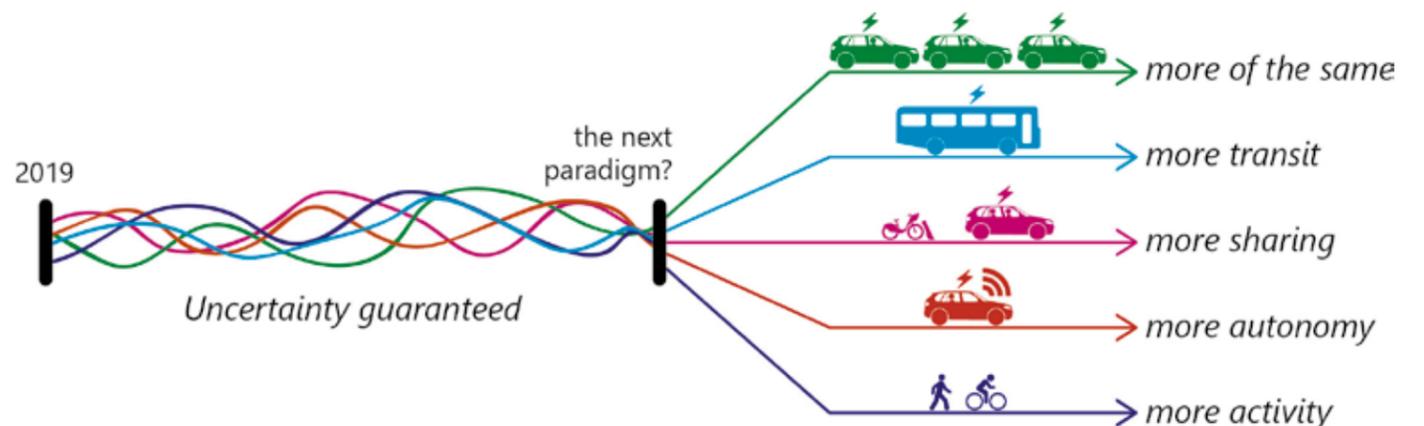
Responding to MK's mobility challenges

Five potential scenarios have been considered (see diagram below) to understand what future mobility trends might look like in Milton Keynes. Depending on which of these come to fruition, and when, a range of possible outcomes are possible.

It is clear that **'more of the same'** will not result in transformational or 'good growth' in the Study Area; rather it is likely to lead to more sprawl and congestion and less active travel with associated public health impacts.

The adoption of technological solutions, particularly Connected and Autonomous Vehicles (CAVs) (the **'more autonomy'** scenario), may have an important role to play as part of the wider mobility landscape, potentially helping to address a 'first/last mile' demand, dramatically reducing the overall vehicle 'fleet', growing the public transport catchment and transforming inter-urban travel on smart motorways. On its own, however, more autonomy is unlikely to dramatically shift the status quo away from the car use in MK.

'More Activity' – more active travel (walking, cycling and using public transport) – would deliver substantial health, congestion, air quality and productivity benefits. It could also help provide 'first/last mile' solutions by non-motorised means, a future scenario that complements **'more transit'** and **'more sharing'**. Taken together, these three scenarios would deliver positive outcomes in the efficient use of land and resources at key locations by encouraging and supporting intensification, ideally coupled with reduced parking capacity, planned economic and housing development within new transit corridors to capitalise on evolving transport technologies and innovations. In combination this could deliver more equitable and inclusive access to new and existing jobs, facilities and services by prioritising shared modes of affordable transport available to all.



Source: ITP Mobility and MRT Study

The Recommended Mobility Proposition

A change in paradigm for Milton Keynes from personal mobility to **'smart, shared, sustainable mobility'**, is considered to be essential if the economic growth proposition is to be delivered. Substantive change to travel behaviour takes time so it is vitally important that the right planning and infrastructure decisions are made now, rather than waiting for gridlock to force a change in approach that will be significantly more difficult to achieve if it has to be retrofitted.

As part of the growth study, research on Mobility has investigated how a Rapid Transit (RT) network might form a core component of a 'smart, shared, sustainable mobility' system for Milton Keynes.

A primary network of high capacity Rapid Transit (RT) services would be the heart of MK's Mobility Strategy. The spatial arrangement of development, the density at which it is delivered, and the intensity of use and activity at key points would respond to this network and provide the patronage to make it viable. Benefits include:

- ▶ **Improved efficiency**, moving more people using less road space and responding to the growing demands of a larger population;
- ▶ **Mobility for all**, allowing the opportunities created by growth to be accessible affordably by all, whether or not they have access to a car;
- ▶ **Reliable journey times** across the Study Area in general and into the city centre in particular, promoting a modal shift away from the car by providing a high degree of segregation from general traffic;
- ▶ **Healthier places**, creating new Transit Oriented Developments that increase opportunities for walking and cycling, improve air quality and delivering on the principles of the NHS Healthy New Towns programme;
- ▶ **Improved environment**, protecting and enhancing the quality of Milton Keynes by respecting the original vision;
- ▶ **21st century city**, reinforcing the heart of the Oxford-Cambridge Arc;
- ▶ **Improved competitiveness**, helping attract and retain talent and reduce congestion;
- ▶ **Protection of the climate**, responding to climate change by reducing per-capita CO2;
- ▶ **Good growth**, spatial, economic and social planning to deliver specific, desired outcomes for existing and new communities.

A number of key principles have been adopted to inform the design of a RT network for Milton Keynes. These are to ensure it will be an attractive and viable mobility option for all, while facilitating 'good growth' of the city:



Source: ITP Mobility and MRT Study

Key Principle	Description	Mobility Opportunity Satisfied
Integrated	RT offers flexible, high frequency, high capacity trunk network role, supported by integrated network of shared transport services and high-quality walking and cycling infrastructure	Integration across modes / Inclusive alternative to car / Responding to future changes / Mobility for all
Convenient and Competitive	RT routes generally follow grid roads, allowing for fast, direct services with fewer stops in comparison to local buses (RT stops every ≈ 850m) enabling quicker journeys than are possible by car	Inclusive alternative to car / Future proofing journey times / Mobility for all
Reliable	Around 90% of the network is segregated, either in grid road corridors or within new development sites, to make for reliable journey times, complemented by a high priority and RT-dedicated infrastructure	Inclusive alternative to car / Future proofing journey times
Delivering Transit Oriented Development	Facilitates high-quality, higher density development with reduced parking levels and priority for walking and cycling. The street network in new developments will favour RT, walking and cycling options over those by car	Active Places by Design / Supporting Higher Intensity of People and Land Use
Delivering Mobility Hubs	Many RT stops will be mobility hubs, providing access to a range of services such as drop-off for on-demand services, cycle hire and parking, car clubs, click & collect, and convenience retail	Integration Across Modes
Flexible	The RT network must allow for flexible use in future to accommodate changes in technology, as well as potentially allowing shared use of the network at off-peak times, for example for freight delivery, shared vehicles, CAVs etc.	Inclusive Alternative to Car / Future Proofing Journey Times

Source: ITP Mobility and MRT Study

Interaction of Recommended Mobility Proposition and Spatial Growth Choices

On the evidence set out above, and taking into account the scale of growth advocated within the Growth Study to 2050, a change in approach from private car-based 'personal mobility' to 'smart, shared, sustainable mobility', underpinned by a high capacity Rapid Transit network and incorporating Mobility as a Service (MAAS) and active travel) is the recommended mobility choice to deliver good growth in the Study Area, **irrespective of where that growth is located.**

Nevertheless, a key factor in the evaluation, selection and shaping of potential growth areas has been the extent to which they are likely to achieve a move to RT quickly and effectively.

Spatial considerations include:

- ▶ **integrating of RT within new growth locations:** where RT sits front and centre of the approach to both placemaking and future mobility planning. Higher density centres, together with streets, spaces and residential neighbourhoods, are designed to maximise access and priority to RT routes and services, supported by walking and cycling. In these locations private car ownership will not be necessary and car use will be seen as a less favourable mode of transport. Further details are set out in Part Three.
- ▶ **examining routes and initial phases to and from existing places:** as the move to RT will be phased over time, the strategy for RT includes a focus on those routes which can serve housing and employment growth allocated for growth to 2031; routes within CMK which drive a change in behaviour and support economic growth; and routes which secure early opportunities to drive RT demand through Park & Ride (P&R) provision. Further details are set out in Part Three.
- ▶ having an RT network for MK which, rather than being conceived as a radial network where all passengers are required to change in the centre, includes **the convergence of cross-city routes through and around CMK to create a CMK 'loop' of services**, with opportunities to access and change cross-city routes at a number of points along these routes rather than at a single 'interchange'. Further details are set out in Part Three (Chapter 12).
- ▶ **facilitating and shaping redevelopment and regeneration by directing RT routes to where they are most needed and would be most supported by existing communities:** importantly, routing of RT within the urban area to serve regeneration and redevelopment areas has formed a key aspect of the RT strategy and helps deliver against 'inclusive growth' objectives. Further details are set out in Part Three (Chapter 11).

MK:RT – the Modelled Network

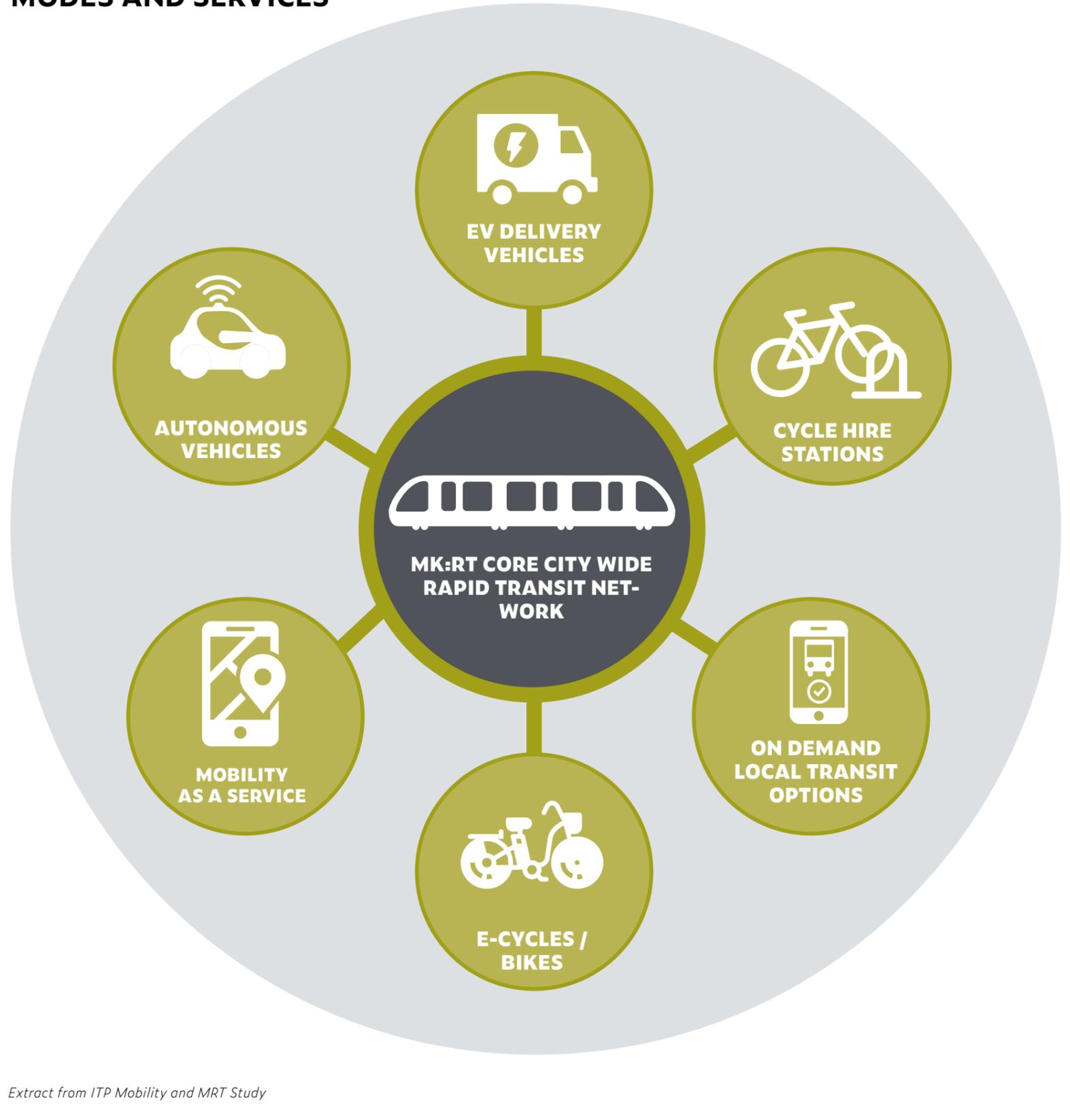
Following the key principles set out in the Mobility and MRT Study (see table on page 61 of this Study) the RT network would connect existing destinations and trip generators with potential new growth areas. The locations for potential growth identified as options in the Growth Study enable, and are enabled by, the RT network. Crucially, these new development options should all be designed around RT, embedding appropriate infrastructure from the outset. Over the longer term, the network could reach beyond the existing Milton Keynes urban area, including or futureproofing connections to potential new communities in neighbouring districts, and offers the opportunity to extend further to other planned growth areas like the Marston Vale and Ridgmont.

It is recommended that RT will sit front and centre in the preferred approach to both placemaking and future mobility planning, thereby identifying and shaping optimal locations for growth.



Zhuzhou City Trackless Tram: A model for Milton Keynes

VISUALISATION OF RT NETWORK AND SUPPORTING MODES AND SERVICES



Extract from ITP Mobility and MRT Study



Route Selection and the Modelled Network

The plan opposite shows a potential proposition for a Core RT network for the Study Area which has been tested as part of the Growth Study.

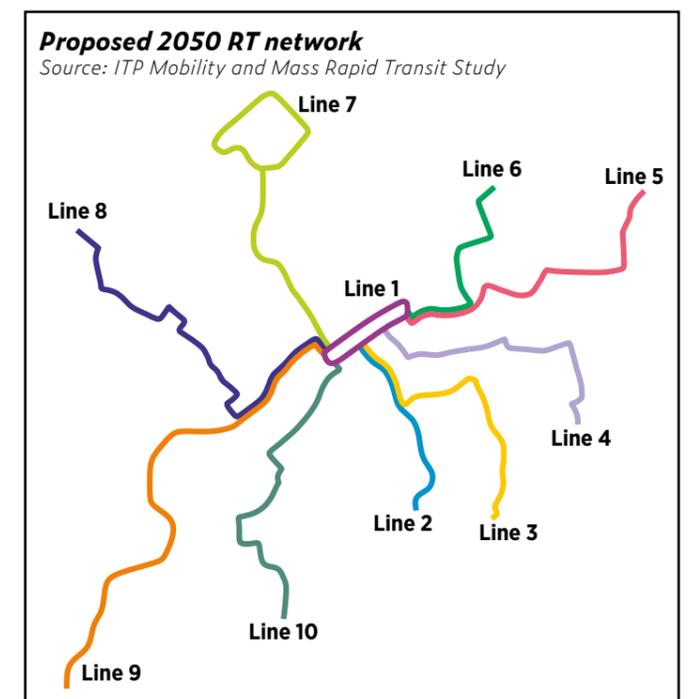
A description of each of the Core network routes modelled for this Study is provided in the Mobility and MRT Study and is reproduced below. The routes shown within the modelled Core network have been selected as those which would best enable the delivery of prioritised RT services that connect key existing origins and destinations in MK with those places (existing and new) that have the highest potential for new growth. On this basis, this combination of routes could deliver a viable and effective RT proposition to 2050.

This Core network could be supplemented by a wider RT network which provides RT services between other parts of the urban area and the Core RT routes. These other routes could be served by the same vehicles and have an integrated 'look and feel' with the wider network. However, because of their location, these other routes may not achieve the same degree of route segregation and priority as the Core routes.

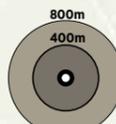
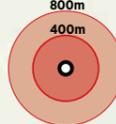
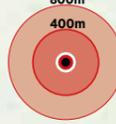
Depending on the selection and sequencing of growth areas between now and 2050+, as part of the Council's Growth Strategy or development planning activities, the grid structure of MK facilitates a flexible approach to the selection of MK:RT routes. For example, other RT routes could be brought forward alongside the Core network over the short-medium term to ensure coverage is extended to those communities without direct access to the Core network. As such, the routing of RT services can adapt over time – responding to changing land-use patterns and growth locations within the Study Area.

Such decisions are likely to require additional early cross-subsidy of RT lines from that already factored into the modelled Core network⁹⁵ and may affect the viability of the RT network in the interim period. However, should it be decided that bringing forward different or additional RT routes to meet other Council objectives is justified, then a case can be made for additional forward funding to support this strategy.

Line	Description
Line 1: CMK loop	Serves growing employment and residential demand in CMK
Line 2: Bletchley to CMK	Serves regeneration of CMK and V7 corridor as well as key trip generators such as the stadium and hospital
Line 3: Caldecotte Growth Area and A5 P&R to CMK	Serves Plan:MK allocated growth as well as the Open University campus and hospital and potential A5 P&R
Line 4: Woburn Sands to CMK	Serves Plan:MK allocated growth as well as Kingston, Magna Park, a proposed new E-W station and new community
Line 5: Cranfield Uni to CMK	Serves Cranfield Uni and new communities surrounding it, Plan:MK allocations and new communities E of M1 and the existing J14 P&R
Line 6: East of M1 Growth Area and P&R to CMK	Serves Plan:MK allocated growth as well as new communities east of Newport Pagnell and a potential A509 P&R
Line 7: Northern MK Growth Area to CMK	Serves a new community to the north of the city as well as Hanslope Park and potential regeneration sites along V6 and V7
Line 8: NW MK Growth Area and A5 P&R to CMK	Serves Plan:MK allocated growth, a new community to the NW of the city and development along Portway and potential A5 P&R
Line 9: Winslow to CMK	Would serve any selected growth option in AVDC east of Winslow, including the new E-W station at Winslow
Line 10: SW MK Growth Area to CMK	Serves Plan:MK allocated growth, new communities around Newton Longville, regeneration at Westcroft and a potential A421 P&R



MODELLED RAPID TRANSIT NETWORK

-  Rail and MK:RT Interchanges
-  MK:RT Stops/Nodes
-  Potential Park & Ride locations

 Core Modelled MK:RT Routes

 AVDC/CBC Potential MK:RT network extensions related to growth

 Potential network extensions related to existing settlements

Towcester

Buckingham

Wolverton

Westcroft

Bletchley

Woburn Sands

Cranfield University

Ridgmont

Leighton Buzzard



Feeder Network

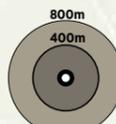
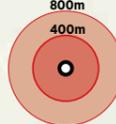
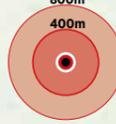
Supporting this core network, a feeder network of local mobility services could provide for ‘first/last mile’ demand in areas of the city not connected directly by RT. These feeder services are crucial to the success of the core RT network in low density Milton Keynes, significantly extending catchment and therefore access to mobility opportunities to deliver ‘mobility for all’. Local mobility will include some or all of the following services, brought together through a Mobility as a Service (MaaS) platform⁹⁶:

- ▶ City-wide public bike and eBike hire (with an improved cycle network)
- ▶ Local buses
- ▶ On-demand taxi, bus and minibus services
- ▶ Car Club / flexible car hire services
- ▶ Autonomous pods and shuttle vehicles (as technology and legislation allows)

The RT network is expected to have spare (traffic-free) capacity at certain times of the day that can be made available on a flexible basis for other services. These could include permitting low/zero-emission freight vehicles to fulfil on-line deliveries and city-centre store/hospital servicing, and/or potentially allowing autonomous or other shared mobility services to use the network.

Further details of the proposed rapid transit solution can be found in the Mobility and MRT Study.

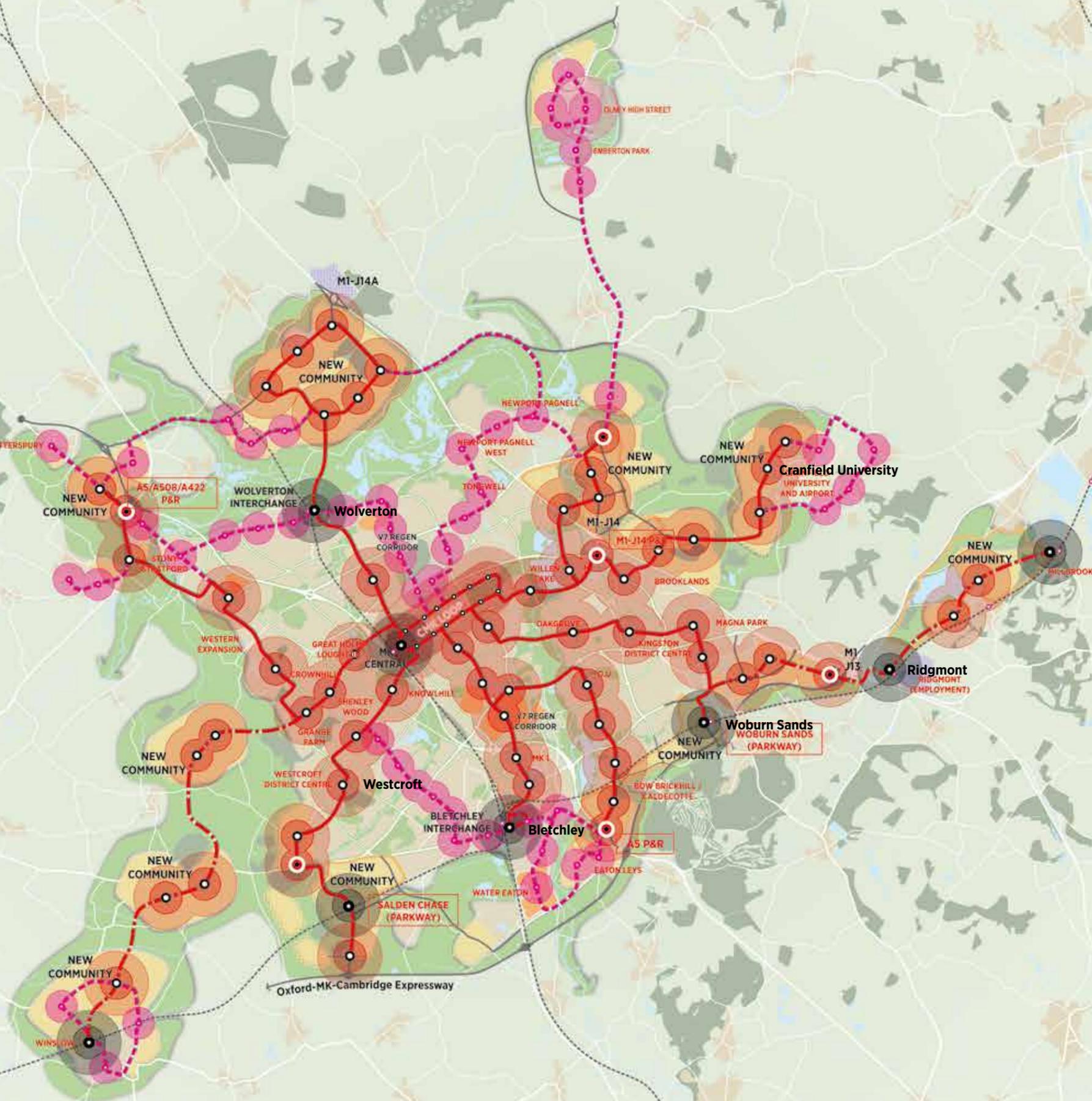
WIDER MK:RT NETWORK

-  Rail and MK:RT Interchanges
-  MK:RT Stops/Nodes
-  Potential Park & Ride locations
-  Core Modelled MK:RT Routes
-  Other options for MK:RT Routes
-  Other MK:RT Stops/Nodes
-  AVDC/CBC Potential MK:RT network extensions related to growth

Towcester

Buckingham

Leighton Buzzard



Cycling and the Redway Network

The RT network will not exist in isolation. As noted above, a feeder network of local public transport services together with local mobility services such as on-demand transport, shared/flexible car and city-wide bike rental and autonomous vehicles are all likely to play a role in 'first/last mile' journeys, and in areas of the city not connected directly to RT, brought together through a Mobility as a Service (MaaS) platform¹³.

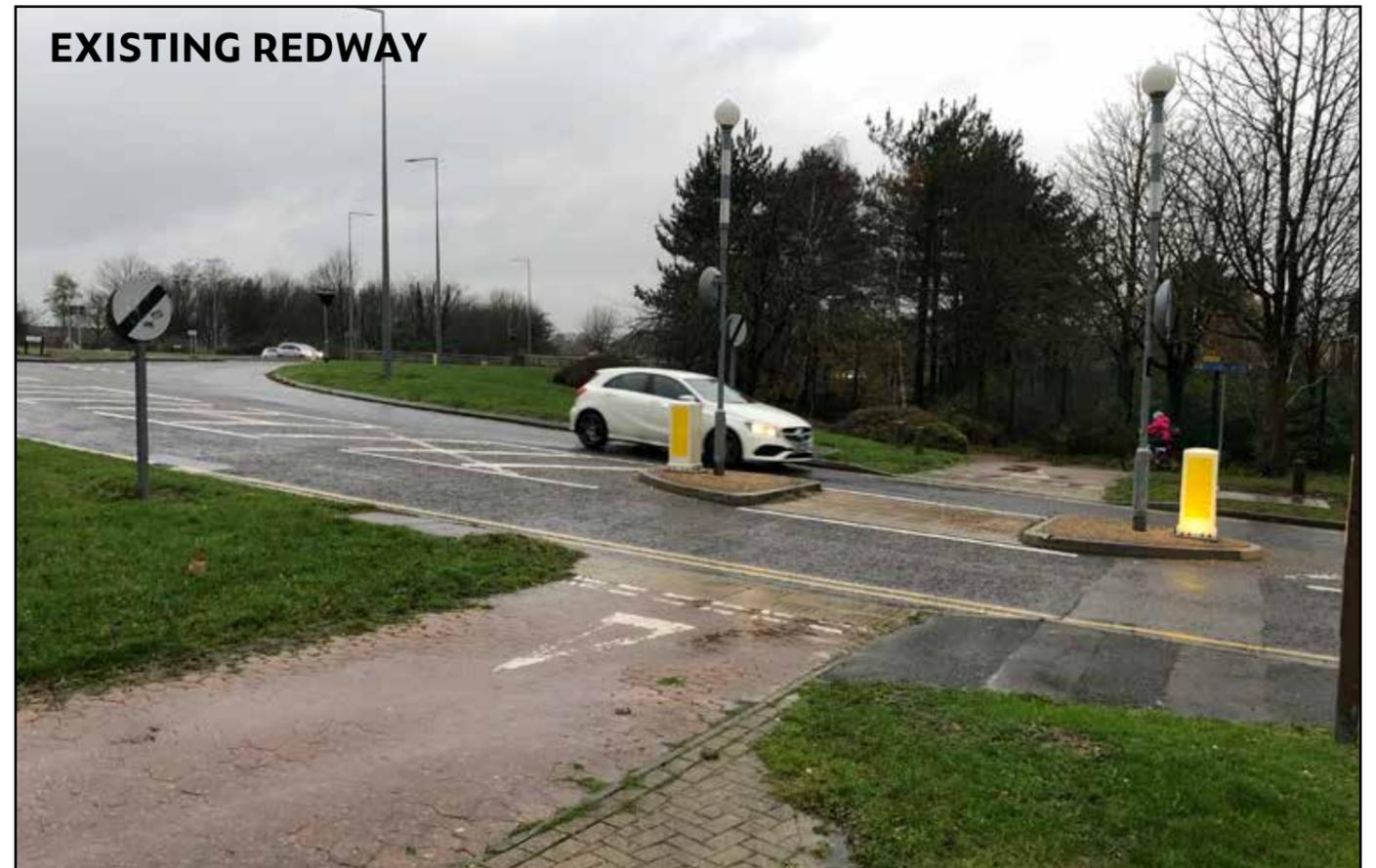
The majority of these services will use the main road network (existing and adapted). However, cycleways in MK are an important component of an integrated and inclusive mobility solution, particularly when considering more active travel as a viable alternative for daily trips.

The characteristics of the existing cycleway network in the Study Area are described in Part One Chapter 2, together with the recommendations made as part of the NIC evidence base for improvements needed to support greater use of the network.

The following recommendations in respect of the cycle network are built into the growth proposition and shown on the plan opposite:

- ▶ Cycle hubs at rail/RT interchanges (with covered bike/kit storage; shared bike rental availability);
- ▶ Extension of the cycle network to new growth areas and between new growth areas wherever possible/appropriate;
- ▶ Completion of the existing network, connecting the 'missing links';
- ▶ Priority for cross-city routes at road crossings.

The latter two points are particularly relevant. Evidence locally suggests that the principal reason for the under-use of Redways in the city for daily trips (especially for work) is not that they are particularly unsafe or badly maintained but that it is generally quicker and more direct to drive and it is cheap to park. Comparable segregated cycle routes in other cities in the UK and abroad are much better used, not because the cycle network is better but simply that car trips are slower, more costly and therefore less attractive an alternative. Thus, in order to realise the full potential of what is already a comprehensive and valued Redway system in MK –and a valuable asset as part of the resilient infrastructure of the city for the future – the network must provide routes for cycling which are quicker and more effective than the car. This can be achieved relatively easily and cost-effectively on the current network – switching the priority of cycles and cars at road crossings (and thereby slowing car speeds) and introducing direct prioritised, legible routes where links are currently missing, such as a central east-west route through CMK.



POTENTIAL FUTURE REDWAY NETWORK

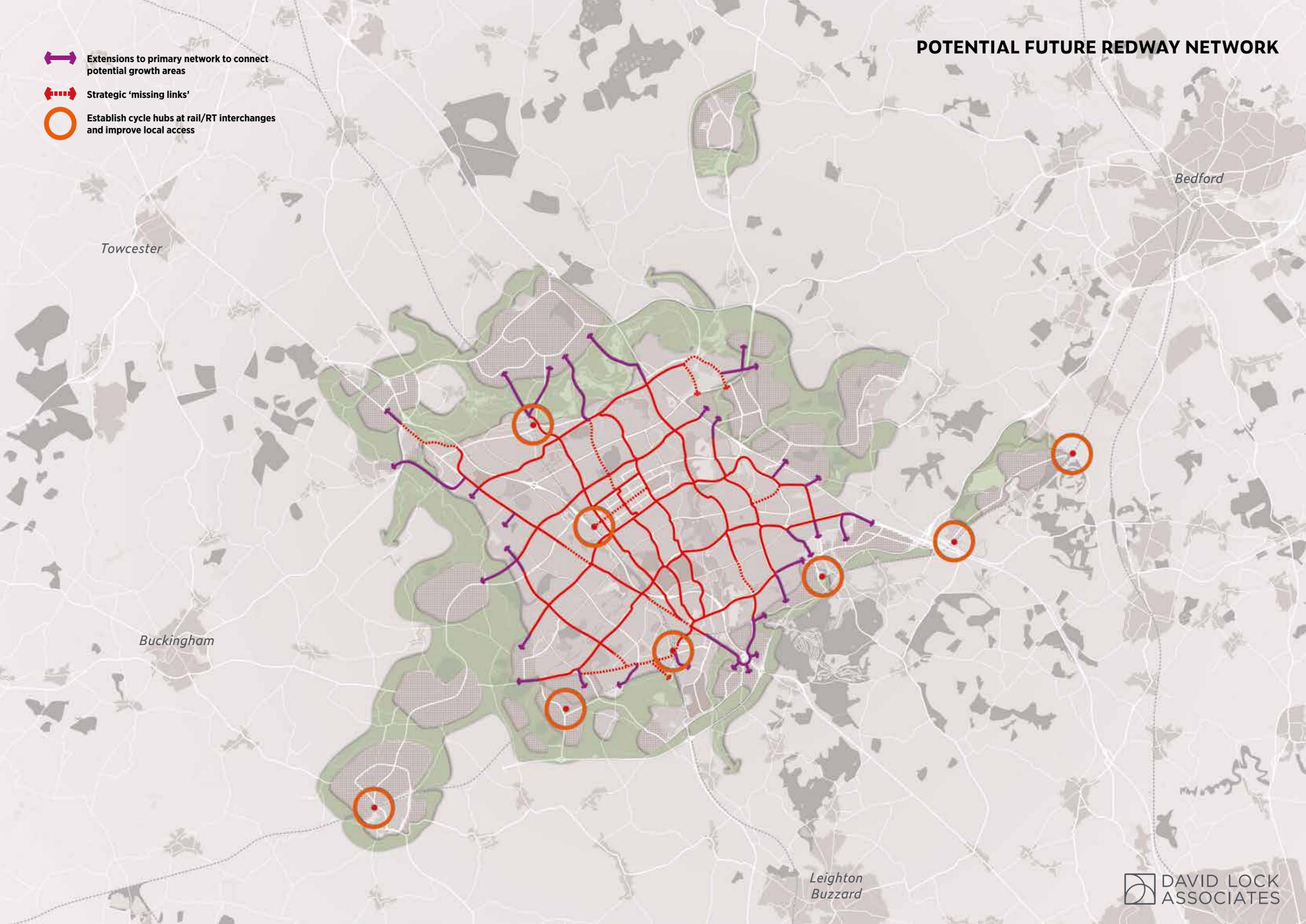
-  Extensions to primary network to connect potential growth areas
-  Strategic 'missing links'
-  Establish cycle hubs at rail/RT interchanges and improve local access

Towcester

Bedford

Buckingham

Leighton
Buzzard



CHAPTER 8: HOMES FOR ALL

On the basis that the mobility proposition provides a clear rationale for the spatial distribution of growth to 2050, addressing the issue of "Homes for All" becomes less a 'where' issue and more a 'what' and a 'how' issue. The means by which new homes are delivered – and the range of homes offered to the consumer – is now very restricted and is driven by market forces rather than housing need. This means that the housing needs or desires of significant portions of the population are not met adequately.

The greatest constraint on the rate at which new homes can be delivered is the formulaic product delivered by a very limited number and range of suppliers. Commercial pressures for takeovers and amalgamations among house builders have been reinforced by a planning and land assembly system that favours those with longer reach and deeper pockets and has concentrated supply into fewer hands.

The restraint on the availability of land and the complexity and time-consuming nature of the plan-making process means that most of the likely development land across England, and certainly in and around Milton Keynes, is already subject to development options and generally held by the eight largest UK housebuilders (who together controlled more than 50% of UK supply in 2017⁹⁷), or land traders.

Those housebuilders that now dominate the supply of new homes have little incentive to deliver more homes more quickly, and can argue that the limited market for their product is appropriately supplied and that demand for their product is limited. That is because the market for standard housebuilder fare is limited by its design, commodity, space and quality. And monopolistic conditions mean that there is little competition to drive up standards of design, commodity, space and quality.

However, up to three quarters of householders in the UK would not choose to buy a new house from a volume house-builder⁹⁸ and many could not afford to even if they wanted to because of high cost and low incomes. But many of them would love to have a new, high performance home that better meets their aspirations, freeing up supply in the second-hand market as a result – virtuous chains of varied supply. The success of innovative housing solutions, around MK and elsewhere, suggest that there is a latent demand for a wider choice of housing types and tenures.

In traditional cities the stock of homes has grown over a prolonged timescale producing great diversity of types, densities and tenures that appeals to a wide spectrum of prospective households – there is something for everyone. In and around Milton Keynes, the timescale of housing development has been much more compressed and, for at least half of the life of the new city, it has been the sole preserve of market orientated housebuilding companies. As a result, choice is more restricted and not all tastes or needs are readily catered for.

The compression of the delivery timescale also leads to demographic anomalies. The population in the study area has grown generally as a result of in-migration of economically active households, generally families with children, particularly in the early years when housing delivery rates were very high. This trend continues. But, as time passes, this bulge – young households with children – is maturing so that whereas at present the proportion of the population over 65 is lower than the national average, it is predicted to rise by 44% from 2015 to 2021⁹⁹ and there will be a bulge of older and smaller households with very different needs. Yet housing supply continues to be dominated by individual family homes at suburban densities. So large portions of the local population are finding that their changing housing needs are not met – up-sizing, down-sizing, convenient services and facilities or needing additional support and care are not readily catered for.

Similarly, the Study Area went through its early years with very little ethnic diversity. Yet now, 25% of school pupils do not have English as their first language, and the number of pupils from a minority ethnic background has increased by 72% since 2013¹⁰⁰ to be 45% of primary age children. These households may have different and diverse housing needs – inter-generational housing, for example – that conventional market housing does not meet well.

In future, a wider spectrum of housing suppliers would respond to the broad range of householder aspirations and expectations that are becoming more diverse and less uniform, and increasingly less likely to be satisfied by the standard market housing product. Responding to consumer trends will increase diversity rather than restrict it further, and accelerating the rate of development in the Study Area to 2050 will require new models of housing delivery that respond to these trends.



Eddington, Cambridge



Marmalade Lane Co-Housing, Cambridge (Mole Architects)

Accelerating and Widening the Supply of New Homes

Nationally, there are some positive signs that the supply network is broadening to reach a wider spectrum of prospective house occupiers with new and powerful participants at the top end¹⁰¹ and increasing interest in prefabrication and custom-build/self-build for more contemporary, higher performance homes.

The extent to which these new players, or new methods, can be brought in to growth areas depends predominantly as to who owns or controls the land. As one of the keys to delivering “Homes for All” is simply to broaden choice and to increase quality, as a major owner of prospective development land with the power and influence that goes along with that, MKC is well placed to play a pivotal role.

Secondly, MK has only ever managed delivery rates close to those needed today when the UK had a substantial social housing programme. Since then ‘affordable housing’ has been redefined and the means of delivery broadened but the quantity of supply is much reduced. But now there is increasing interest in future investment in social housing by Councils and other Registered Social Landlords to increase the supply of social housing to more closely meet the needs of the local population at a time when the availability of affordable housing by other means is falling so substantially short of demand. Again, MKC land could be an invaluable resource for good partnerships to flourish.

Delivery of the growth proposition for the Study Area requires the rate of development to be significantly accelerated (to 2,500 per annum) beyond that for which the conventional housebuilders alone have capacity, and the type and variety of suppliers and tenures must be broadened alongside the variety and type of homes. This requires proactive policies to actively support different housing delivery models, supported by the availability and bringing forward of such models on land owned or controlled by the partner Councils.

Strategies to accelerate the supply of new homes in the Study Area could include:

Innovation in Housing Models

To supplement conventional delivery models of market housing and related affordable homes secured by S106 agreements, the delivery of new homes in Milton Keynes in the future will require exploration of other delivery models to diversify type and tenure, models such as:

- ▶ **Social Housing** provided by Councils or other RSLs as standalone developments for low income households or households with special needs.
- ▶ **Co-Housing** with an emphasis on more communal living by people that share lifestyles and interests. Now relatively commonplace in Northern Europe, North America and Australasia created by people with common interests where occupiers share ownership and responsibility for management and maintenance. More commercial models are now being developed to attract young graduates seeking a more vibrant social life or older people seeking to live closer to cultural facilities and other services and amenities.
- ▶ **Housing Co-Operatives** where groups of households come together to share the cost and take advantage of joint purchasing power to build groups of homes as freeholders, leaseholders, shared owners or renters, as standalone entities or in partnership with an RSL.
- ▶ **Shared Ownership** providing a first step toward home ownership by providing part ownership/part-rental housing that better meets the needs of lower income households.
- ▶ **Community Land Trusts** set up by groups to provide low cost housing on land acquired at preferential prices because of the restriction on use, and maintaining access to affordable housing in-perpetuity.
- ▶ **Crowd Funding** providing peer-to-peer finance for housing projects

- ▶ **Self-build and custom-build** – nowhere in the UK offers greater potential to plan land for self-build and custom-build housing projects as part of large-scale housing development. MK has a history of such housing delivery in the past and the pattern of landownership in the new city – where significant swathes are owned by Milton Keynes Development Partnership and charitable organisations – provides the potential to support a revival of Self-build and custom-build.

Effective Sub-division of Large Sites

Promoting the sub-division of (large) sites into parcels of serviced land that are designed to meet the needs of a broader spectrum of suppliers – national/regional housebuilders; local small house builders; self-build and custom-build; cooperatives, etc, thereby enabling a larger number of outlets to achieve sales and lettings simultaneously. In this way the Study Area can deliver more housing annually thereby reducing the overall development period for large sites and new communities. Such a strategy would involve:

- ▶ Parcels appropriately sized based on intelligence about the requirements of different housing suppliers
- ▶ Working with planners/architects etc to design schemes to facilitate effective subdivision of sites into parcels of appropriate size and the structure of S106 and other planning obligations
- ▶ Analysing completions on developments in the locality and ensuring that the number of outlets in any one sector is not so large as to create market saturation
- ▶ Learning from the housing delivery processes in other developed economies, particularly in Northern Europe

Efficient Phasing Strategies

Agreeing on the most efficient phasing strategy for each growth area to enable the consistent, continuous and timely delivery of housing. This could involve:

- ▶ Detailed consideration of access arrangements – ideally securing early phases via existing or easily-constructed/adapted infrastructure, with future provision safeguarded and futureproofed for connection to RT and active travel infrastructure
- ▶ Ensuring that access to later phases is constructed in a timely and cost-efficient manner
- ▶ Considering adjoining land and the relationship to adjacent developments through positively-planned collaboration (or increased Council control if collaboration is ineffective)
- ▶ Considering and quantifying the benefits to be derived from a Master Developer (Partner Councils or a locally-led Development Corporation) providing key infrastructure (e.g. link roads through the site and structural drainage) thereby obviating potential problems arising from uncoordinated delivery of key infrastructure that may be necessary for later development, and ensuring more land can be opened up at an early stage enabling faster delivery.



Custom build housing (using MMC)

Positive Engagement with New Models of Delivery

The public sector is re-engaging with the delivery process, using land ownership, access to powers and the regulatory process, prudential borrowing and the availability of low-cost, long-term money as leverage, thereby creating new models for delivery, including joint delivery vehicles (JDV) through to locally led Development Corporations (LLDC). The Partner authorities are well placed to play a catalytic part in this process.

These new models have a direct interest in making development happen more quickly and to different standards and can use contractual obligations that flow directly from control of the land to deliver against those objectives.

Secondly, the Partner authorities could invest in new social housing enabled by landholdings and partnership arrangements.

Thirdly, fast-track procurement routes are commonly used to accelerate development. Selecting the right procurement route will be extremely important and will depend on the client's appetite for risk. It will also depend on the drivers for the project and whether cost, quality, risk or programme are the most important factors to mitigate. As schemes become more and more complex procurement methods are mostly tailored specifically to the requirements of the project, as there are various project constraints that need to be accounted for. Strategies that could be implemented by other parties in the development process to accelerate the supply of new homes on Council-owned/JDV sites would include:

Matching Types and Tenures to Markets

Ensuring that unit types and tenures represent those for which there is healthy demand or need in the locality – whenever market and rental demand remains high, homes are likely to be constructed and occupied quickly. This would involve:

- ▶ Carrying out research into the profile of accommodation provided on relevant comparable sites in the past
- ▶ Gaining intelligence on the types and level of demand in the area
- ▶ Ensure that policy requirements support all tenures and types of homes for which there is good local demand

Modern Methods of Construction

Introducing modern methods of construction (MMC) has significant potential to shorten construction periods on site.

At the outset of each project the delivery team should consider both cost and programme and highlight opportunities for use of faster, modern methods of construction.

The key with MMC is to ensure that delivery teams are used to working with different systems and methods of construction, so that they can start to design flexibility into the project at an early stage involving design advice from a specialist contractor which can be used to influence the final solution.

Until such time as control of land might be passed to a locally-led Development Corporation, the ability to require MMC as part of the suite of delivery models will be led by the market, supported by any positive policy requirements put in place through statutory development plans. Special Purpose Vehicles (SPV) could be drawn up between Councils and companies specialising in MMC for individual sites¹⁰².

Better still would be for the public sector to engage with the industry directly, perhaps by offering sites within the Study Area for a new MMC factory as part of an economic development strategy focused on delivering the transformational levels of growth in this part of the Arc.



¹⁰² This would build on models such as that for development at Campbell Park, where MKDP has sold the land to a consortium including Urban Splash who are building off-site homes as part of the overall offer www.urbansplash.co.uk/regeneration/projects/town-house



Oakgrove, Milton Keynes

CHAPTER 9: THE ENVIRONMENTAL SETTING FOR GROWTH

Landscape and environmental quality are at the heart of shaping new places. Nowhere in the UK demonstrates this better than Milton Keynes, perhaps the greatest single landscape project ever undertaken in the UK. Landscape is as applicable to considerations at the scale of the growth study for the whole city as it for individual development sites. However, in a transformational growth context, **the scale of ambition in respect of green infrastructure and environmental excellence must match the scale of ambition for growth itself.**

The opportunities provided by existing or enhanced green infrastructure within the Study Area is a crucial initial consideration that will shape potential growth locations, whether closely linked to the existing urban area to expand existing green infrastructure, or forming standalone growth areas framed and integrated into the wider area through positive integration with their landscape setting.

Notable landscapes within the Study Area (including the Greensand Ridge, Whaddon Chase, and the Ouzel Valley), together with other environmental, topographical and heritage influences which sit outside existing urban areas, have been the starting point for evaluating how the refined conceptual growth approaches could be applied to the local area to shape potential new growth location¹⁰³.

Rather than regarding landscape as simply an absolute constraint on growth, the study looks at the extent to which the landscape and its features might be integrated with new development through well-planned growth shaped sensitively to deliver an environment and setting for new jobs and homes that add to its value, and which might also add value or improve the function, accessibility or management plans for existing landscapes.

In his interview for the post of Milton Keynes first Chief Architect, the late Derek Walker stated that his ambition was for Milton Keynes to be *“a forest city greener than the surrounding countryside”*.

This philosophy tells us much about the qualities of the new city today, and provides the essential foundation for the expansion of the city tomorrow.

In some areas – such as the Greensand Ridge – topography, woodland character and restricted accessibility combine to limit the capacity of this area for growth. Elsewhere within the Study Area, landscape features can help provide a positive setting and a local context for growth.

Similarly, the principles of the highly respected and valued strategic landscape design of Milton Keynes should be carried forward into new growth plans. A continuation of the established design principles for strategic scale linear parkland and waterways within Milton Keynes (such as the Ouzel Valley and Loughton Valley Parks, the Lakes, and the Grand Union Canalside) can and should be extended as the trellis for any planned strategic growth beyond the existing urban areas, especially where they could help realise elements of strategic green infrastructure plans already in place (such as Whaddon Chase, or the Bedford to MK Waterway). Failure to do so would impoverish the environments created for future citizens compared with those enjoyed in existing parts of the new city.

Green Infrastructure Growth Proposition

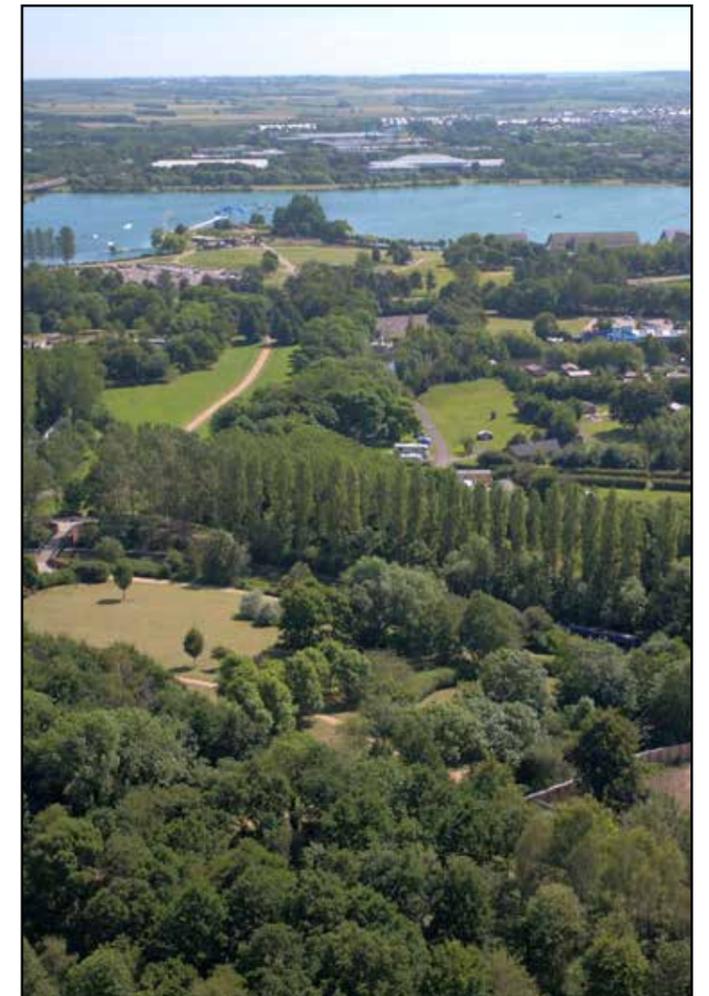
The growth ambitions for MK provide an unrivalled opportunity to significantly increase its environmental assets alongside planned growth. They also offer an opportunity to realise some of the existing sub-regional green infrastructure ambitions within the Study Area; reinforcing, enhancing and linking existing assets to establish a comprehensive green framework to form a regional-scale asset for the area which also shapes long term development proposals as they come forward over the next 30+ years.

The plan opposite outlines the elements of a green and blue infrastructure growth plan which could be delivered alongside, and support, the economic and mobility growth options set out in chapter 5. Features include:

- ▶ Extensions of existing MK linear parks into new growth locations;
- ▶ Creation of new/expanded woodland areas as part of growth locations to enhance existing woodland assets and provide multi-functional mitigation associated with growth;
- ▶ Linking of linear parks with other green infrastructure (GI) features in the wider area (particularly important for SUDs, incorporating the Bedford & MK Waterway and enhancement of ecology networks and landscape connectivity across and outside MK);
- ▶ A high-level, area-wide strategic SUDs network which is capable of alignment with the Water Resource Long Term Planning Framework and the emerging Water Resources Management Plans for this area being developed by Anglian Water¹⁰⁴;
- ▶ The joining up of existing GI assets (woodland, parkland, heritage assets, and water bodies) to establish a regional park.

In the same way that built growth areas link and extend some of the MK design principles into new locations, planning and designing the green and blue infrastructure at scale allows for extensions of some of the original city-scale green infrastructure principles to new growth locations. Extending MK features such as linear parks and strategic SUDs systems (‘teardrop lakes’ and larger water bodies) could also strengthen and link existing green infrastructure outside the urban area (a number of which at present are isolated features within the Study Area).

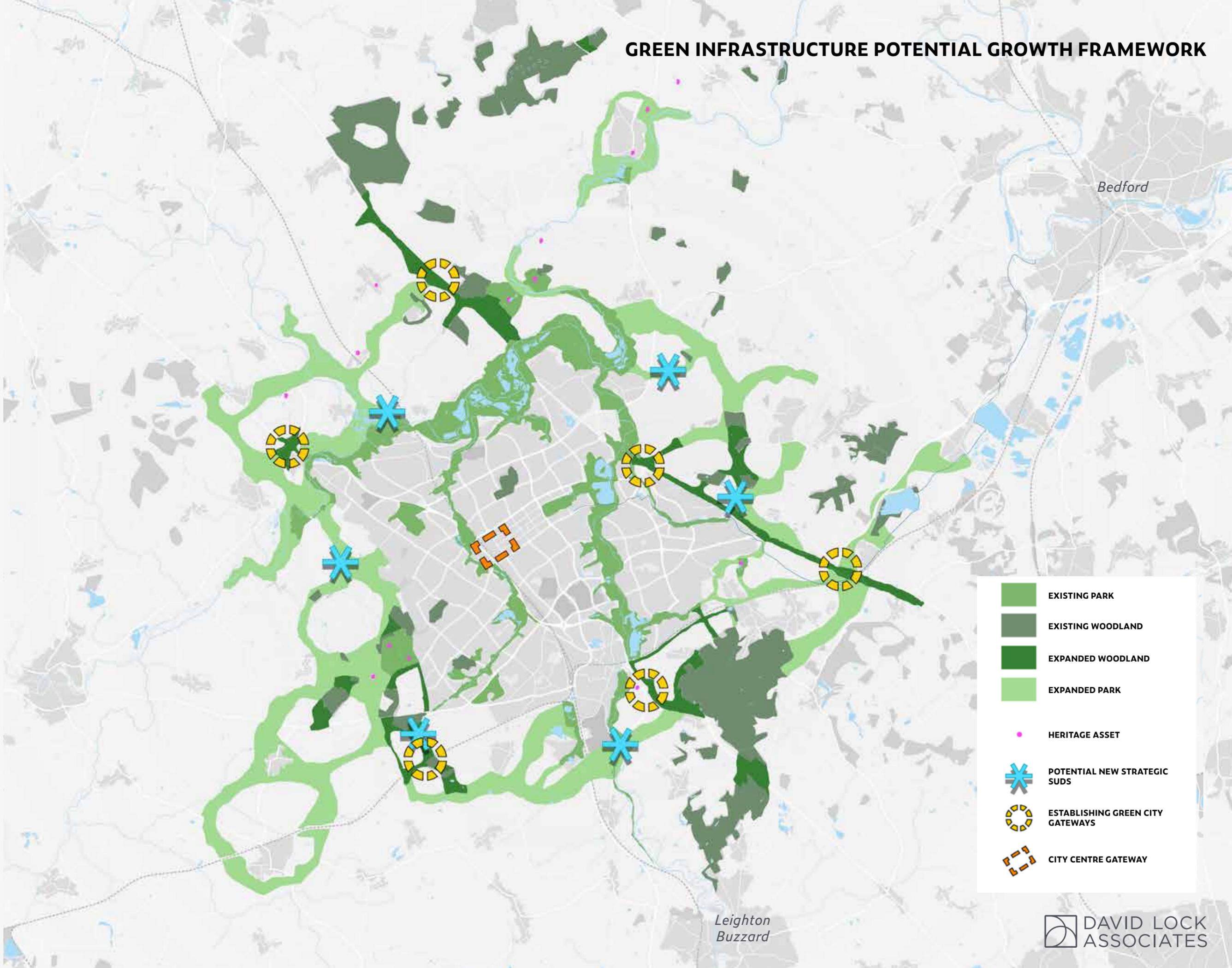
Applying the original design principles for the integration of existing and new settlements into the wider green infrastructure network – using green buffers/new parks or woodland to create separation between settlements through the creation of usable GI – will also help to maintain identity of these settlements within a growth context¹⁰⁵.



View looking east to Willen Lake from Campbell Park Milton Keynes

¹⁰⁴ Further work would be required to develop a more detailed strategic SUDs strategy for the Study Area in liaison with Anglian Water. However, the GI framework for growth as shown on these plans would seek to establish the key principle of using the existing ‘blue infrastructure’ within the Study Area as the basis for a connected multi-functional system which combines SUDs with surface water attenuation and management, water-related leisure and recreation, and ecological enhancement with the aim of achieving a net gain in biodiversity through strategic growth plans.

GREEN INFRASTRUCTURE POTENTIAL GROWTH FRAMEWORK

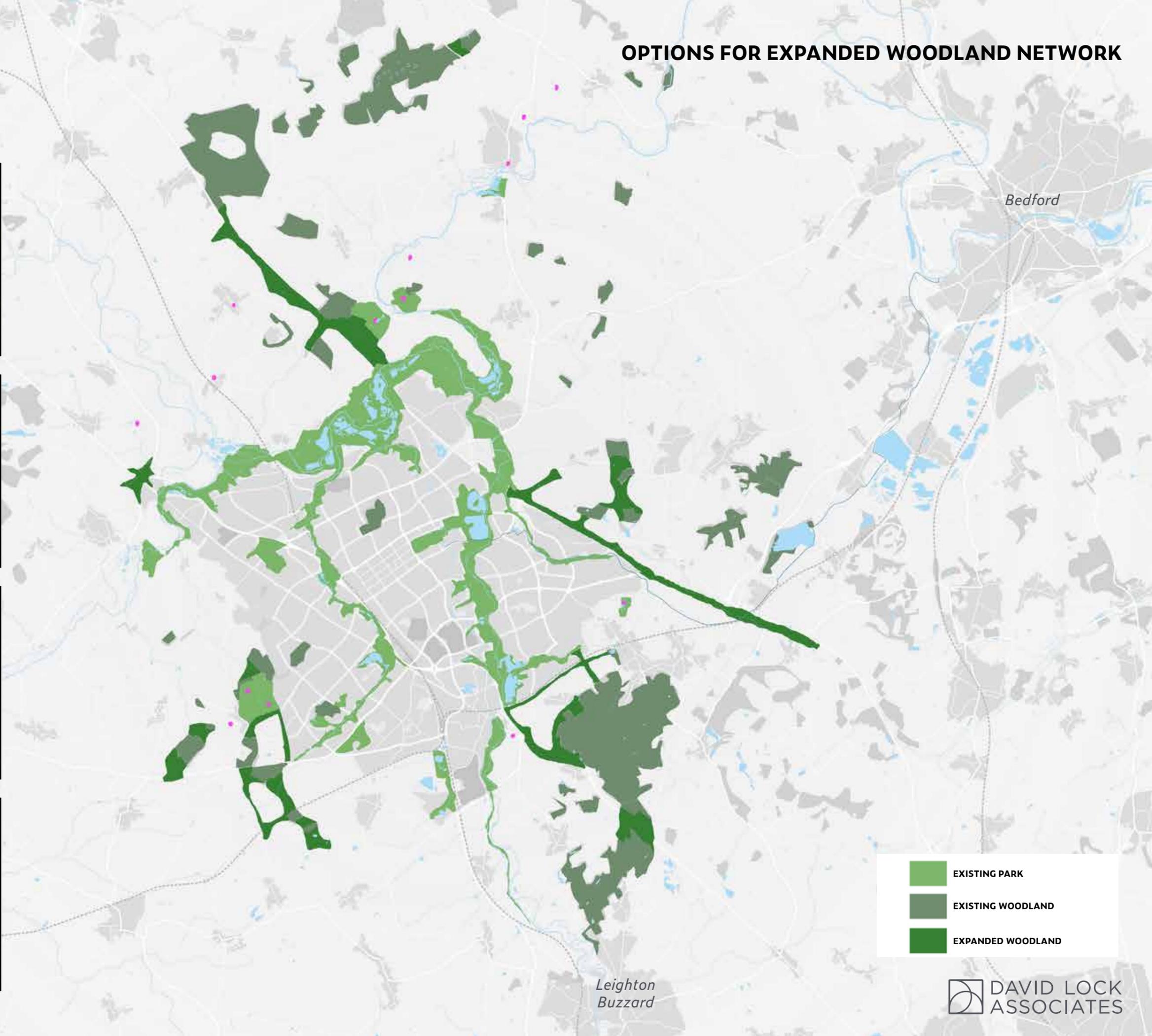


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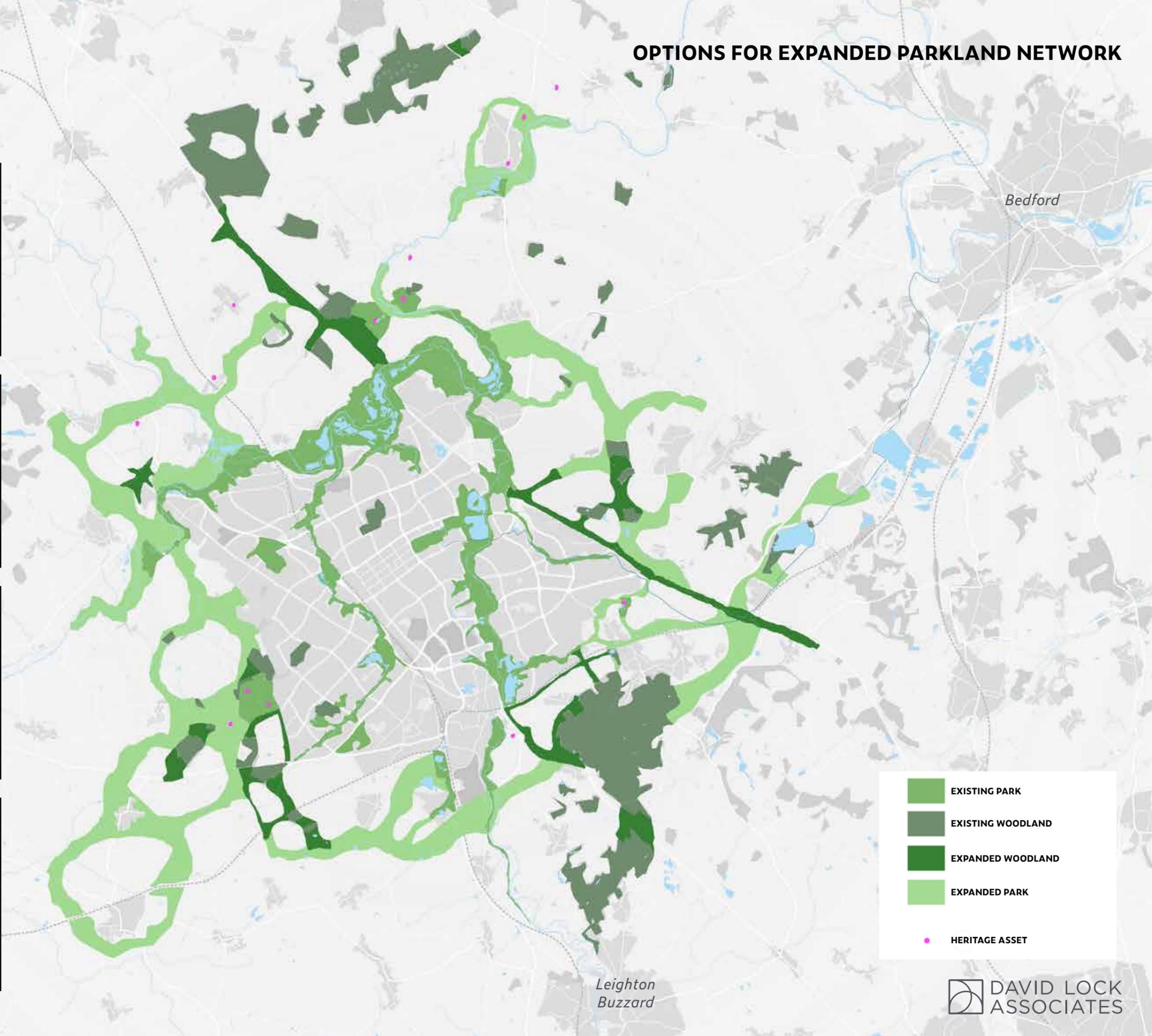
- EXISTING PARK
- EXISTING WOODLAND
- EXPANDED WOODLAND
- EXPANDED PARK
- HERITAGE ASSET
- POTENTIAL NEW STRATEGIC SUDS
- ESTABLISHING GREEN CITY GATEWAYS
- CITY CENTRE GATEWAY

OPTIONS FOR EXPANDED WOODLAND NETWORK



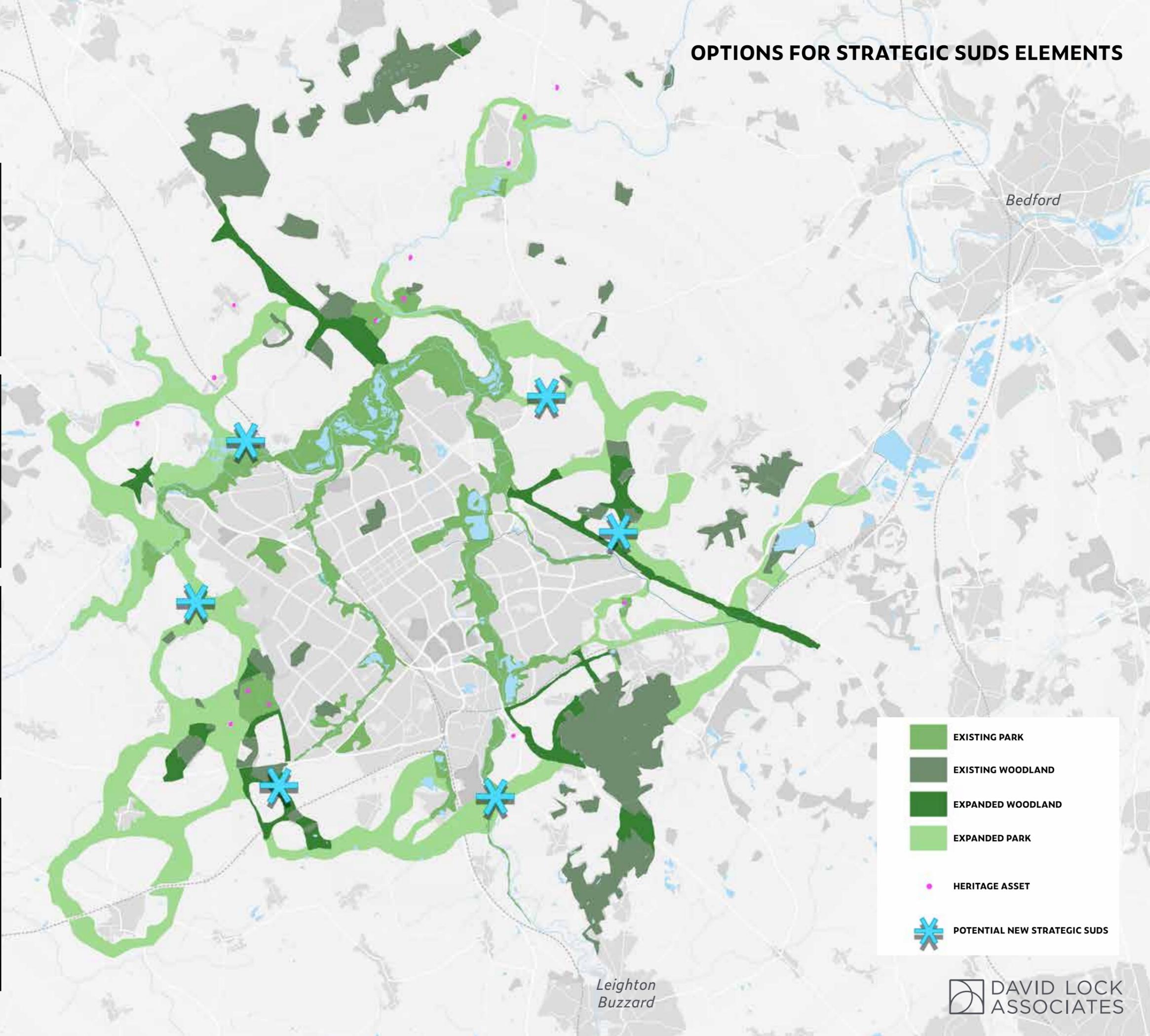
-  EXISTING PARK
-  EXISTING WOODLAND
-  EXPANDED WOODLAND

OPTIONS FOR EXPANDED PARKLAND NETWORK

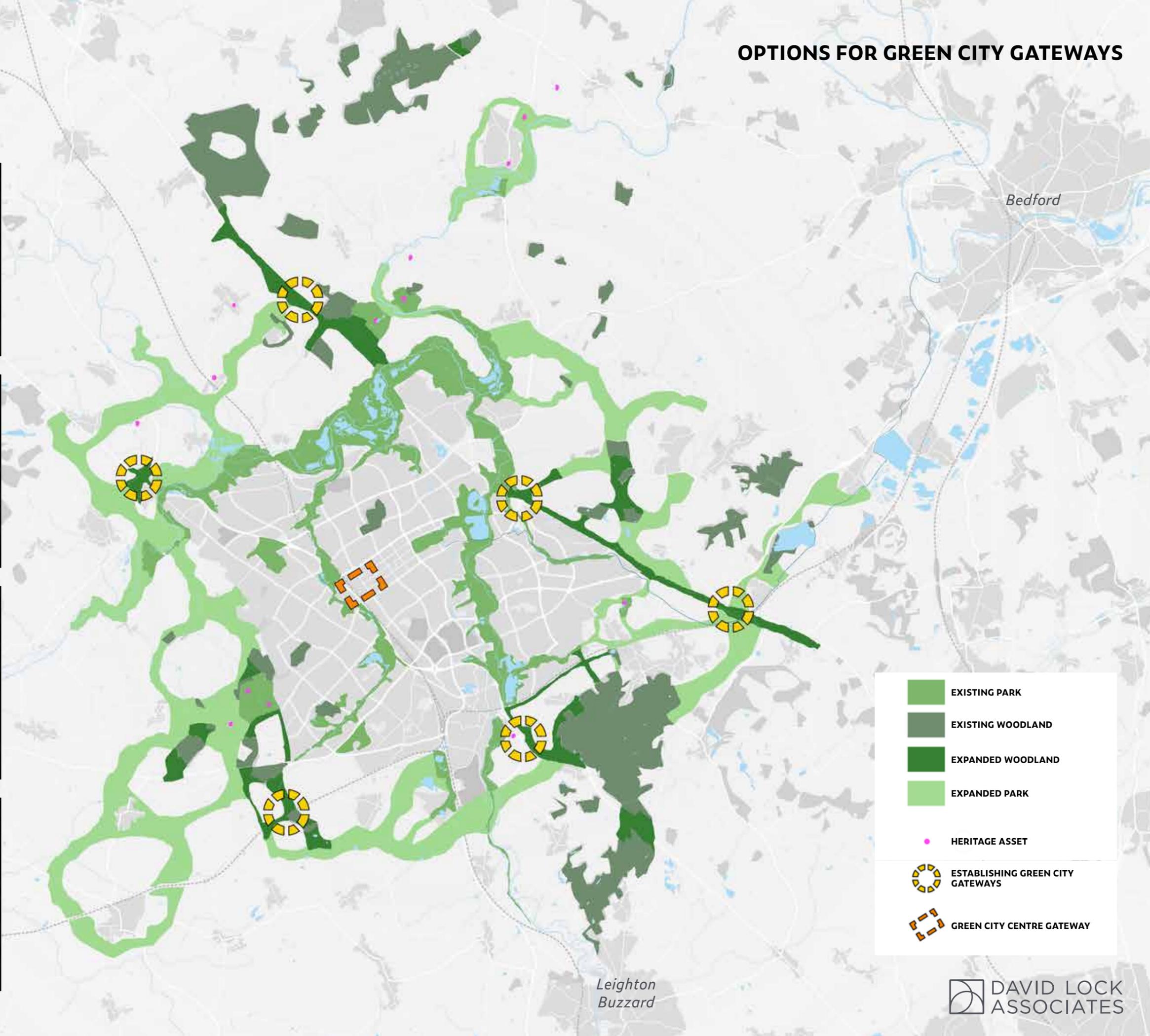


-  EXISTING PARK
-  EXISTING WOODLAND
-  EXPANDED WOODLAND
-  EXPANDED PARK
-  HERITAGE ASSET

OPTIONS FOR STRATEGIC SUDS ELEMENTS

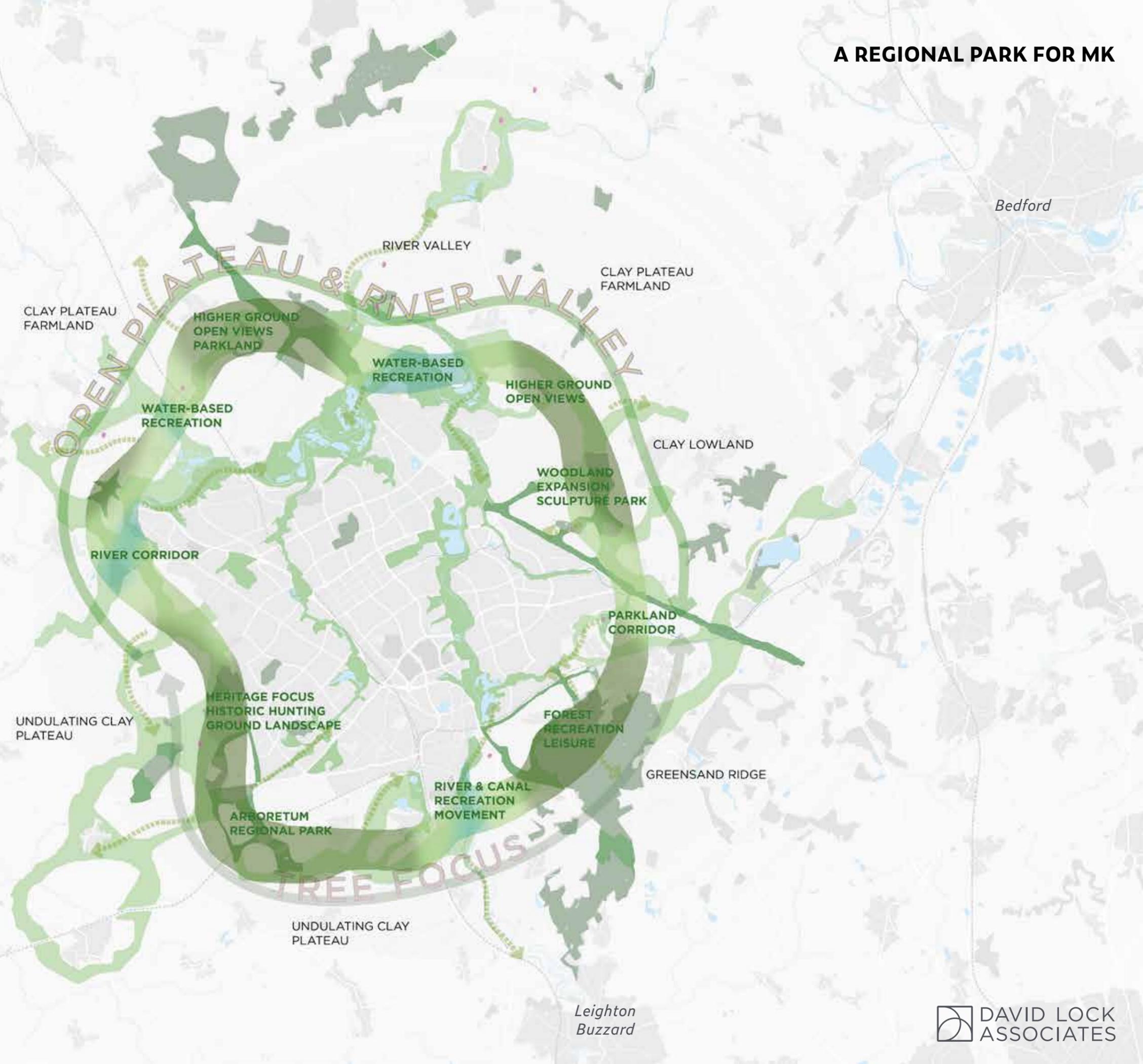


OPTIONS FOR GREEN CITY GATEWAYS



- EXISTING PARK
- EXISTING WOODLAND
- EXPANDED WOODLAND
- EXPANDED PARK
- HERITAGE ASSET
- ESTABLISHING GREEN CITY GATEWAYS
- GREEN CITY CENTRE GATEWAY

A REGIONAL PARK FOR MK



Leighton
Buzzard



Ouse Valley Park

Areas considered unsuitable for strategic growth

Within the Study Area part of our analysis examined whether there were any parts of the area where it would not be appropriate to pursue strategic growth at scale within the period to 2050.

A number of such areas were identified. The reasons for their unsuitability relate primarily to landscape and topographical constraints, but also relate to the ability of these areas to build in effective sustainable physical and functional connections with existing urban areas without unacceptable settlement coalescence.

Areas where a significant level of new built development could not be mitigated effectively in terms of visual or landscape impact, or where new growth would not be able to be served effectively by PT routes to an extent which could transform patterns of movement, include:

- ▶ Rising land north of Newport Pagnell east of the M1 and across the A509/A422 corridors north of Cranfield, where the Ouse Valley and changing topography would give rise to extensive long distance views of built development south of the A509 junction with the A422, and where any significant growth further north would not be accessible by rail and thus only be unlocked through standalone investment in RT;
- ▶ Land south of the A422 along the River Great Ouse corridor west of MK, more remote from the east-west strategic infrastructure network in the south of the Study Area;
- ▶ Land south of the A4146/anticipated Expressway route between the A5 and the A4146 beyond any defensible boundary created by the Expressway alignment, where the rising topography towards Great Brickhill is not conducive to development at scale and where opportunities for good quality RT solutions are much reduced;

- ▶ Land to the east of the M1, south of Salford/Cranfield villages east to the A421, which crosses the boundary into Central Bedfordshire where strategic development on the slopes of the Marston Vale would be visually exposed and where additional motorway crossings would be required to provide effective RT connections back to MK;
- ▶ Land around and to the north of Hanslope, Grafton Regis and Paulerspury, where growth at scale could only be unlocked with new rail stations and/or significant new cross-border transport infrastructure (such as the extension of RT along the A5 to Towcester or A508 to Northampton). This may be possible over the very long term (post-2050), but without commitment to such infrastructure, growth in this part of the Study Area will not deliver the good growth outcomes sought.

Inclusion of 'Strategic Gaps and Corridors' within Growth Plans

As noted by the Plan:MK Inspector as recently as March 2019, the 'Forest City' and linear park concepts remain key components of planned growth and are embedded in Plan MK policies as part of the wider requirement for coherent landscape and open space strategies as part of major new developments.

In the context of growth to 2050, these principles remain equally valid. There are areas where, as part of the identification of strategic growth locations outside the main urban areas, existing areas of green infrastructure and landscape have been specifically included on growth plans for protection and enhancement. Potential for growth locations to the west, east and north of MK in particular, include the retention and incorporation of strategic landscape and green infrastructure planned and delivered as part of this growth.

For example:

- ▶ The Ouse Valley Park, a landscaped river corridor and network of lakes which runs E-W north of the new city around Stony Stratford, north of Wolverton, via Linford Lakes to the River Great Ouse at Newport Pagnell and beyond towards Bedford. The protection, enhancement and extension of this strategic greenspace so as to maintain a strategic gap should potential growth options to the north of MK ever come forward as well to form a regional-scale asset for the Study Area as a whole, would have to be a critical part of any proposed growth option to the north of the existing urban area of North MK;
- ▶ The protection and enhancement of the Ouzel Valley running south-north through MK to Newport Pagnell and the River Great Ouse: a green and blue infrastructure asset of importance in managing flood risk across the Study Area and beyond which will form a wider GI corridor shaping any new growth locations south and north of the urban area;

- ▶ The creation of a linear park network to create an 'edge to the western expansion of MK beyond current development allocations, creating continuous linear parkland which frames the city from the East-West rail line/A421 to its south west to join the Ouse Valley Park at Passenham/Old Stratford and thereafter Newport Pagnell. Depending on the appetite for new TOD communities beyond the urban area of MK in Aylesbury Vale, this linear park network could be expanded westwards to encompass Whaddon Chase to create a green setting for these communities;
- ▶ Creation of permanent 'green buffers' to create an appropriate setting around existing smaller settlements within the Study Area as an integral part of planned growth, avoiding unacceptable inter-visibility and settlement coalescence and maintaining individual settlement character, albeit still part of the wider 'metropolitan MK' area. This is a design principle and delivery mechanism which has served MK well over the last 50 years, incorporating the best of town and country into the new city model, and should be carried forward when selecting and defining planned locations for growth.

The green infrastructure growth plans show how this thinking has been applied as an integral part of the spatial growth options to 2050 and beyond.

CHAPTER 10: RECOMMENDED SPATIAL GROWTH PROPOSITION TO 2050

There are choices not yet made around which of the potential growth areas outlined in this Study are brought forward, and when they might be sequenced and delivered. However, one of the overarching MK2050 principles is to realise year-on-year 'inclusive growth' outcomes for both existing and new communities within the Study Area throughout the period to 2050 and beyond.

Adopting this inclusive growth objective as the overriding driver of spatial growth to 2050 has generated a Recommended Spatial Growth Proposition to 2050, shown in Plan II opposite.

The recommended spatial growth proposition requires a series of policy interventions and delivery mechanisms to be realised, not least of which is a commitment to cross-border spatial planning and development management over the long term, together with the adoption of a common cross-boundary approach to transport, mobility and strategic green infrastructure planning.

In addition, the sequencing of growth is dependent on the phasing, design and delivery of different elements of key infrastructure. Chapter 17 of this Study sets out recommendations as to which potential growth locations within the Study Area might be brought forward within the period to 2050 and what might be needed to unlock or shape such growth.

PLAN II: RECOMMENDED SPATIAL GROWTH PROPOSITION TO 2050

This plan shows the optimum alignment between potential growth locations and planned investment in strategic green and grey infrastructure enabled by commitment to cross border working, supported by the integrated delivery of rail station/transit interchanges with MK:RT infrastructure and intensification at nodes within the urban area

-  Potential Growth Option
-  Strategic Green/Blue infrastructure
-  Modelled Rapid Transit Network *
-  Other options for Rapid Transit Network
-  Potential for Cross Border Rapid Transit Network Extensions
-  Regeneration Estates **
-  Railway Station
-  RT Node
-  Park and Ride location
-  Other key new infrastructure links and junctions
-  Allocations or commitments in adopted or draft local plans

Buckingham

Bedford

Leighton Buzzard

* The 'Modelled Rapid Transit network' is the network for which initial modelling has been undertaken as part of this Study. 'Other Options for Rapid Transit Network' are lines/extensions which have not been modelled as part of this Study but which could form part of a RT network.

** It is noted that during the preparation of this study, Milton Keynes Council's policy for regeneration has changed. The estates referenced here are those seven which were originally highlighted as priority estates.

Part 2 - References

- ⁸⁵ Economic Scenarios Research Paper 'Key Finding 10', pp 4-5
- ⁸⁶ For details see Appendix 3 of the Economic Scenarios Research Paper
- ⁸⁷ Economic Scenarios Research Paper, section 5.6
- ⁸⁸ CMK's share of B Class space (46%) is calculated from data provided in the 2015 EGELS Phase 1 report (Table 4.2). It is therefore assumed that 46% of borough employment within B Class space is located within CMK.
- ⁸⁹ NB. These figures do not include existing empty office space currently available in CMK. Estimates derived from the EGI property database suggest this figure currently equates to 69,000 sqm.
- ⁹² NIC Future of Freight (interim report, December 2018)
- ⁹³ Logistics is the New Retail, submission to the NIC Freight Study Call for Evidence by DHL, Axa and UK-BCSD, March 2018
- ⁹⁴ See MK Mobility and MRT Study for a detailed exposition of the case for RT in MK.
- ⁹⁵ See MK Mobility and MRT Study Section 6
- ⁹⁶ More detail on MaaS is provided in the Mobility and MRT Study
- ⁹⁷ House of Commons Communities and Local Government Committee Capacity in the Homebuilding Industry Tenth Report of Session 2016-17 (April 2017)
- ⁹⁸ House of Commons debate on housing (28 March 2019) and YouGov survey for NaSCBA
- ⁹⁹ https://www.mkcommunityfoundation.co.uk/files/8615/3984/9841/20180927_Long_Report_Final.pdf
- ¹⁰⁰ ibid
- ¹⁰¹ For example, London and Quadrant (L&Q) and Places for People (PfP)
- ¹⁰³ See Annex 1 for mapping and analysis of the existing landscape character within the Study Area
- ¹⁰⁵ p8, The Planning of Milton Keynes (CNT); p23 The MK Planning Manual 1992

PART 3:

GROWTH AREAS

This section of the Growth Study provides evidence detailing the recommended spatial characteristics for each of the growth options outlined in this Study (including those which are not in the Recommended Growth Proposition to 2050), setting out how the growth typologies could be applied to each place in a way which seeks to maximise the potential for achieving the 'good growth' objectives set out in Part One.

These plans have been drawn up as part of the Growth Study, not as agreed plans for how development sites will be delivered, but rather to demonstrate the way in which this Study recommends that new places should be:

- ▶ **designed based on this Study's recommended typology for each location; and**
- ▶ **delivered in a way which embeds MK2050 growth objectives from the outset.**

Allocated Growth

For that growth which is already allocated in current plans, recommendations are made for how these sites can be designed and brought forward to 2031 in a way which meets good growth objectives and ensures rapid transit can be effectively integrated to achieve a meaningful shift away from the car and support the recommended MK:RT proposition.

These plans are cognisant of the fact that, for some areas, masterplanning work for allocated sites within one of our recommended growth areas may already be underway. It will therefore be important going forward for decision makers to weigh up current plan policy or preferences influencing master planning and development framework designs against the ability of these designs to deliver MK2050 growth objectives.

Current master plans and planning application proposals that deliver longer term spatial objectives (such as future proofing RT connections and routes) and maintain MK's key green, blue and grey infrastructure design principles should be supported.

Potential New Growth Areas

For potential new growth areas, this section of the Study identifies how they could be brought forward based on inclusive growth principles, adopting the Study's recommended typologies, if the Council were to select these sites/options as part of its Growth Strategy to 2050 and as allocations in future development plans.

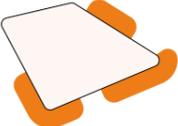
GROWTH TYPOLOGIES APPLIED

Towcester

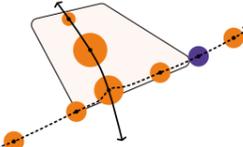
Buckingham

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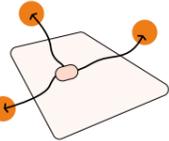
COMPLETING THE GRID



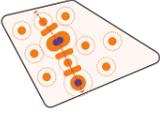
RAIL-BASED TRANSIT GROWTH



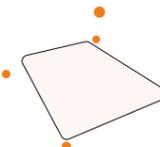
NEW TOD COMMUNITIES



INTENSIFICATION & REGENERATION



SELECTIVE SETTLEMENT EXTENSIONS



Transit Orientated Development (TOD) within the Study Area

Transit Oriented Development, or 'TOD', is a recognised term applied within the UK and elsewhere, defined as compact development with a mix of activity-generating uses (housing, jobs, shops, restaurants, community and social facilities) all with easy walking access to public transport stations or stops. These principles align well with the mobility and inclusive growth objectives set out in the MK Futures 2050 Vision work and as such form an overarching component of the analysis of growth options and recommended growth proposition for the Study Area to 2050.

Annex 4 of this Study defines the concept of TOD, explains its relevance to the Growth Study and provides an analysis of how TOD principles can be adapted to the Study Area context.

The plan opposite shows how applying the principles of TOD to growth locations, both within and outside the urban area, can shape the growth areas.

The fundamental principle of this proposition - critical for the Study Area - is that good growth at scale requires rapid transit, and rapid transit needs the level of patronage generated by growth designed on TOD principles.

TOD principles are applied at a variety of scales depending on the role and function of a location. The principal development characteristics of each scale of TOD are outlined below:



Sub-Regional TOD (CMK):

- ▶ Primary Economic & Cultural Centre (for the wider MK sub-region and the central part of the Arc)
- ▶ Rail transit connectivity (national/regional function)
- ▶ Hub of 'Greater MK' MRT network, benefitting from to and through services.
- ▶ Increased residential population as part of a 'live-work-play' environment.
- ▶ Highest density/intensity within the Study Area.
- ▶ Extent of TOD is not limited to just the MKC Station area; due to its MRT connectivity, TOD is applied over the entire CMK/Campbell Park area.



Urban Centre TOD (Bletchley)

- ▶ Contains a full array of mixed uses: residential/employment/retail/commercial leisure etc.
- ▶ Where opportunities arise for development/redevelopment, this is at slightly lower densities/intensity than CMK
- ▶ Interchange between regional rail (WCML and East West Rail) and RT network; also benefitting from local bus services and cycle hub.
- ▶ Preserving local historic character where appropriate
- ▶ Particular opportunity to boost employment/jobs and resident population given connectivity and availability of potential development/redevelopment sites.



Urban Neighbourhoods (at rail/RT interchanges)

- ▶ Existing, new or regenerated centres benefitting from regional rail connectivity – Wolverton on WCML local service; Winslow/SWMK/SEMK/Marston Valley new community on EWR Oxford-MK-Cambridge rail services
- ▶ Interchange point between regional rail and MRT, also benefitting from office hub
- ▶ With exception of Wolverton (established historic mixed use centre), predominantly higher density residential nodes benefitting from mix of local/district retail and commercial/community uses, but due to wider rail connectivity also provides greater opportunities for office based employment as a destination in its own right.
- ▶ Density/intensity of development is higher in the immediate walkable area to support transit viability



Urban Neighbourhoods (at RT Nodes)

- ▶ MRT nodes servicing wider district catchment areas for retail, leisure, community infrastructure, and local employment facilities
- ▶ As part of mixed use node, residential will be at higher densities/intensities (focused on smaller unit sizes?) than in local neighbourhoods benefitting from MRT.
- ▶ Likely to also benefit from other local bus services to integrate with wider district.



Local Neighbourhoods:

- ▶ MRT nodes at existing or new locations benefitting from local provision (day to day needs) mix of uses and increased residential density/intensity
- ▶ Not normally seen as a destination but connected directly to MRT line destinations and hub connecting to wider transit network.



Special Use/Employment Area TODs - either:

- (a) Predominantly single non-residential use – either moderate density employment areas or focussed on a major institution. 'Greater MK' examples include: MK University Hospital, The Open University, existing or new employment locations, or regional green infrastructure destinations such as Willen Lake or Emberton Park;
- (b) Where the level of destination trip demand/opportunity provides justification for a RT stop; or
- (c) In locations where increased density/intensity of use is pursued given the connectivity and aim of reducing reliance on private car use.

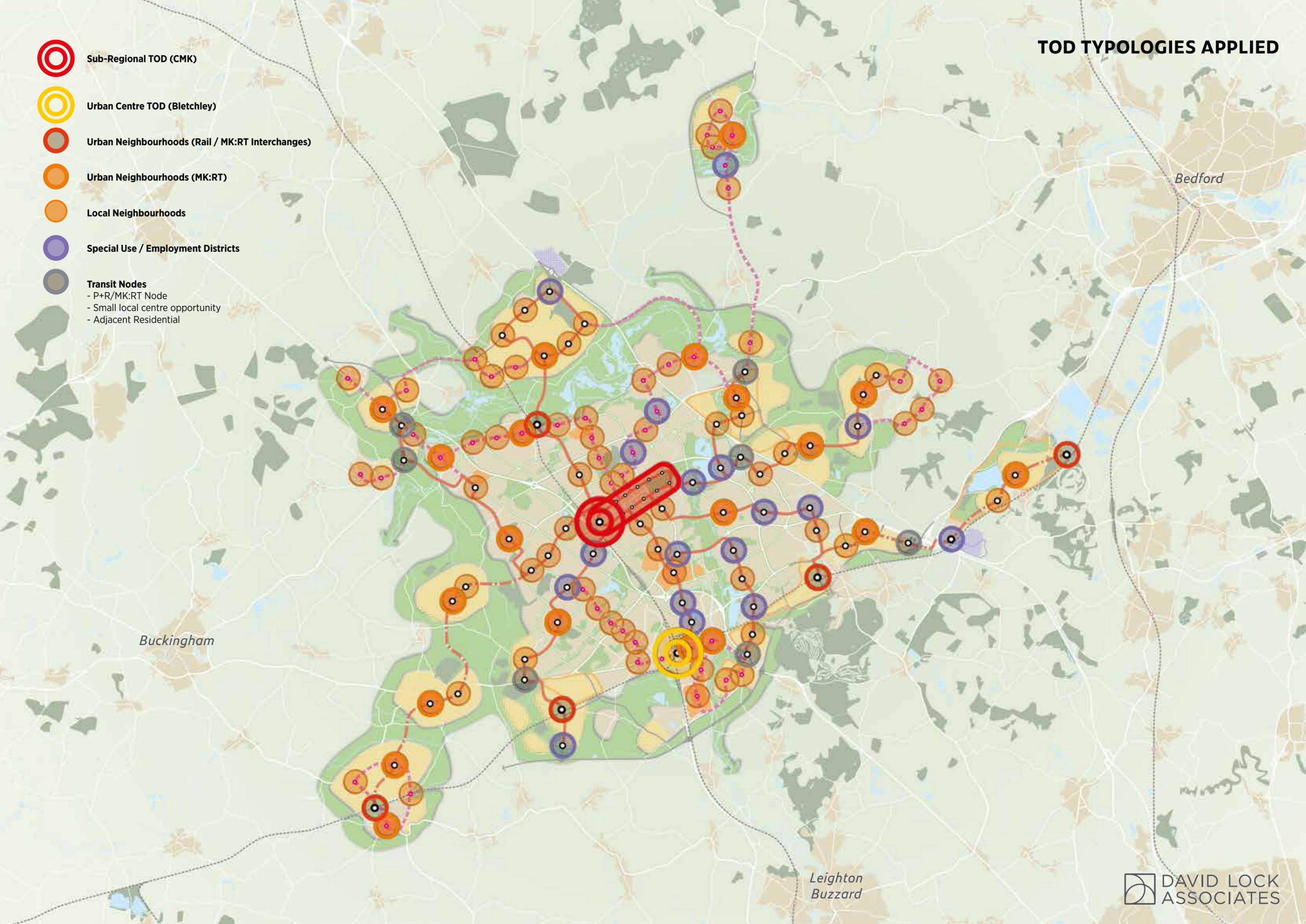


Transit Nodes:

- ▶ Focused on nodes providing citywide Park and Ride facilities to intercept in-commuting for employment and leisure from wider area/region
- ▶ Adjacent residential should be of increased density to support and benefit from MRT connectivity
- ▶ Use, activity and intensity could also prove opportunities for local day to day retail needs.

TOD TYPOLOGIES APPLIED

-  Sub-Regional TOD (CMK)
-  Urban Centre TOD (Bletchley)
-  Urban Neighbourhoods (Rail / MK:RT Interchanges)
-  Urban Neighbourhoods (MK:RT)
-  Local Neighbourhoods
-  Special Use / Employment Districts
-  Transit Nodes
 - P+R/MK:RT Node
 - Small local centre opportunity
 - Adjacent Residential

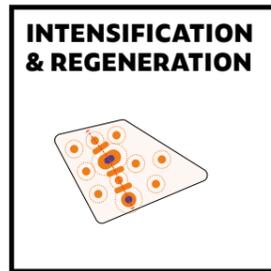


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CHAPTER 11: INTENSIFICATION AND REGENERATION OPPORTUNITIES



Intensification and Regeneration Opportunities

Within the urban area of Milton Keynes a number of opportunities for intensified activity have been identified as part of the Growth Study.

This typology forms a key aspect of growth, both in terms of its contribution to the quantum of overall planned growth but critically, in its ability to deliver economic and social benefits to the existing population of the new city: one of the key requirements of 'good growth' to 2050. Importantly this typology focuses on delivering an 'intensification of activity' rather than simply increasing the density of the built form – seeking that which enlivens and creates a more vibrant and active place as well as building more places to live and work. The opportunities identified in this Study are not an exhaustive list: other opportunities for intensification and regeneration may also exist.

There is a close correlation between TOD principles and intensification and regeneration opportunities within the Study Area, and the TOD typologies and development characteristics outlined on the previous pages have been applied to each of the concepts for intensification and regeneration opportunity areas set out in this chapter.

Propositions for growth through intensification and regeneration range in scale from Central Milton Keynes and Bletchley, through district centres, existing regeneration/employment areas to local centres and reserve sites.

Within CMK and Bletchley, there is significant potential for a step change in intensification of uses and activity; around other nodes the focus of intensification will be on additional higher density housing and mixed uses compatible with neighbouring residential neighbourhoods, or on intensification of current employment uses and other related uses. This typology closely supports a move to a rapid transit in MK, where land uses and the design of development can actively promote and prioritise access to rapid transit services. Some of the nodes are explored in more detail as part of the Employment Proposition (see Jobs for All section) above, and the growth proposition for Central Milton Keynes is set out in Chapter 12 below.

Bletchley Interchange

The extent and quality of potential future connectivity at Bletchley town centre is considered unique in the wider region. An existing station on the WCML (national north-south connectivity); a proposed stop on East West Rail (regional east west connectivity); and a key node as part of the proposed RT network for MK (local connectivity to CMK and other destinations) provides an excellent context to underpin the comprehensive regeneration and redevelopment of the town centre going forward.

Comprehensive regeneration and redevelopment for the area within the MK2050 context would include:

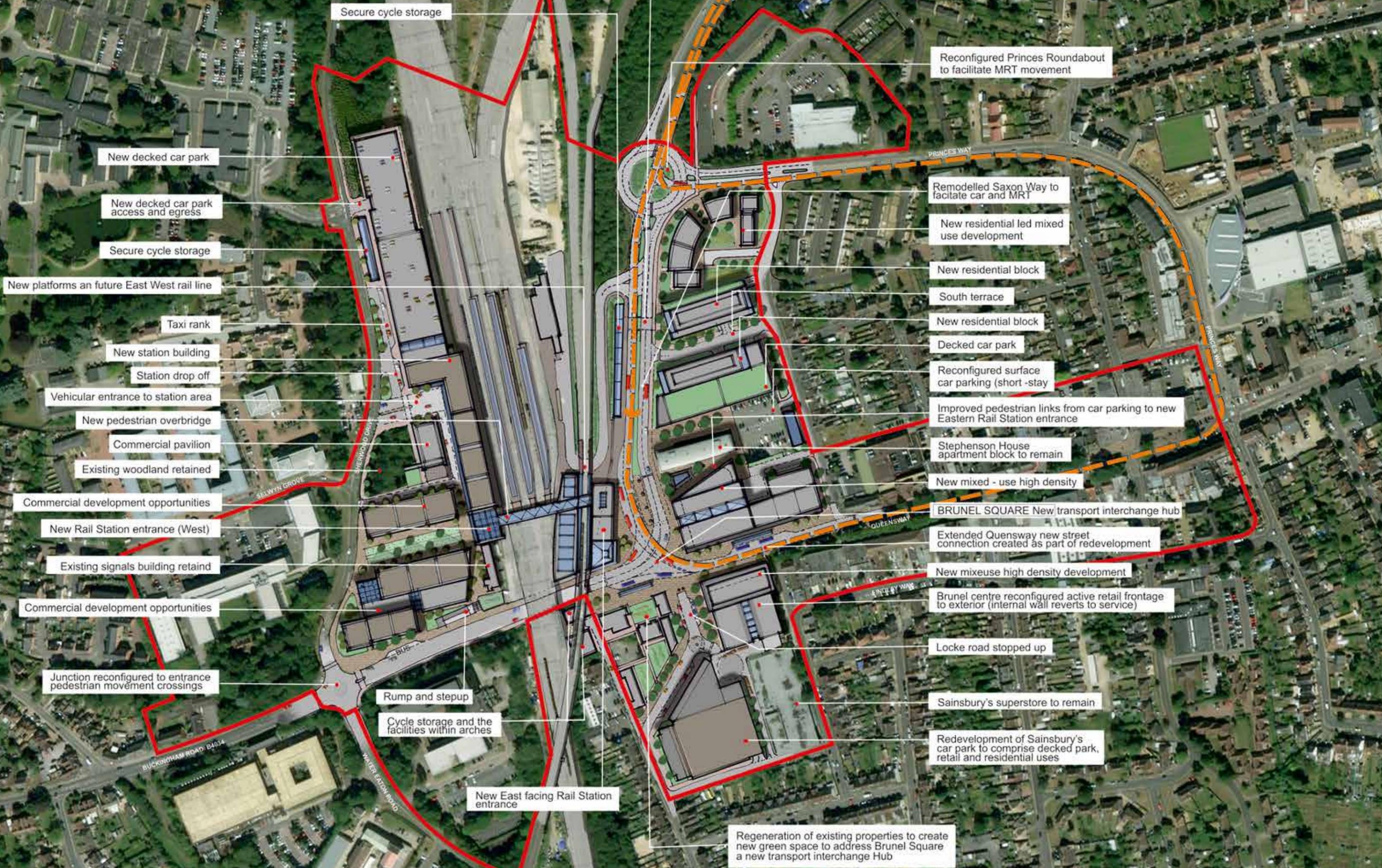
- ▶ Office based employment and additional retail and leisure opportunities to support existing and new residents and employees:
 - (a) Predominantly focussed to the west of the rail line, immediately adjacent to the existing station and on redevelopment opportunities south of Queensway/Buckingham Road;
 - (b) Regeneration of development adjacent to Queensway east of the station to include the historic frontages of the 'high street', and potential redevelopment of the Brunel Centre and Sainsburys supermarket.

Our analysis suggests that the quantum of non-residential growth realised as part of a comprehensive growth plan could be up to c.46,500 sq.m/500,000 sq.ft.

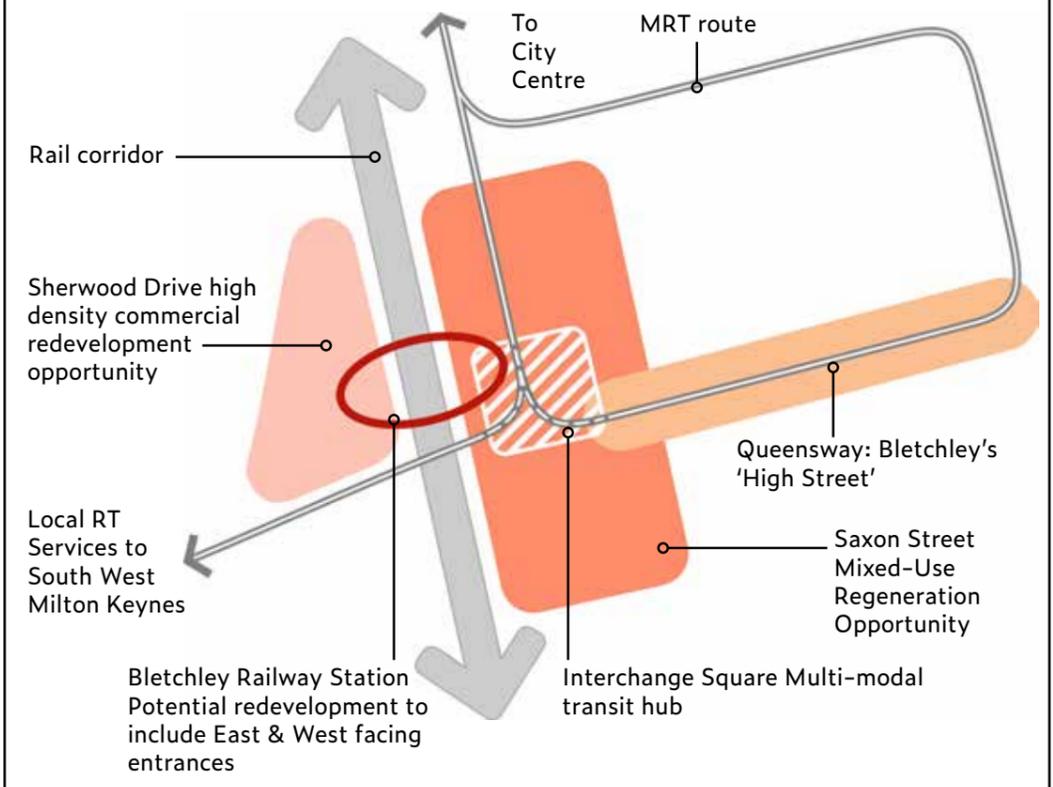
- ▶ New homes in higher density forms and/or above commercial uses, providing a more vibrant place. Our analysis suggests that a minimum of 750 homes could be delivered on land predominantly to the east of the rail line between Saxon Street and Albert Street, continuing the higher density forms of Stephenson House and the recent consent at the Saxon Street/Princes Way junction;
- ▶ A high degree of RT priority and segregation to and through the town centre at the expense of continued vehicular capacity and movement, comprising a segregated route along Saxon Street corridor, and integration and priority where possible along Queensway and Princes Way to provide a 'loop' back to Saxon Street;
- ▶ Public realm improvements re-connecting Queensway with the station/interchange, and providing opportunities for new public spaces. Spaces and streets could also be further enhanced by landmark buildings at key locations, adding visual delight.

CONCEPT PLAN FOR BLETCHLEY INTERCHANGE

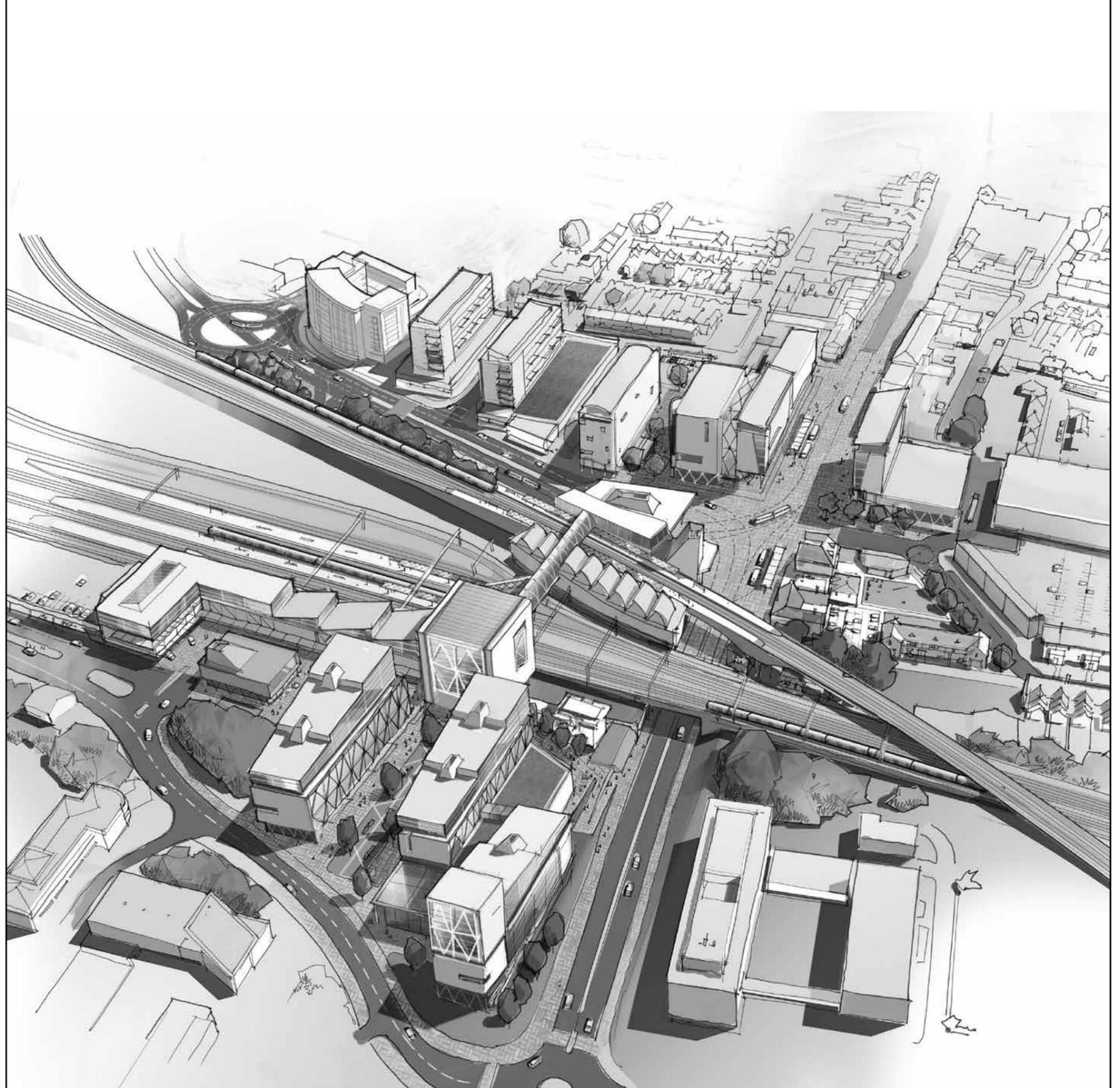
MRT Route
Central Blechley Design Framework



BLETCHLEY INTERCHANGE CONCEPT PLAN



BLETCHLEY INTERCHANGE: ILLUSTRATIVE PERSPECTIVE





Westcroft District Centre

MK has two existing purpose-built district centres serving its residential neighbourhoods – Westcroft and Kingston. Kingston has been significantly intensified by the private sector over recent years and functions effectively as a higher order centre (albeit car-dominated). In contrast, although it provides an important community focus and has had recent investment in community facilities, the existing out of town car-dominated design and function of Westcroft District Centre has not had significant commercial investment or additions over recent years, and does not include a comparable level of commercial and leisure use to that at Kingston. There are no new allocations for development or redevelopment in the adopted development plan.

On this basis, Westcroft could be radically re-imagined in the context of integrating the city-wide RT network into a key destination in the city, with a stop right at its heart.

In re-imagining the district centre area, the route of the RT would arrive from south west MK via a segregated route on H7 Chaffron Way, and exit out on to V2 Tattenhoe Street, also benefitting from a segregated route connecting through to CMK. It is envisaged that other local transport services would interchange at the Westcroft RT stop. In this way, Westcroft would become far less reliant on the private car for access to district centre facilities; the lower levels of parking that may be required could be accommodated in more urban and compact decked structures accessed directly from the main MK grid corridors.

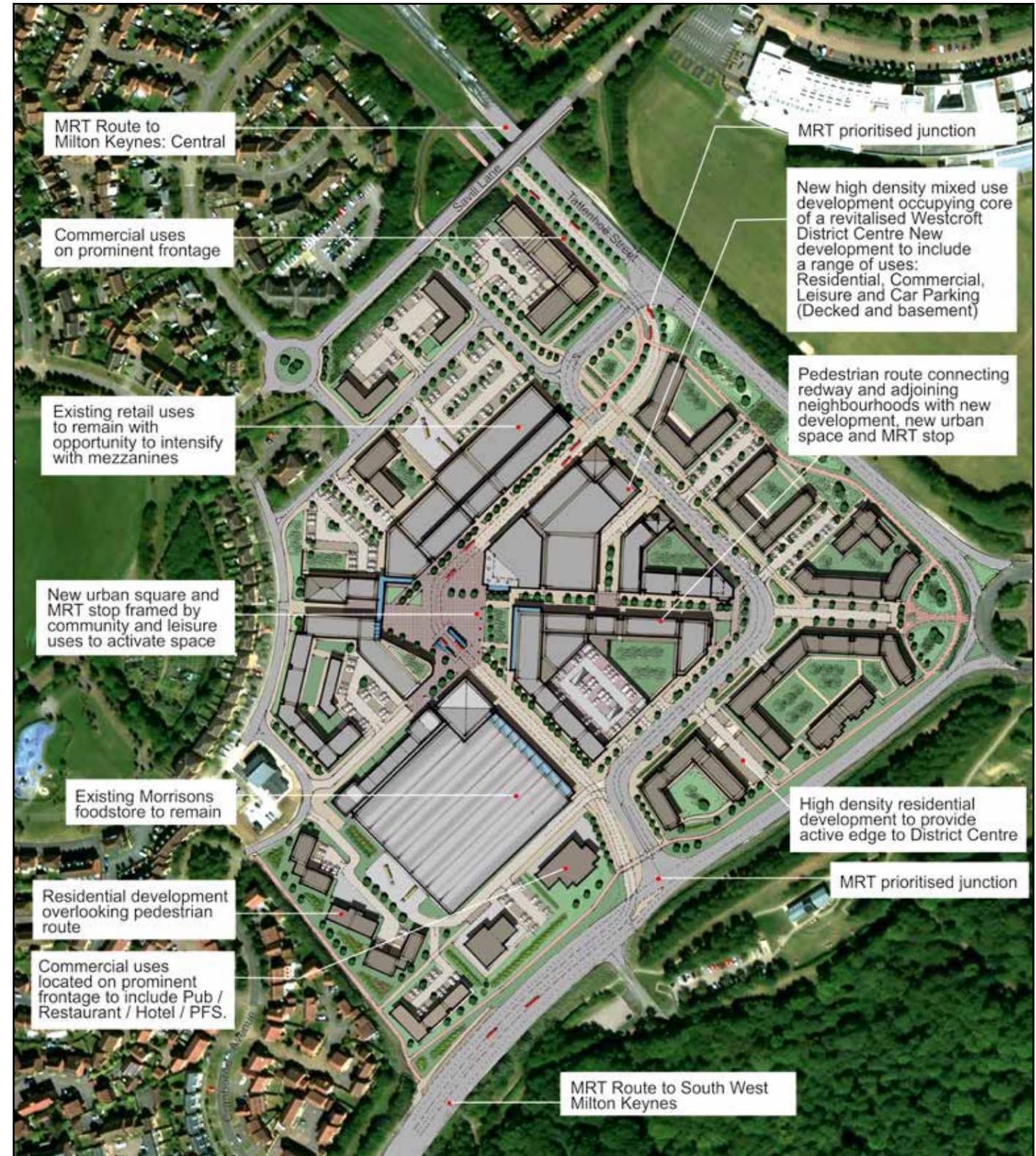
The existing car park areas provide a considerable development opportunity in the context of a re-imagined place. Retaining the supermarket as the focus of the district centre, the current dominance of large footprint retail and showroom uses should be rebalanced to increase the number of smaller units to create a fine

grain of flexible commercial floorspace – focused on key frontages at ground floor for both commercial and community uses – that has the ability to adapt to changes of use/tenants over a long period of time and respond positively to changes in market demand/forces.

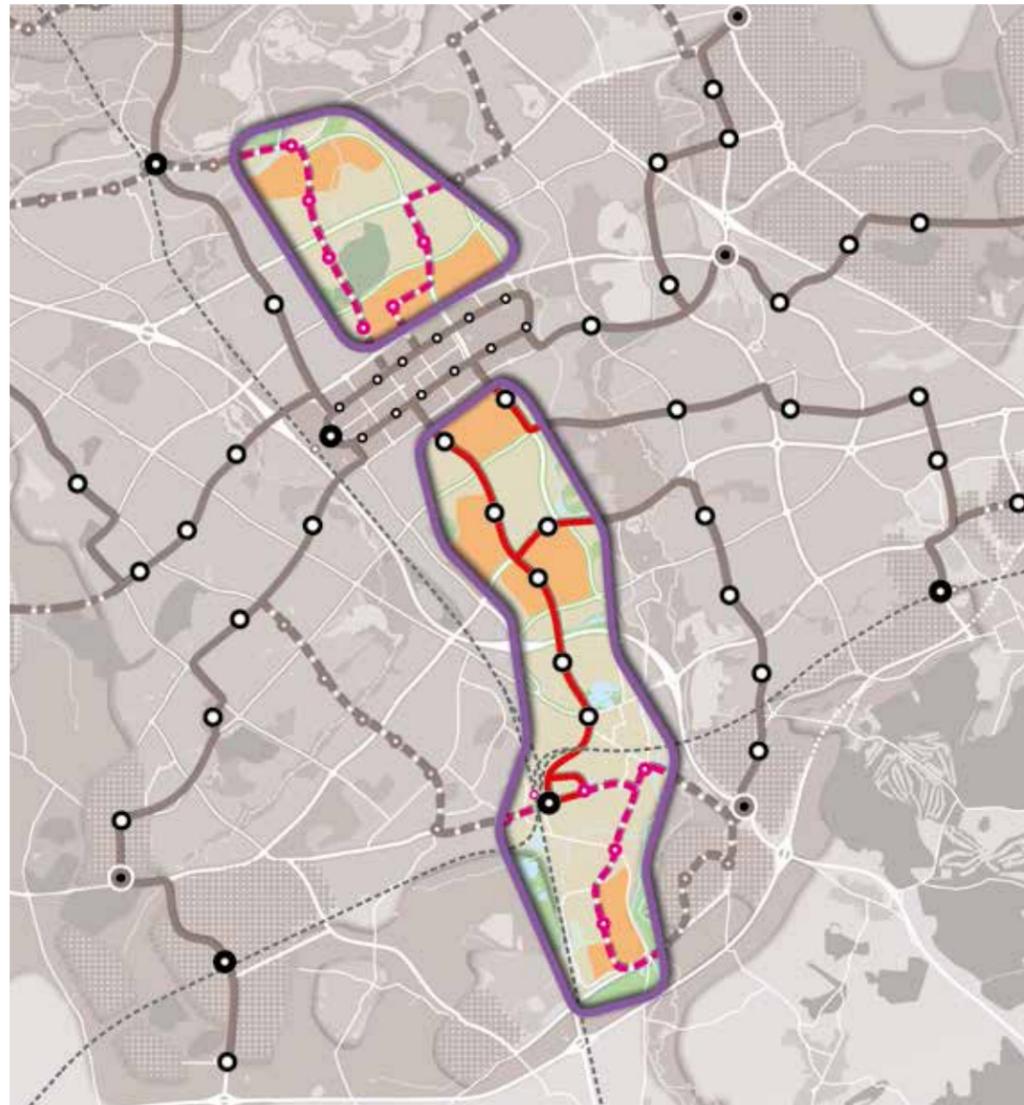
Although the mix of existing uses is relatively broad already at Westcroft, the space and outlook is dominated by vehicles and traffic movements (car parks, circulation, frontage filing station and delivery space). This space could be re-imagined to be far more varied than that which exists currently, building in a high quality frontage and public realm for retail, restaurants/café and enhanced community facilities anchored by a highly visible and attractive RT stop.

Comprehensive redevelopment (based around TOD principles set out in Annex 4) would include:

- ▶ higher density residential forms (apartments and townhouses) to increase the number of people living at Westcroft centre, providing activity and surveillance throughout the day and supporting a more independent retail and leisure offer. Our analysis suggests that upwards of c.750 homes would be achievable as part of a comprehensive plan;
- ▶ a significant opportunity for specialist housing for the elderly, a nursing home or care home as part of a broadening of the residential mix in this part of MK in locations directly served by non-car mobility services;
- ▶ opportunities for smaller offices and flexible serviced office space, and potentially a hotel;
- ▶ a new public square/space, to include the RT stop with associated high quality public realm fronted by active uses that can spill out in to the space;
- ▶ A series of high quality urban streets replacing the existing expanse of 'anti-urban' environment currently dominated by car parking, cycle storage in inaccessible and unsupervised areas, and neglected grass verges.



WESTCROFT DISTRICT CENTRE: A FINER GRAINED MIXED USE CENTRE



V7 Regeneration Corridor (North and South of CMK)

Many of the grid squares either side of V7 Saxon Street were among the first areas developed by the Development Corporation. Several of these areas are now in need of regeneration but whilst initial plans are slowly evolving for individual estates, there is no context or stimulus for looking at estate regeneration at part of a city-scale investment programme or in a more inclusive manner relative to wider growth plans. Other than a small number of infill sites, no allocations for redevelopment and regeneration exist in current development plans.

A focus and stimuli for regeneration of the V7 in the context of growth to 2050 is the proposed RT route connecting Bletchley to CMK. This route – one of the key north-south RT connections – will run along V7 Saxon Street with stops at key points along the route to give good RT accessibility to grid squares on either side.

MK University Hospital also forms a key part of this overall corridor and will form a key node on the RT network. The Hospital is both a key primary healthcare facility for the city and a key employment destination, with both visitors and hospital staff likely to benefit from a RT service. The wider Netherfield area also boasts additional healthcare facilities (such as the Saxon Clinic) and key worker housing which will similarly benefit from RT.

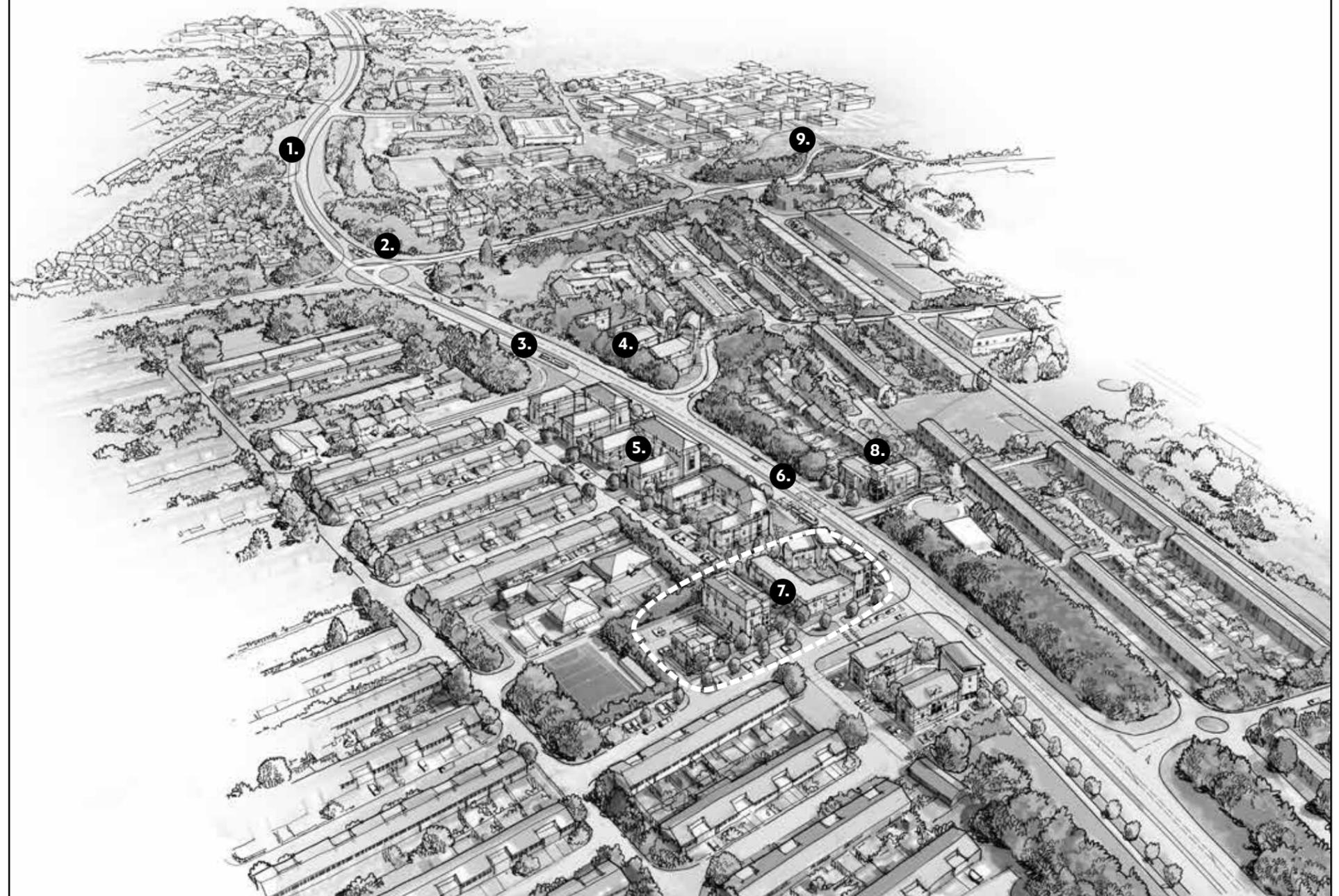
Within the V7 Corridor, the location of MK:RT stops will be focused on the existing connection points between city-wide movements on the grid roads and local route junctions to serve grid squares. These are the activity nodes and points of connection referenced in the original plan for MK¹⁰⁶, and will be the focus for higher density built form and potential for local mixed use – all of which will further add to the viability of the MK:RT route and have potential over the short to medium term to capture land value uplift arising from redevelopment of public sector land to be reinvested in the local area.

Initial analysis of potential development capacity along the V7 regeneration corridor suggests that upwards of 1,750 additional homes at MK:RT nodes along the V7 could be delivered in this manner. Similarly, the Central Area Housing grid squares surrounding CMK might support some smaller scale redevelopment which if designed appropriately, could support nodes of increased activity and vitality. Any emerging plans for estate regeneration must be drawn up as part of a full and comprehensive programme of community engagement. As such, the Growth Study does not seek to predetermine any specific regeneration or redevelopment proposals within the regeneration estates. However, the table on page 46 does provide an indication of the potential quantum of housing growth linked to regeneration and redevelopment which might be unlocked if MK2050 objectives were embedded into future estate renewal plans.

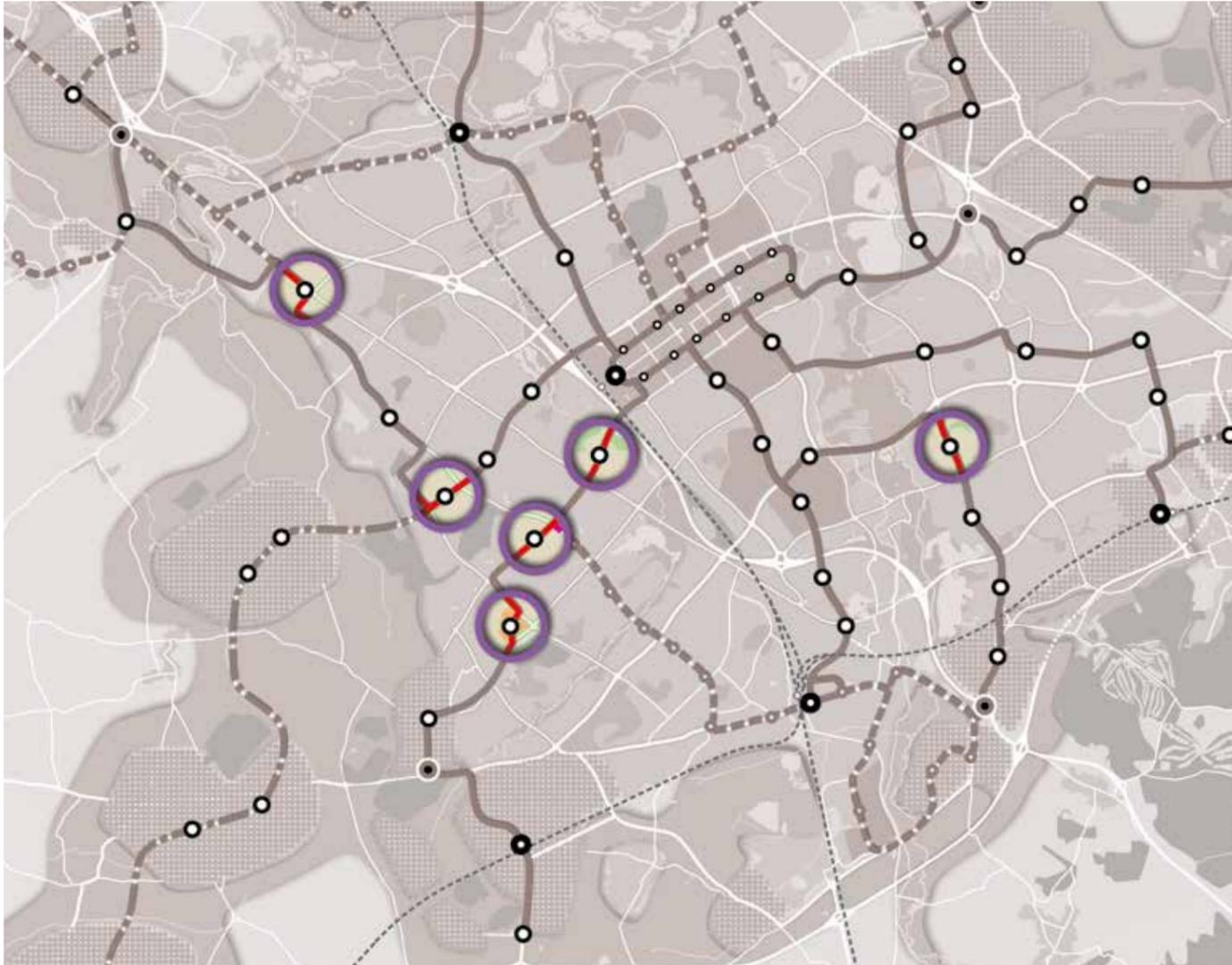
In order to illustrate this point, and to show how potential redevelopment opportunities and redevelopment forms could arise from the prioritisation of inclusive mobility solutions as the primary structuring element of regeneration plans, a more detailed exploratory master plan has been drafted for an area between Beanhill and Netherfield. Interventions such as that shown could provide real and early improvements for adjacent neighbourhoods, and could be delivered alongside estate-wide regeneration strategies and renewal plans.



V7 REGENERATION SOUTH: BEANHILL - A RAPID TRANSIT NODE AT BEANHILL-NETHERFIELD



1. MK:RT towards CMK/Station
2. Priority for MK:RT through grid roundabout
3. Segregated MRT route within grid network
4. Grid corridor planting enhanced to east side
5. Additional infill development adjacent to MK:RT stop and local centre at intersections between city wide and local routes
6. MK:RT stop
7. Potential local centre redevelopment
8. Infill development providing additional intensity of development and overlooking of Redway underpass
9. MK:RT stop at MK General Hospital



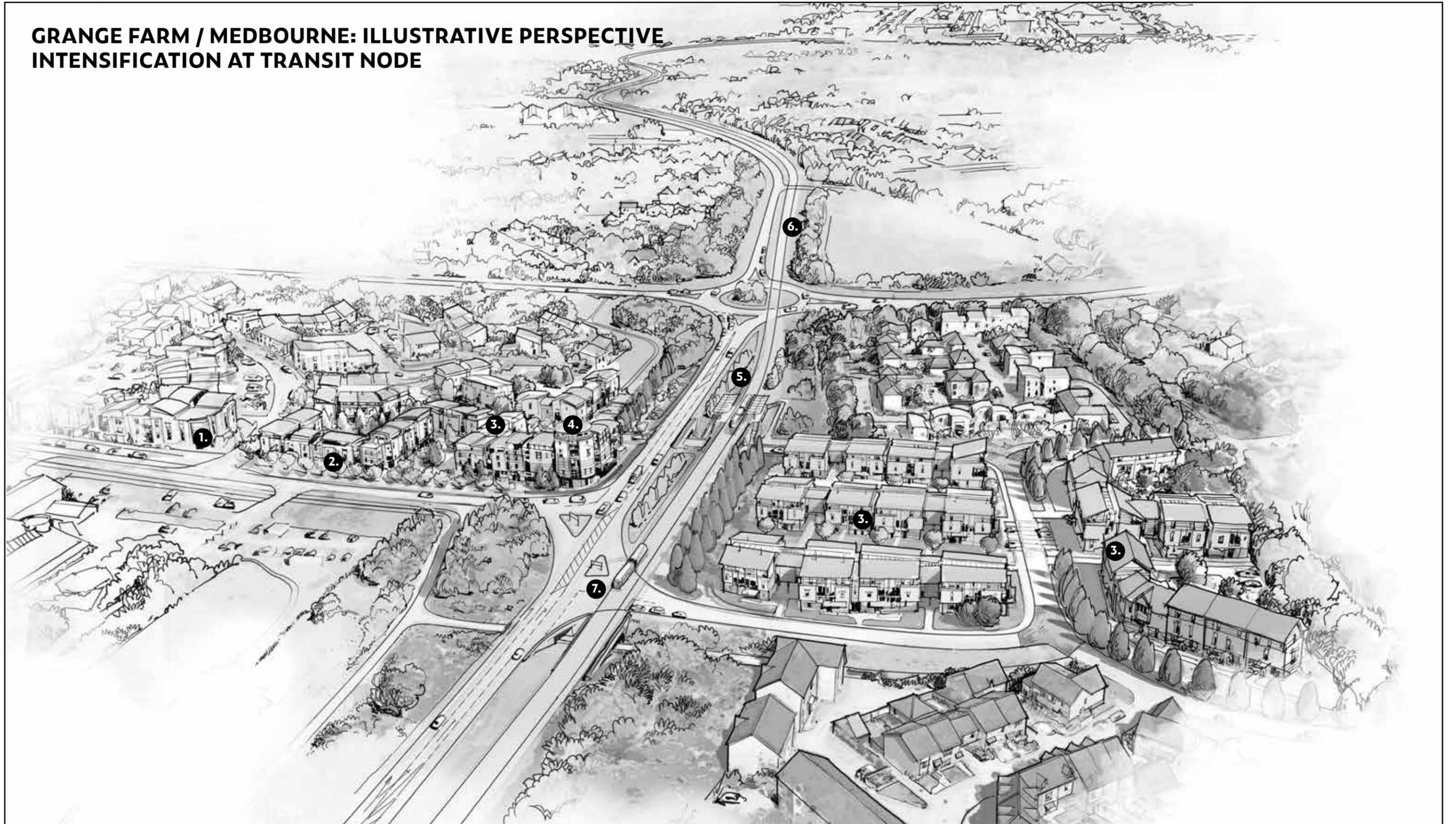
Other Nodes of Intensified Activity

Local nodes of intensified activity can also be identified in other parts of the city. Development in these locations should be based on the original principles set out in the original Plan for MK in respect of 'activity centres'¹⁰⁷, but adapted to be structured around well-designed and surveilled RT stops with a focus on higher levels of mixed use than currently exist, and designed to be highly accessible to local facilities and RT services. These nodes are not currently allocated in development plans for additional development beyond existing uses, but could provide investment in improving existing local neighbourhoods and their facilities without the need for large scale redevelopment.

A number of opportunities for nodes of intensified activity are identified on the plan above and in Annex 8. Additional future opportunities may emerge within the urban area following the implementation of an RT network and confirmation of RT nodes.



GRANGE FARM / MEDBOURNE: ILLUSTRATIVE PERSPECTIVE INTENSIFICATION AT TRANSIT NODE



1. Existing Grange Farm Local Centre
2. Potential for additional local retail/facilities as part of infill development
3. Higher density development on undeveloped sites adjacent to MK:RT stop and Local Centre

4. Potential for landmark building at gateway to aid legibility and placemaking
5. MRT stop at intersection of grid corridor and local connector to maximise local accessibility from areas both sides of grid corridor

6. Segregated MRT route within grid corridor
7. Priority for MK:RT also at main access streets from grid roads

CHAPTER 12: CENTRAL MILTON KEYNES GROWTH

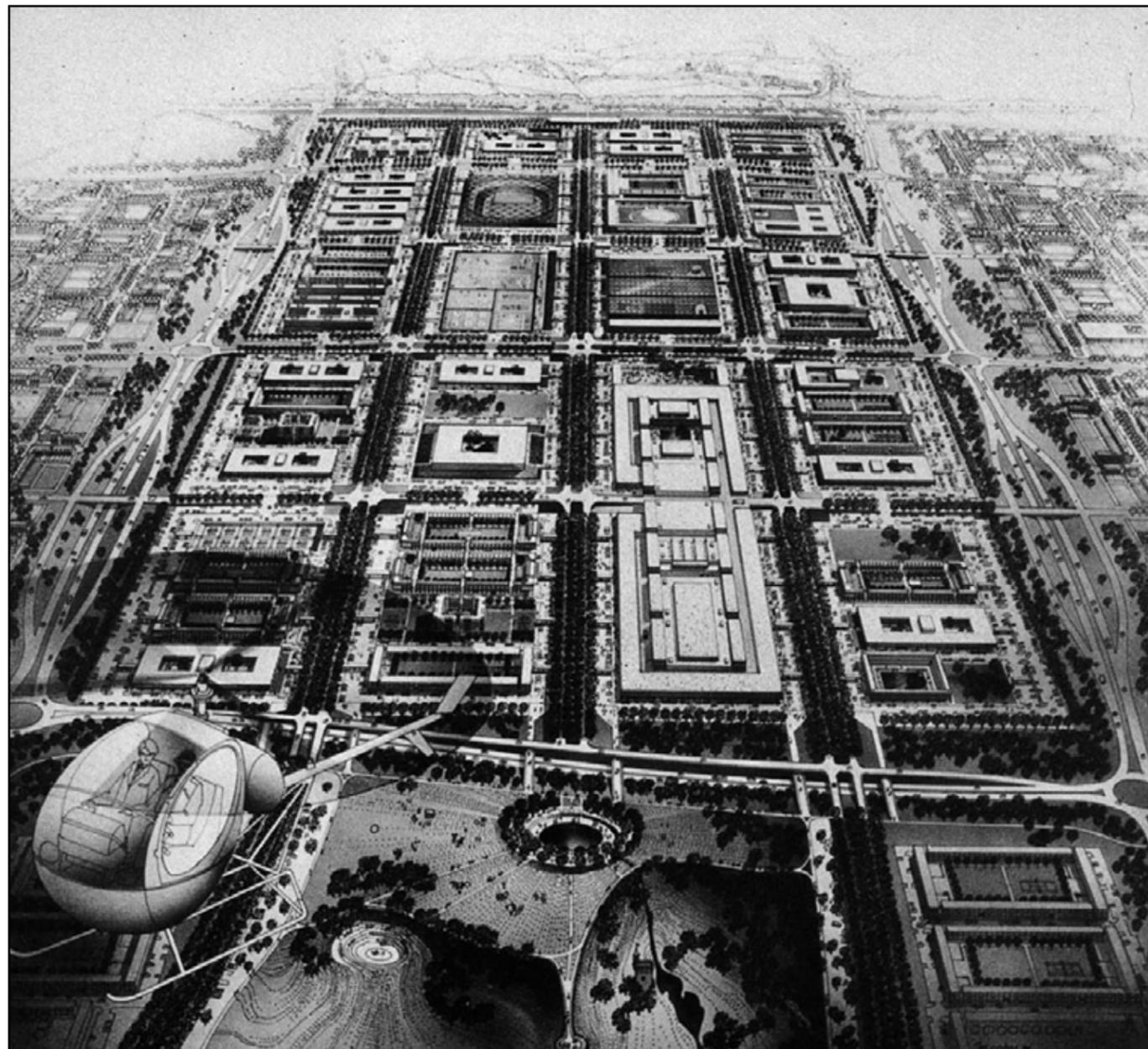
The Role of CMK to 2050

As part of growth aspirations to 2050, CMK will become an urban centre serving a city-region population of up to 500,000 people (within an Oxford-Cambridge Arc of around 5,000,000 people). Ensuring that CMK can fully play this role needs to be a central strand of a forward spatial strategy.

The economic case for an enhanced role for CMK is embedded within our overall growth recommendations for the Study Area set out in Part One of the Study. As a revitalised city centre at the heart of the Arc, a destination for retail, leisure, culture, housing and higher education and as a location where businesses, including knowledge intensive businesses, can relocate and grow, CMK has the capacity and appetite to deliver the transformational growth outcomes set out in the preferred economic scenario.

As importantly, meeting the demands for increased and improved employment space, residential accommodation and transport infrastructure to 2050 can be achieved without the need for a wholesale move away from the current framework and structure of the city centre. But for growth within CMK to be considered 'good' it will not only drive forward economic objectives for the Study Area to 2050 but will also align with mobility and placemaking objectives, helping MK to deliver on its 'inclusive' growth aspirations to benefit the wider population. This necessitates a more interventionist approach to growth.

CMK is not only at the heart of a move to a sustainable mobility future for the Study Area but has a key role to play in the placemaking of the New City¹⁰⁸.



Future Mobility in CMK

Despite Milton Keynes being conceived as a polycentric city, in practice the most significant movements are those that originate outside the centre and travel into it¹⁰⁹, reflecting the density of jobs within CMK and its anticipated growth as an employment destination in the future. As such, the impact of a 'more of the same' growth scenario is likely to be felt most keenly in CMK. The quantum of available land still to be developed within CMK¹¹⁰ is unprecedented in scale compared to other city centres. Whilst planning on this scale offers a great opportunity to shape and deliver growth, failing to address problems of car domination and congestion will act as a brake on this growth and adversely affect the quality of both the environment and the 'place' being created.

By making more efficient use of space and the existing infrastructure already in place within CMK, adopting a mobility solution based around the MK:RT network advocated in this Study will facilitate the increased demand for travel anticipated to 2050 and allow CMK to continue to function without levels of congestion that will otherwise stifle growth (and that are already being experienced in other comparable city centres such as Oxford and Cambridge).

Through improving alternatives to the car, the need for car parking can be reduced around CMK; a process which may be accelerated by the adoption of autonomous technologies. Land released in this way can be utilised for other land uses, helping to add vitality to the city centre while driving demand for RT.

However, the MK:RT network is not conceived as a radial network where all passengers are required to change in the centre. Rather, the convergence of cross-city routes through and around CMK create a CMK 'loop' of services focused on Silbury and Avebury Boulevards, with opportunities to access and change cross-city routes at a number of points along these routes.

Evolution of 'Place' within CMK

Another opportunity arising from the quantum of available land within CMK for future development is the ability to reinforce and reinvigorate a placemaking-led strategy for growth. With significant space within CMK still undeveloped, and with a change in the way people work and shop, there is an opportunity to positively influence the location and 'clustering' of activities and land uses to support the creation of a series of different but complementary 'places' within the city centre.

The introduction of MK:U, the new university, together with the 5,000 new homes already allocated within Plan:MK and planned HQ office investment will act as a catalyst for change, but in order to realise transformational change in the level of activity within the city centre both within and outside the working day, economic, environmental, mobility and cultural aspirations should be brought together into a CMK growth and investment framework.

Key Considerations for Future Growth

CMK is well-placed to support wider growth objectives for the Study Area in a number of respects:

- ▶ Growth at scale within CMK across all uses will provide the highest level of opportunity to anchor a viable whole-city RT network and new regional-scale TOD growth related to RT nodes;
- ▶ CMK can deliver the critical mass of jobs and population densities needed to sustain and improve levels of activity throughout and beyond the working day at a scale and in a manner which realises the city's aspirations in respect of its quantitative and qualitative offer for retail, leisure and entertainment;
- ▶ CMK is best placed to respond positively to trends and drivers for city living and economic clusters as part of wider cultural/entrepreneurial innovation.

Increasing the concentration of people living and working in CMK is essential to support wider sustainable economic growth. This will include:

- ▶ The development of new employment space (primarily office) including shared space;
- ▶ Upgrading or re-purposing of existing, obsolete office space;
- ▶ Introducing new residential developments which meet the needs of specific sectors of the population looking to locate within city centre environments;
- ▶ Actively attracting additional investment generally but also specifically in the leisure, culture, food and drink and showroom retail sectors;

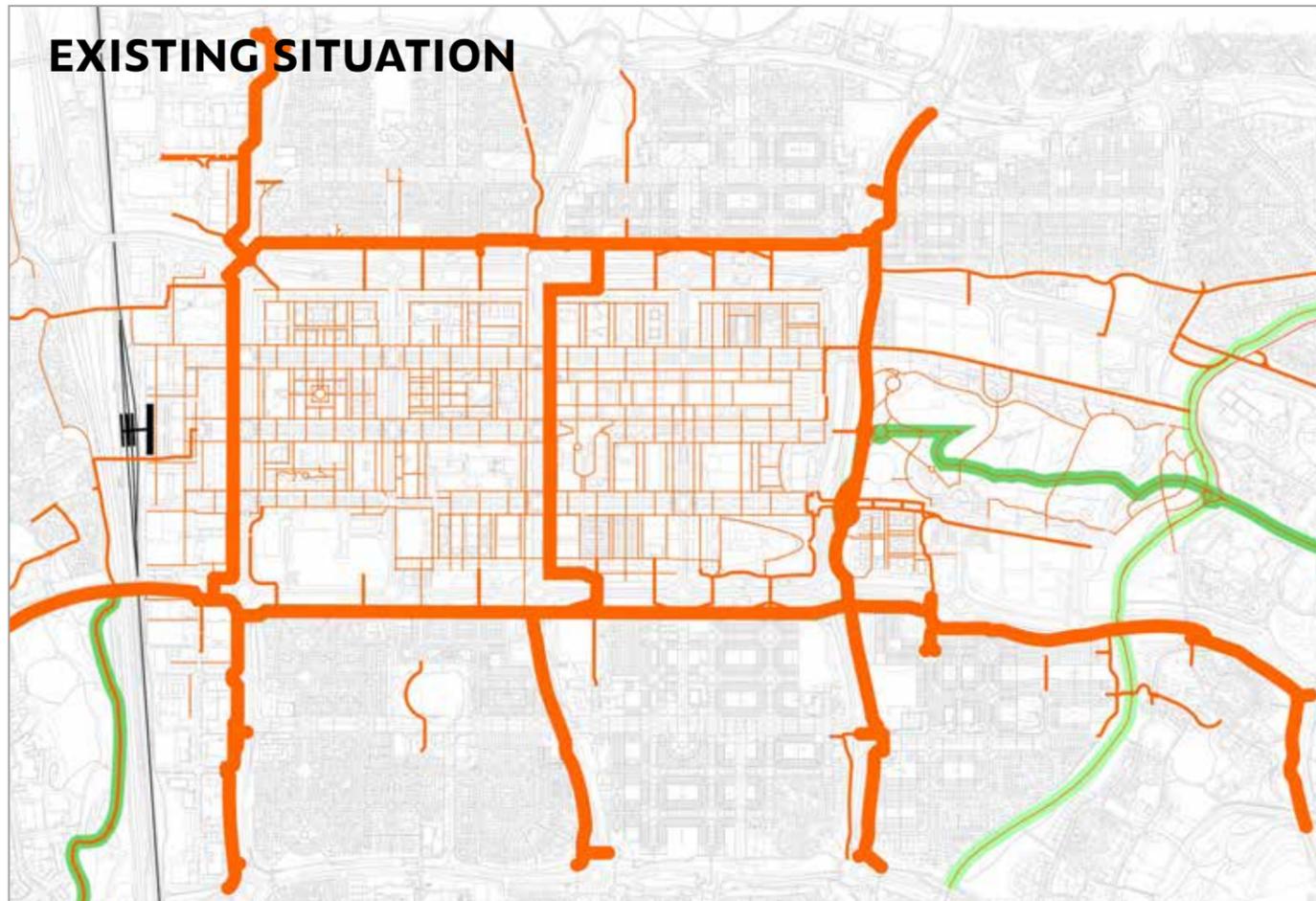
Supporting a larger local audience that the creative and cultural sector (and the related night time economy) –key to both the future vision for Milton Keynes and CMK in particular – would benefit from.

In addition to the considerations around scale, we need to ensure that growth within CMK meets 'good growth' objectives to deliver wider and positive outcomes for existing as well as new communities. Some elements of CMK do not fully deliver on the original or current ambition of CMK. As part of a long term growth strategy, these could be rectified, adjusted or re-imagined as part of a more integrated, interconnected and vibrant city centre proposition to 2050.

The diagrams overleaf set out the elements of a recommended growth proposition for CMK to 2050. Starting with a series of diagrams which provide a high level analysis of the existing structure and character of the area, the growth proposition builds directly on this analysis, layering elements of new growth for CMK which would address some of its 'missing links' and build in the key mobility and economic growth elements whilst reinforcing the city's unique infrastructure and retaining key structural and 'place' aspects.

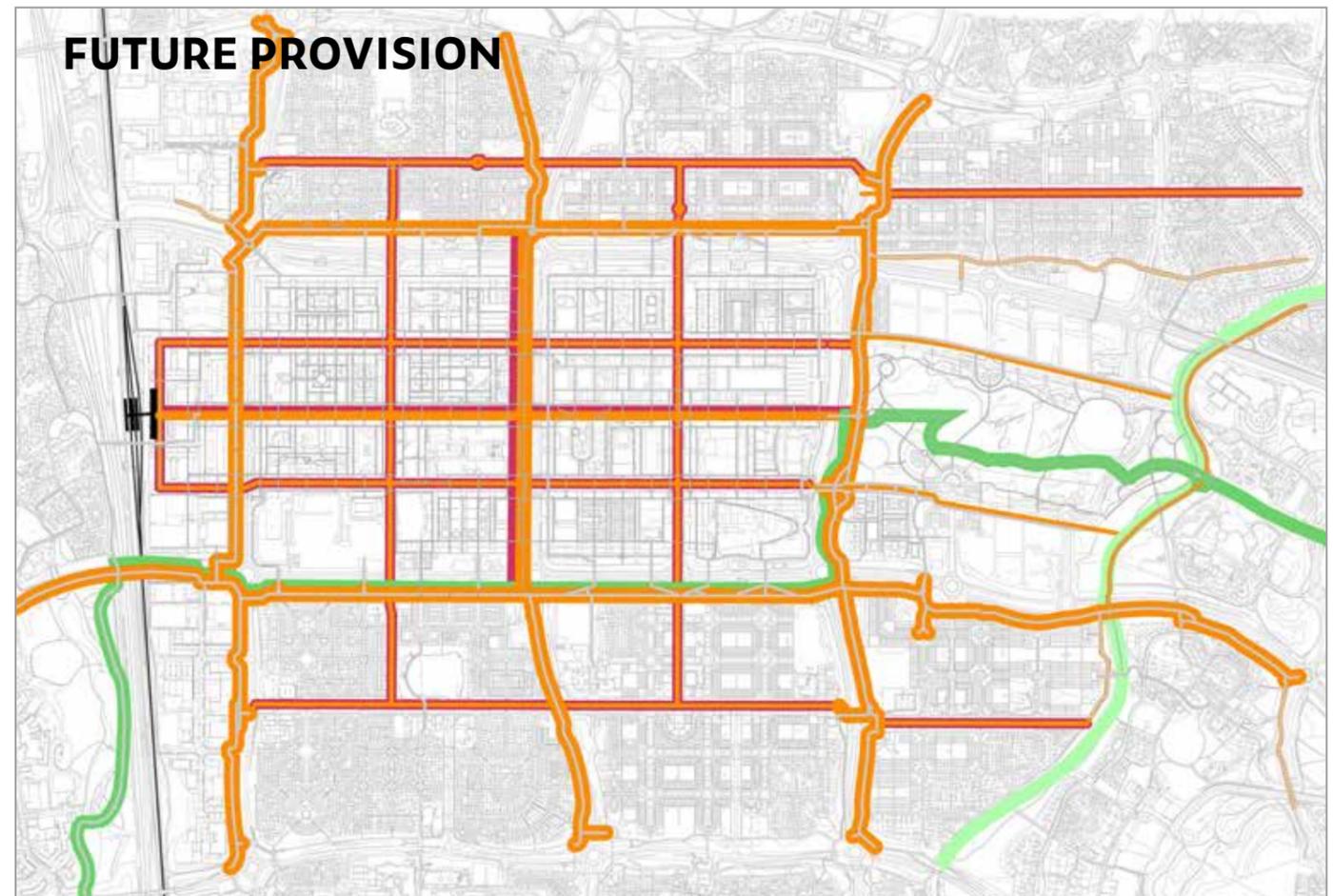


CMK - Walking and Cycling



- Strategic Cycle Routes
- City Centre Cycle Routes
- Sustrans Route R51
- Sustrans Route R6
- Walking routes

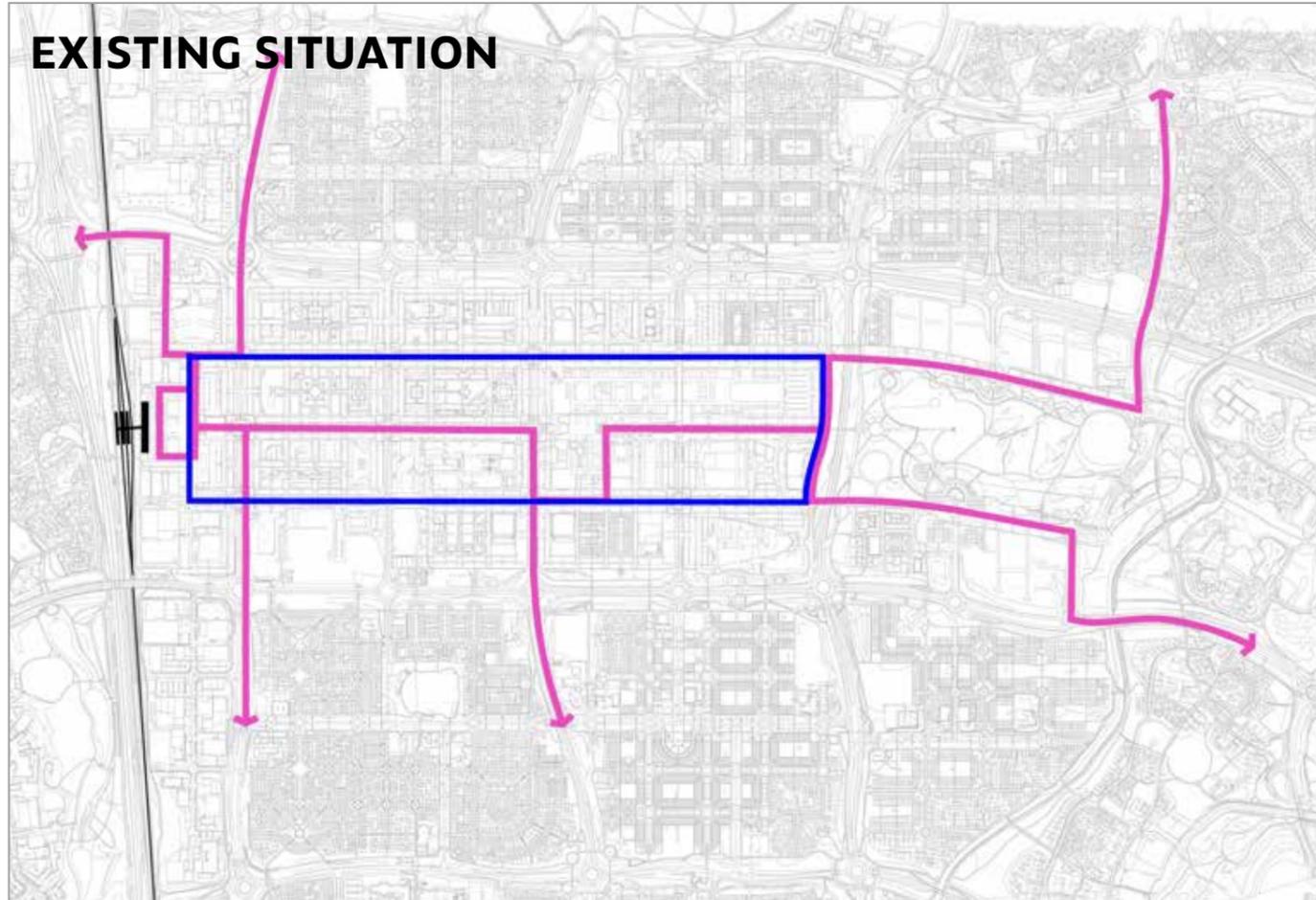
Walking and cycling in CMK is provided for through a comprehensive network of boulevards, gates and streets, set out in the Development Corporation plans of the early 70s. For the most part it has been delivered, but during the course of its implementation has been inconsistently constructed. This has led to a sense of inconvenience for the pedestrian and, by virtue of the fact that there is little or no provision for dedicated cycleways through CMK, an inconvenience for the cyclist. The cycling routes provided across CMK are not always legible and the lack of activity means they are not inviting. The absence of a clear and legible network is a risk, and works against the objectives of a more vibrant and vital centre.



- Strategic Cycle Routes
- City Centre Cycle Routes
- Sustrans Route R51
- Sustrans Route R6
- Potential New Routes

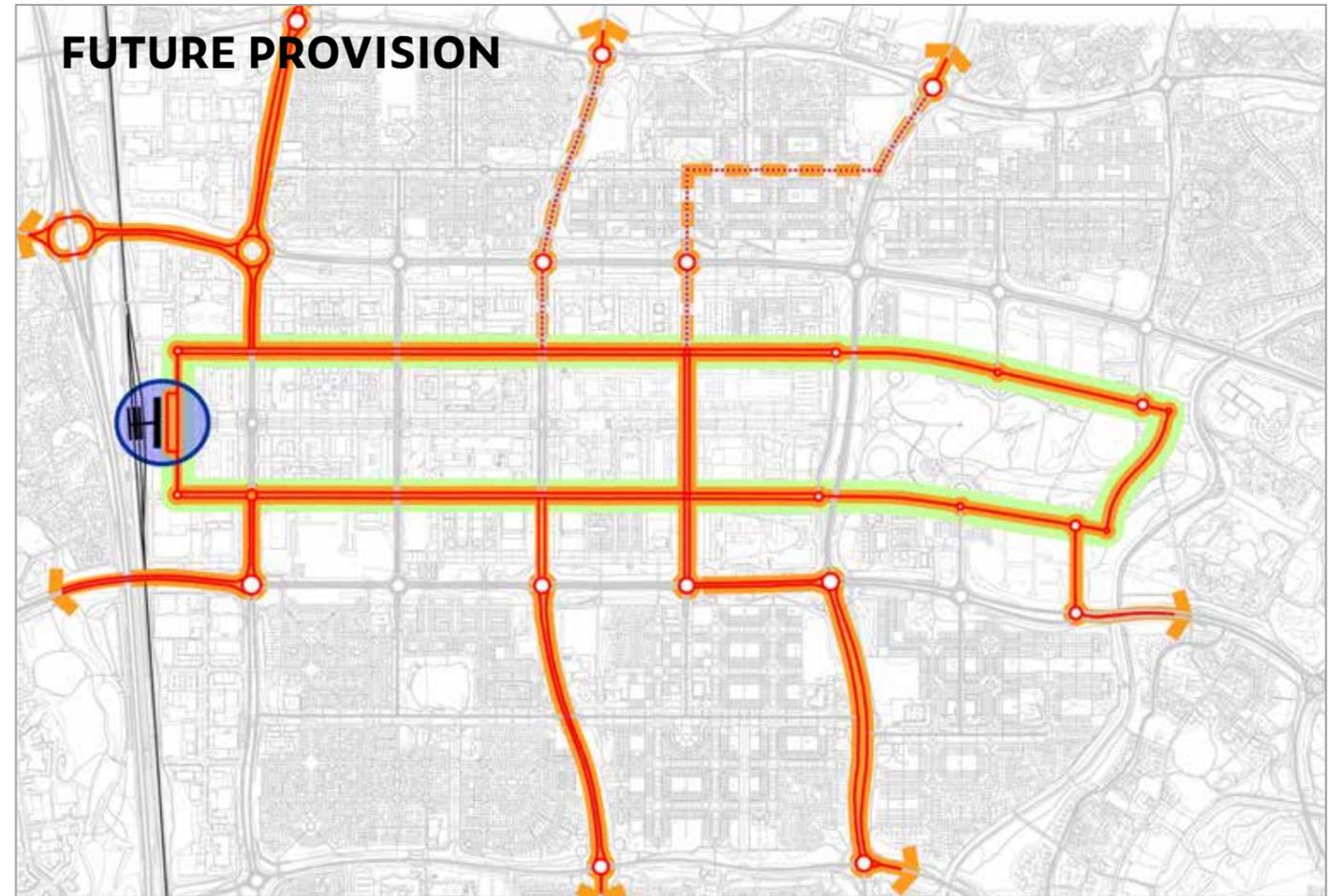
As part of addressing the 'missing links' of MK through new planned growth, a comprehensive and dedicated network for the cyclist can be completed in CMK. There is now sufficient understanding of the value of an improved cycling network across the City – including its extension and incorporation into the very special situation that exists in CMK – as part of the Redway network. This will need to provide both Citywide networks which in MK are generally associated with the grid road system, but also to integrate cycle movement within the existing Gates and Boulevards, both to integrate movement with CMK and also to facilitate good connections across the City Centre to the surrounding residential neighbourhoods. The particular circumstances in CMK – where a segregated system is not as appropriate, but neither is encouraging cyclists to use the footways or new segregated Redways – means that dedicated cycle lanes within the Gates and Boulevards would best create real priority for the cyclist and in so doing increase cycle usage across the City Centre.

CMK - Public Transport



- Primary Bus Routes
- 'My Bus'

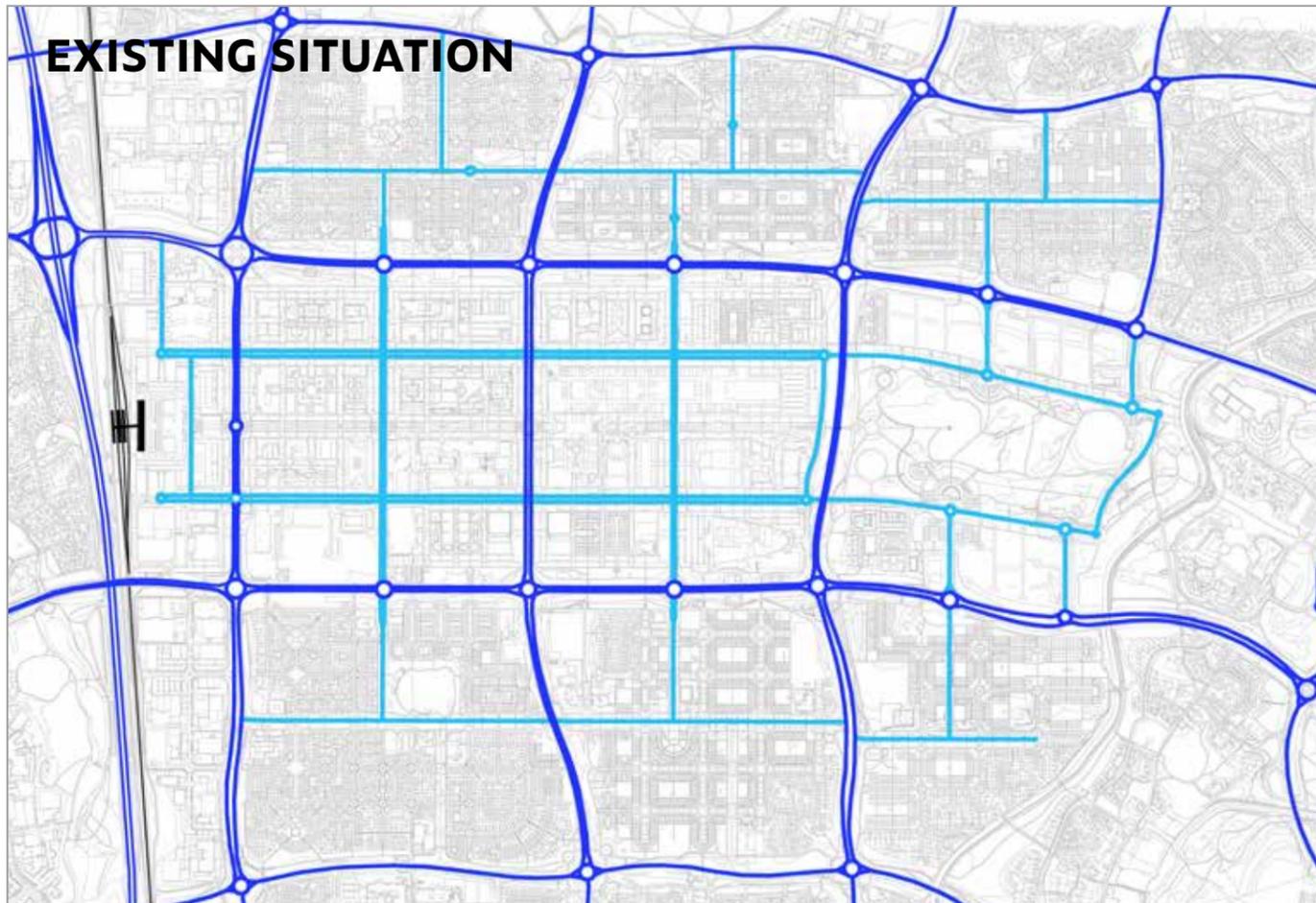
The current bus network in Milton Keynes is focussed on CMK as the obvious and natural destination of the City. It is also therefore regarded as the optimal place for interchange between various public transport services. Bus services to and within CMK centre around the train station, and include intercity fast buses and visitor coaches, as well as local services running throughout the day. There are a number of peak hour bus-only lanes within CMK but no signalled priority at junctions within CMK: coupled with the large areas of car parking at relatively cheap rates, there is no clear incentive for modal shift for many workers and visitors to CMK. Recent trials – such as the MyBus on demand minibus services for CMK businesses – have had some success, but in themselves are unlikely to shift travel patterns to CMK away from the private car.



- CMK Loop
- Core RT Routes
- - - Other RT Routes
- Rail/RT/Bus/Taxi/Kiss+Ride Interchange

Accessibility across the region, locally and within CMK itself by means other than the private car underpins the growth proposition for both MK and CMK. CMK sits at the centre of the MK:RT proposition, but is the point where cross-city RT routes pass through, rather than begin or end; there is no need for a single interchange or 'terminus' but changing RT routes will occur at multiple points within CMK (a bit like the London Tube network). Silbury and Avebury Boulevards will be the RT routes within CMK, with dedicated lanes for RT and at light controlled junctions to ensure priority over car movements.

CMK - City Structure

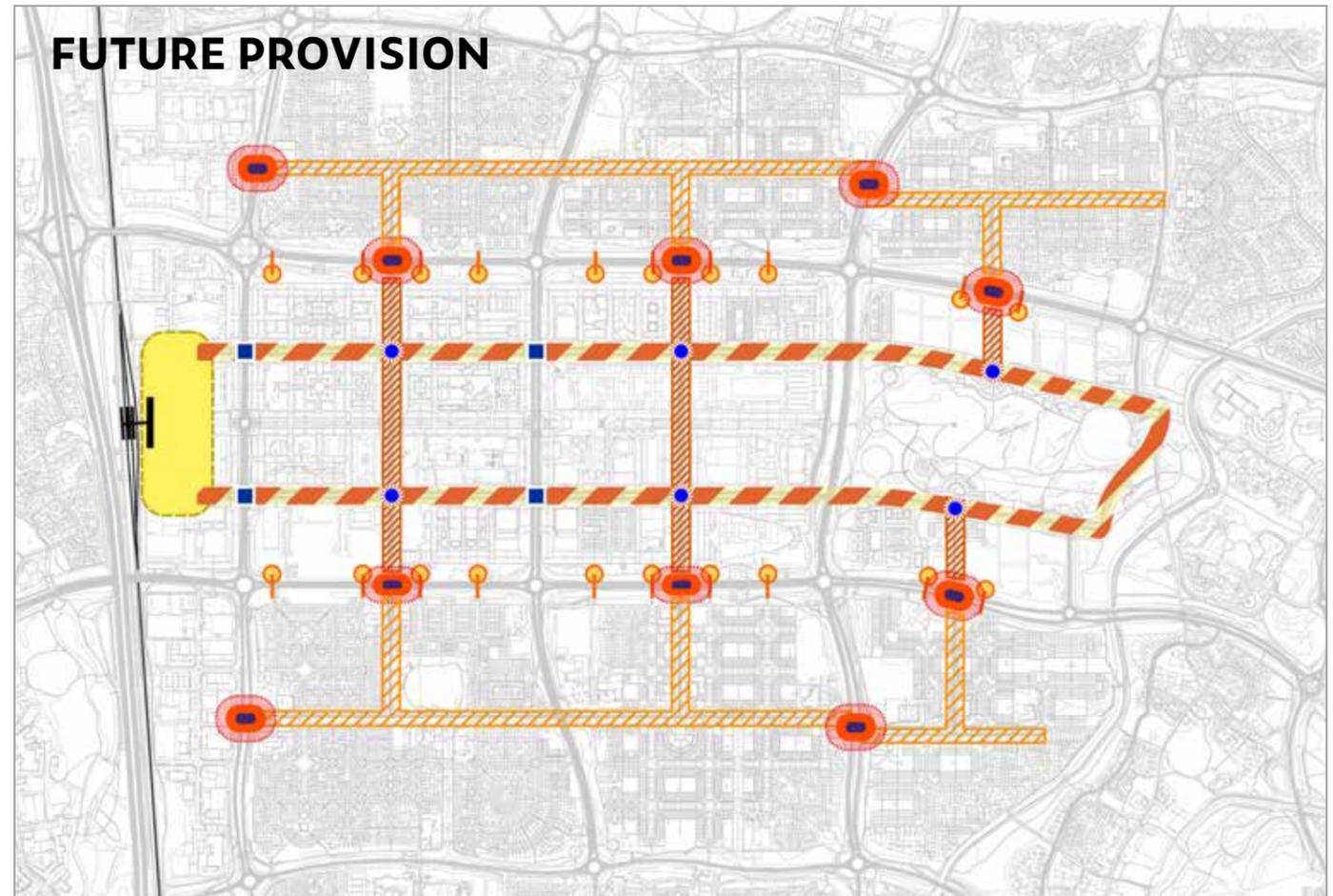


- Grid Road (City)
- Boulevards/Gates (Local)

One of CMK's greatest assets is the public realm built during the early years of the life of the city. Its unique and iconic design underpins CMK's and Milton Keynes urban identity. It is appreciated and admired and in many respects is be regarded as the definitive framework for within which any change should happen. However underpinning its highly recognisable design are levels of inconsistency and incompleteness both as a result of the implementation of the plan from the early years but equally as a result of interventions in more recent times.

.....

Looking into the future the City Centre must work as a place in its own right but more importantly as the pre-eminent place within Milton Keynes. But before embarking on any consideration of change to the infrastructure of CMK as a central place within Milton Keynes, the key is to understand not just what this infrastructure is in terms of image and identity, but what the infrastructure does. In order for CMK to grow beyond that set by the original plan there is the need for a comprehensive reappraisal of how the CMK city structure of boulevards, gates and rows can be adapted and re-imagined in the context of higher levels of population, activity and public transport use, and a re-balancing of land uses to support a thriving regional centre:



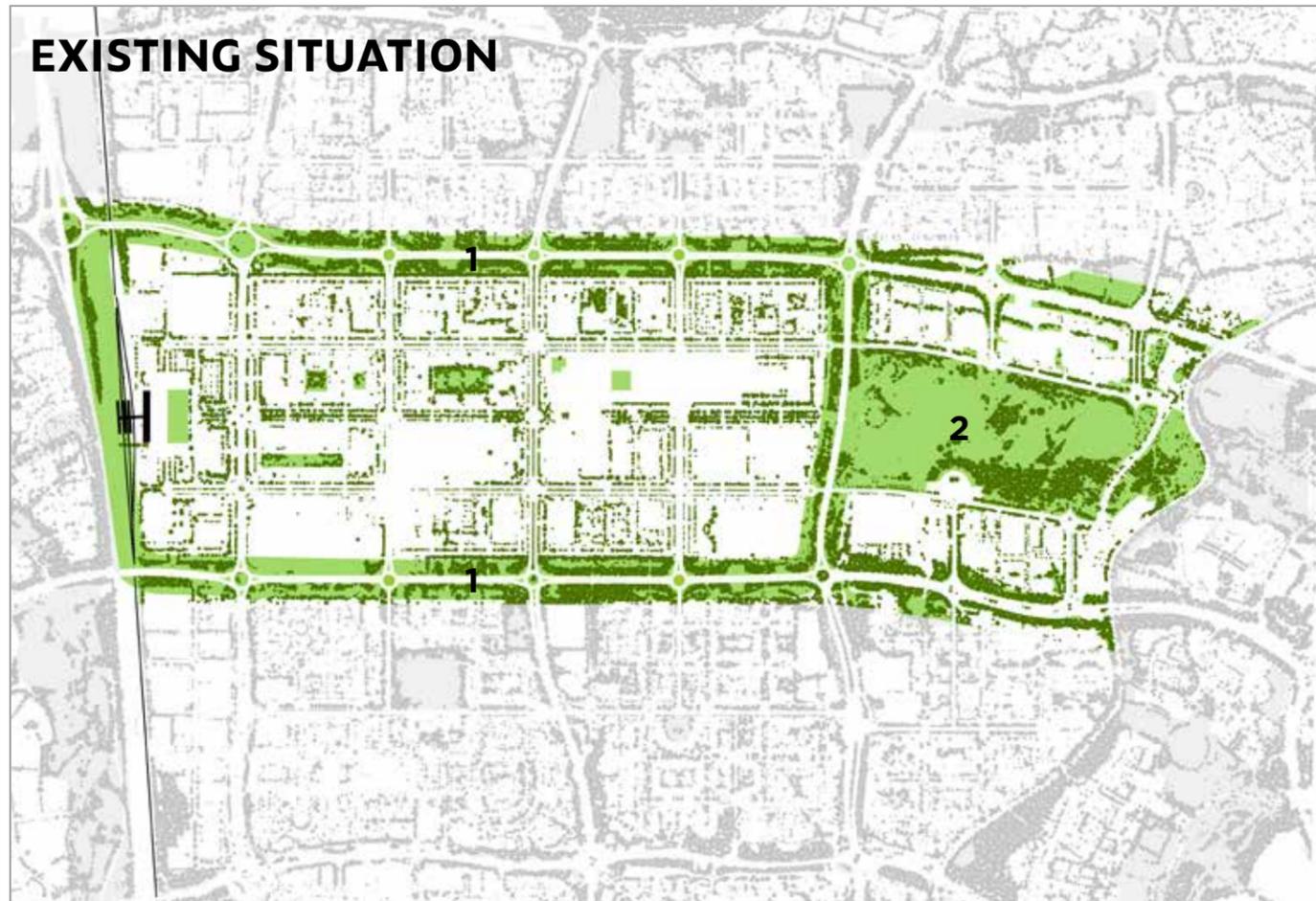
Routes:

-  ▶ **City Regional Transit Hub** (Station Square and surrounds): the primary 'point of connection' between all modes, therefore by definition will be the most connected 'Point of Connection'.
-  ▶ **Boulevards** (Avebury/Silbury): These two Boulevards assume the role of CMK's Main Local Routes (MLRs). They are better served by RT (both by a local loop and city-wide services) and the cyclist/pedestrian conflict and ambiguity is resolved by introducing Cycle Lanes within the carriageway
-  ▶ **Gates** (Witan/Secklow): The Gates are the primary cross-city centre routes. They connect the neighbouring Central Area Housing (CAH) areas by giving priority to cyclists and pedestrians from these areas. They can provide active frontage locations for local facilities for the neighbouring residential areas, such as convenience retail.
-  ▶ **Central Area Housing (CAH)**: Oldbrook Blvd, Fishermead Blvd, Bradwell Common Blvd, Conniburrow Blvd): The CAH Boulevards link the residential communities to the north and south of CMK to one another via grade separated crossings of Saxon Street (V7). They are natural routes for local bus services and are the location for local facilities, and will be the natural locations for planned and organic intensification

Nodes:

-  ▶ **MLR/GR/CAH** = This point only facilitates vehicle movements. This is where the City Centre meets and connects to the City Grid Road system and the Central Area Housing. Signalised junctions in lieu of the current roundabouts/side junctions will improve pedestrian and cycle movement and connectivity and provide locations for uses and activities which will flourish with access to City Wide/City Centre/local residential catchments. Uses and activities might include higher education, certain types of retail, leisure, health.
-  ▶ **Gate/Blvd** = These are points where access to and integration of movement is highest within the City Centre and provide opportunities of intensification of city centre uses such as retail, commerce and higher education.
-  ▶ **Grid Rd/Blvd** = The Cross-City Grid Roads of Grafton (V6) and Saxon (V7) already offer a limited form of intensification. By re-configuring these intersections, the city centre can maximise the potential of having a Grid Road access at the heart of the city. These are locations for primary commercial investment.
-  ▶ **CAH/City Centre Connectors** = The points where the city centre meets the CAH in part already accommodate some local facilities and amenities, but the potential for these locations to serve local communities at both 'ends' of the connection is not fully explored. By reinforcing the roles of the local routes between CAH and the City Centre, these nodes or 'points of connection' can take on even greater significance through well-planned regeneration and/or development.

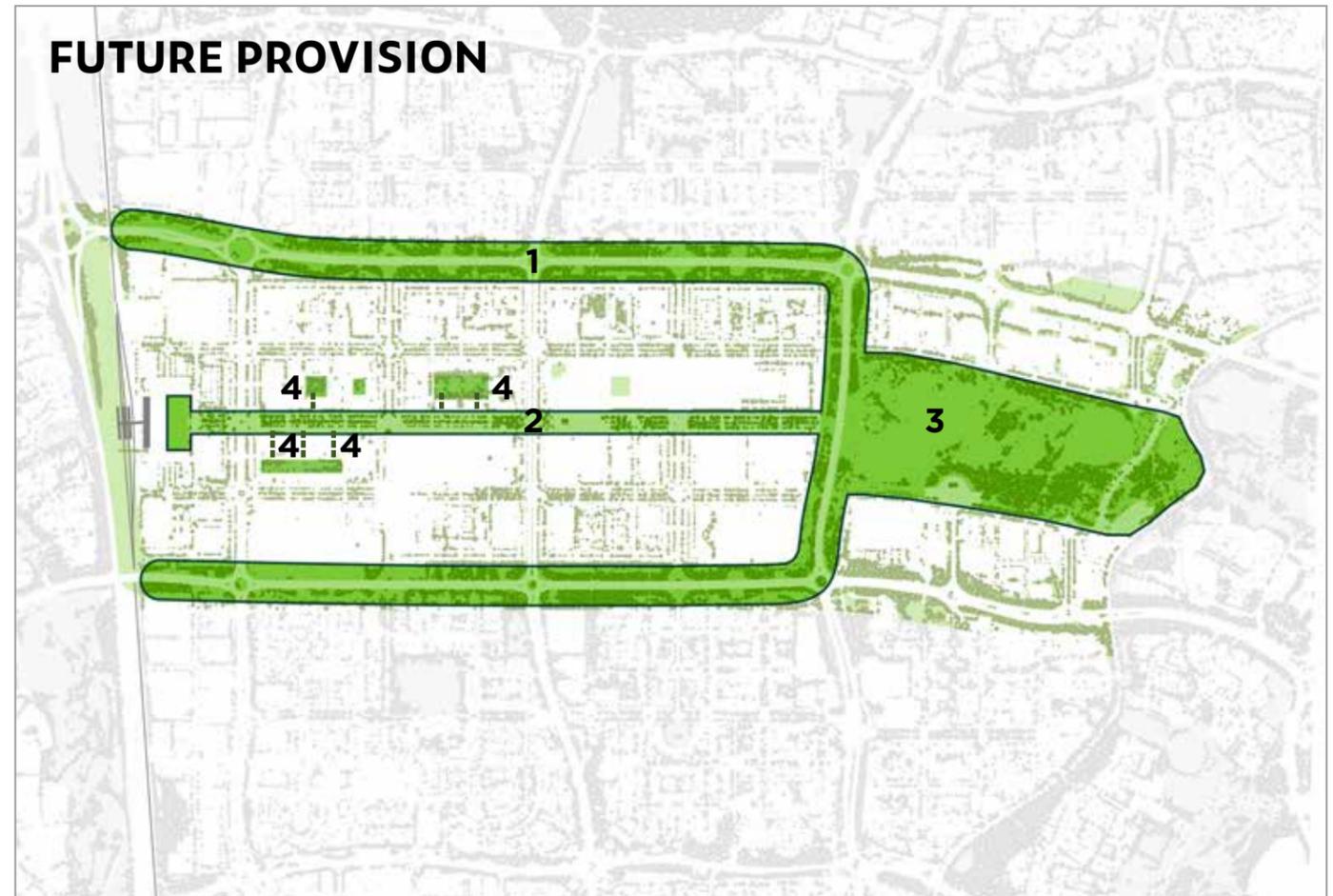
CMK - Green Infrastructure



- 1 Green Frame
- 2 Campbell Park

CMK has two major green infrastructure assets. Campbell Park, which sits at the east end of the City Centre, provides the centrepiece for an emerging new residential district. A 'green frame' running in association with Portway (H5), Childs Way (H6), and Marlborough Street (V8), surrounds and defines CMK. Within CMK, a comprehensive network of boulevards and tree lined gates provide an extensive and unique framework of street tree planting.

One of the special characteristics of CMK is that it not only provides for its local business and residential community but also provides a city wide and national centre for recreation and leisure activities, and the green infrastructure plays a key part in supporting this role. However, whilst physically and visually defining CMK, much of the green frame is not publicly accessible and does not currently provide a 'useable' function in terms of recreation or movement. Some of the other spaces which do provide leisure and recreation space – such as the Fred Roche Gardens and Grafton Park – are green infrastructure assets within CMK which are currently 'hidden'.

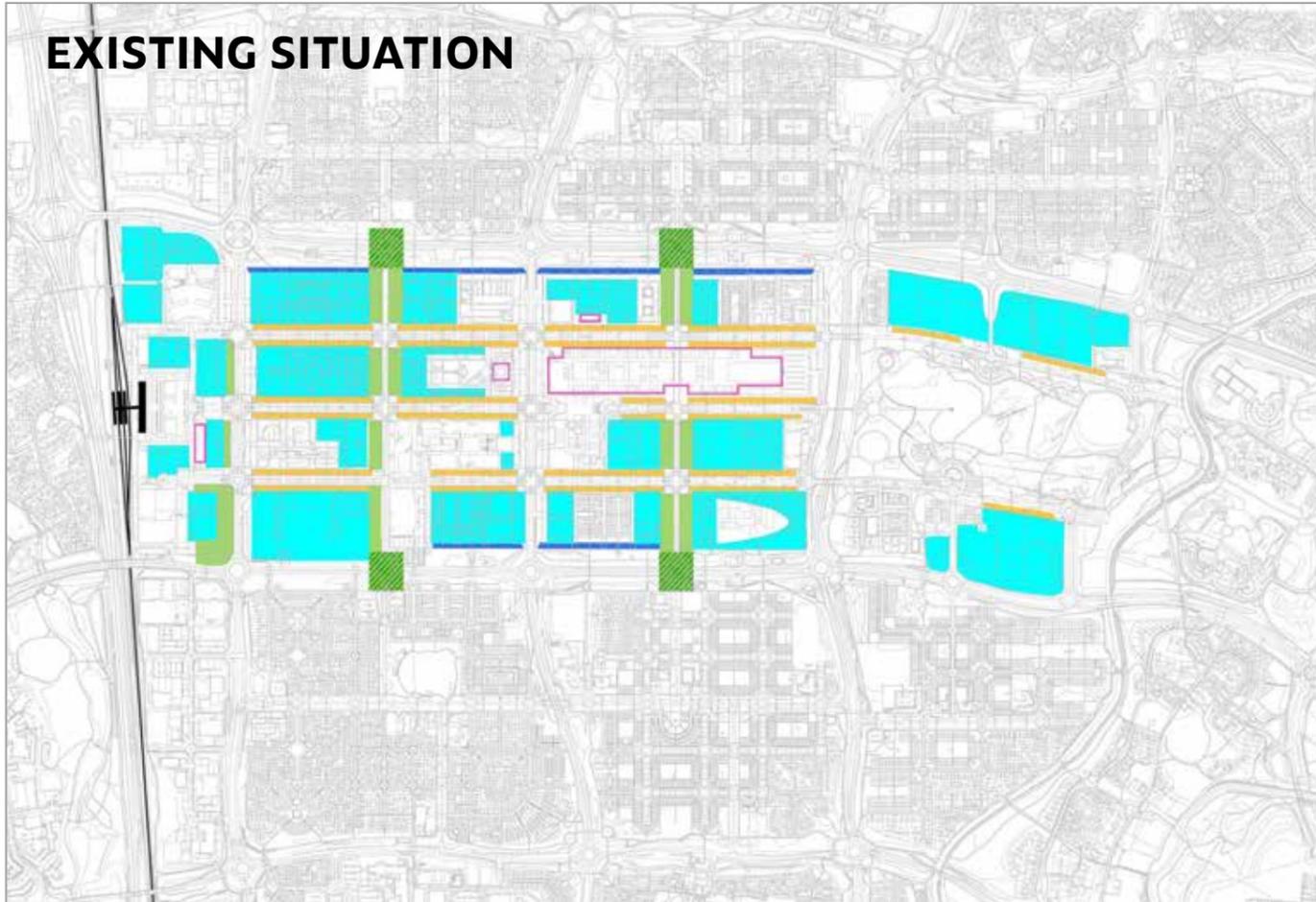


There is now an opportunity to take stock of CMK's maturing green asset and to review how well it meets the needs of the existing and growing CMK community. A step change in green infrastructure in CMK can be delivered by repurposing some of the significant green infrastructure assets embedded in the overall plan for CMK:

- 1 ► The green frame, which generally segregates the surrounding residential areas and grid roads from CMK, could over time (as a result of changes in vehicle emissions and the establishment of RT) be re-imagined as a 'perimeter park' or a **'grand boulevard'** encircling CMK, designed to integrate housing areas to the north and south with CMK, not to segregate them;
- 2 ► Midsummer Boulevard – the principal east-west route from the train station to Campbell Park can and should be seen more than just simply one of three means of conveyance of vehicles and pedestrians; with future vehicular traffic movements within CMK focused on Avebury and Silbury Boulevards and additional investment in green infrastructure, Midsummer Boulevard could become a **green spine** where pedestrian and cycle movements still occur but within the key central green space permeating through the City Centre.
- 3 ► **Campbell Park** will continue to perform its local, regional and national role as a place of gathering, leisure and recreation.
- 4 ► **Better links / wayfinding** to integrate existing 'hidden spaces' within MK.

The three green elements will link together to realise a 2050 adaptation of the objectives of the original vision that was put forward in the early 1970s when CMK was first designed.

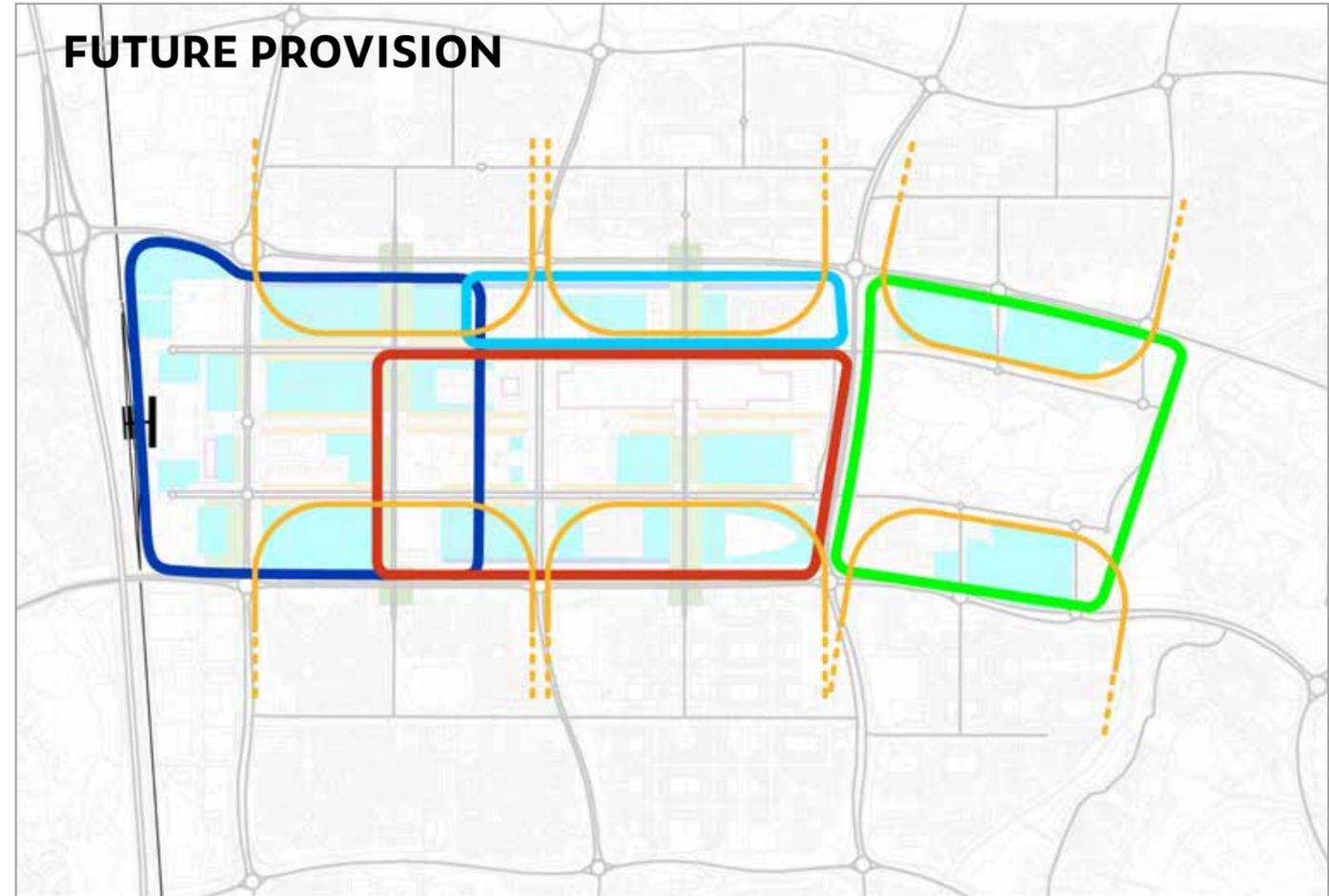
CMK - Change Potential



- Sites - Developed, Developing, Vacant
- Classic infrastructure on the 'Rows'
- Classic infrastructure on the 'Gates'
- Classic infrastructure on the 'Boulevards'
- Notable buildings

The **'place identity'** of CMK is a function of what was planned and what, when and how it was built. The original masterplan for CMK did not specifically promote the idea of land use zoning but through infrastructure delivery, commercial market activity, opportunism and the adoption of a laissez faire attitude, the creation of areas of concentration of specific land uses – commercial, leisure and retail – has occurred.

One common observation about the character of CMK it is increasingly dominated by corporate investment and as a consequence there is been reduced scope for independent investors and operators to 'compete' for space. The areas that were generally built around the same time in the early 80s and of the same typology, particularly the commercial office space, are now approaching the end of their useful and productive life. These have been and will continue to be subject to change, conversion and redevelopment. Some vacant plots remain but in the main these are now the subject of development proposals. The one remaining significant land element within CMK that has not yet explored its change potential to any significant degree is that which is generally described as the 'classic infrastructure'.



CMK has significant potential to change in the near future but lacks coherent 'place identity' to structure or direct this change. One of the key messages is how that change can be co-ordinated in the context of planning policy, but also in order to create a clear and coherent place-based strategy for CMK as a place of innovation, leisure, living and administration.

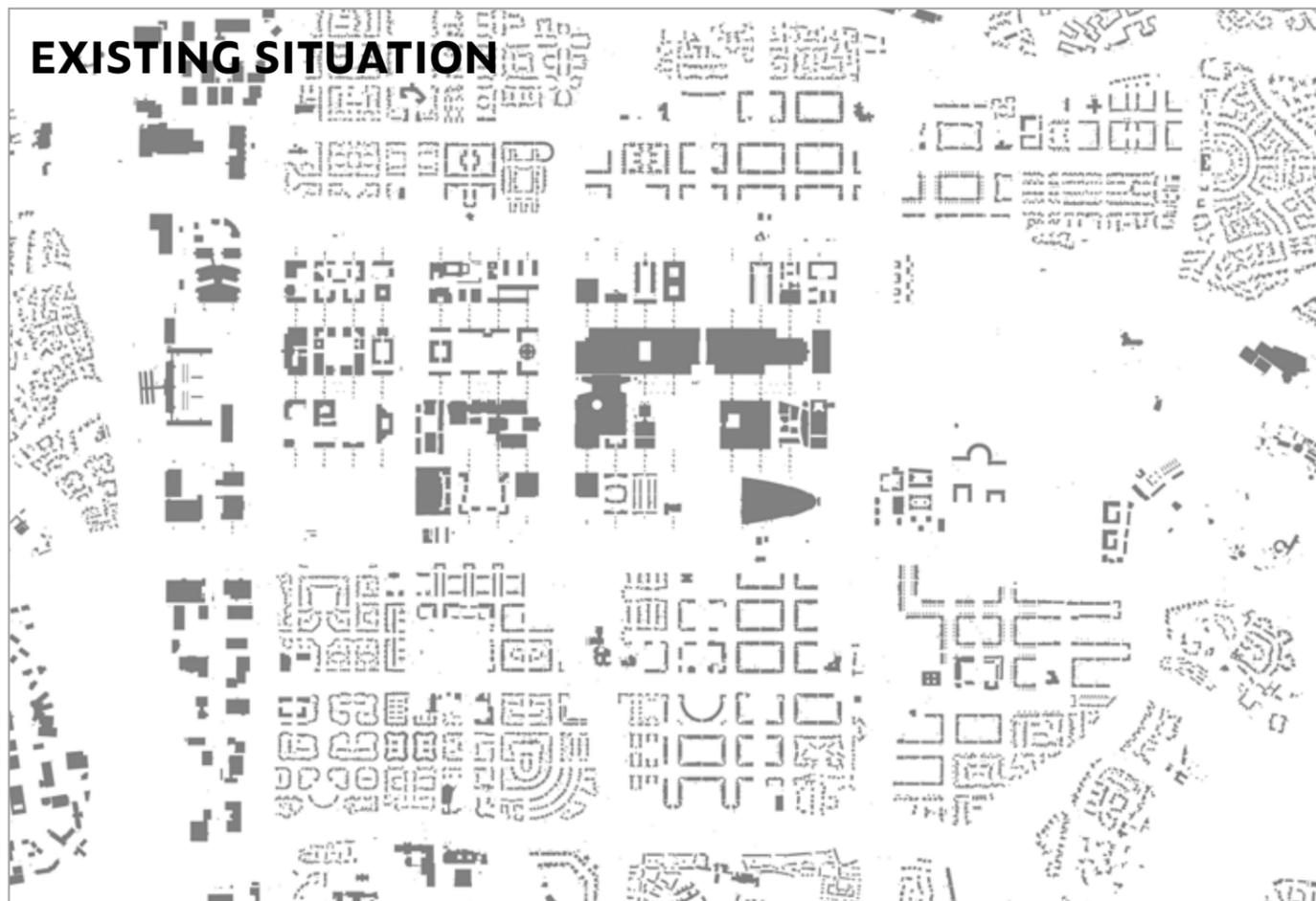
The legacy of the MKDC plan coupled with 40 years of implementation has resulted in the creation of some distinctive districts. The role of business in CMK is growing as it is changing. Equally, retail and leisure is seeing one of its most significant changes in recent history and will require new forms of development in order for it to sustain its role as a city centre use. Residential development until quite recently has been difficult to pursue in any significant quantity. However, recent changes both in terms of planning policy, lifestyle and the perceived attractiveness of CMK means that living within CMK is seen to be both an attractive proposition and a viable development initiative.

Out of those component parts comes the opportunity not to zone specific areas for non-functional use but to create four 'overlapping' districts to create better place identity:

- ▶ 'Innovation';
- ▶ 'Culture and Leisure'
- ▶ 'Civic';
- ▶ 'Park Life'.

Each of these districts would not be 'exclusive' to each use, but would seek to build synergies between complementary uses to enable each part to better fulfil a role in building on the unique qualities of CMK as a whole. Importantly, every district would also have a role to play in enabling more positive interaction with existing and expanded Central Area Housing.

CMK - Place Intensity



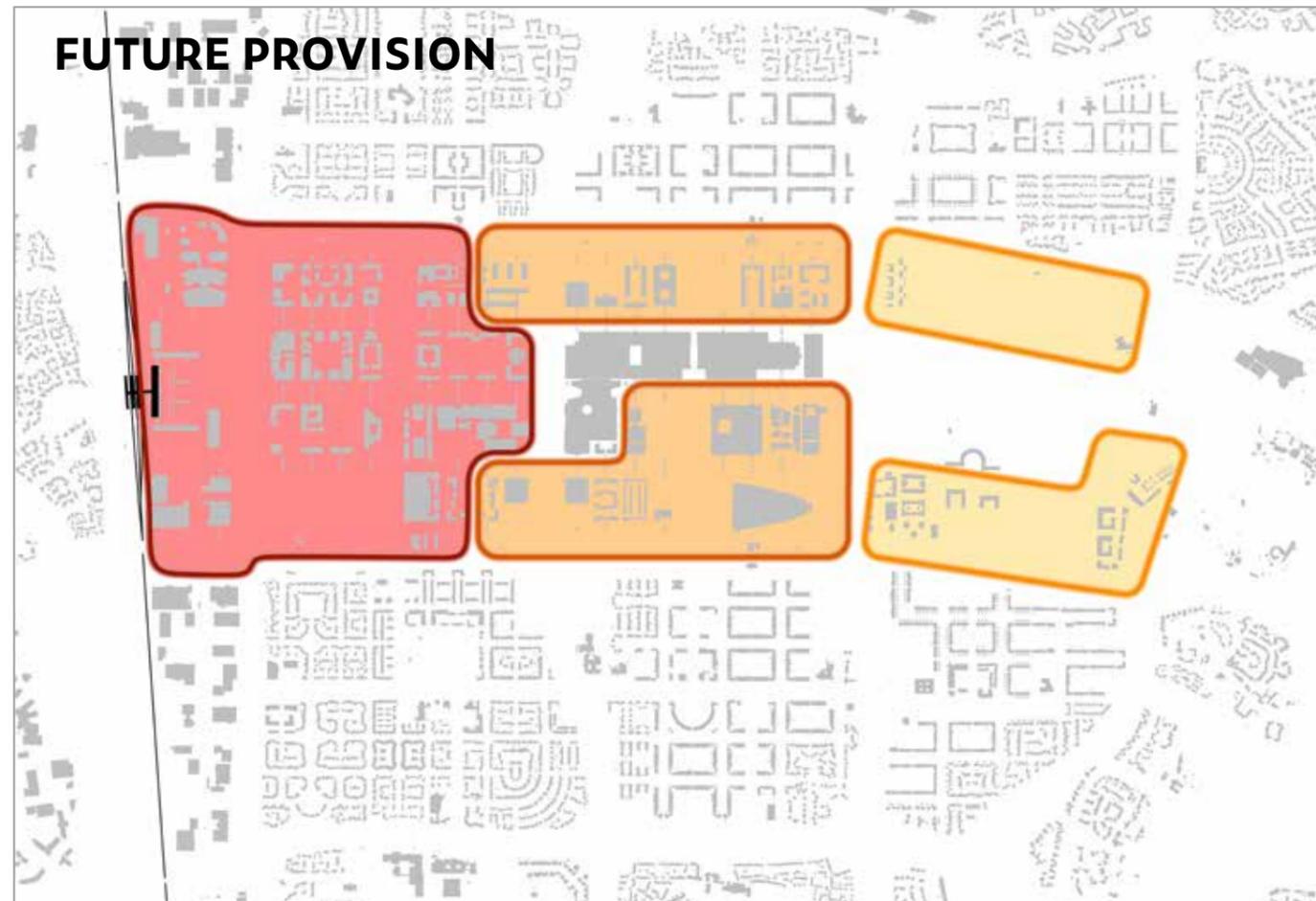
Existing Buildings

The existing urban form of CMK is varied both in terms of its scale of development and its diversity of use and activity. Rather than simply focusing on density of development in CMK which by all other measures one would assume to be higher than any other part of the Study Area, the critical objective is to increase **'place intensity'**, which is a combination of uses and activities, coupled with quantum of development.

The greatest economic potential lies within the commercial and business sector and coupled with the creation and delivery of MK:U – the potential exists not only to deliver the scale and quantum of development to support and sustain the economic growth of the Study Area to 2050 and CMK's role within it, but to also to create a vibrant and particularly urban character supporting a more populous public realm, evening economy and patronage of MK:RT.

One of the peculiar characteristics of the 'grid' as conceived in MK is that, unlike most other gridded cities, the MK grid can segregate movement rather than integrate it. In CMK this has resulted in varying levels of intensity, with some land uses extending over a wider area at low density (such as the shopping building) and others being dispersed across CMK rather than congregating into 'quarters' as in other towns and cities. However, when there have been moves to integrate modes, land uses and on-street activities there is often a sense that mobility may be compromised as a result¹¹¹.

¹¹¹ For example, the intensification of use and activity planned at The Hub development also included the replacement of underpasses with at-grade crossings to encourage on-street activity. However, the continued dominance of car movement at these junctions means that the street environment is not particularly welcoming for, or gives priority to, pedestrian and cyclist movements.

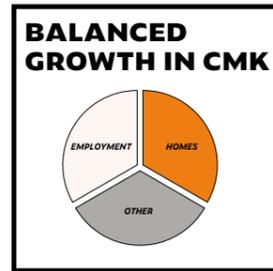


Floor Area Ratio (FAR) is a measure of density based on the relationship of a buildings' floorspace to its building plot. The current average footprint across CMK has a floor area ratio (FAR) of around 1:1 to 1:1.5.

The long term economic potential would suggest that the floorspace across CMK can grow significantly. For this to be delivered there needs to be an acceptance that the FAR will be significantly increased over that which has been achieved in some parts of CMK.

It also will need to be considered hand in hand with the ability to create more intensively developed areas where access to public transport and support facilities is greater. To that end a strategy is proposed where:

- ▶ the highest intensity of development are generally located in an area between MKC rail station and Saxon Street and are predominantly focussed on commercial and business uses;
- ▶ there is an area of leisure, recreation, retail and cultural uses in the heart of the City Centre which are relatively lower intensity but still commensurate with City Centre activity; and
- ▶ an area of residential-led development focussed on Campbell Park which sustains both a good quality of life for residents and at the same time brings a higher level of population to this already-established and highly-valued public park.



Future Scale of Growth

Central Milton Keynes represents a significant opportunity to structure new growth around TOD principles. As a sub-regional TOD, the extent of transit-oriented growth is not limited to the MK Central Station area; due to its MRT connectivity, Transit-Oriented Development (TOD) can be applied across the entire CMK/Campbell Park area. This offers an opportunity for a significantly enhanced scale of growth to 2050.

The question of employment (and housing) density within CMK has been a central theme of the growth study. At present, 46% of the Borough's office space is located within CMK, but there is considerable scope to increase both the density of office employment in CMK due to the area having the physical capacity to grow the office property base (along with other uses such as residential, education and retail), and the proportion of office employment in CMK relative to elsewhere in the Study Area.

The capacity within CMK for additional residential growth is also considerable. Even with a transformational level of employment growth, and taking into account other committed and planned growth (most notably, the 5,000 homes in current development plans and the MK:U proposal) there remains additional capacity for growth to support a growing city centre economy to 2050.

Importantly, it is considered that CMK has the capacity to deliver such an outcome (through increased employment space, increased residential accommodation and better transport infrastructure) whilst still retaining key elements of its original structure and character.

Our analysis has confirmed that there is around 50 ha (123 acres) of potential development land in CMK. Increasing the average development intensity within CMK to a Floor Area Ratio of around 3:1¹¹² (and recognising that development intensities should vary across CMK) would deliver around 1.5M sq.m (16.15M sq.ft) of development floorspace in total. In terms of how this floorspace could be apportioned:

- ▶ In order to maintain a reasonable balance of activity between land uses and to support the RT network serving CMK, our analysis suggests that the number of new homes in CMK could increase to at least c.7,500 from the 5,000 currently envisaged¹¹³. At an average size of c.80sq.m per unit, this would generate a floorspace requirement of c.**600,000 sq.m**/6.46M sq.ft.
- ▶ The recommended economic growth scenario for the Study Area includes a recommendation that CMK grows its relative proportion of employment to accommodate c.60% of the Borough's office space by 2050. This would result in an additional demand for office space in CMK of between 361,000 sq.m (3.88M sq.ft) and **459,000 sq.m** (4.94M sq.ft) to 2050¹¹⁴, supporting between 32,800 and 41,700 additional jobs.
- ▶ The balance of floorspace (c.**400,000sq.m**/4.31M sq.ft) could accommodate a commensurate growth in additional commercial and institutional floorspace, including MK:U plus expanded/new retail/leisure/civic and community uses required to support the growing population.

Advocating this level of additional housing and jobs growth within CMK is not only important to support the anticipated level of future economic activity of the Study Area, but will provide an appropriate level of patronage and support for a viable cross-city RT network. It will also introduce sufficient people, floorspace and activities into CMK to support its ambitions to be a more vibrant regional centre with a diverse economy and an attractive built environment in which people want to live, work and socialise.

¹¹² The Pinnacle, a recent commercial office development in CMK, has a Floor Area Ratio of 3:1.

¹¹³ The RT demand and viability calculations in the Mobility and MRT Study tested an additional min. 5,450 homes in CMK by 2050 (pp98), thus the c.7,500 homes advocated will further improve viability and demand forecasts.

Risks to Good Growth in CMK

As elsewhere in the Study Area, there are a number of risks to securing good growth in CMK in a transformational growth context. These are centred around the extent to which there is the appetite for shifting the consideration of emerging CMK development proposals in the context of the MK2050 proposition, rather than simply considering the requirements of current policy and the existing context.

Current development proposals may simply not deliver sufficient intensity of use or density of population to secure the levels of activity and support for RT needed within any given part of CMK. (For example, the proposed density of residential-led development currently planned for the North Side of Campbell Park could be significantly increased as part of embedding RT into CMK).

Similarly, standalone office buildings – such as the currently planned HQ building for Santander – which include the provision of significant levels of new employee car parking, will act counter to the ambition to move away from private car commuting and to realise effective implementation of RT in the early years¹¹⁵.

In the 2050 context, the recommended growth proposition will mean a much higher proportion of people working in and around CMK will travel by public transport as well as by complementary active and 'shared mobility' solutions which do not rely on the use of car parking. To enable this shift to happen, and to support an effective MK:RT network, car parking charges must be increased, and the amount and proportion of car parking to office development must be reduced (firstly, to levels comparable with other existing city centres, and thereafter to lower levels as MK:RT services are rolled out).

A phased strategy for the short-medium term providing temporary car parking arrangements for new developments prior to the commencement of RT (with an agreed phased reduction of spaces as RT services are established) would help manage this change. However,

to be fully effective, such initiatives must be universally understood, supported consistently and over time through policy and investment decisions, and well-aligned with the investment in and commencement of MK:RT services. This would best be achieved as part of a comprehensive CMK growth and investment framework.

Appropriate upfront or advance investment in CMK's infrastructure will also be necessary to ensure that individual planned or speculative development proposals do not prejudice the fixing of 'missing links' or the enhancement of CMK public realm and infrastructure assets (these are set out on the following pages).

Any growth strategy for CMK will therefore have to find a balance between a commercially-responsive environment which encourages the market to lead development activity and a more interventionist strategy which allows the local authority to lead the way, building on the MK "different by design" ethos to re-instate CMK as innovative and leading edge, rather than corporate and outdated.

The ongoing activity around Renaissance:CMK may offer the opportunity to explore this thinking further with local stakeholders and investors in the context of current development proposals and site disposal programmes, as part of wider economic and civic development activities.

Overleaf we have illustrated two ways in which 'interventions' through new development proposals and public realm improvements could deliver some of the good growth objectives without working against the established structure of CMK.

¹¹⁵ Parking provision in the new Santander HQ increases employee parking levels considerably. The existing building provides 296 employee parking spaces for the 38,598 sqm of commercial floorspace (1 space per 130 sqm). The new HQ more than doubles this provision, with 884 employee spaces (1 space per 56 sqm) serving the 49,294 sqm building. Moreover, because this increase is still less than the current Plan:MK and CMK BNP parking standards, an offsite financial contribution to offset the loss of public spaces has also been required, to be used to provide more public parking in CMK.



1. Mature London Plane trees retained within CMK Boulevards; particularly if no overhead power lines were required
2. Potential MK:RT 'Trackless Trams' running along CMK Boulevards
3. Real time information

4. Existing Porte Cochères used as shelters at transit stops within CMK (as originally planned)
5. Integrated ticketing
6. Carriageway dedicated to MK:RT vehicles/routes; with two way vehicular access to other carriageway within Boulevards

7. Future potential for optical driverless technology with markings on carriageway
8. Appropriate levels of cycle parking to encourage interchange with MK:RT



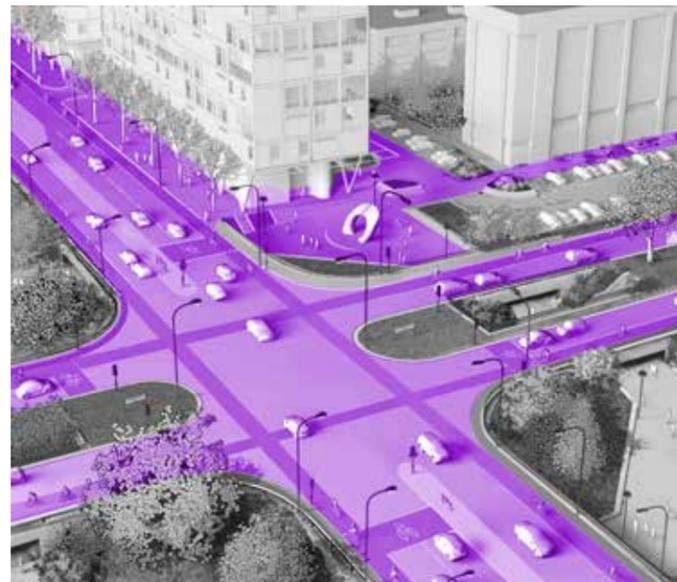
DAVID LOCK ASSOCIATES

INTERSECTION: MIDSUMMER BOULEVARD WITAN GATE

Two examples of common places within CMK are shown to demonstrate how the proposition's principles might be applied to some typical locations within the centre.

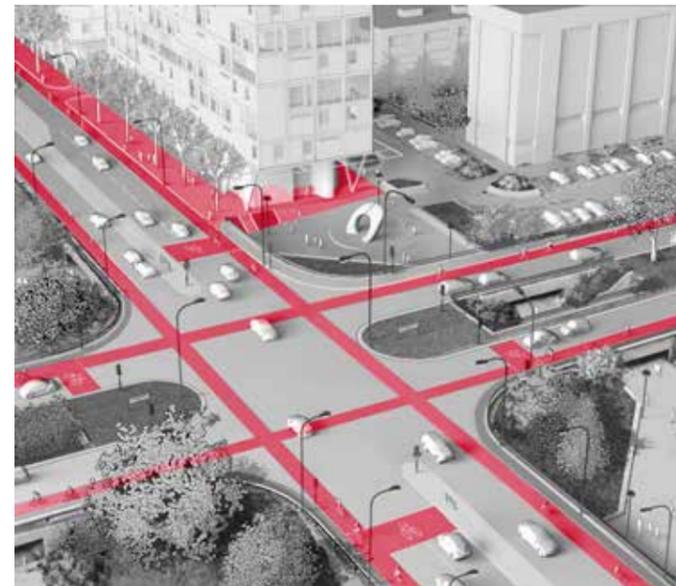
City Structure

This example intersection of local routes becomes a place of connection and a usable piece of public realm, with associated development.



Walking/Cycling

Dedicating space for bike lanes and making a more consistent grid for low-speed movement modes along the main local routes in CMK makes walking and cycling more legible and accessible.



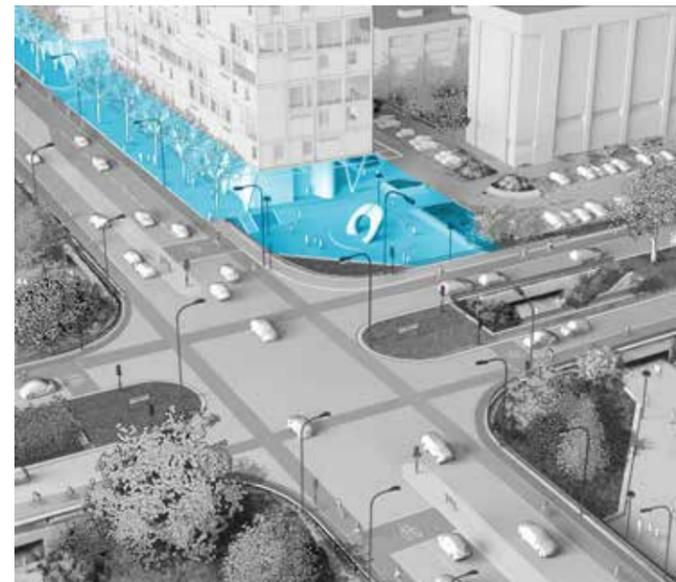
Green Infrastructure

New development with infill typologies retains and enhances green spaces and trees currently on the Gates, Boulevards and intersections.



Place Identity / Change Potential

Witan Gate becomes the central North-South street of an enhanced innovation district, with education, flexible workspace and some leisure uses embedded.



Place Intensity

High intensity infill development within the innovation district embraces placemaking strategies.





DAVID LOCK ASSOCIATES

**'BASTION':
WHERE REDWAYS MEET
NORTH AND SOUTH ROWS**

City Structure

The new points of connection at the edge of the city create a clear movement and place structure in a previously ambiguous and under-used location.



Walking/Cycling

A redesign of the edge spaces completes the Redway and walking connections from neighbouring grid-squares into CMK.



Green Infrastructure

Transforming the edge of the city for active use rather than left-over brings more attention and utility to the green ring surrounding the city.



Place Identity / Change Potential

A new development typology at a point of entry for CMK transforms a car park into a memorable place, supporting the creation of distinct place identities around the centre.



Place Intensity

New residential space and utility/facility space at an appropriate average plot ratio can support dense city living with walkable nearby facilities within CMK neighbourhoods and the neighbouring grid squares.





CHAPTER 13: CITY STRUCTURE GROWTH

City Structure Growth

The provision of grid corridors in new development has been a longstanding policy objective of the Council and given additional policy weight in Plan:MK¹¹⁶. In the context of good growth to 2050, even with a move to RT, the grid corridors and the roads within them will carry the priority RT network within the urban area. It is considered important to complete grid corridors in certain locations to ensure the grid as it currently exists can be made to operate as effectively as possible for RT connections between new and existing growth within and on the edge of the urban area.

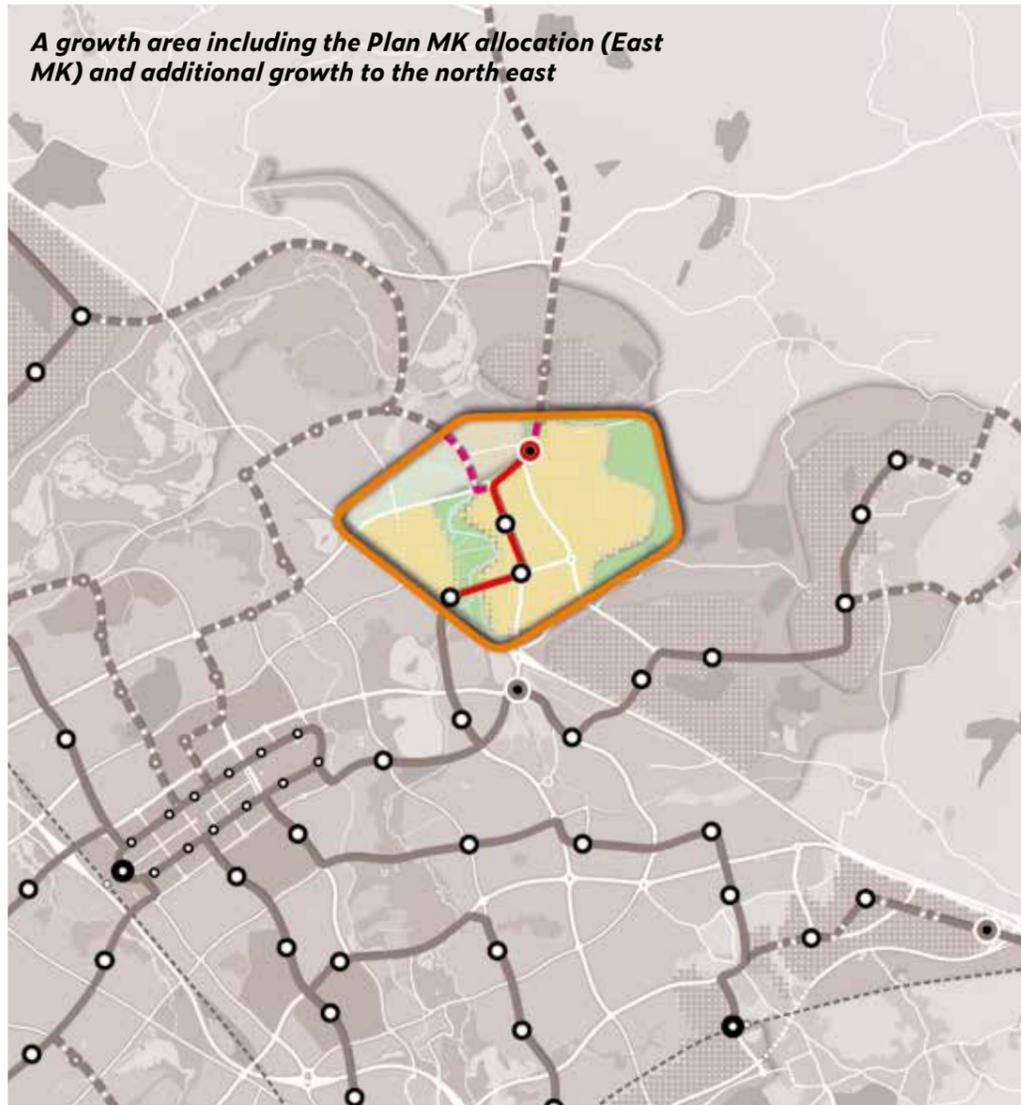
Completion of the 'missing links' - in terms of both grey and green infrastructure - will allow key connections to be completed. This does not mean that the built form which sits within this completed grid structure must replicate that which exists in grid squares currently; within the new 'grid squares' created by the grid network, locations for more intensively used land and centres of activity based around rail or RT nodes should be established as envisaged by the City Structure principles¹¹⁷.

Locations for 'City Structure' Growth

The locations set out in this chapter are those where, in our opinion, new planned growth at scale should follow the MK City Structure design principles to facilitate the effective completion of the MK grid network.



Western Flank Grid Squares



Land East/North East of MK

The recommended typology and design approach for this site seeks to effectively adopt a similar design response as the original plan for MK in respect of the grid corridors¹³ west of the A5(D) which shaped those grid squares running adjacent to the A5(D).

Along the length of the site allocation in Plan:MK, three grid road crossings and an additional single track crossing of the M1 are already in place (H3 Monks Way, H4 Danstead Way and H5/H6 Portway/Childs Way via M1 J14). A new M1 crossing spurring off V11 Tongwell Street adjacent to Willen is also planned as part of this growth.

Given this structure, the need to minimise conflict between strategic north-south movements (at M1 J14) and east west movement to and from MK, and to maximise opportunities for prioritising local movements of RT, cyclists and pedestrians over the M1, we strongly advocate that the grid corridor approach which exists to

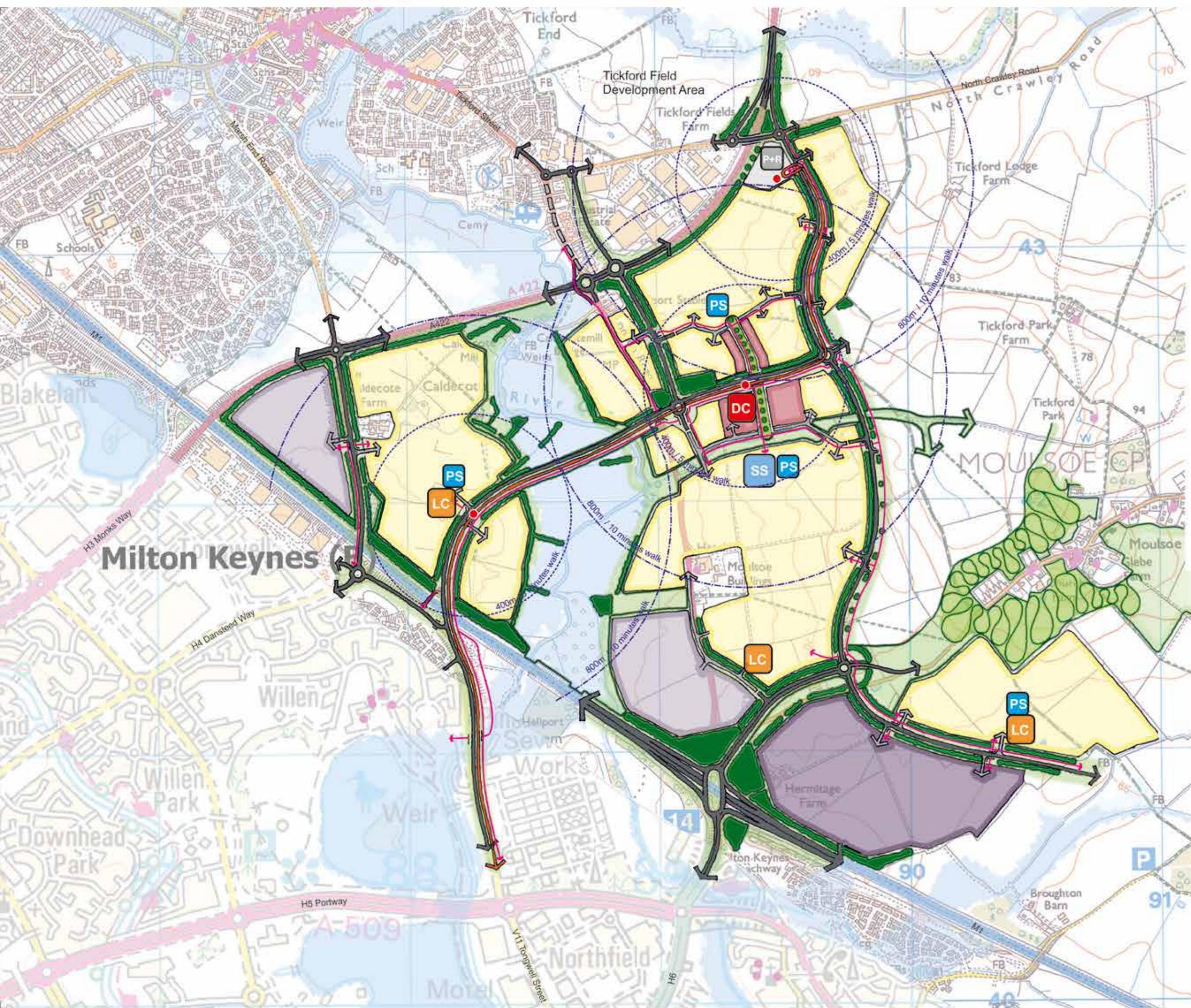
the immediate west of the growth area and can distribute movements between the suite of existing routes is continued.

In terms of the green grid, it is appropriate for this growth area to build in enhancements to the Ouzel Valley landscape between Pineham under the M1 to extend the Ouzel Valley Park as a structuring element through the site to connect with the parkland at Newport Pagnell, incorporating strategic SUDS for the growth area to provide a city-scale green/blue infrastructure connection. This linear park would be capable of linking with the River Great Ouse to the north of MK to form a regional-scale landscape and environmental asset if desired.

The growth study advocates an adaptation of grid corridors within the urban area to accommodate and prioritise rapid transit. However, the new M1 crossing should be designed at the outset to provide dedicated RT

carriageways as part of the grid corridor, connecting a new Park and Ride destination on the A509 to the centre of MK in a dedicated corridor via a new higher density district centre placed centrally on the grid within this growth area, scaled (and with land reserved) to serve both the currently planned 5,000 homes and future growth in this location.

This concept master plan indicates how the current Plan:MK allocation could be structured to ensure that the elements of good growth and mobility identified in the Study are embedded from the outset.



-  Residential (Gross Parcels)
-  Employment / Logistics
-  Employment / Business
-  District centre
-  Neighbourhood Centre
-  Park / Ride
-  Woodland
-  Open Space
-  Green Buffer
-  Secondary School
-  Primary School
-  Grid Corridor to Development Area Access (Including overlooked Redway Underpasses)
-  Primary Vehicular Routes
-  Structural Local Access
-  Rapid Transit Route and stops (Including 5 & 10 minutes Walk Catchments)
-  Redways

B | Minor Revision | 26.07.2019

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MK2050 Strategic Growth Study

East of M1: Concept Framework Plan

Scale: A2: 1:10,000 | Drawn: MG | Designed: SJP | Approved: SJP

0m | 400m

Drawing Number: MKC003/077 | Revision: B | Date: 15.04.2019

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A growth area encompassing extensions to allocated Plan:MK sites at Eaton Leys and South Caldecotte shaped by an improved A5 junction and Expressway alignment, plus allocated Plan:MK land at SEMK and additional growth eastwards towards the A421.

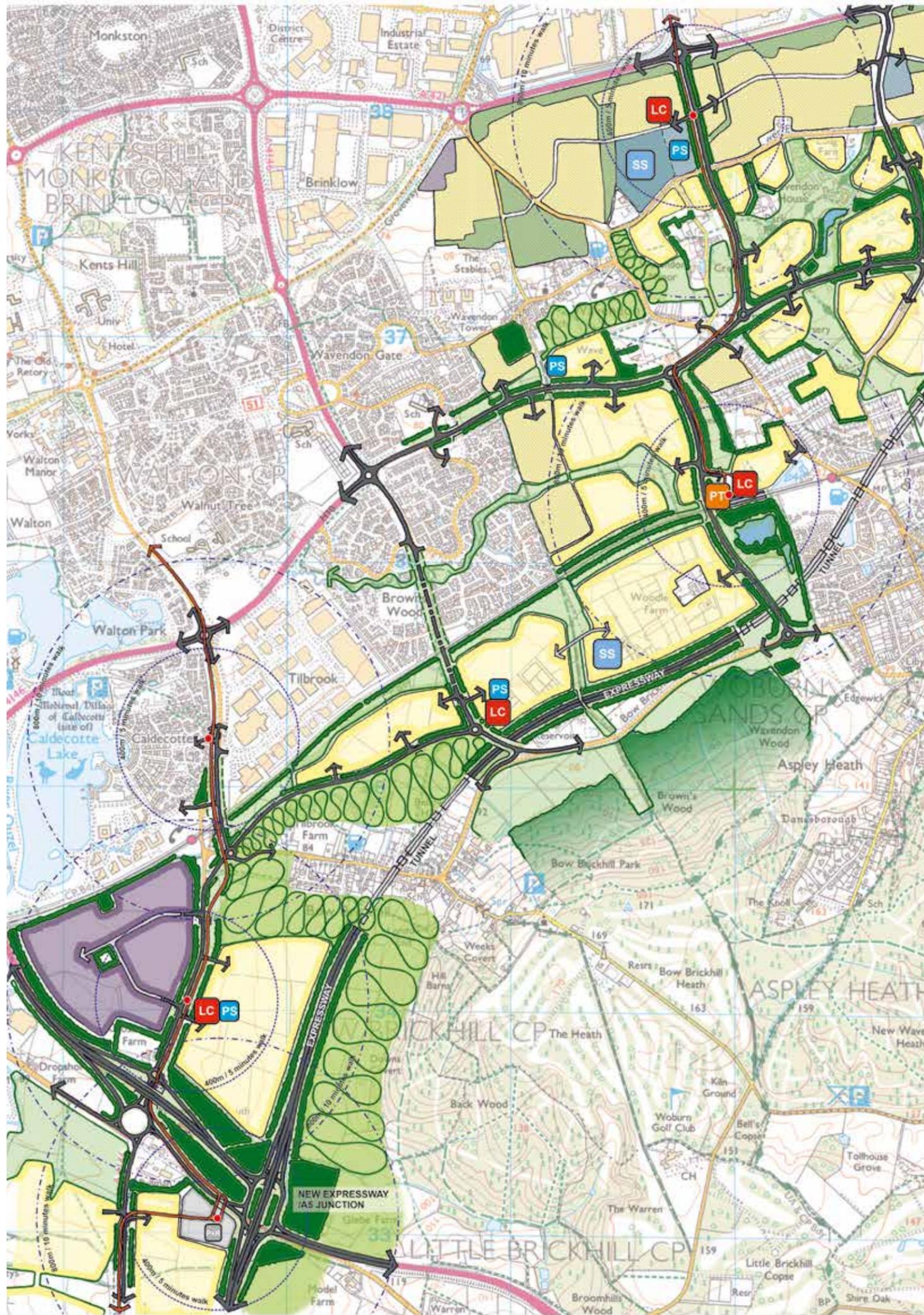


South and South East of MK

Grid corridor reserves have long been in place extending from the H10 Bletcham Way eastwards and the V10 Brickhill Street and V11 Tongwell Street southwards, reserving land within completed grid squares for strategic landscape and connections over key strategic infrastructure. Similarly, the Strategic Land Allocation (SLA) currently under construction in the north of this growth location includes safeguarded grid corridor reserves to accommodate grid corridor connections back to the A421 south of Magna Park.

Both Woburn Sands and Ridgmont are identified as stations to be retained and enhanced as part of EWR improvements. Whilst Ridgmont will be an employment-led transport node with a P&R facility, as part of potential growth at Woburn Sands there is an opportunity to create a higher density mixed use transit node around a new/relocated station where rail and RT services interchange, providing direct RT connections between East West Rail services and CMK via key destinations within the existing urban area.

Strategic green and grey infrastructure networks should be extended to the M1 J13 as part of this grid corridor structure, enabling RT to serve the cross border growth area (Aspley Triangle) and potentially to link J13 to planned growth areas east of the M1 (Ridgmont P&R/employment hub and the Marston Valley new community). This also has the potential to incorporate the route of the Bedford to MK Waterway to connect planned routes in Central Bedfordshire.



-  Residential (Gross Parcels)
-  Employment / Business
-  District centre
-  Park / Ride
-  Potential Public Transport Hub / Re-located Railway Station (South East Milton Keynes Plan)
-  Woodland
-  Open Space
-  Green Buffer
-  Secondary School
-  Primary School
-  Grid Corridor to Development Area Access (Including overlooked Redway Underpasses)
-  Primary Vehicular Routes
-  Structural Local Access
-  Rapid Transit Route and stops (Including 5 & 10 minutes Walk Catchments)

Rev	Description	Date
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MK2050 Strategic Growth Study
South MK: Concept Framework Plan

Scale: A2	Drawn: MG/MP	Designed: SJP	Approved: SJP
1:10,000			
0m ----- 400m			

Drawing number: MKC003/080	Revision: A	Date: 07.08.2019
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The Expressway

The South MK growth location sits squarely within the preferred corridor for the O2C Expressway, a new smart motorway planned to link Cambridge and Oxford¹¹⁹ which includes a new "missing link, a 30-mile gap in the network between the M1 at Milton Keynes and the M40 at Oxford".

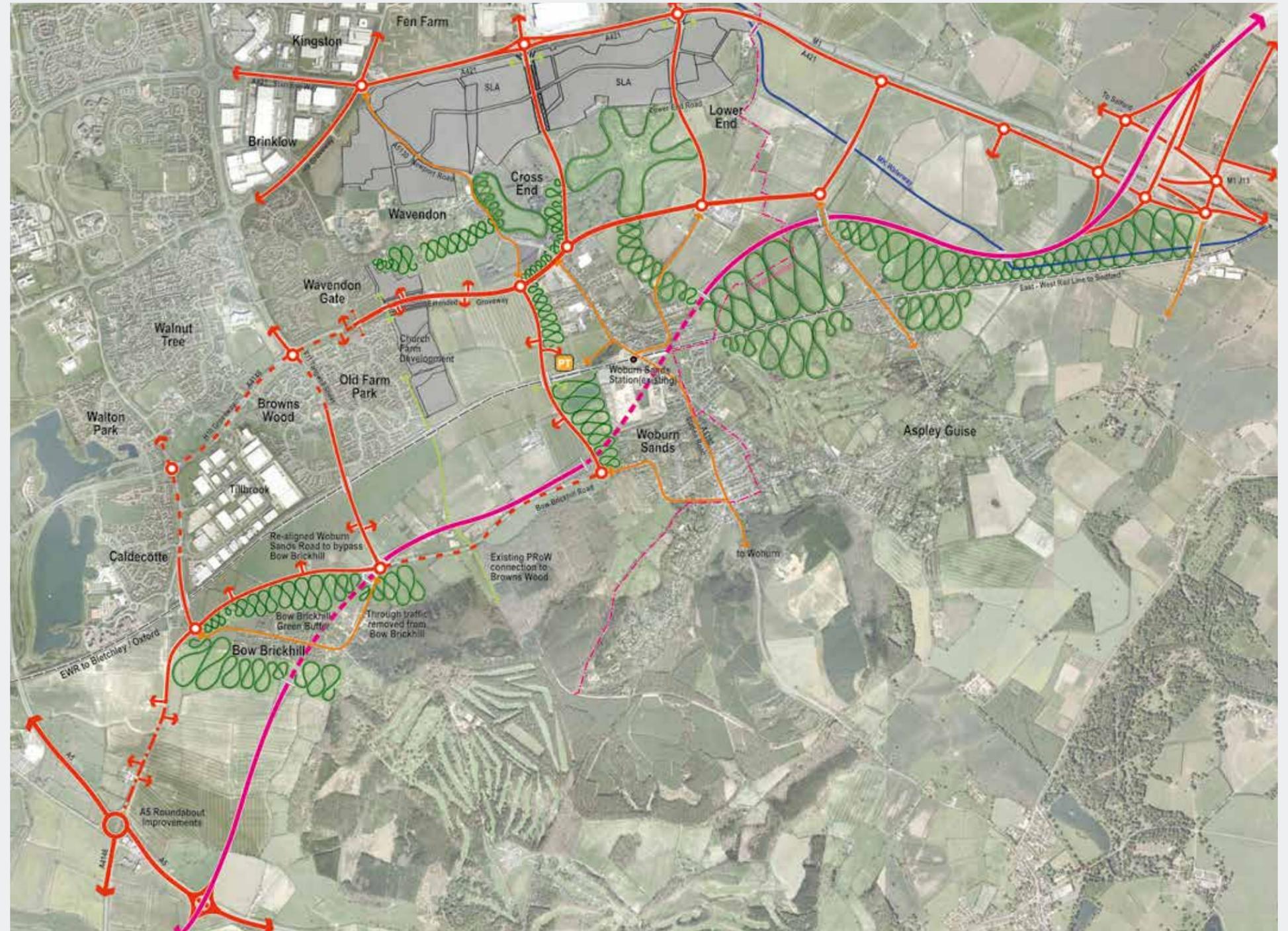
Within this preferred corridor there are a number of potential route alignments to achieve Highways England's requirement of connecting "south Milton Keynes via Winslow to Abingdon", and it is recognised by Highways England that the section of route around the south of MK is the most complex to deliver.

Our analysis of the alignment options suggests that at-grade solutions for the new motorway in south MK are highly constrained and would prejudice the delivery of two strategic Plan:MK development sites. An at-grade alignment would not be achievable without unacceptable environmental/visual impact and direct impact on local communities/properties and designated landscapes. On this basis, an alternative design response is offered which mitigates this impact through the provision of short sections of tunnel under Woburn Sands and Bow Brickhill (see plan opposite), and it is strongly advocated that this design solution be pursued with HE and DfT by the Partner authorities through ongoing engagement activity¹²⁰.

In the west of this growth location, around the A5 southern gateway to MK, it is anticipated that changes to the existing road network will also result from the routing of the Expressway through this area. If as part of the emerging Growth Strategy the Council adopts an integrated approach to the design of growth and infrastructure, then the Spatial Framework Plan indicates how in the context of a new A5/Expressway intersection to the south, extending the V11 across the existing A5 junction to serve Eaton Leys could allow RT services to access this committed growth area.

Adopting a grid corridor approach in this growth area would maximise local connectivity between new planned growth areas and MK/CMK, whilst diverting existing strategic and through movements away from existing historic settlements such as Wavendon, Woburn Sands and Bow Brickhill (in much the same way as strategic movements were directed away from the high street of Stony Stratford).

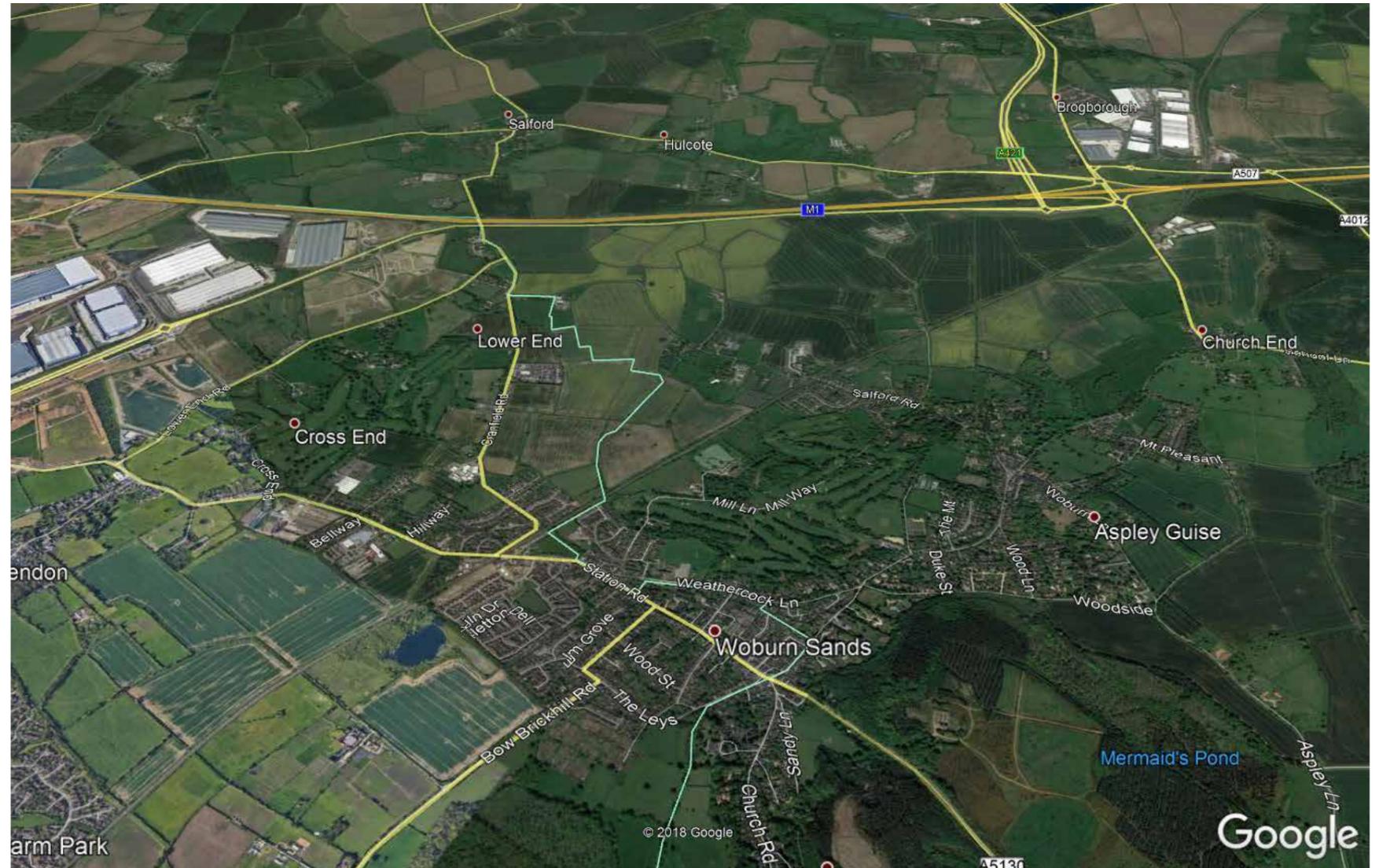
Similarly, applying the original City Structure design principles for the assimilation of individual settlements into the wider green infrastructure network would create a green buffer for existing communities, maintaining the identity of these settlements within a long term growth context and providing enhanced strategic east-west green infrastructure linking the Greensand Ridge in the south and east with Whaddon Chase to the west.



Integrating green, grey and BLUE infrastructure with growth

¹²⁰ Discussion with Highways England engineers at a stakeholder event in Milton Keynes on 21 November 2018 suggested that such a design solution would not be unacceptable in principle.

A new growth area between the south eastern edge of the MK urban area and M1 J13 north of the railway line, encompassing land south of the Strategic Land Allocation (SLA) south of the A421 and the eastern edge of Wavendon/Woburn Sands.



Land West/South West of M1 J13 (cross border)

Annex 2 of the Growth Study provides a commentary on the reasons why, despite the area having long been identified as a strategic growth location in previous strategic plans, no comprehensive growth plans have been progressed in this cross-border location. This location is at particular risk of a piecemeal and disjointed development form which does not support or deliver on the 'good growth' objectives sought (demonstrated by a number of recent speculative applications in both MK and Central Beds on land to the east of Newport Road).

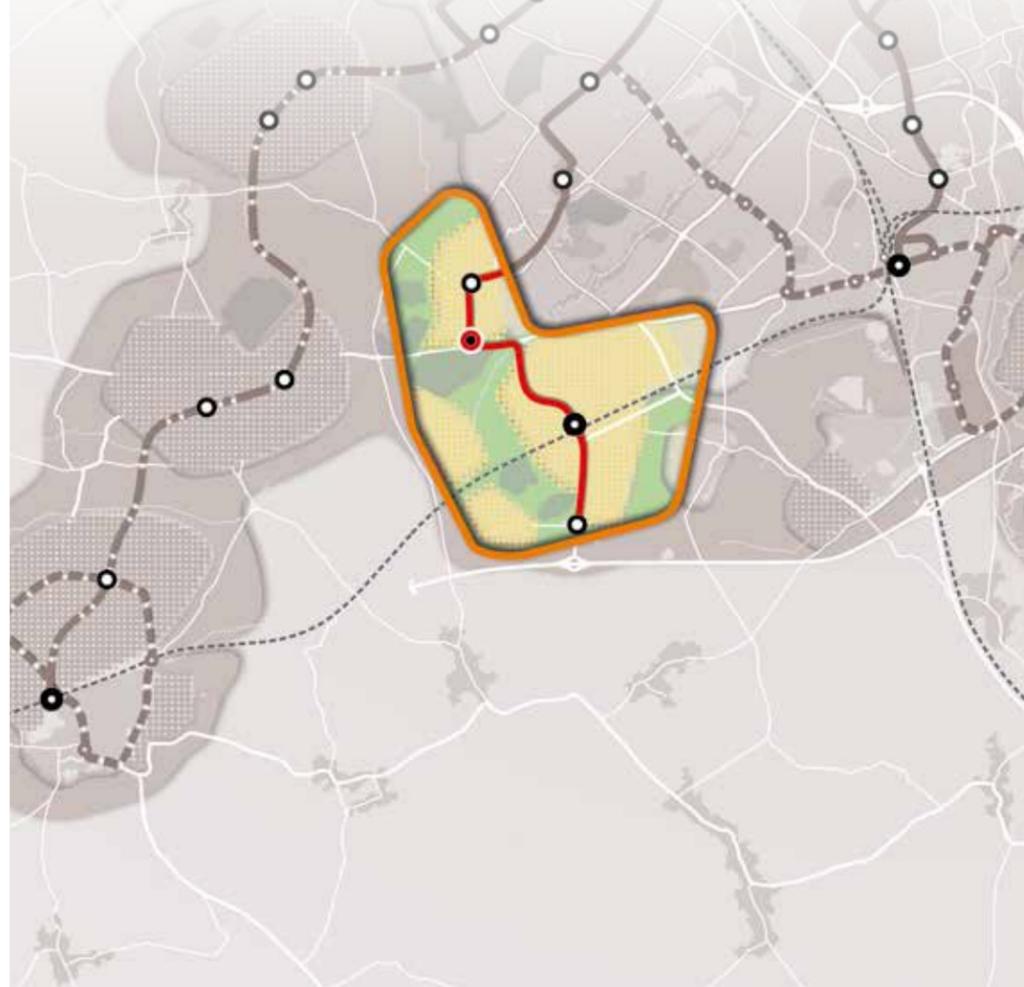
The growth study identifies this land as a potential growth location where a 'city structure' typology is recommended consistent with the adjacent growth areas to the west. Indeed, at this location, grid corridors are already reserved through adjacent committed development areas¹²¹ to facilitate these links, and the application of original MK principles in respect of the assimilation of existing villages to preserve their identity and create new strategic green infrastructure

whilst removing through movements from local roads is well understood. A comprehensive growth plan in this location would also incorporate and deliver the Bedford to MK Waterway as a priority strategic green infrastructure element.

Accessed from the A421 and westwards from the H10 through the SEMK allocated land, this area has the potential to benefit from improvements at both Woburn Sands and Ridgmont stations, and it is recommended that as with the other areas where this typology is selected, an adaptation of grid corridors within the urban area to accommodate and prioritise rapid transit and provide higher intensity development around RT nodes would allow the RT network to be extended beyond the boundary of MK to J13 and locations further east. There is also potential for a J13-related P&R connected to the RT network with CMK, serving key nodes such as Magna Park and Kingston along the route.

¹²¹ H10 and V11 grid corridor reserves are safeguarded through Browns Wood/Old Farm Park and Wavendon Gate, and grid reserves are built into the SLA south of the A421)

A growth area between the A421 and Newton Longville encompassing the current Salden Chase urban extension¹²², plus additional land to the north and south of the East West Rail line and land to the west of Tattenhoe Park, north of the A421.



South West of Milton Keynes

In the context of a growth strategy to 2050, planned and potential growth west and south west of Milton Keynes would support the proposal for a new EWR rail station south west of MK. A station south west of MK was proposed in the original East West Rail scheme and was part of previous strategic planning documents as part of wider growth proposals in this area. A station here would enable an interchange between EWR services and CMK to be established, linking rail services and a Park & Ride on the A421 with key destinations within the urban area to intercept movements coming to MK from elsewhere in the western part of the Arc onto the MK:RT network. A station would also support a higher-intensity mixed use centre and residential development serving the wider area than that envisaged currently.

Importantly, the Salden Chase scheme already reserves land for a green/grey grid corridor to enable future connections to be realised. There is a small window of opportunity prior to 2023 when EWR services become operational to widen the existing rail underbridge south of Salden Chase to safeguard future connectivity between the A421 and A4146 (a small scale engineering solution which would also facilitate the long-awaited Bletchley Southern Bypass, a joint MKC/AVDC aspiration variously referenced in local plans and transport planning documents).

Land on the margins of the MK urban area has already been identified as having development potential, but thus far has been promoted on an individual site basis. As with the South East Growth Area, taking a more holistic approach based around adopting a safeguarded 'grid corridor' approach within this growth area will maximise local connectivity between a number of new planned growth areas and MK/CMK, whilst allowing existing strategic and through movements to be diverted away from existing settlements such as Newton Longville. This structure of growth planning would have the additional benefit of improving the local environment through removing existing through movements (particularly HGVs) from the core of the villages.

As with other locations on the edge of the existing MK urban area, applying 'city structure' design principles to the structuring of a 'green grid' as part of growth south west of MK would allow the sensitive assimilation of individual settlements into the wider green infrastructure network to create a buffer for existing communities, protecting the identity of these settlements within a long term growth context as well as improving strategic green infrastructure links within a wider 'Whaddon Chase parkland' setting.

¹²² A resolution to grant outline consent for 1855 homes at Salden Chase was secured in July 2017

A New Station South West of MK?

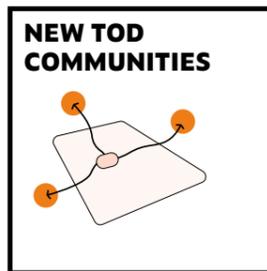
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Houten Station – Utrecht, Netherlands

CHAPTER 14: NEW TOD COMMUNITIES



Meeting the required scale and pace of growth to support economic growth objectives to 2050 will necessitate new growth areas to be identified outside the urban area but well related to it. New TOD Communities are identified in locations, both within and outside the Borough of Milton Keynes, which can deliver excellent RT connections with the MK grid but are also positioned to integrate existing destinations with new growth.

The principles governing the design of new TOD Communities are set out fully in Chapter 4 and Annex 4. These communities are not stand-alone 'development projects' in the conventional sense, but are new planned growth locations that are connected to MK primarily by rapid transit (supported by new/improved highway connections) to ensure overall connectivity, and where the surrounding strategic green infrastructure shown on the Spatial Framework is identified, embedded and delivered as part of the overall growth area. New TOD communities will only be acceptable if they also include, create and deliver regional-scale green infrastructure and strategic SUDS assets for the area as a whole.

Land to the West of Cranfield University

The relationship between the settlement of Cranfield (the village, University and Innovation Park) and Milton Keynes is already important in terms of the movement of people and economic activity, and its economic links are likely to strengthen through renewed focus on the interrelationship between higher education institutions, one of the recommendations in the economic report accompanying this Study.

A growth area between the M1 and Cranfield south of J14, encompassing land south of Newport Road and the village of Moulsoe, and land to the west of Cranfield University and Technology Park)



The distances between Cranfield and the central parts of MK are relatively short as the crow flies. However, physical links remain scant and therefore those moving between the two destinations do so along circuitous local routes with little public transport options. The continued and growing importance of Cranfield University and Innovation Park as a key hub of the MK Innovation Campus proposition set out in Chapter 6 further supports the establishment of a direct and effective RT link between Cranfield and the urban area of MK.

South of J14 existing crossings over the M1 are few. With recent planned growth at Broughton/Brooklands and Fen Farm there are limited opportunities for a number of new links over the M1 Motorway to be built. It is therefore recommended that growth which builds on the existing relationship and desire for better and more sustainable forms of movement between Cranfield and MK should be focused on TOD principles, creating a new 'linked' TOD community comprising both built development and new strategic green infrastructure, protecting existing

woodland and the setting of the existing settlement of Moulsoe supporting the establishment of a regional-scale GI network for the Study Area.

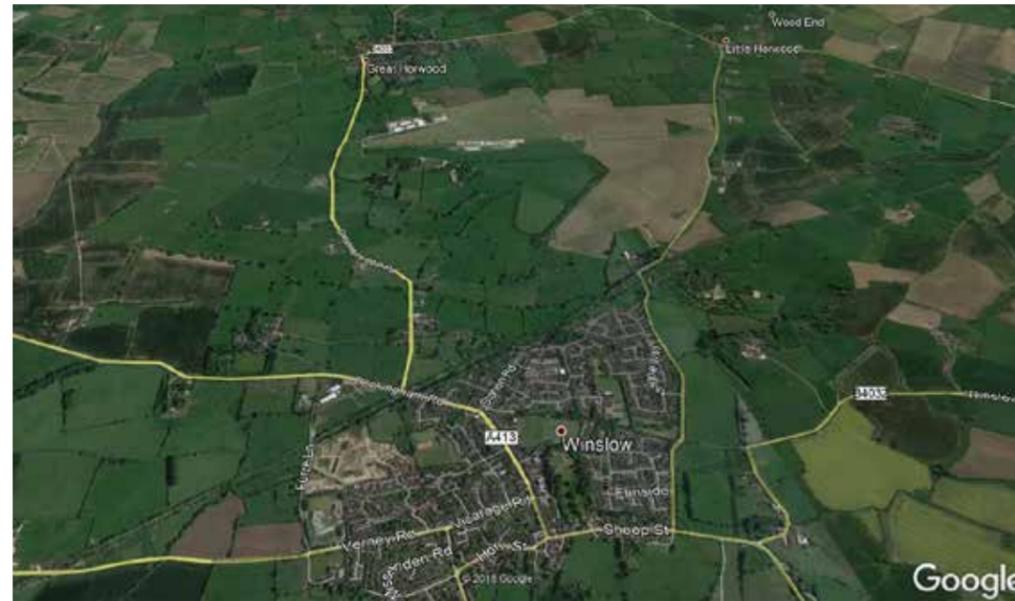
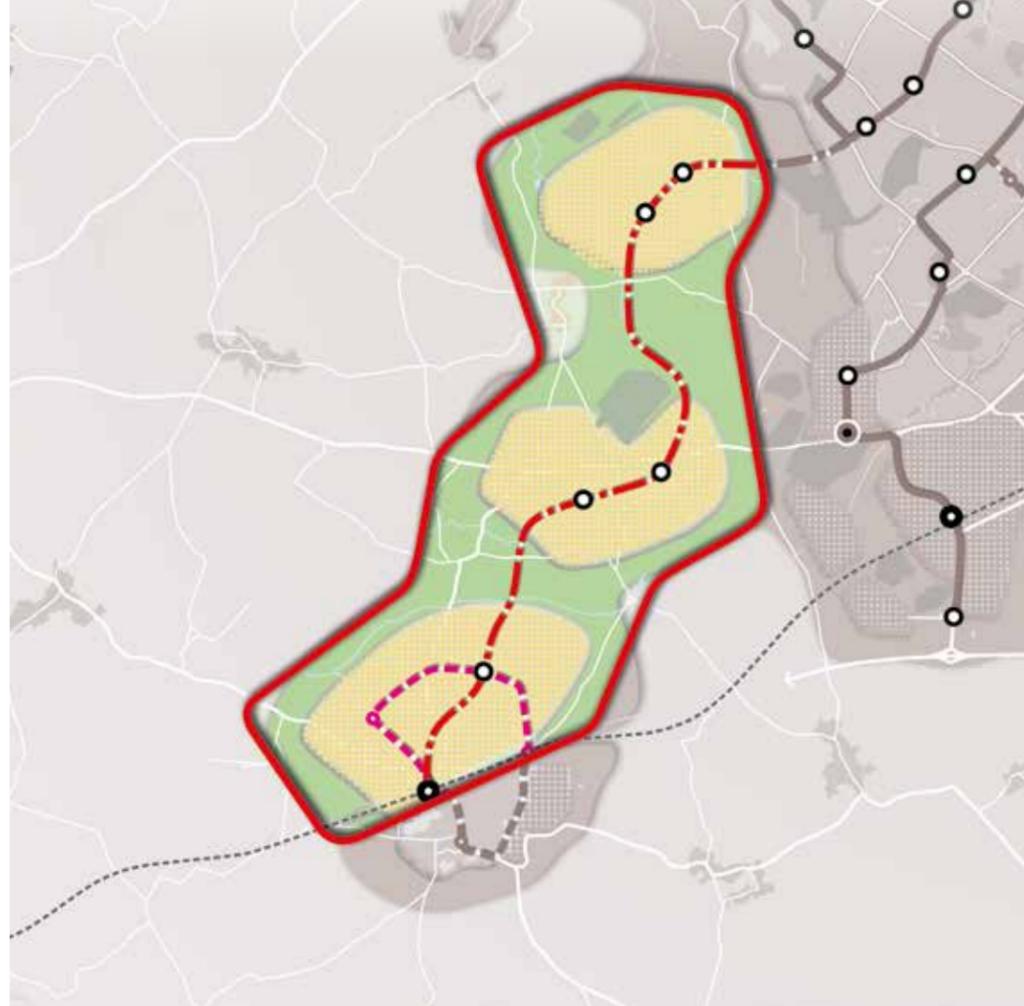
The principal RT connection would be made from Broughton Grounds Lane via a new link to Cranfield University and the growth area to the north, with the existing settlement being able to access the new RT network via improved local public transport services. Vehicular access will be made via new connections to M1 J14 (and connections further north), and M1 J13 – also via improved connections. This will provide access to both local and strategic road connections, but direct connectivity to CMK will be heavily RT-prioritised. Development extending beyond the M1 to the east of MK is already committed through the strategic land allocation 'MK East' in Plan:MK. The TOD community recommended as part of the Growth Study is well-related to this allocation and would be structured to make use of the key connections across the motorway established through the design and delivery of MK East.



As this area benefits from shorter and more direct connections to the existing urban area than other TOD locations, even allowing for the provision of strategic scale green infrastructure as part of the TOD (supporting the MK regional park proposition set out in Chapter 9) the level of infrastructure provision more generally is such that it would be possible to bring forward TOD development here within the medium term.

Conceptually, the development form proposed for the new TOD community is based on three core RT nodes: a southern node focused on an expanded employment offer at Cranfield Technology Park (but adjacent residential development would also benefit from good RT access); a central node focused on a new mixed use neighbourhood/district centre to serve commercial and community functions for both the existing University and new TOD community; and a third node further north focused on a smaller scale local centre at the heart of the northern residential part of the new community. This latter location would also serve as the termination of the RT route.

Land between Winslow and Milton Keynes has long been the subject of long term growth options at a sub-regional or strategic scale. With the strengthening of east-west connectivity through infrastructure investment and the renewed emphasis at the Arc level for east-west growth along infrastructure corridors, there are a number of locations in this part of the Study Area where TOD growth opportunities could be pursued.



Opportunities for 'Whaddon Chase New TOD Communities'

With the improvements to EWR services, whilst rail connections between Winslow and Bletchley will be much improved, without intervention connections into CMK and other key destinations within the urban area will remain car-dominated, putting increasing pressure on the local road network through existing villages.

As an alternative growth proposition to Winslow – or in addition, should a high growth long term growth option be pursued by Partner authorities in this part of the Vale – other spatial opportunities for new TOD communities can be identified linked by an extension of the RT network from Milton Keynes west to Winslow. Depending on the scale of growth, this could unlock enhanced green infrastructure at a regional scale, positioning one or a series of new communities within a new Whaddon Chase Regional Park which links the Greensand Ridge and the Ouse Valley Park.

The spatial framework plan shows how whole-settlement scale growth of Winslow, two new Whaddon Chase communities and connected growth SW of Milton Keynes could be shaped and served effectively by the area wide RT network and a new EWR station to deliver regional scale green infrastructure.

Whilst we suggest this growth proposition would meet many of the strategic growth objectives of the Arc as well as meet the local development requirements of this part of Aylesbury Vale in a well-planned and sustainable long term context, it is for the Partner authorities to continue the growth conversations.

If the area-wide growth proposition – or the scale of growth – is not supported as recommended in this Study, or at this point in time, then we make two observations in this regard:

Winslow/Whaddon Chase New TOD Communities

Role of Winslow

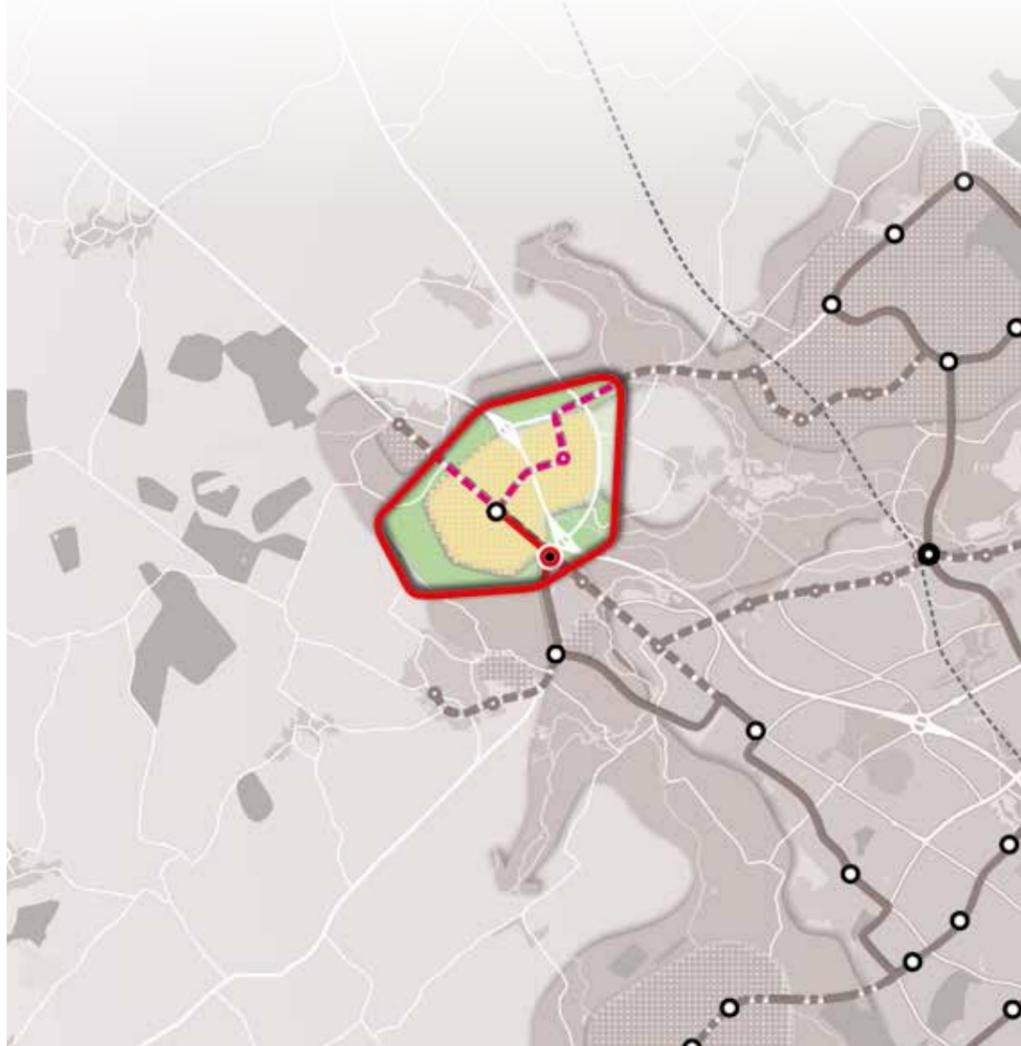
Over the last 20 years there have been a number of development proposals for large scale growth at Winslow, to a lesser or greater extent related to a new station for the town. However, to date local plan growth has consistently fallen short of examining a 'whole settlement' growth proposition, where strategic scale growth could unlock benefits for the town as whole¹²³. Winslow has significant capacity for new growth, and applying TOD principles could create an expanded community here ably poised to benefit from better and more inclusive mobility as well as enhancements to strategic green infrastructure around the town as a whole, providing benefits for existing as well as new residents.

We recommend that now is an ideal time for 'whole settlement' growth options for Winslow to be fully and objectively examined by the Partner authorities in the context of MK's growth to 2050. Some concerns have been raised through the Policy Workshops that it is 'too early' to plan for strategic growth in this area without knowing the route of the Expressway to the west of MK. However, we recommend that the same approach is adopted as for the Expressway routing options south of Milton Keynes, where the planning authority takes a proactive approach to engagement with Highways England and government having undertaken some work on which route might deliver optimum benefits for the local area, or unlock well planned growth as a result.

- ▶ Firstly, whilst our analysis suggests that the landscape setting and existing settlement pattern to the west of MK best supports the broad locations and scale of growth as shown on the spatial framework plan, the shape and number of new growth areas in this part of the Study Area is not fixed and could be designed as a single larger new community, or a series of smaller new TOD settlements linked by RT, should the local authorities select to follow a different path;
- ▶ Secondly, any emerging local plan allocations in this area should not seek to prejudice or run counter to cross-border green and grey infrastructure proposals which may arise from the MK growth strategy. There is a real risk that future connectivity between EWR/ Expressway or the core RT network to or through potential growth areas will be compromised by the failure to 'design in' or safeguard land or infrastructure routes if the appetite for the scale of growth to 2050 is not supported at this time.

¹²³ This is a similar approach to that adopted in the Bicester Eco Town initiative, where a 'whole-town' growth plan ensured that benefit of growth extended to the whole community, not just those in the new urban extensions.

A growth area focused around a re-aligned A5(D) north of Old Stratford



A5 Gateway North

Part Two of the Growth Study sets out the current constraints in respect of the A5 Northern Gateway to Milton Keynes (see Chapter 2 and Annex 2) which adversely affect the ability of an otherwise well-located part of the Study Area to benefit from 'good growth' outcomes.

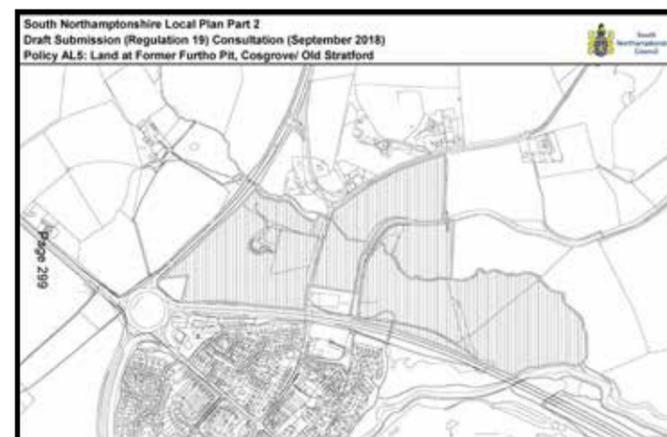
The unlocking of strategic growth in respect of land to the north west of MK is predicated on a strategic infrastructure proposition to realign the ASD further to the east by an extension of the A5 dual carriageway (in the same way that the original plans for MK did east of Stony Stratford).

Centred around land either side of the existing A5 south of Potterspury – which under this growth proposition would be re-imagined/re-purposed to provide a prioritised or segregated RT route through the heart of a new mixed use centre – the growth location is not fixed

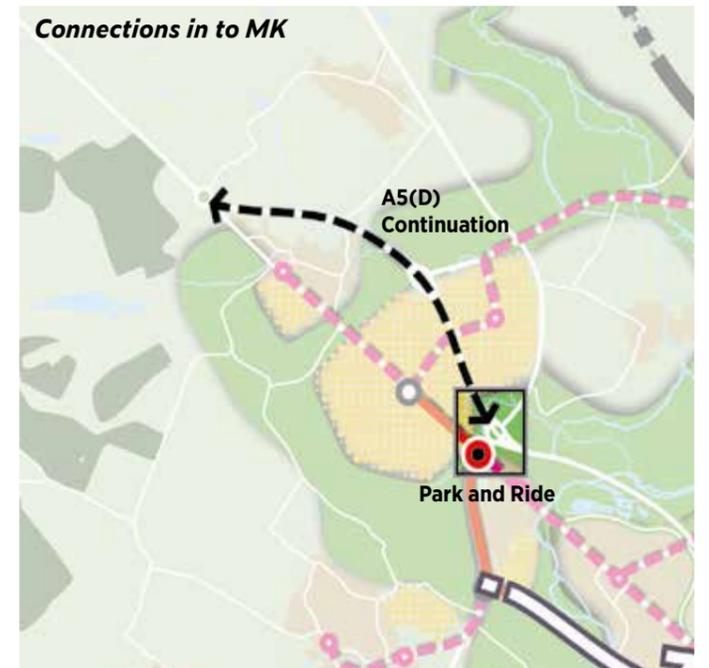
in terms of scale or extent (this is subject to the growth conversations between authorities), but we recommend that any new community here should include a minimum quantum of development to support a full suite of local retail and community facilities and justify the provision of its own secondary school. There is also the potential for a P&R here, linked to the RT network, to pick up radial movements from the A422/A5/A508 that currently create a bottleneck at the A5 Roundabout.

As with land to the west of MK, any emerging local plan allocations in this part of South Northants should not seek to prejudice or run counter to cross-border green and grey infrastructure proposals which may arise from the MK growth strategy. There is a real risk that the ability of the ASD to be realigned to provide an effective long term strategic connection north of MK for future transit will be compromised by the allocation of piecemeal development sites (including employment

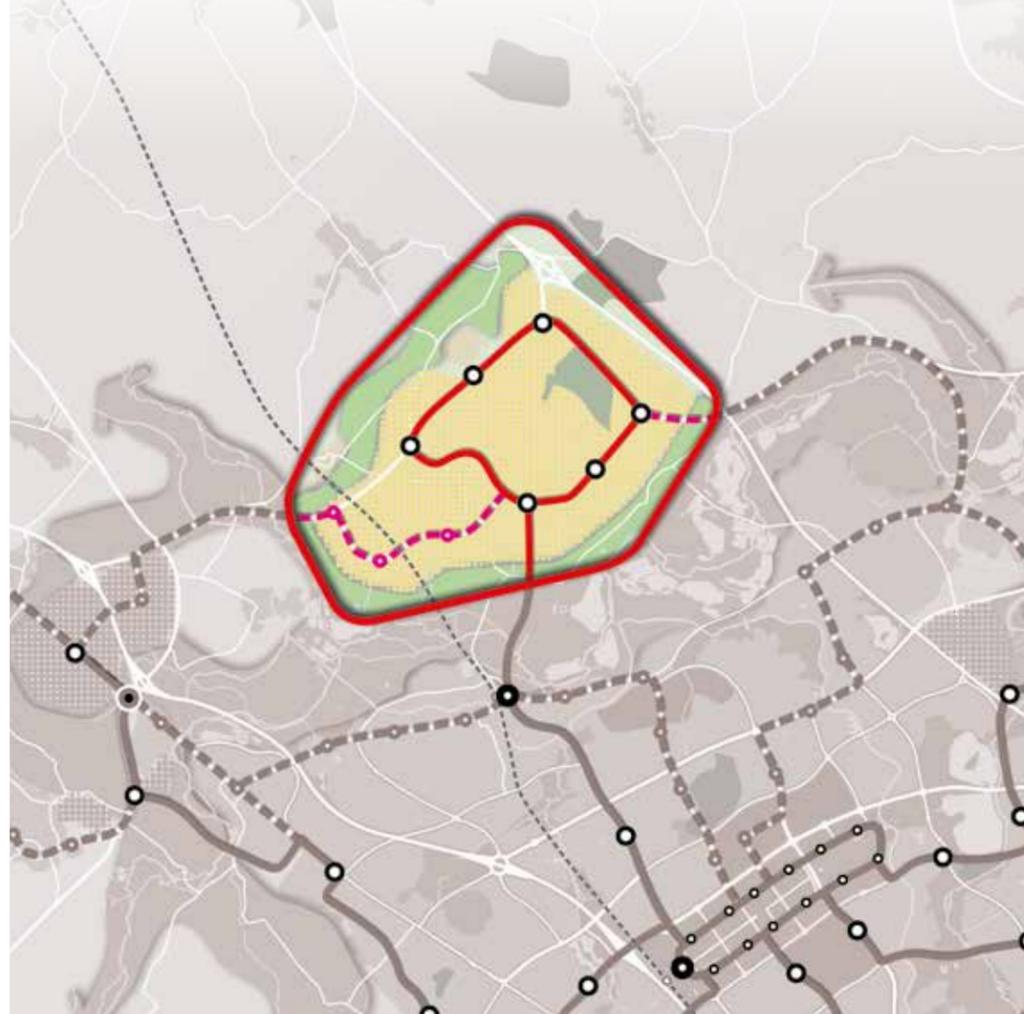
land currently in the draft local plan for South Northants) which fail to 'design in' or safeguard land or infrastructure routes if the appetite for the scale of growth to 2050 is not supported at this time.



Connections in to MK



A broad area of search between Castlethorpe, Haversham, Little Linford, Hanslope Park and the M1



North of MK TOD Community

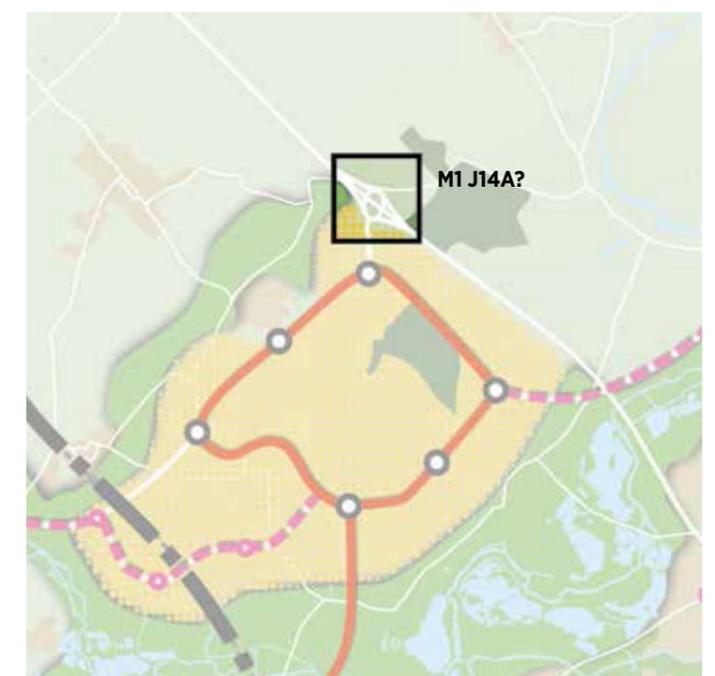
There is considerable long term growth potential north of Milton Keynes. However, if growth at scale is to deliver on the success criteria identified in the growth study, conventional development models cannot apply.

This area – which has the capacity to deliver upwards of c.20,000 new homes; equivalent to a town the size of Bicester or Wellingborough – would be a significant generator of movements into and out of Milton Keynes, as well as east-west and north-south journeys into the wider area and beyond. This scale of growth requires strategic connections to the wider highway network – M1, A508/A5, A509 and A422; without it, the existing rural lanes and villages will be overrun with traffic movements. Furthermore, planning a new TOD community of this scale around inclusive mobility – and in a location which cannot freely gain access to the wider MK grid at multiple points – means that infrastructure links and strategic green infrastructure at scale must be considered in a different way.

The city-scale infrastructure required to be put in place prior to new development (key elements of which are set out below) could limit the monies available for investment into the RT network. Thus, in this location, the infrastructure set out below would need to be fully designed and committed – and RT services up and running to the north of the city – before any development comes forward.

A New M1 Junction

Without a new M1 junction, a new development of this scale seeking to access the national motorway network would either need to head north to J15 at Northampton via local villages and the A508; or head south through existing villages and lanes via either Wolverton or Newport Pagnell to J14 – both likely to generate major impacts on the overall local road network which would be unacceptable. Combined with the wider growth of MK to 2050, the case for a new junction on the M1 should be explored. There is the potential for some northbound journeys from North MK to use the new junction, optimising the spread of those car journeys to the motorway network between the 3 MK-related junctions (journeys which cannot be met by other modes).



Northern Link Road

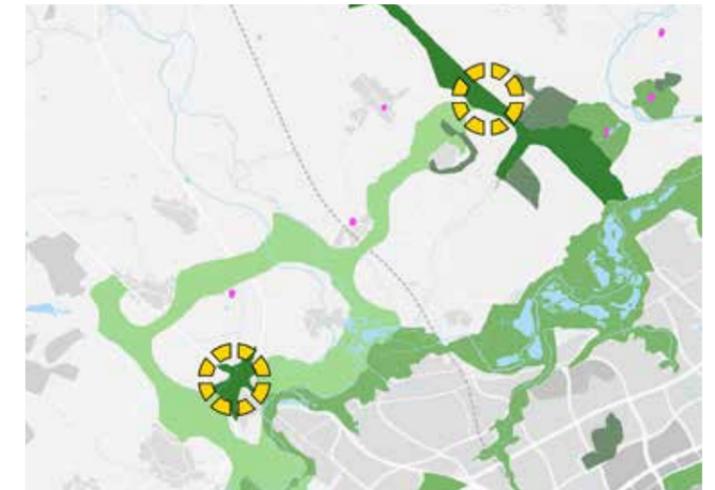
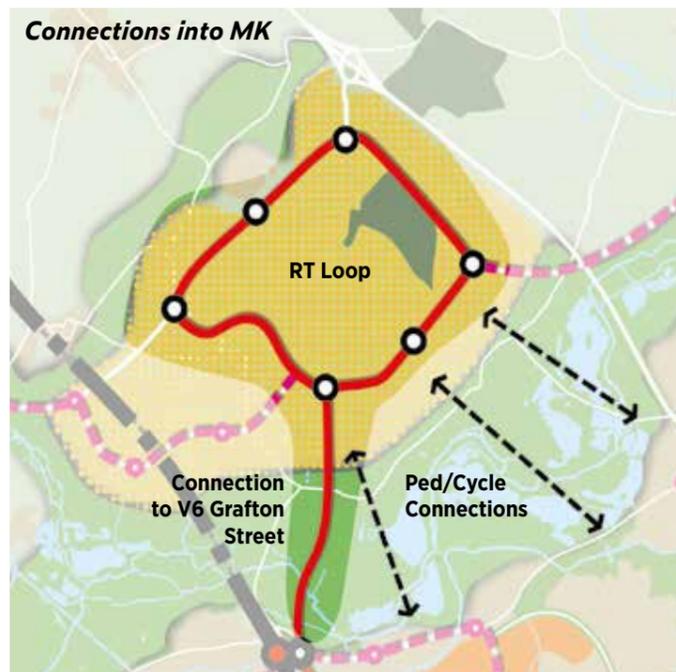
In a similar vein, a development of this scale and in the context of the overall scale of growth envisaged to 2050 would also require significant improvement of the local road network. Any growth proposition for north MK would need to include a new link road connection from the A422/A5/A508 through to the A509/A422 further east. This new link road would also connect to the new M1 junction. As well as ensuring that existing villages and local roads are not overrun, the existing settlements in the area would also benefit from the improved links.

Connecting to MK

There are numerous opportunities to make pedestrian and cycle connections into MK – whether by improving and upgrading existing public rights of way, or providing new connections along highway routes or through the Ouse Valley Park/Linford Lakes. Opportunities for vehicular connections are far more limited (see Part Two of this study). Whilst there are occasional opportunities to connect between Wolverton and the M1, these would be very sensitive in terms of impact on established strategic green infrastructure and visual impact; complex and costly to construct over the floodplain and cannot connect directly into the MK north-south ('V' road) grid corridors (V7 Saxon Street and V10 Brickhill Street) due to previous local plan expansion sites being built across the northern connection points of these grid corridors.

The primary connection into MK would therefore need to be via a new connection into the V6 Grafton Street adjacent to Wolverton rail station. This would also serve as the corridor to provide the primary RT connection – for the same physical reasons outlined above. This route would provide good connectivity to destinations within MK, but with a conscious emphasis and priority for RT achieved by ensuring a dedicated/segregated RT route along the corridor at the expense of overall vehicular road capacity; this will further encourage modal shift to RT and support its viability.

Access to rail services from this area would be to either Wolverton or MK Central stations via the RT network, but there is also the potential for an additional/new station north of MK, particularly post-HS2 completion when capacity is freed up on the WCML. The obvious location from an operational point of view would be at the point of the old Castlethorpe station (closed in 1964) as the WCML mainline and local tracks are already split, allowing new platforms to be constructed. Whilst this rail station provision does not go to the heart of the potential growth proposition for North MK, enhanced



Regional Scale Green Infrastructure

The scale of growth opportunity north of MK would include the creation of strategic city scale green and blue infrastructure on land between potential future built development areas and the edge of existing settlements and the existing urban area as part of a comprehensive growth proposition, as well as extending the Ouse Valley Park between Wolverton and the M1 and the creation of additional strategic SUDS capacity at/around Linford Lakes as part of environmental enhancement. Together, this green infrastructure would create a regional park for the MK growth area of a scale commensurate with the growth in population to 2050.

Ownership and management of regional park in its entirety should pass to the MK Parks Trust as part of its continued city-wide role as MK's strategic infrastructure body, particularly as the park would have a whole city-scale function and role. Depending on the delivery mechanism selected, assets to ensure this management function can be funded in perpetuity should be embedded within any strategic growth plan.

RT connectivity to the wider rail network could be thus achieved in the future and on this basis, we suggest that a high level feasibility of a station is carried out.

A primary 'RT loop' would be required to serve any North MK growth area from the outset. This would provide excellent walkable catchments for residents, with stops providing key nodes for mixed use centres providing commercial and community facilities for the day to day needs for what would be a large residential population. A higher order District Centre is proposed at the head of the loop where connectivity to MK is optimal, with a series of local/neighbourhood centres and a new commercial/employment-based destination adjacent to a new M1 junction. East-west RT connectivity could be provided by a secondary route connecting the 'new' north west and north east of MK through the North MK growth area and onto Newport Pagnell and growth areas further east.

The North MK TOD proposition will only achieve good growth objectives if it delivers the above infrastructure. As the level of funding to deliver this infrastructure will not be possible through conventional development models, and the current planning system presents a number of difficulties in allocating, consenting and bringing forward this scale of strategic growth as a single entity, the North of MK TOD growth proposition would only be supported under a new delivery model.



CHAPTER 15: OTHER GROWTH PROPOSITIONS



Selective Settlement Extensions

With many settlements already subject to rounds of incremental local plan/neighbourhood plan (or speculative) development, all but the smallest existing settlements within Study Area are expected to continue to grow between now and 2050.

A 2050 growth strategy offers an opportunity to plan over the longer term for such growth but within the context of a wider 'inclusive growth' framework which unlocks benefits back to the local area and existing communities.

Three such potential opportunities are presented below:



Olney

The A509 between Wellingborough and Milton Keynes is a key route in the subregion and one of the primary radial routes into MK. Traffic pressures are currently dominated by peak hour commuting travel but also include significant levels of HGV movements travelling between the A14 and M1.

Growth within the O2C Arc generally, and within the Study Area as anticipated to 2050 and beyond, will increase pressure on the A509 between MK and Wellingborough. This route currently passes through the middle of Olney and generates impacts in relation to traffic safety, environmental quality and general congestion. Without intervention, this situation will only continue to worsen.

Plans for an Olney bypass have been developed over a number of years and although two route options are safeguarded around the town in existing local plans (one to the west, one to the east), no highway schemes are

committed. In the context of planned strategic growth to 2050, the building of such a new route could be feasible. Our proposition is that the western alignment option is taken forward. Whilst it is a longer route, it provides the opportunity for radial connections back to the High Street at the centre of Olney to ensure that good accessibility is maintained, minimising the adverse impacts on local businesses but still improving local environmental conditions within the town¹²⁴.

The western alignment also provides the opportunity to plan for additional growth to 2050 west of the town – at a scale which may well come anyway through successive local plans/neighbourhood plans, but which through the growth strategy could be shaped to include green infrastructure, benefits to local businesses and provide a critical mass of population to support wider sustainable benefits including public transport. Planning for growth of the scale suggested in the growth study could support an extension of the MK RT network (albeit because of

distance/cost, would not be afforded the same level of segregated routing along the entire length of route between Olney and MK).

Given the existing parkland assets in the area (Emberton Country Park and the River Great Ouse corridor), any growth of the scale suggested should first be shaped by a Olney (settlement-wide) green infrastructure plan – firstly to assess what might be achieved in terms of wider green infrastructure objectives, and then to build in a commensurate scale of new or enhanced green infrastructure as an integral part of new growth at scale.

¹²⁴ An eastern bypass alignment cannot provide the option to connect movements back into the town (thereby risking adverse impact on existing businesses), and because of its floodplain location could not unlock well-planned growth and infrastructure so would be unlikely to come forward.



West of Newton Leys (cross border)

The development of Newton Leys and its subsequent extension is now some way towards completion. As a new community on the southern boundary of Milton Keynes, whilst it is relatively self-contained, it does not relate particularly well to its surroundings and beyond the site boundary there has been minimal benefit for the wider area through improvements to wider green or grey infrastructure.

In the context of growth to 2050 – and particularly given the potential for the Expressway and improved EWR services in this location – the growth study proposition suggests that further growth may be possible. Any growth plans in this location should be shaped by securing local 'grey infrastructure' benefits such as the Bletchley southern bypass, and should seek to protect the character and distinct identity of existing settlements by building in strategic scale green and blue infrastructure (based on the same principles as the original plans for MK), creating green buffers for existing communities,

maintaining the identity of these settlements within a long term growth context, and providing enhanced strategic east-west green infrastructure linking the Greensand Ridge in the south and east with Whaddon Chase to the west.

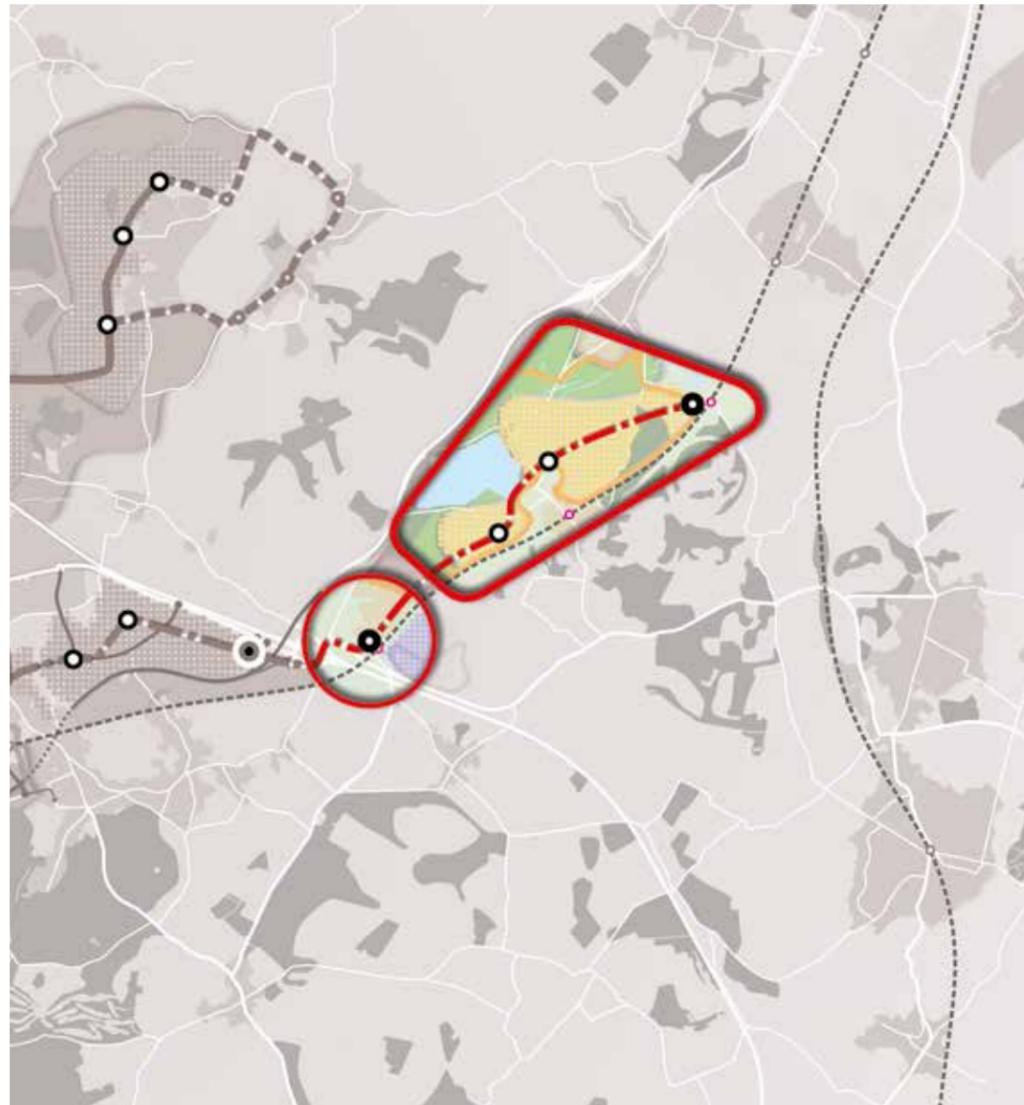


Pottersbury/Deanshanger/Old Stratford (cross border)

At the northern gateway to Milton Keynes there are a number of existing smaller scale settlements which offer some potential for selective settlement extensions in the context of growth to 2050 and strategic infrastructure improvements to the A5D in this location (cross ref to realigned A5D proposal):

- ▶ Pottersbury: in the context of a realigned A5 providing a bypass to the east of the existing village (as part of a larger growth area further south), some additional development could be unlocked to the west of the existing A5 in the longer term following its downgrading, considered appropriate in the context of providing additional residents to support local retail, community facilities and public transport.

- ▶ Deanshanger: in the event that more detailed master planning analysis suggests that the village would benefit from additional residents to sustain a critical mass of village services in the future, growth of Deanshanger may be desirable over the longer term. Based on initial analysis it appears that further growth to the east of the village is possible supported by an extension of the RT transit network for MK into this area.
- ▶ Old Stratford: should a new connection be made from the A422 to V4 Watling Street as part of improved infrastructure links to the north of MK, this may support additional growth to 'complete' the village edge to its south east.



Extending RT to other planned developments

Ridgmont/Marston Valley

Both Ridgmont and Marston Valley are already allocated as strategic growth proposals in the Central Bedfordshire Local Plan. Master plans and development frameworks for these areas include proposals for linking EWR services to new development via conventional public transport, prioritised and dedicated wherever possible.

Over the period of the growth study, detailed design of infrastructure within and between the two development areas could be adapted to accommodate an extended RT network should the local transport and planning authorities be supportive.

Towcester

Planned growth at Towcester is not in itself yet of sufficient scale to support an extension of RT to the town, particularly given the distances involved and the lack of intermediate development between Towcester and MK. Examination of the potential for strategic growth at Towcester is beyond the scope of this Study, however we have identified an opportunity to position a Park & Ride at the A5 Northern Gateway in a location which captures north-south movements from the Towcester area into MK and transfers these movements onto the RT network.

Over the longer term, should a decision be taken to allocate further significant growth at scale at Towcester, then a similar approach to that advocated at Olney could be adopted, where if sufficient growth was planned for the town (and at places between Towcester and MK) then this may support an extension of the MK RT network (albeit because of distance/cost, would not be afforded the same level of segregated routing along the entire length of route between Towcester and MK).

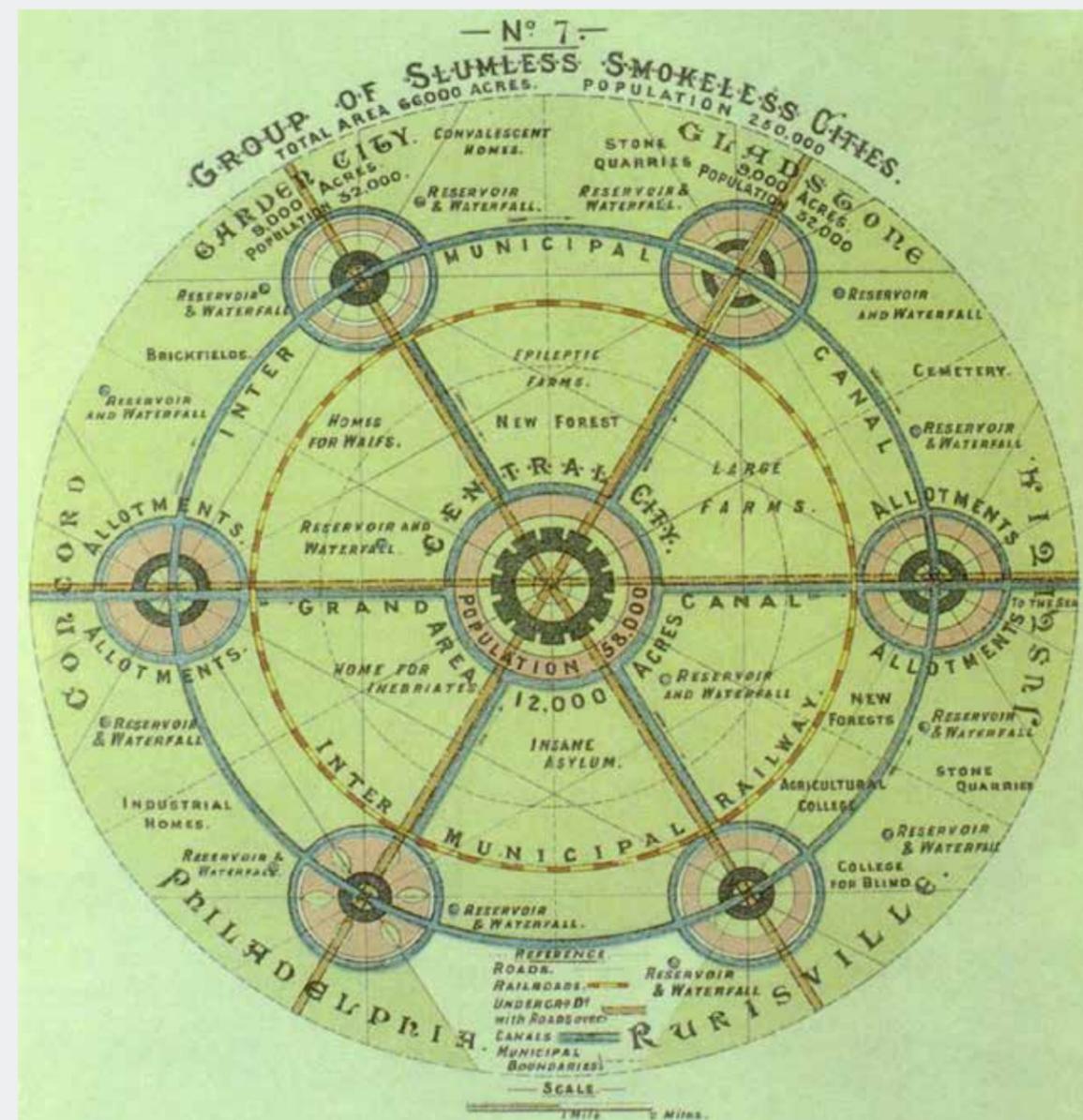
A Stand Alone New Town

A fifth typology - that of a city-scale "Stand Alone New Settlement of a similar size to MK" - was considered as one of the conceptual typologies for accommodating the scale and nature of growth sought within the Study Area.

However, we are of the view that accommodating a second Stand Alone New Town or New Settlement of this scale in the Study Area (where Milton Keynes is the first) would not meet three of the principal overarching objectives identified in the Growth Study: namely, that growth must secure benefits for both existing and new communities and address current inequalities; that growth must achieve sustained and resilient economic and housing growth over the period to 2050; and that growth must support an area-wide move to more sustainable and active travel (either 'less', or 'better', travel).

A wholly new city proposition would also fail to make best use of the existing infrastructure of Milton Keynes (an aspect of growth which is crucial in realising the pace and 'cost-effectiveness' of growth, as well as building in mechanisms for its retention, adaptation and management).

For these reasons, the Growth Study has 'discounted' the proposition of designating and building a second stand-alone single new town/new settlement of between 60-100,000 new homes within the Study Area between now and 2050.



Part 3 - References

- ¹⁰⁶ City Structure document, p15
- ¹⁰⁷ Ibid.
- ¹⁰⁸ Encapsulated in Renaissance CMK objectives
- ¹⁰⁹ See pp 92-94 of Mobility and MRT Study
- ¹¹⁰ Almost 50 ha of land is yet to be developed in CMK (MK50 Futures Report, p48)
- ¹¹⁴ Economic Scenarios Research Report pp 28/9
- ¹¹⁶ Plan:MK Policy CT8
- ¹¹⁷ P15, City Structure document
- ¹¹⁸ Ibid
- ¹¹⁹ <http://assets.highwaysengland.co.uk/roads/road-projects/Oxford+to+Cambridge+expressway/Map+1+Area+for+development.pdf>

PART 4:

PLACEMAKING AND DELIVERY

CHAPTER 16: 'GROWING COMMUNITIES' AND PLACEMAKING

'Growing Communities' and Placemaking

Any long-term growth strategy that delivers 'good growth' will need to plan comprehensively for those uses that enable and support the planned increases in population and jobs.

Whilst the remit of the Growth Study does not include in-depth analysis of future healthcare, education, retail, and utilities/energy requirements – and indeed, some of these requirements are expected to change beyond recognition over the next 30 years with new technologies and wider policy evolution – it is important to consider the extent to which such uses may have an impact on the spatial aspects of planning in the future.

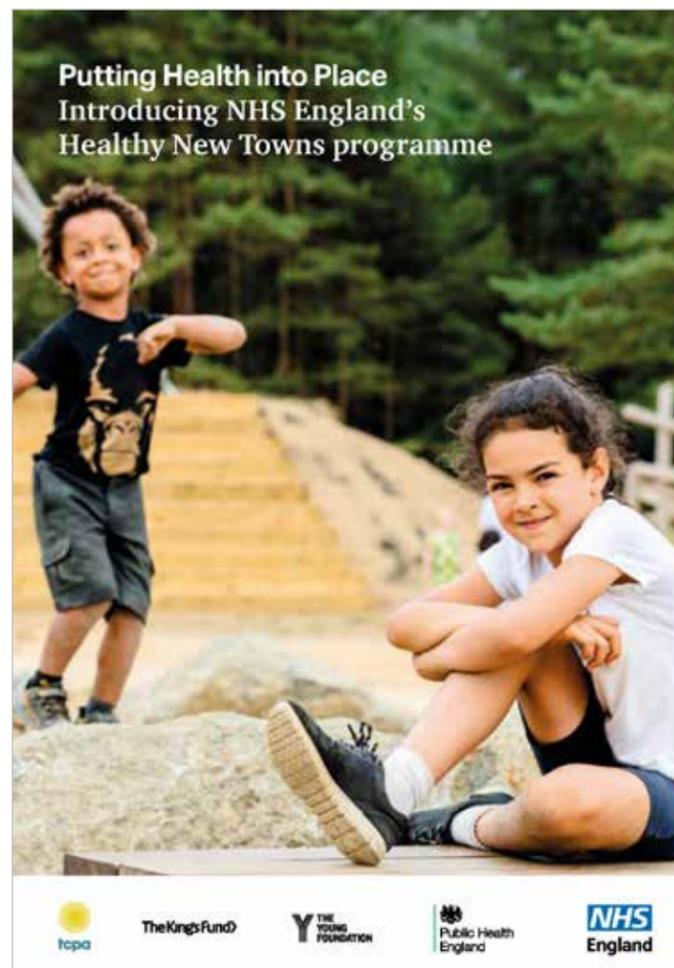
The Health Agenda

The healthcare needs of the population to 2050 will change as a result of demographic and societal change but may also be met in a very different way than currently.

Technological advancements make it easier to access information, services and engage in social interaction without the need for physical interaction. But the consequential impacts on physical and mental health and wellbeing – and the gap between those able to access such technology and those who cannot – means that physical interaction, sustainable travel and engagement in the wider environment will become more, not less, important activities for healthy communities to 2050.

Health and Placemaking

The NHS is currently engaged in an initiative to push health much higher up the decision-making process in planning and development through its Healthy New Towns Initiative, due to publish national guidance later this year (2019). The bones of the guidance were published in September 2018 and, although the details are still to emerge, implications for the forward planning of substantial new development areas and quantities can



be gleaned from the Healthy New Towns Principles that are now in the public domain.

The Healthy New Towns Initiative suggests that there are two key public health issues that have significant implications for planning, design and development in the coming decades of this century:

- ▶ The first is air quality and the adverse impact that slow moving traffic in particular has on the quality of air in our cities and the health of urban dwellers. UK cities have some of the worst air quality conditions in Europe. Activity in our cities that peaks in the morning and evening commutes is dominated by single occupancy car traffic because the alternatives, in many places, are simply unattractive. Whilst it remains quicker to drive to a destination, the car will remain the mode of choice. And the average occupancy in the UK is just one passenger per 11 drivers during the daily commuting peaks: there are 36M empty seats in 15M journeys. Whilst there are 'carrot' and 'stick' responses emerging from Government such as a clampdown on the most polluting vehicles through the tax system and the introduction of clean air and congestion zones, both initiatives tend to be allied to the enhancement of public transport services and walking and cycling networks. The carrots come in the form of promotion of electric vehicles that are for less polluting at source. At present Milton Keynes has not imposed "stick" restrictions, but it has inaugurated one of the most extensive EV charging networks in the UK.
- ▶ Inactivity and obesity is the second public health issue where planning, the built environment and placemaking can have a positive impact. The NHS has concluded that if the burgeoning cost of modern healthcare is to be managed within reasonable budgets, then it has to place greater emphasis on maintaining health rather than treating sickness, particularly where sickness results from poor lifestyle choices that could be reversed.

At present the Healthy New Towns guidance is in outline only, relying on a set of 10 principles around the strapline of "Putting Health into Place". But from these principles it is possible to infer the likely direction and the notional implications for planning, design and development in places anticipating significant growth. Given Milton Keynes' health characteristics growth proposition these principles could have profound implications for the future shape of the new city.

Annex 5 provides a commentary on each of the 10 placemaking principles. There is much more flesh to be put on these bones by way of detailed guidance, but the direction of travel is clear. Many of the principles have been part of the UK's broad objectives in planning and development for some time but realisation has been patchy at best. Now the subjective assessment of what makes a good place has been reinforced by some more objective healthcare evidence and policy priorities. The implications for planning, design and development of future communities is significant and requires a re-evaluation of policy and practice priorities.

This initiative is reflected in one of the overarching objectives identified as necessary for 'good growth' within the Study Area to 2050; the need to select growth typologies and locations which drive a real change to more healthy and active lifestyles and travel, and more integrated communities, thus helping to addressing health and lifestyle issues 'at source'.

This objective is a central tenet of the preferred growth and mobility proposition. Making better connections between people and places across the Study Area which reduce emissions and introduce more active travel, and introducing growth and investment through well-designed new developments at established locations as well as new growth points, will help to ensure that the Milton Keynes area remains healthy – not only physically, but also economically and socially.

There will be an increasing focus on preventative health policy in the future – an emphasis on being 'healthier for longer'. Therefore, building places, communities and infrastructure that facilitates a shift to healthier lifestyle choices will also help prevent health issues arising, thereby slowing the increase in healthcare costs arising as a result of sedentary or unhealthy lifestyles. The preferred growth and mobility proposition is aligned well with this policy focus, selecting growth and mobility solutions which are specifically designed to address key causes of poor health within the Study Area.

Benefits for health, well-being and active recreation are embedded within the preferred spatial and mobility frameworks, including:

- ▶ Active travel (walking, better/prioritised cycling provision and access to RT services) – for leisure as well as regular trips;
- ▶ Reduction in CO2 emissions through a move to RT and shared mobility propositions;
- ▶ Increasing provision of local facilities within walking distance of new and existing homes (and providing high levels of new homes directly accessible to local services as part of local RT nodes);
- ▶ Growth and investment within existing as well as new communities to redress some of the existing issues of social isolation, accessibility to jobs and services, an ageing and sedentary population and inactive lifestyles within MK.

Other improved outcomes for health and wellbeing which will arise through the recommended spatial growth proposition include:

- ▶ Inclusive economic growth and delivery mechanisms able to capture more of the value of development to reinvest in the needs of local communities;
- ▶ Housing that meets the full range of needs as part of 'housing-for-all' – not segregated but designed to form part of more cohesive communities that satisfy the needs of affordable, elderly, the homeless, key workers, and single-person households;
- ▶ Better access to green space at the local, district and regional scale while ensuring that more intensive use does not compromise ready access to local greenspace;
- ▶ 'Productive landscapes' (allotments, orchards, woodland) in common areas, building on the legacy of established MK green infrastructure and continuing to create social ways of accessing open spaces and activity;
- ▶ 'Community' infrastructure upfront in new growth areas – including community development programmes, schools, youth and parent services as well as healthcare needs.

Active Design and Recreation, Culture and Sport

A key aspect of 'living better for longer' is the extent to which more activity can be re-introduced to daily life. Sport England's work to develop the 'Active Design' agenda, including its guidelines for new development, is a central tenet of this agenda, now recognised as being of value for good mental as well as physical health.

Sports and recreational activity are already well-represented in the Study Area – and building in some of the shorter term initiatives arising through MK's recent designation as European City of Sport for 2020



will facilitate the use of use of sport to improve people's quality of life, physical and mental wellbeing.

Grassroots sport, as well as local arts and cultural activity, is important in the growing of new communities. Space for these uses – built and open – must be considered as an integral part of placemaking, together with a governance strategy which ensures their continued support as communities develop and mature.

Healthcare Facilities and Services

Planning for the future healthcare needs of the growing population through new facilities and services is also important. In terms of spatial planning implications, indications from healthcare stakeholders attending the Growth Study Policy Workshops are that in the future, hospitals such as MK University Hospital are likely to focus more on the acute/emergency needs of populations, with a network of larger medical hubs (generally serving a catchment population of c. 30-50,000 people) delivering the ongoing healthcare requirements of communities in a way that is more directly accessible. Innovations in technology will also have a significant impact on diagnosis and surgical procedures, meaning that more healthcare needs in future may be accessed remotely or more locally.

It should be acknowledged that changes in wider healthcare policy – including the current shortage of health and social care personnel – are also needed to ensure the health and wellbeing needs of future populations are met.



"More is spent each year treating obesity and diabetes than is spent on Police and Fire services and the judicial system"



Education

Much of the commentary on healthcare also relates to education. The creation of MK:U and other related higher education activities offer real potential to improve the outcomes for young people locally, and it is anticipated that the local benefits of this investment will be far-reaching in terms of schools and general education.

The planning for schools in new communities is well-documented and there are many examples of best practice in the integration of schools with the wider community. The way in which schooling may be delivered over the next 30 years is likely to change, but it is considered that new schools, together with pre-school, youth and 'wrap-around care' facilities will still be a physical component of new growth areas.

Growth within the existing urban area is likely to generate the need for new school places, but the maturing households in existing parts of the new city may counter this requirement. Therefore, the Growth Strategy must explore ways in which changing demographics can be built into longer term growth plans so that education facilities can match the needs of their communities locally at any point in time.



Retail

A commentary on the current state of retailing and how this might impact on the Study Area is set out in Appendix 1 of the Economic Scenarios Research Report.

At the local level, convenience shopping is already evolving to cater for the wider day-to-day needs of catchment populations (for example, longer opening times; online collections/drop offs) and the role of local centres as hubs of increased activity will be enhanced by, and will support, RT services as part of the TOD hierarchy proposition for both existing and new communities.

Whilst it is unclear exactly how the current retail shakedown will impact town centres and high streets, and whilst 'bricks and mortar' retailing is by no means dead, it is becoming increasingly accepted that centres can no longer rely on retail-led strategies to deliver sustainable growth and that a more holistic approach to the revitalisation and management of town centres is required.

In respect of Central Milton Keynes, it is anticipated that as a retail centre, CMK will survive the current changes in the retail industry and is likely, particularly given the scale of growth envisaged as part of the strategy to 2050, to become stronger as a regional destination for cultural, retail and leisure activities. As a consequence, adjacent towns are likely to become even more focused on meeting the needs of their immediate catchments.

Along with consideration of the wider role of town centres, high street retailers have the opportunity to provide shoppers with an experience different to online shopping (considered a principal, although not sole, source of threat). Thus, the growth strategy to 2050 should consider how CMK and other higher order centres within the Study Area can exploit opportunities for wider cultural and leisure growth whilst managing the impact on retailing that is arising from modern shopping habits and trends.



Reserving Land for Future Uses

One way in which MK sought to meet changing or unforeseen community needs arising from growth was to allocate 'reserve sites' at the rate of 0.75ha per 1000 population as part of planned growth areas¹²⁵, and these have proved an effective way of meeting changing needs of populations locally to where they arise.

Similarly, reserving land within grid corridors - to safeguard future connections to wider growth locations and to safeguard a network of connected land for changing travel technologies (such as rapid transit or other future sustainable surface-based transport systems) - has been equally prescient.

It is strongly recommended that this practice is carried forward into new growth locations. When considering redevelopment proposals on employment or other sites within the urban area there is an opportunity to consider whether this land may have a purpose in meeting additional community needs (schools, healthcare, retirement living etc) which would broaden the overall 'community offer of a neighbourhood or meet the needs of the existing population without requiring people to move away from an area.



Servicing Growth

The mobility proposition for the Study Area has significant benefits in terms of moving to a more sustainable pattern of growth and travel behaviour.

Similarly, the accommodation of surface water drainage and flood attenuation as part of strategic green infrastructure networks delivered as a requirement of growth will have benefits in terms of resilience against climate change.

Nevertheless, any growth has consequential requirements for the provision of utilities - drainage, flood mitigation, water treatment, digital connectivity and in particular, energy supplies. Detailed assessment and analysis of what is needed and how it can be delivered is beyond the scope of this Growth Study, but having an agreed long term plan for growth is only beneficial in ensuring that the shape and phasing of service provision - together with futureproofed or safeguarded reserves of land or service - can be effectively aligned with the phasing and location of growth.

Patterns of energy use, environmental and climate change standards and requirements will change over the period to 2050, and growth and development is very likely to have to plan for increased resilience or build in emerging technologies to respond positively to this challenge.

It is therefore recommended that discussions are held with statutory and commercial service providers to explore the level of future provision needed (and how these might be met in the future) to be incorporated in an agreed overarching growth plan, recognising that the practicalities of this provision may change within each phase as technology and standards evolve.

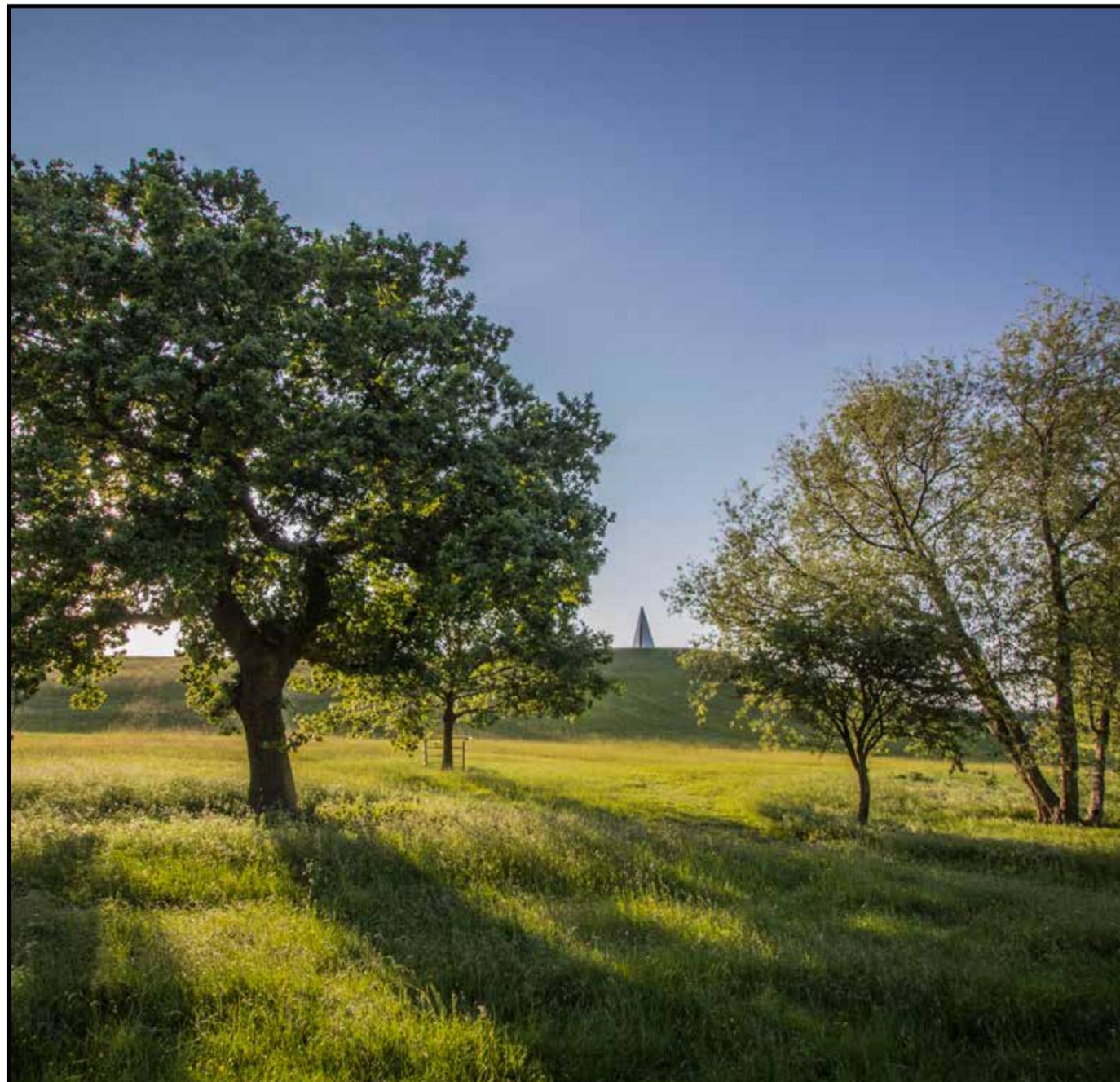
Placemaking

Creating places is not the same as designing places; even award-winning designs do not always turn out to be “good places”. That is because a place-orientated approach is broader than one focused primarily on physical design. In reality, effective management is as important as design, and management requires stakeholders and disciplines to be engaged and coordinated for great places to emerge. That means a focus on people and real understanding of users – the subjects of as place, not just its objects.

Maintenance and security are as important as paving and planting. Signage and toilets may be more important than sculpture and fences. And the quality of routes to a place are as important as the routes through it. So, places are never complete when the building stops; that is when stewardship starts, and the broader community begins to take responsibility for the ongoing sense of identity that a good place engenders. Awareness of how a place will be managed and animated, and the engagement of stakeholders in its creation, delivery and on-going management is critical to how it will perform – whether it will ever be considered a good place by its users.

“It is difficult to design a space that will not attract people. What is remarkable is how often it has been accomplished.”

William H Whyte,
Founder of the Project for Public Spaces



Existing Guidance

There is so much place-making guidance already available that there is no need for the next stage of development of Milton Keynes to involve a reinvention of the wheel; but there are important nuances and more significant changes of direction and priorities, such as the advent of the NHS's Healthy New Towns Initiative for example, that the way in which guidance is applied may be different, and the objectives to be pursued may have changed.

As it is, there appear to be some universal principles that guide the creation of a good place; truths that need to be held onto firmly to make rich and complex places that delight at a time when inertia and vested interests seek to simplify and impoverish the urban environments that we inhabit.

So, the following principles of good placemaking have been distilled from a review of the relevant and current literature.

A Placemaking Strategy to 2050

As part of a growth strategy to 2050, the following principles for creating 'good places' should be adopted for growth within and beyond existing urban areas. A good place should:

(i).....accommodate a rich mix of uses that give it purpose for much of the day, the week and the year.



Such a mix will include places to live, jobs close by, services and facilities within easy reach, all located to be accessible one to another in buildings and spaces designed to enable uses to be in close proximity while mitigating any negative impacts that one use may have on another by way of noise, fumes, vibration or the hours of operation. The long-term sustainability of a good mix of uses requires proactive stewardship on behalf of the community. The Study Area has the advantage of Parish and Town Councils as co-ordinators but places may need higher level management and expertise.

(ii).....accommodate uses well but be flexible to change over time.



Buildings and spaces should not be so closely tailored to one operation that they may become obsolete and redundant quickly. This is disruptive to patterns of urban life and wasteful of materials and resources. It is impossible to predict with certainty the mix of uses that may enrich our lives at any one time. Rather, buildings and spaces need to be designed and constructed with adaptability in mind. Good stewardship requires a positive attitude to change and renewal that keep places relevant and interesting to users over time.

(iii).....foster good accessibility, by active modes and for all prospective users.



Cities are not just inanimate combinations of buildings and spaces; they are complex webs of connections between people who come together for very diverse reasons at different times attracted by different services and facilities. That web is supported by mobility networks and a good place is one that is sufficiently accessible within those networks so that the important social webs are fully supported. Each makes the public spaces of a good place an active realm with opportunities for social interaction. Accessibility operates at all levels: within each building; between the building and the street; within a continuous and connected public realm network; within the systems that serve the city as a whole. A good place is one that is accessible for people walking locally, cycling within the neighbourhood, and by public transport from the city as a whole. Cities are not just buildings and streets and spaces; they are intricate and complex networks of connections between people, and accessibility and connectivity are the foundation of these networks

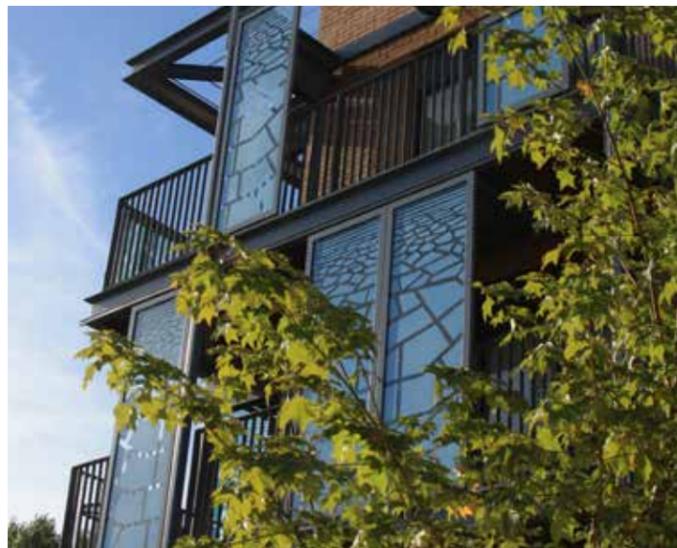
(iv).....have great public spaces.



The concept of accessibility is manifested in the public spaces of a city – its streets and spaces and green places. The quality and continuity of these networks are the means by which the social purpose of places for people, useable without restriction or charge, are realised. A city's public spaces determine the character of an area and its identity. The relationship between spaces and buildings will determine whether they feel safe, and the level of transaction between the uses inside the building and the space outside will determine the degree to which the space is busy and active. Design of good urban spaces will deliver priority for people over traffic and will moderate the extremes of climate and intrusion.

(v).....use land efficiently.

On this small island, land is a precious commodity; in urban places even more so. Land in urban places needs a function, preferably more than one. Good places assign beneficial uses to all land, as part of development or as part of the public realm. Good places organise land so that there are no odd places left over with no obvious future use. And they increase the efficient use of scarce resources by ensuring that the uses of land are mixed so that people find the facilities and services they need close at hand. Good places are designed and constructed with an eye to ease of management and maintenance, with quality and robust detailing and materials that minimise the potential for damage and replacement.

(vi).....provide delight.

The appearance of a place should aim to delight the user and the visitor by way of its simplicity and order or its complexity and richness. This can only be achieved through conscious planning and design of places so that functions are clearly expressed. Almost all places in an urban setting have a pre-existing context; responding to that context will determine the character of the new place in terms of skylines, townscape, views and vistas, proportions and details. These provide the themes for future design and construction. Where it is intended for new development to be non-thematic – to stand out – this should be clearly reasoned and justified; it should never be simply wilful.

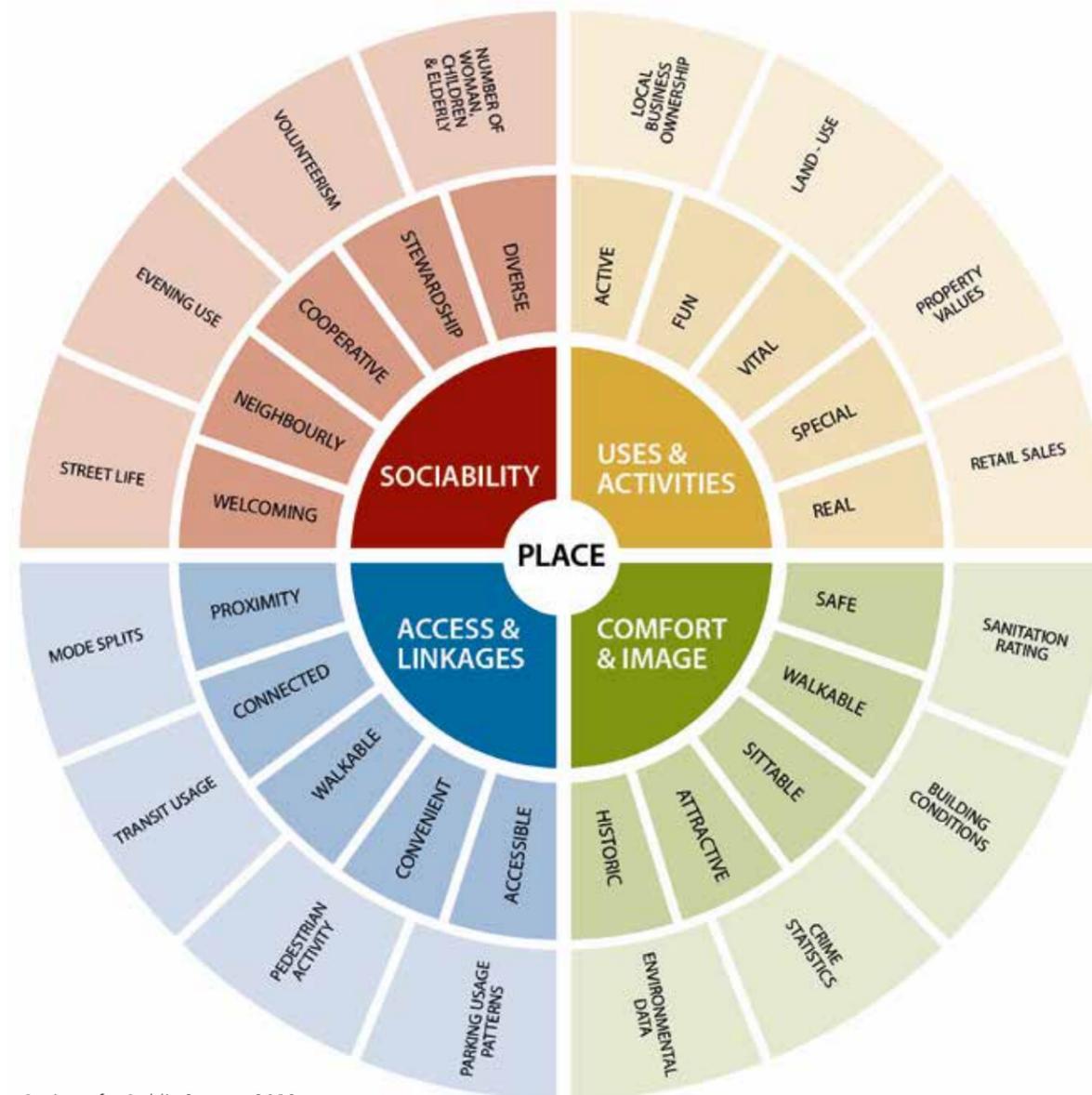
(vii).....have identity and integrity.

When all of these principles come together in the creation of a new place that truly respects its location and its geography and expresses its complex pattern of functions, then it is true to its purpose and will have integrity and a clear identity. That identity will never be exactly the same for everyone but there will be sufficient shared characteristics that good places are distinctive while remaining good neighbours.

Qualities of 'Good Places'

When people are asked to describe good places, there are words that are used repeatedly – “fun”, “welcoming”, “safe” – all words that describe perceptions that are intangible and not easily measurable; they are qualities of a place that are not readily quantifiable. But there are metrics that can be used to test how successful a place is and which will increase the likelihood that perceptions will be positive.

Much work has been done on the character of good places by the Project for Public Spaces from the USA, an organisation that has studied more than 3000 public spaces around the world to distil those features that make some places good and others less so. The features form a “Place Wheel” that makes for effective analysis of existing places but, more importantly in the context of this Growth Study, provide a specification for new places. The diagram here has been adapted from PPS’s work to apply to a UK context.



Credit : Projects for Public Spaces, 2018

PPS’s work has identified four key qualities that generate good emotions and patterns of behaviour and that have outcomes that are measurable and therefore transferable to new places. Great places are well connected to their surroundings, contain a variety of activities and uses, are welcoming to users who find them comfortable to use and are sociable. Good places share all four qualities. These qualities sit at the hub of the “Place Wheel”.

Each of these qualities can be defined simply and succinctly:

- ▶ **Accessible** places are those to which people can walk or cycle directly and easily, with appropriate priority, and which are served by public transport nearby.
- ▶ **Activities** are the reason why people visit places at all; they are the foundation stones of a good place. The activities in a place determine its character and its identity, and its level of use. Variety of activities give people different reasons to use the place at different times. So mixed uses should be the norm, not the exception.
- ▶ **Comfortable** places are those that create a positive image in users’ minds, and their perception of comfort will encompass safety, cleanliness, places where users can choose to sit and to relax.
- ▶ **Sociable** places are those where people feel able to meet, on purpose or by chance; where interaction with strangers is positive and where a sense of community and shared interests are fostered.

The middle ring of the wheel – the spokes – are those perceptions that enable people to determine whether a place is good or less so under each of these four key qualities. These are qualitative factors that are subjective and not easily measured in themselves.

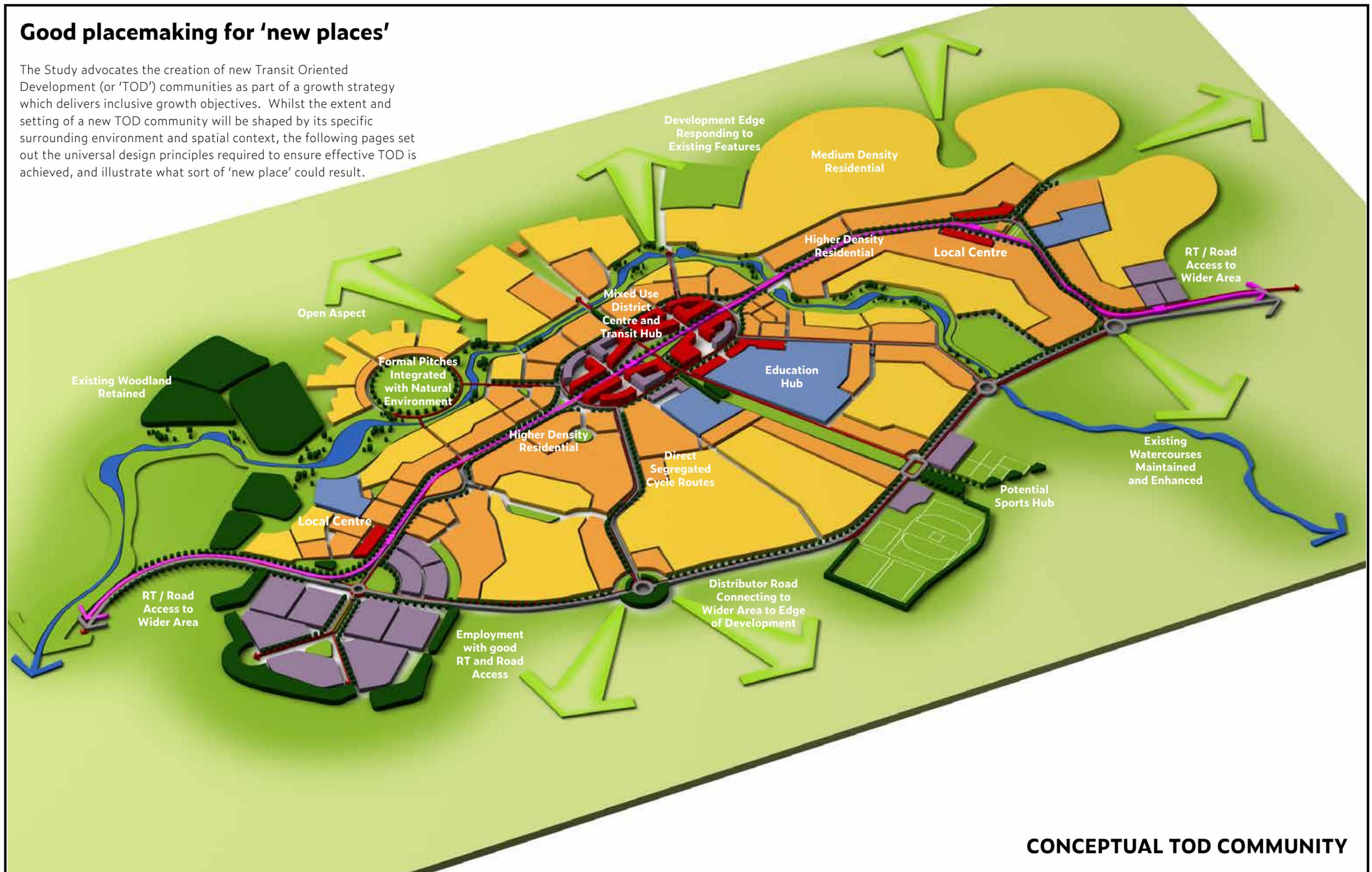
Finally, the rim of the wheel identifies characteristics of places that can be measured as an indicator of success or failure. Obviously, new places cannot be measured as such, but time and effort spent investigating good and less good places in existing parts of Milton Keynes and surrounding towns and villages will produce guidance and specifications for new places – parameters that are more likely to produce good places if applied through good planning and design. It will be important to know what good planning and design looks like, and this is a means by which they can be defined.

Examples of such measurable factors are included in the table below. These are not exhaustive lists, and other factors can be added as they are identified.

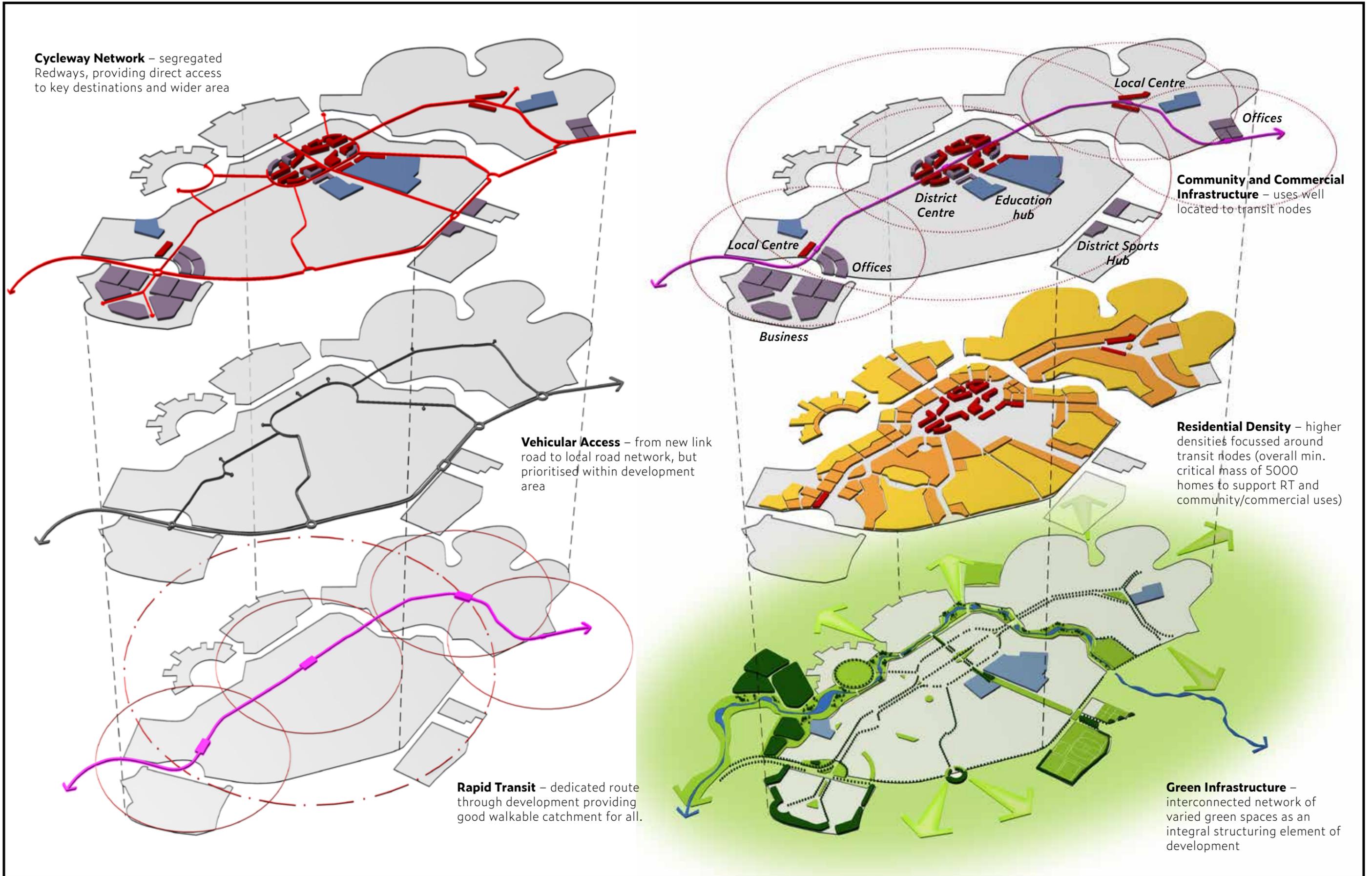
Key Quality	Perceptions	Things that can be measured
Accessible Places	<ul style="list-style-type: none"> Proximity – close to where people live and where they work Connected – by direct, easy routes Walkable – easy to walk and to cycle Convenient – close, walkable and with activities that are useful Accessible – the combination of factors that encourage people to use the place, freely. 	<ul style="list-style-type: none"> The modes of travel that people use to access the place The level of use of public transport The level of pedestrian activity at different times of the day, the week and the year The turnover of car parking spaces
Active Places	<ul style="list-style-type: none"> Active – lots of people for much of the day Fun – things for people to do that make them smile Vital – a sense of excitement and anticipation about who you might meet and what you might do Special – those things that make one place different to another, its uniqueness Real – genuine reasons to be there that are regular and reliable 	<ul style="list-style-type: none"> The extent to which businesses are owned locally and have a sense being part of the community The variety of land uses Property values – comparative and changing over time Levels of retail sales
Comfortable Places	<ul style="list-style-type: none"> Safe – the sense that it is a safe environment for everyone to use Walkable – the place is not only easy to walk to but also to walk around Sittable – lots of choice about where to sit and relax, formal and informal Attractive – features and details that add delight Historic – references to the past – buildings, uses, trees, paths and street patterns and other features 	<ul style="list-style-type: none"> “Likes” on social media The condition of the building stock and the attitude to maintenance Crime statistics, comparable and local Environmental information – air quality, climate, noise
Sociable Places	<ul style="list-style-type: none"> Diversity – different people in the place for different reasons at the same time Stewardship – good management and maintenance regimes backed by a sense of collective responsibility in the community Cooperative – people willing to help each other, business to business, individual to individual with many collective activities Neighbourly – strong sense of community and common purpose Welcoming – formal and informal embracing of strangers and newcomers. 	<ul style="list-style-type: none"> Monitoring numbers of children, women, minority groups The level of volunteering in the local community, and the number and richness of volunteer opportunities The level of activity outside the working day – evenings and weekends Street life – use of street spaces – walking, cycling, sitting, events and celebrations.

Good placemaking for 'new places'

The Study advocates the creation of new Transit Oriented Development (or 'TOD') communities as part of a growth strategy which delivers inclusive growth objectives. Whilst the extent and setting of a new TOD community will be shaped by its specific surrounding environment and spatial context, the following pages set out the universal design principles required to ensure effective TOD is achieved, and illustrate what sort of 'new place' could result.



CONCEPTUAL TOD COMMUNITY



PROPOSITION FOR A NEW TOD COMMUNITY



1. Electric vehicle spaces and charging points
2. Opportunities for Cafés and restaurants to spill out in to main square
3. Opportunities for some taller landmark buildings within District Centre
4. High quality landscaping and public realm
5. MK:RT stop, with integrated 'real time' info & ticketing
6. Pedestrian and cycle dominated environment, but accepting of vehicles for required access

7. MK:RT trackless trams utilising segregated and prioritised corridors
8. Private cycle and cycle hire parking / racks
9. Higher density apartments on upper floors to maximise number of residents adjacent to MK:RT and ensure vibrancy with the District Centre



10. Community car club electric vehicles conveniently located

11. Local parcel delivery / pick up point

12. Electric vehicles used for local deliveries

13. Cycle delivery services

14. Flexible ground floor commercial units to primary frontages within District Centre

15. Dedicated / segregated and prioritised cycle lanes (Redways); only giving way to MK:RT routes

16. Green infrastructure corridors connecting to and through the District Centre to help create quality environment and increase biodiversity

Design Quality and the Tools to Achieve It

The Milton Keynes area must aspire to the best in planning, design and development if it is to maintain its international profile and provide the best quality of life for its citizens, now and into the future.

At its inception, Milton Keynes made the best possible start by having a **Planning Manual** that established the baseline standards for the creation of its places and spaces and public realm. The consistent application of the Manual proved an effective design tool which was resilient in the face of changing architectural styles and market trends in shaping the structure and framework of the New City over many decades. Very few design guidance tools have achieved this elsewhere in the years since.



A Planning Manual for the 21st Century?

We therefore advocate that the same mechanism is adopted by the Partner authorities to shape future growth within the Study Area. Many of the Planning Manual design principles remain relevant and are still applicable to shaping developments within and on the edge of the urban area of MK today. Other elements – particularly those around intensification at nodes served by RT, intensity of use and activity within CMK, and the adaption of grid corridors, roundabouts and junctions to prioritise rapid transit, PT and cycling movements, can be adapted whilst still remaining true to the context of MK within which they sit.

Therefore, the power and influence of the Planning Manual should be re-established through a thorough review of the original with the aim of:

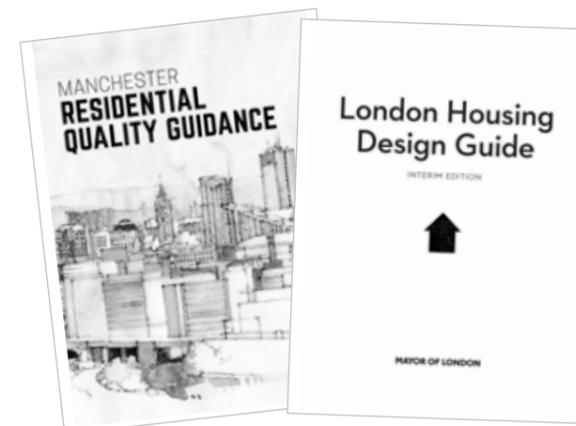
- ▶ Rediscover, retain and reinforce its key principles;
- ▶ Expand its scope to reflect principles established in the Growth Study and the development framework to 2050, and concerns that have emerged since its first publication.

To maximise its legitimacy, it is vital that this new Planning Manual is subject to full stakeholder and community engagement following publication of the MK 2050 Growth Strategy. As with the Strategy itself, the Manual should be adopted not only as a planning policy document but also as one of a suite of wider corporate policy documents governing authorities' growth and investment decisions.

In reviewing, updating and republishing the Planning Manual there is no need to reinvent the wheel. Much of the original guidance remains as relevant today as it did more than four decades ago when the Planning Manual was a forerunner of much guidance to come. Since then there has been a wealth of relevant national guidance and principles that have established criteria for good design, documents such as Building for Life 12 and various CABI publications. All of this is about to be reviewed by the MHCLG 'Building Better, Building Beautiful' Commission and the timing of this work should fit well with the review of the Planning Manual for Milton Keynes.

Housing Design Standards for MK?

The scope of future guidance should be broadened to include housing design. Milton Keynes is distinguished by much of its housing stock meeting standards for space and construction that were more generous than is the norm today. The need for national standards is being pressed and many parts of the UK are already seeking to impose local standards for good housing. To reinforce its distinctive offer, Milton Keynes should give serious consideration to **its own housing design guidance and standards** similar in scope and purpose to those recently published in the London Housing Design Guide and the Manchester Residential Quality Guidance (2017)..



Design Review Panel?

Finally, and to reinforce the legitimacy of prioritising design matters in decision-making on growth, mobility and development in the Study Area – and to achieve greater consistency in design advice and application – Milton Keynes would do well to consider the role of a **local Design Review Panel** to help set aspirations and to raise standards across the new city. Such a panel would assist the long-term stewardship of design quality in and around Milton Keynes.

However, this recommendation is made with one very important proviso. It is important that Design Panel members understand the unique character of Milton Keynes and when considering new growth, mobility and development proposals, are able to respond to these proposals in full knowledge of its history, conception, current design and development issues and its potential for the future. Whilst innovation and the application of design best practice will be supported, Design Review that simply seeks to 'normalise' Milton Keynes by making it just like other places will not do justice to the new city's past history or future potential. So, the design panel recruitment and selection process must include a probe of understanding of Milton Keynes and how design review can support and reinforce its positive attributes while discovering new qualities that will add future distinctiveness, innovation and creativity.

The recruitment of high calibre panellists who will be ambassadors for Milton Keynes would re-establish the new city's reputation for high-quality design and send a message out to the design and development communities about the standards expected in the decades to come.

CHAPTER 17: DELIVERY

Policy Choices and 'Alternative Futures'

There should be no doubt that the vision embodied in the emerging plans and in MK 2050 is extremely ambitious and will require robust planning, design and delivery arrangements that are fit for purpose. The Vision shown by Milton Keynes Council is an essential and welcome first step, but its realisation could fall massively short of aspirations if the right delivery arrangements are not put in place.

Milton Keynes has grown faster than any other urban area of the UK over the previous 50 years. The majority of that growth was delivered through a tried and tested delivery process (a New Town Development Corporation-NTDC), which had extensive powers of land assembly, investment and planning. It was overseen by central government which provided low-cost and long-term Treasury loans, subsequently repaid by the capture of the land value uplift created by the development process on land owned by the Development Corporation. There was a clear strategic plan which directed growth until recently. That Plan and delivery process provided most of the components that define MK as a place today.

The city and its surrounding areas now face the prospect of the similar high levels of growth all over again, but from a different starting point and in a different economic and policy context. Nationally-led policy, including the O2C Arc and resurgent support for large-scale development in the form of Garden Communities, has a symbiosis with the local vision around MK2050, and together they create the new context for growth within the Study Area to a population of 500,000. However, neither the form of growth nor the delivery process is yet fully defined, nor the likely consequences and potential benefits for existing parts of MK.

This section of the Growth Study draws from a Research Paper prepared alongside the Study¹²⁶ which has examined the way in which the scale and nature of growth recommended in the growth proposition for the Study Area could be delivered.

As well as making choices about *where* to grow, Partner authorities need to consider the *way* in which growth happens between now and 2050. How growth is planned, designed, delivered and looked after will have a great impact on how successful the outcomes are for communities and environments.

It could be argued that growth and development within the Study Area has been delivered successfully for many years: its economy and environment are well-established and those coming to invest in the area and build new homes here will continue to do so for many years to come.

So it could be assumed that nothing more is needed: current plan making activities, granting planning permissions for the market to come and build, and collecting development contributions to improve current infrastructure capacity should continue, and growth does not require a long-term growth framework or more active intervention.

On the other hand, the consequences of market-determined growth are often unintended and such unintended consequences could well continue. The needs of communities that are not met by the market require more active intervention. Rolling forward 'more of the same' cannot happen indefinitely; at some point significant investment in new infrastructure and public services will be needed so that the entire city-infrastructure system does not break down. The market is slow to respond to needs above and beyond immediate pressures, and without positive intervention the health, education and mobility of existing communities will start to negatively affect the success of existing places within the Study Area and their economic performance, and eventually the economic success of the Study Area as a whole.

The scale and pace of growth – not only that recommended within the Growth Study beyond 2031, but that which is already set out in plans to 2031 – is

highly ambitious. There is a risk that without a change in wider policy that is endorsed across departments and organisations, such growth may still be delivered but not in a way which realises benefits for the wider population, communities and environment.

The Development Process Today

In order to evaluate the options open to the Partner Authorities in respect of delivery mechanisms, it is worth outlining the characteristics of the development process today.

Today's 'normal' large-scale development process usually relies on landowners/developers putting forward their sites for consideration in Local Plans. Such schemes rarely exceed 10,000 homes (20–25,000 population) – and per plan period there are usually only one or two 'strategic sites' (those exceeding 1,000 homes) allocated within a single district. These strategic sites often make no provision for a balance between people and jobs. The land is often owned by, or under option to, developers or promoters. If successful the developers bring forward proposals for their sites, which Local Planning Authorities (LPAs) seek to influence through their planning policies, but ultimately have to either approve or refuse planning permission. In the latter case the application may appeal.

There is usually a Section 106 agreement for the provision of wider 'public amenities', which takes a long time to agree, is complicated, and often comes under challenge from developers before the amenities are all delivered. Local Authorities often find themselves 'on the back foot', reacting to proposals from developers who can afford to employ teams of planners, surveyors and lawyers to build and present their case. Land value is captured early on by landowners as part of purchase and promotion agreements, leaving inadequate sums to fund infrastructure, amenities, high quality development or long-term stewardship.

Many local authorities experience large-scale developments that leave them dissatisfied with the tools at their disposal to secure quality outcomes and consistent delivery¹²⁷. Sites may fail to progress as quickly as initially anticipated. Infrastructure may be delayed. Quality of design and construction may fall below expectations. All of these are challenges that local planning authorities is expected to address, while bending to increasing pressure from Central Government to produce higher numbers of new homes. However, when things go wrong authorities find they have few levers to pull that are actually connected to anything useful.

¹²⁷ For example, Bedford and Colchester Councils have publicly made clear their lack of confidence in this process for delivering large developments.

The Need for a Policy Shift

Under the current 'normal' process the planning system is largely reactive. Even where a local authority stamps its Vision on a Local Plan it is still wholly dependent on developers to progress with the task of delivering it. As more local authorities consider the merits of longer-term thinking and larger-scale development, their desire to get better results is driving some to find ways of being more proactive and asserting more control over the quality of development and timely delivery.

In the context of a Growth Strategy for the Study Area, unless the Strategy is underpinned by a clearly articulated, formally adopted and long-lasting joint corporate policy position around key growth and mobility objectives, delivery of good growth will always be at risk.

As such, it is recommended that:

- ▶ Firstly, the good growth objectives set out in this Study would be best achieved through each of the Study Area authorities making a significant cross-departmental policy shift away from 'business as usual' to an Active Transformation policy framework such as MK's proposed Strategy for 2050;
- ▶ More importantly, the Growth Study analysis suggests that a decision on the direction of travel must be made now: the consequences for 'more of the same' growth based on 'business as usual' policy going forward will have unacceptable consequences for existing communities; financial costs which may render schemes unviable; and slow delivery of development to a point at which it holds back the future economic potential of the area and impacts negatively on existing success.

What mechanisms are available to the Partner authorities to start to make this policy shift?

The original Plan for Milton Keynes, now essentially completed, proposed 80,000 homes. The growth proposition for the Study Area involves at least the same again and **would be by far the biggest and most ambitious urban development project seen anywhere in England for several decades**. However, in the last 30 years new development proposals in the UK have only rarely exceeded 10,000 homes.

One reason for the lack of such large-scale development is that successive governments have not supported them in policy or financial terms and the private sector finds the risks too great.

Policy has changed substantially in the last few years, with multi-party agreement that there is a need for much more housing, particularly social and other affordable homes, and that a proportion of this will need to be on 'green field' sites in the form of new or expanded communities that also have the potential drive economic growth and environmental improvement.

General planning policy changes allied to dissatisfaction at local level with current short-term planning has provoked more strategic thinking in some areas, including Milton Keynes. But there has been a serious gap in the tools available to secure delivery in a manner that could give both the public and the private sectors a real sense of confidence in the outcomes. The planning and development management system alone has proved to be inadequate to secure consistent delivery of large and ambitious developments. The long-term interests of landowners and developers are most often not the same as those of local communities. Control of land by democratically-accountable bodies offers better prospects but has been almost impossible for local authorities to achieve in a highly competitive market and would come at great cost.

This gap has now been filled by changes to the New Towns Act; the same Act through which the first phase of growth in Milton Keynes was secured. These changes, finalised in 2018, provide Local Authorities with the ability to 'own' a powerful statutory mechanism – a locally-led New Town Development Corporation (LLNTDC) – that was previously only tried and proven successful in the hands of central government. It offers the level of strategic control to ensure that new development complies with adopted plans, the ability to buy land at 'no scheme value', and borrowing powers that can be used to forward fund infrastructure.

However, it comes with responsibilities and some unresolved issues, primarily how best to secure forward funding, which would need to be, explored, defined and agreed with Government before any final commitments are made. It will involve some financial exposure and much work up front, but in return it gives the Local Authority/ies an effective way to deliver not only the growth needed but also the elements of their growth strategies which matter most to local people, sharing in the long-term, economic, social, environmental and financial benefits of future development.

It is against this background that different delivery mechanisms have been reviewed. Full details are set out in the Delivery Research Paper but are summarised below:

Getting more control over the quality of development and timely delivery

When local authorities consider large-scale development, it soon becomes apparent that this must be seen as an issue of Corporate Policy rather than one which is restricted to the planning process. There are questions to consider about creating successful communities, place-making, employment, provision of public services, investment and risk which will affect all of the Councils' statutory responsibilities and many of their strategic aspirations. These considerations can produce a desire to have more strategic 'control' through being more proactive, to minimise risks and optimise benefits.

Many institutions and research bodies from across the political spectrum in recent years – most notably the Town and Country Planning Association (TCPA) – have promoted the benefit of greater public sector intervention in large-scale development⁴. There is no doubt that a major shift in thinking is occurring, towards the need for the public sector to play key roles in securing successful large scale urban development. This shift is based on keen observation of what works, and does not work, and is not confined to any particular political viewpoint. One of the leading areas that has followed this train of thought is North Essex, where three District Councils plus the County Council have joined forces to promote three new Garden Communities, following TCPA guidelines, containing a total of around 43,000 new homes, in which Local Authority leadership and control of land would form the basis of delivery¹²⁹.

Although the TCPA principles were produced under the banner of 'Garden Cities', it is easy to argue that the first three of these, in particular, should be seen as universally applicable to all large-scale development. They are:

1. Land value capture for the benefit of the community;
2. Strong vision, leadership and community engagement; and
3. Long-term Stewardship.

When looking at different ways of delivering large-scale development, it is useful to assess how each fits with these three principles and the general desire to have more confidence in delivery.

The delivery mechanism options to consider split into two fundamental choices: **strengthening the planning framework** or **using land ownership**.

Strengthening the Planning Framework

The first way to improve the proactive role of Partner Authorities might be through better use of their plan making and policy process. Local planning policies can be written in ways that specify as tightly as possible the nature, quantity, quality and timing of infrastructure, amenities, design and performance standards. These will have to pass muster through the EIP process and be shown to be reasonable in planning terms and consistent with the overall viability of any proposed scheme to be declared 'sound'.

In the Study Area, much if not all of the land that can be considered for development will be subject to some form of option or promotion agreement. Developers may have different views about what is reasonable and will put forward their own propositions together with reasons why they are either better or more realistic and why the LPA's ideas are not viable. The outcome of this process is unpredictable, subject to changes of policy and priority within central government, and the resulting development process will remain in the hands of landowners and their development partners. They will proceed at the pace that suits them and will not hesitate to challenge requirements placed on them as circumstances change. In short, they should be expected to act perfectly properly in safeguarding their own and their shareholders' interests.

So, attempting to strengthen the planning process has its limitations, limitations that become more important as the scale of development increases.

Greater confidence in the timely delivery of infrastructure could be secured by more energetic use of existing regimes such as the Community Infrastructure Levy (CIL) or the MK Tariff¹³⁰. In respect of CIL, this is subject to periodic viability considerations and does not allow for borrowing against CIL receipts to forward fund infrastructure, but once a CIL regime is in place, the principle at least is non-negotiable.

The attraction of the MK Tariff to landowners and to the planning authority was the ability to secure forward public funding for relevant infrastructure on the basis of anticipated tariff receipts. This gave developers confidence about opening up their land and provided cash flow assistance to the housebuilders to whom they were selling. However, the agreement was entirely voluntary and manageable only because of the small number of landowners involved within MK, and it is unclear whether these conditions could be replicated again.

CIL could possibly be used in a similar way as the Tariff, set at a high level for each large area to match the standards of infrastructure considered necessary by the planning authority. But this is only likely to be a workable proposition if forward funding can be secured on the basis of future CIL receipts; if not, the idea might meet with resistance from landowners and be less satisfactory to the Council, with an unpredictable outcome. In any event, this approach would leave most or all of the control over development in private hands.

None of the above can exert much leverage on the eventual pace of development nor any additional assurance about the quality of what is built. The results may therefore lead to large-scale development going ahead in the chosen places but in a form and at a pace not considered adequate by local stakeholders and the planning authorities. If judged against the first three TCPA principles this approach provides some additional but limited scope for land value capture, but has limited influence on leadership of delivery or on community engagement (beyond that required by statute) and is unlikely to deliver satisfactory guarantees about long-term stewardship.

¹²⁹ North Essex Garden Communities (NEGC- www.ne-gc.co.uk) Formed by three Conservative and one Lib Dem Administration, actively seeking a locally controlled New Town Development Corporation.

Using Land Ownership

The second delivery mechanism in a more proactive policy future is through control of development land, which could bring with it the prospect of a ‘Master Developer’ role in determining the pace, form and quality of development.

It brings opportunities for public investment and better alignment between the drivers and objectives of development and those of good planning. But it also imposes onerous responsibilities and risks that most local authorities are not well placed to take on. It is less constrained by the limits of the planning system but ultimately by questions of overall viability. The ability of the public sector to secure long-term patient finance is an advantage, enabling viability to be seen in a long-term context, rather than the typical developer viability horizon of five years or less¹³¹.

Local authorities can seek to gain control over the land allocated for development in two ways. The first is by **voluntary agreement** and the second is by **compulsion**. In the latter case, voluntary agreements may be incentivised if there is a credible threat of Compulsory Purchase (CPO). Either approach would need significant early-stage resourcing by the Partner authorities in order to create and take forward credible propositions for agreement with landowners and/or central government.

Voluntary agreements

Voluntary Agreements between landowners and local authorities for transfer or sharing of control are rare and difficult to achieve. They rely on fostering an environment of mutual respect and understanding between individuals as well as organisations that is seldom present in today’s development climate¹³².

Unless the public sector simply buys out the landowner (unlikely to be possible at a price much less than full market value), there will have to be some form of Partnership, with detailed and complicated financial agreements for how costs and receipts, risks and rewards will be shared. Landowners and developers will doubt that a local authority will have the skills and resources to deal with this ‘in house’. A Partnership could take the form of a suitable arms-length company (a Local Delivery Vehicle or ‘LDV’) to oversee development and become the “master developer”, which might include the direct development of infrastructure, public amenities and some social housing. Agreement would be needed from landowners and any others with whom they have entered into contracts, such as promoters or option holders.

To reach such an agreement would take time and effort, plus a demonstration of consistent commitment from the local authority through formal agreements on suitable structures and to facilitate funding arrangements. The dialogue must result in the landowners being willing to place their land into the control of the LDV on terms which provide all parties with acceptable degrees of risk and reward.

This approach is ambitious, needs careful management and there is no guarantee at the outset that it will result in an acceptable agreement. It takes time and effort to build trust and agree terms – a voluntary agreement to cede control of land has the best chance of success if dialogue begins early in the Local Plan process, before large sites are finally allocated and whilst landowners still recognise that there is a real risk that the anticipated value of their site may not be realised¹³³.

There is always a real risk that efforts to reach voluntary agreements may fail. In that event an authority may be faced with the need to allocate land regardless and fall back on its planning powers alone to control delivery. Patient landowners are fully aware of this possibility, and its advantages for them.

Compulsory Purchase

The second way of gaining control over land is by compulsory purchase. For Local Authorities using the Planning Acts, this can be an onerous and uncertain process even on small sites and generally requires the kind of detailed proposals for the use of the land that cannot be provided in a 30+ year growth proposition.

However, it is now possible to create a localised version of a New Town Development Corporation, which would be accountable to the local authority(ies)¹³⁴. The Secretary of State (SoS) now has the power to establish a New Town Development Corporation at the request of one or more Local Authorities, to whom the NTDC would be accountable. Control over the operation of a NTDC would include setting its brief, appointing its Board, securing its funding and securing the long-term stewardship of community assets post-delivery.

NTDCs¹³⁵ are the most effective statutory vehicle yet created in the UK for the delivery of joined-up new communities, in which infrastructure comes first and the broader economic, social and environmental objectives are given proper weight alongside the need for commercial returns. They can operate across local authority boundaries and can acquire land by CPO at ‘no scheme values’ more quickly than a local authority, without the need to define detailed proposals for the use of the land. They can borrow to fund infrastructure and amenities, repaying loans from the uplift in land value. In the longer term, if the overall development makes a ‘profit’ after repayment of loans, the local authority(ies) can distribute this amongst themselves in accordance with agreements made at the outset.

In many cases the fact that compulsory purchase powers are available will be sufficient incentive for landowners to reach voluntary agreements without the need for legal process. The fact that option agreements may already exist on the land is not material.

¹³¹ The original development of MK was funded by 60 year loans.

¹³² Typically local authorities don't trust private developers and developers don't believe that local authorities are capable of acting in a commercial manner. Typically local authorities don't trust private developers and developers don't believe that local authorities are capable of acting in a commercial manner

¹³³ Whilst planning allocations cannot be offered as a reward for agreement, deliverability is a legitimate criterion for the selection of sites, so such an agreement can be taken into account when the local authority decides which sites to allocate in the Local Plan.

¹³⁴ This option for proactive involvement has been created by amendments to the New Towns Act 1981 that were made in March 2017, followed by Regulations that were approved by Parliament in July 2018 .

NTDCs are able to borrow money at advantageous rates of interest and can capitalise their running cost, being able to buy, build, procure, and sell to developers and use the receipts to fund infrastructure of all types relevant to their development, from strategic items such as Rapid Transit, to detailed items such as children's play areas. Their control over timing and quality of development can effectively be exercised through land ownership (granting development leases and licences) rather than just planning powers. They can be required to establish stewardship arrangements, such as the MK Parks Trust, in accordance with the policies of their 'client' local authorities. The criticism levelled at previous NTDCs – most notably, that control of development and ownership of land was with central government that was also the beneficiary of development surpluses – are directly addressed by the new Regulations.

A locally-led NTDC (LLNTDC) offers the prospect of bringing real additional control over large-scale development and complying with the three TCPA principles referred to earlier. Voluntary agreements with landowners will be much more difficult to achieve with less certainty in the absence of a LLNTDC.

Considering both the scale of growth proposed and also the embedded inclusive 'good growth' objectives, the Delivery Research Paper recommends that there is a strong case for considering the use of a locally led New Town Development Corporation to oversee future large-scale growth of the Milton Keynes area.

Selecting a Delivery Structure

Decisions regarding the location and scale of development have implications for the type of delivery structure. The opposite is also true. For example, inclusion of land whose owners are hostile to the idea of development or who have unreasonable views about land value might seem unwise if delivery is expected to be driven purely by private sector developers or by voluntary agreement, but quite reasonable if a Statutory Body is chosen, such as a New Town Development Corporation, with its effective CPO capabilities.

Above all else, if the MK area is to adopt the scale and nature of growth ambition set out in this Study it must find the best way of providing all those concerned with confidence about good delivery. If Milton Keynes Council and its adjacent partner authorities want to select development areas that are considered most suitable in relation to good planning – as opposed to simply choosing from those promoted by landowners – it is necessary to consider and choose a delivery structure in parallel with consideration of 'the Plan'.

The Delivery Research Paper provides an assessment of the different types of delivery structure to deliver effective large-scale, rapid, high quality development (section 6 and table on pp 19) against the following criteria:

- ▶ How best to capture the uplift in land value for investment in social housing, physical infrastructure, amenities, skills, and social provision?
- ▶ How best to accelerate and sustain the rate of housing development and economic growth?
- ▶ How best to build effective partnerships with landowners and developers who hold options on land;
- ▶ How best to capture additional government monies for social housing and to "cash flow" advanced infrastructure;

- ▶ How best to create the leadership capacity to drive growth;
- ▶ How best to make strategic and local planning decisions in a way which respects local democratic accountability;
- ▶ How best to secure quality of outcome;
- ▶ How best to assess anticipated risk; and
- ▶ How best to assess likely reward.

The Paper concludes that a locally-led New Town Development Corporation (LLNTDC) performs best when evaluated against the above. This option can create more certainty at an earlier stage and is better equipped to manage the risks of large-scale development over a protracted period.

It should be noted that the LLNTDC approach does expose the Councils to additional risks associated with becoming the "Master Developer", albeit it at arms-length through a Statutory Body. Forward funding will be essential, and the Oversight Body – the Board of the LLNTDC – will have to determine what is the best way of securing it. This will involve some level of exposure to financial risks, and the nature of these will doubtless be a major factor in selecting the best option. The biggest risks usually faced in such developments would already have been minimised by unifying land ownership and planning powers, which should be attractive to private finance.

Creating the leadership capacity to drive growth

Development at the scale envisaged in the Study Area is essentially about the creation of new communities and re-energising existing communities. Leadership has to be focussed consistently on this objective, whilst also ensuring compliance with commercial responsibilities. Relying on private sector companies to do this is a game of chance. The ownership and financial priorities of private sector companies change in unpredictable ways that may be totally unconnected to the interests of the local communities they are creating.

Strategic leadership should be locally rooted, but delivery needs to be operationally free from the normal and day-to-day responsibilities of running a Council. This leads towards either a *locally-owned* Development Company or a *locally-controlled* statutory body with relevant powers such as a New Town Development Corporation. However, in order to provide effective leadership, each would need to gain control of the land, without which they would be 'paper tigers'. A locally-led NTDC offers greater certainty in this regard.

Making strategic and local planning decisions whilst respecting local democratic accountability

Strategic planning decisions require careful consideration and consultation. The planning system does not make this easy. Many Local Plans draw their strategic options only from land promoted for development by landowners or their option holders, thus constraining choice from a very early stage. The resulting (statutory) plans manifest the powers of persuasion of each landowner.

MK is avoiding this flaw by deciding to produce a long-term growth strategy based on a wider range of growth objectives and assessment of needs than would otherwise be the case through conventional development plan activity. In order to secure delivery of their growth plans subsequently they should take on the responsibility of the Master Developer, preferably in the form of a locally-led NTDC.

Delivery through a LLNTDC should not be seen as in any way undemocratic. The strategic control would remain with the Councils, setting the brief, holding the delivery body to account and making whatever changes they see fit from time to time in terms of brief or board membership. They will need to do this through an Oversight Body, formed between the participating local authorities, in a form acceptable to the Secretary of State.

Membership of the Board would be agreed by the Oversight Authority, and would include a majority of independent members, recruited through an open process and not nominated by any of the participating Councils. Each Council represented on the Oversight Authority also has the right to nominate at least one of their elected Members to the board of the Corporation. The Oversight Authority may also invite nominations from other Local Authorities which they consider are concerned in the delivery of the development¹³⁶. The long-term plan that the LLNTDC is charged to deliver would be an expression of democratic will.

The LLNTDC would submit outline planning proposals for each area to the Oversight Body, for their approval, and may subsequently grant detailed planning approvals in accordance with outline approval. The LLNTDC's ability to secure good delivery is facilitated by its ownership of the land, which it should not relinquish until development is completed in accordance with the detailed plans. Unjustified delays by developers on any particular site could result in disqualification from future tender lists.

Delivering Key Infrastructure

The growth proposition recommends that in order to grow to around 500,000 population by 2050 in an inclusive way that meets 'good growth' objectives, the area will need new infrastructure that goes beyond the original grid roads. The grid system was designed to accommodate growth to 250,000 population, with opportunities for extension consciously built in to the urban edges. The network was essentially completed by 1992, and over the last 26 years has seen only minor junction improvements and some 'dualling' whilst the population has nearly doubled. It is already showing signs of being at the limits of its capacity in some places and at some times.

The mobility proposition in the Growth Study centres around a core Rapid Transit network using dedicated road space rather than fixed tracks supported by Mobility as a Service (MaaS) provision. MK is fortunate in having been built to a Plan that foresaw the possible need for such a system, allowed for by the reservation of space in the grid corridors. As such, retrofitting a system should be physically much easier than in any other comparable city. The challenges facing delivery of such a system are around its capital funding, its operational viability, its potential to secure real benefits for existing residents within the city, and the renaissance of CMK. There is also the practical challenge of how to deliver a Rapid Transit system.

The New Towns legislation allowed a lot of flexibility in terms of what might be developed through a LLNTDC¹³⁷. So, in principle, there would seem to be no legislative barrier to using a LLNTDC to acquire land, develop and, if necessary, to run a Rapid Transit system, within and outside Milton Keynes, subject to any guidance or restrictions given by its (Local Authority) Oversight Body. Further exploration of the funding and delivery of MK:RT is set out in Annex 6.

The use of a LLNTDC to provide the new RT system for MK requires consideration of what involvement, if any, it should have in existing areas.

*'Milton Keynes: Making a Great City Greater'*¹³⁸ describes a Vision for MK 2050. It lists six key projects on which realisation of the Vision is founded. Project Four:- Smart, shared, sustainable mobility, and Project Five:- Renaissance: CMK, are heavily related to the provision of MRT.

The likely routes for MK:RT as it enters MK are all related to grid road corridors that have space available and lead to CMK. Viability of RT will be achieved sooner if it can capture substantial ridership from inside MK though, by its nature, RT stops will be less frequent than those of a conventional bus system. This presents both a major opportunity and a challenge to create pick-up points in the city that are accessible to many passengers which also provide a real improvement for those with lower incomes or reduced mobility through improved local facilities around the new transport hub and to citywide facilities and jobs through the MRT. Social welfare points towards placing stops close to areas of low income households wherever possible and to create new development at higher densities around those stops, but viability and environmental drivers suggest providing RT services which capture more affluent passengers thereby removing more cars from the road network. Some of this land will be in transport corridors in the ownership of the Council or Parks Trust (which could be required to give it up for transport purposes). The use of the LLNTDC to procure such development would link directly its provision of a viable RT and would ensure that any other land required could be secured with minimum delay and at lowest cost.

Phasing and Transition to a LLNTDC

If the LLNTDC was given such a role it should be given a special brief by the Oversight Body which ensures integration of such new development with wider regeneration policies and projects. It would also require fuller public involvement than is normally possible in green field areas where much of the population is yet to move in.

Central Milton Keynes represents another opportunity to make good use of the powers of a LLNTDC. Unlike the Council's current delivery organisation -Milton Keynes Development Partnership (MKDP) - a Development Corporation could intervene more readily in upgrading the infrastructure of CMK to make best use of RT, acquiring land where necessary, investing and granting permissions consistent with its remit. It seems almost certain that introducing a RT into Milton Keynes, plus the wider expansion of the city and CMK's role within it will require further revisions to current plans for CMK to improve the capacity and nature of the existing infrastructure in line with MK2050 Vision and its Big Projects: these plans should be handed to the Development Corporation as part of its brief.

Setting up a locally-led NTDC will require considerable time and effort. The Delivery Research paper suggests that as the new process is untested it is impossible to say today how long it would take to complete the required work and go through the specified process. During that time the areas to be covered would have to be defined. Apart from new communities and growth areas outside the urban area and routing for the RT (plus any ancillary land at nodes of intensification at key points), decisions will need to be made about inclusion or exclusion of development areas already included in the Local Plan.

At first sight it might seem sensible to exclude all such areas, which will already be owned or optioned to developers and on which investment and development may have begun. However, if delivery is considered unsatisfactory the LLNTDC could be used to add more muscle and drive. This needs careful consideration, since intervening in such areas against the will of the current owners could be contentious and costly. Ideally, intervention would be by agreement and underwritten by a commercial arrangement where both parties would see benefits.

CHAPTER 18:

PHASING

At this point in time, the Spatial Framework for growth outlined within this Study is just that – a ‘framework’ for growth within which individual growth locations – before decisions on preferred growth locations and consequent policies and sites for environmental enhancement, built development and infrastructure are brought forward through planning processes during the period to 2050 and beyond.

Many of the details around the locations, sequencing, implementation and pace of growth will be refined through the formulation of the MK2050 Growth Strategy and the resultant delivery mechanisms selected.

Nevertheless, part of the testing of the deliverability of the growth propositions and potential growth areas is to identify where the delivery of infrastructure unlocks – or determines the timing and sequencing of – growth.

It is clear that to deliver the planned pace of growth, several of the growth areas will be expected to make a contribution throughout the period to 2050 and beyond, and as such the sequencing of growth should not be seen as fixed or ‘linear’. Locational decisions for jobs growth can have specific elements, but will change over time due to advances in technology and industry requirements and will also seek to locate in close proximity to other growth outcomes – such as improved mobility solutions and new homes. Growth areas will progress concurrently; indeed, one of the key principles that unlocks housing delivery rates is that a long-term plan provides certainty over the co-ordinated planning of infrastructure, thereby bringing forward development within, outside and in different parts of the urban area to maximise the range of housing to be built and broaden the range of bodies responsible for building these homes.

However, there is a balance to be struck between the investment in infrastructure needed to enable development across a significant number of growth areas simultaneously, and an over-reliance on too few growth locations where any stalling of development may have a disproportionate impact on delivery rates. Maximising the ability to manage the release of land and invest in infrastructure in a timely manner (a key criterion for the choice of delivery mechanism) will have the most positive impact on housing delivery rate capabilities.

Growth Proposition - Initial Phases and Projects

As part of drawing up the overall Spatial Framework, the Growth Study has identified where infrastructure investments might be made, or studies undertaken to unlock a range of potential locations which could come forward in order to meet the anticipated scale and pace of growth – and the associated needs of the growing population – set out in the growth trajectories over the next 15 years or so to 2040.

The location of this infrastructure together with a brief description of the work needed to progress each project is set out on the plan opposite. This list is not exhaustive, and many of the projects are interrelated, and as such will need to sit within an overarching infrastructure investment strategy.

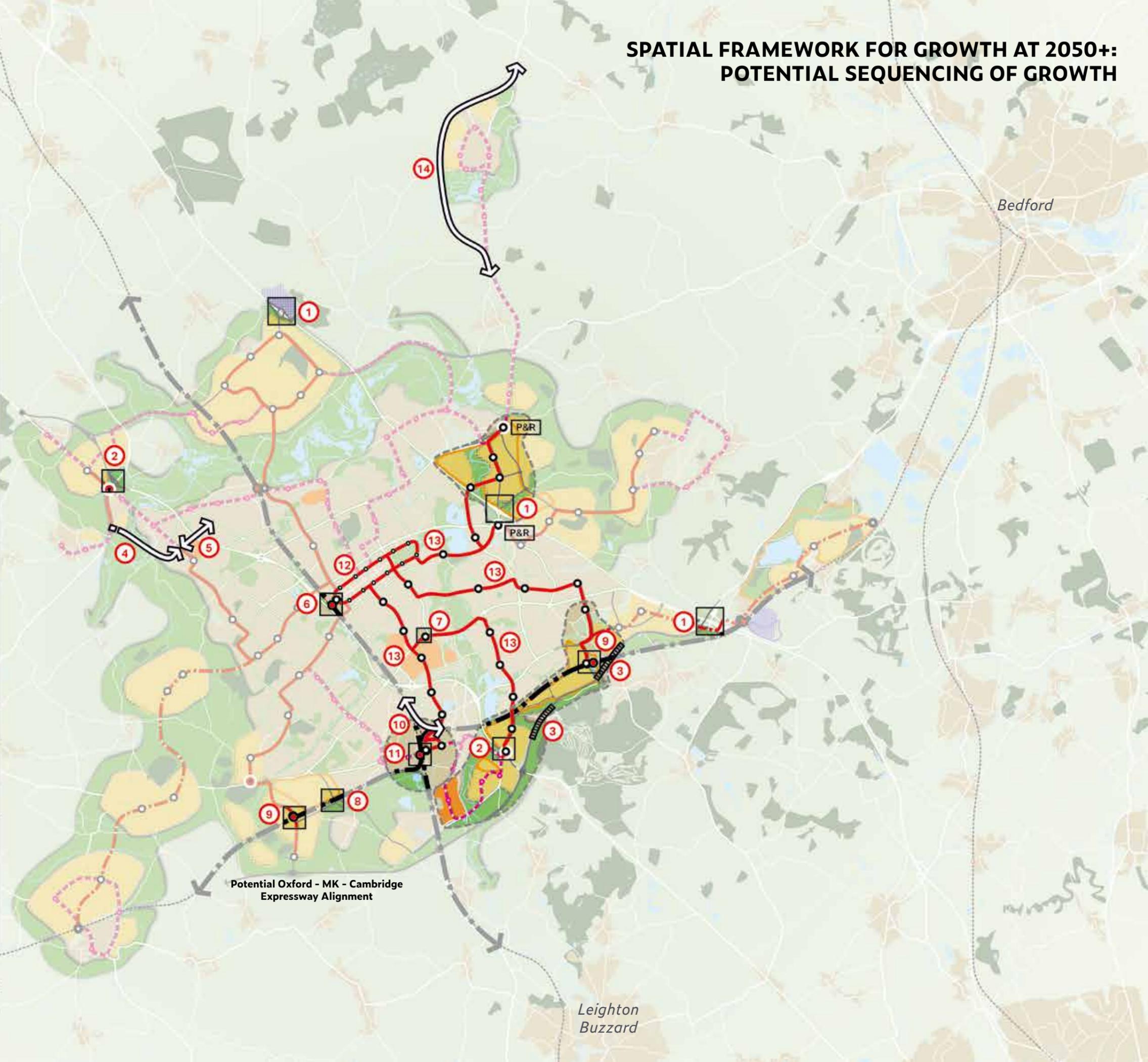
Initial Phases and Projects

- Strategic Road Improvement Schemes
- Local Road Improvement Schemes
- PT Mass Rapid Transport Schemes
- Rail Improvement Schemes
- Community Infrastructure Schemes

- 1** Study to explore M1 junctions in context of MK2050 growth and begin process to deliver junction via RIS as soon as possible.
- 2** Study and potential delivery of grade separated junctions at north & south extents of A5(D) through MK.
- 3** Assuming south MK alignment of the O2C Expressway (MKC current position) then tunnelling of the route is required in context of local impacts, quality and delivery of south MK growth. *'Additional' HE cost (for standard at grade route) to Expressway.*
- 4** North west MK 'quadrant' access improvements to relieve A5 roundabout and access opportunities from A422/A5 corridors in to MK – link road from A422 across Great Ouse connecting to H1 Ridgeway.
- 5** Extension of H1 Ridgeway over A5(d) to ensure additional movements are dispersed in to wider MK grid, not funnelled in to V4 Watling Street alone.
- 6** Study to explore requirements/opportunities for a rail station for city of 500k population and greater economic status in CMK – station already 'at capacity' in peak hours in 2018.
- 7** Study to explore opportunities for expansion of hospital and wider provision of primary health care for a 500k MK population in 2050 and beyond.
- 8** 'Cut and cover' crossing of East West Rail prior to operation of line. Link forms part of 'Bletchley Southern Bypass' – a long term aspiration of MKC. *Additional cost to EWR scheme – cost far greater if required post operational line.*
- 9** East west rail stations: new/re-located Woburn Sands Station; and 'new' station at Salden Chase (previously included in E-W rail proposals). Oxford Parkway is a comparable precedent new station.
- 10** Bletchley East West Rail chord linking to MK Central rail station.
- 11** Study to explore opportunity of Bletchley station interchange in context of opportunity for comprehensive regeneration of Bletchley.
- 12** MK-MRT 'CMK Loop' – initial phase centrepiece for future network and pump priming R:CMK.
- 13** MK-MRT 'Pilot Routes' (assuming full BRT option):
 a. Bletchley – V7 Regen – CMK route
 b. South east MK growth – Woburn Sands Station – SLA – Kingston – Oakgrove route
 c. A509 P&R – East of MK growth – Willen Lake – CMK route (also potential spur to J14 P+R)
 d. A5 P&R - Caldecotte - O.U. - Hospital - CMK Route
- 14** 'Olney Bypass' – required in context of radial route to/from MK and 2050 growth.

Notes:
 Infrastructure projects identified through emerging master planning as part of Mk2050 Strategic Growth Study. At this stage they may not form a complete picture of overall infrastructure requirements. An overarching transport planning/infrastructure strategy will likely also be required.

**SPATIAL FRAMEWORK FOR GROWTH AT 2050+:
 POTENTIAL SEQUENCING OF GROWTH**



Bedford

Leighton Buzzard

Potential Oxford - MK - Cambridge Expressway Alignment

 Development Area Completed by 2040

 Development Area Underway / Ongoing @ 2040

PRIOR **[500]** Assumed number of homes to be delivered in development area prior to and post 2040
POST **[500]**

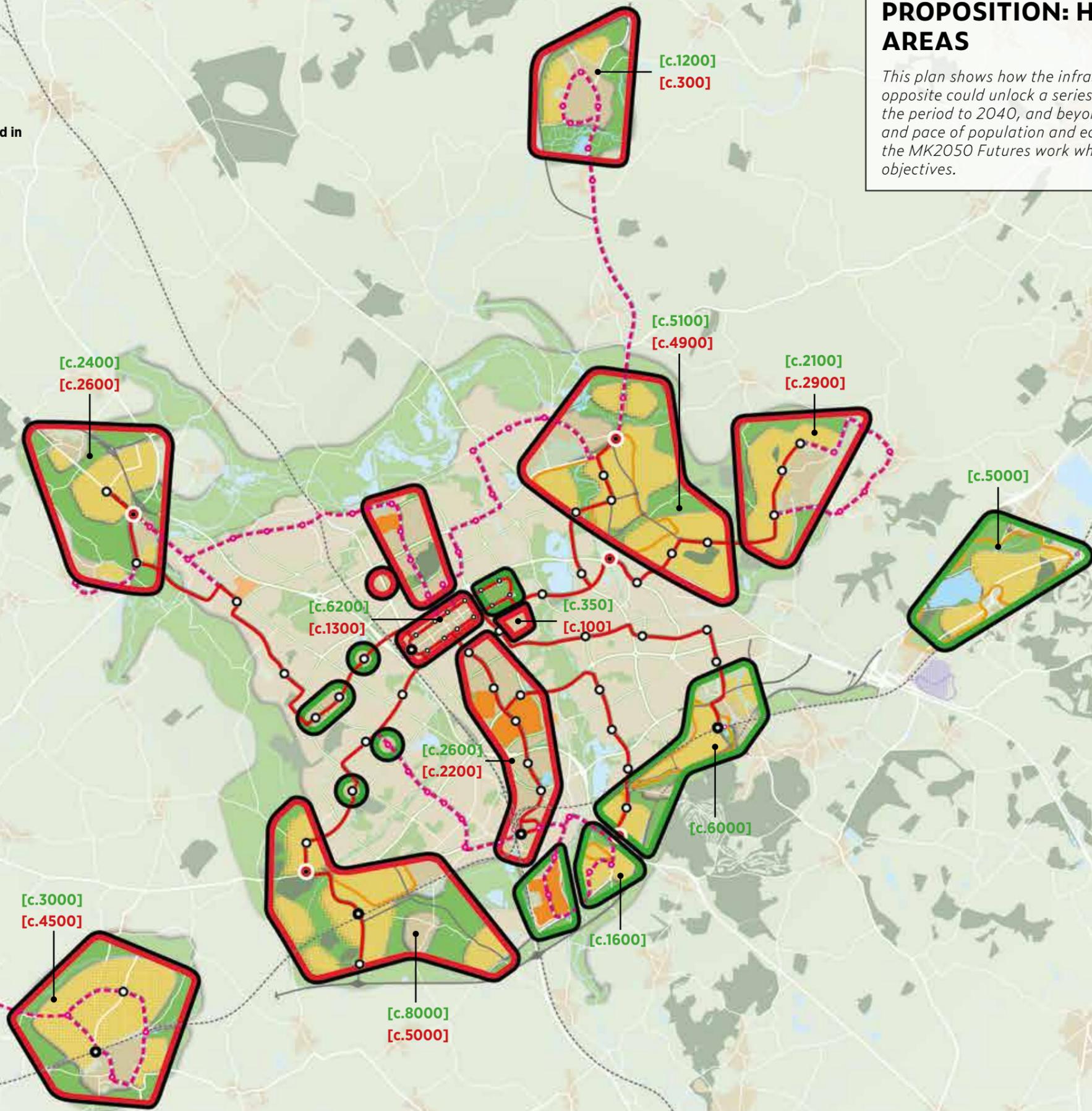
RECOMMENDED SPATIAL GROWTH PROPOSITION: HOUSING GROWTH AREAS

This plan shows how the infrastructure identified in the plan opposite could unlock a series of growth locations needed in the period to 2040, and beyond to 2050, to realise the scale and pace of population and economic growth advocated in the MK2050 Futures work which also meets inclusive growth objectives.

Bedford

Buckingham

Leighton Buzzard



The Latter Phases of Growth

As part of consideration of the phasing of growth, the Growth Study has examined how the potential sequencing of growth to 2050 might be realised.

This sequencing would support continued investment in MK:RT but also maximise the opportunity to deliver infrastructure and a supply of homes and jobs at a range of sites/locations which best meet inclusive growth objectives within and around MK.

The Plan opposite illustrates what might be delivered from each potential growth location in the next 15 years or so to 2040, and in the following decade to 2050 or so.

The growth elements which are expected to make the majority of their contribution post-2040 are those which are located in the stand-alone TOD communities further from the existing infrastructure network, and which require a commitment to the funding and delivery of a very significant level of new green and grey infrastructure as well as new service provision to meet good growth objectives.

Ultimately, the pace and phasing of growth will depend on the nature of the delivery mechanism put in place as part of any Growth Strategy and the attitude and appetite of authorities to jointly support spatial growth propositions in relation to cross-border or wider Study Area growth locations.

CHAPTER 19: NEXT STEPS

The work undertaken through the Growth Study commission has been tested and shaped through Member Policy workshops and ongoing liaison with the Partner Authorities. The outcomes of this Study and the supporting papers on Economic Growth, Mobility and Mass Transit and Delivery will supplement existing evidence to help inform the Councils' thinking as work on the Growth Strategy for MK to 2050 continues.

Specifically in relation to emerging policy changes, it is anticipated that the Study provides evidence to shape Partner Authorities' thinking around:

- (i) Supporting the move to a more sustainable and active mobility future based around effective integrating of growth and rapid transit across the Study Area;
- (ii) Harnessing more of the benefits arising from growth to invest back into existing local communities;
- (iii) Building a growth and development strategy and plan which takes a holistic and long term approach to the allocation, development and safeguarding of land for the full suite of land uses necessary to achieve 'good growth' objectives;
- (iv) The necessary leadership, design, planning, implementation and governance tools and expertise needed to shape and deliver this growth effectively;
- (v) Changes to the Councils' wider policy framework which may be necessary to support long term spatial and mobility growth objectives once agreed.

However, it is important that the Growth Study is seen as the foundation rather than the conclusion of the spatial growth proposition. Work to support the emerging Growth Strategy should continue; dovetailing the ongoing conversations around delivery and partnership structures with more detailed engagement with infrastructure providers and further analysis on a number of specific aspects of the growth proposition. The Growth Study is also of value for its identification of areas, land and connections which are recommended should be reserved or safeguarded. This will enable the realisation and delivery of longer term growth which meet agreed inclusive growth objectives and are able to benefit from infrastructure investment in the early years of the Strategy.

There are a number of additional activities and workstreams which the Study recommends are undertaken by the Partner Authorities – either jointly or separately – to support the emerging Strategy. Some of these are particularly important to ensure that the emerging direction of travel of the Strategy does not conflict with other ongoing Council initiatives and decision-making relating to local plan making, regeneration strategies, transport and infrastructure plans, and corporate policy. A bringing together of the strands of policy through a cross-departmental Growth Strategy will greatly assist its delivery.

A number of studies are identified as part of the Initial Phases and Projects plan in Chapter 17 and are included again below. We envisage that there would be merit in progressing the following activities as part of an ongoing co-ordinated workstream. This list is not exhaustive or in any particular order of priority, but reflects that identified through our work on the Study:

(a) Further Research and Evidence

- (i) Further examination of **partnership structures and local delivery** vehicles to confirm the direction of travel in the context of the scale and pace of growth sought;
- (ii) Further testing of phasing, mode share and demand catchment analysis to confirm the basis on which the **MK:RT network proposition** can be taken to the next stage, and included as the core of a revised Mobility Strategy for the Study Area;
- (iii) A study to explore the future requirements at **Milton Keynes Central Rail Station** and its surroundings to realise its role and effective function as a regional multi-modal transit hub serving a city of 500,000 population and a regional economic hub within the O2C Arc;
- (iv) A study to explore the opportunities for comprehensive regeneration and redevelopment arising from a re-imagined **Bletchley Station Interchange** on East-West Rail, including the potential for safeguarding/building the 'Bletchley Chord' rail link to MKC station;
- (v) A study to explore the **future role and function of the M1** junctions within the study area in the context of the emerging Growth Strategy to support the process of delivering a new junction north of MK through the RIS;
- (vi) A study into the potential safeguarding and delivery of **grade separated junctions at the northern and southern extents of the A5(D)** through MK;
- (vii) An **Energy and Utilities Study** to help draw up a long term strategy for these sectors, working with stakeholders and service providers to ensure the requirements of long term committed growth can be delivered and managed effectively;
- (viii) A **Health and Community Services Study** could be undertaken on the same basis as (vi) above, to ensure that whilst these sectors – including acute and emergency hospital care, primary health and social care – are undergoing structural change, the changing needs of the population can be met alongside growth in an effective and sustainable way;
- (ix) Further detailed **analysis to determine the development capacity of buildings and land within CMK** to confirm the scale of opportunity for new, redeveloped and repurposed floorspace in the context of CMK's role to 2050;
- (x) Identification of **new employment areas outside CMK** – in terms of location, potential amounts and mix of uses – that may require specific policy protection/reservation/designation to deliver the recommended total jobs/employment space in the Growth Study?
- (xi) A **'Retail Futures' Study**, so that future trends in retailing to 2050 can be fully factored to further inform an emerging growth framework for CMK, district/local centres, transport interchanges, local logistics strategies (including Urban Consolidation Centres and 'middle tier' logistics facilities) and new TOD centres;

(xii) A **Redway Study** to examine in detail the issues and solutions around the MK Redway network, including fixing missing links, conforming SuperRedway connections, re-prioritising cycling at junctions/through mixed use areas/transport interchanges and within CMK, and how the network can be effectively extended to new growth areas and TODs to prioritise and support a move to more active travel. Included within this study should be an analysis of the Redway network in terms of its appropriateness for walking and other modes of transport;

(b) Engagement Activity

- (i) Sharing and discussing **key Growth Study outcomes** with Partners Authorities and Central Bedfordshire Council as part of ongoing Duty to Co-operate activity in the context of the Oxford to Cambridge Arc and joint spatial planning conversations;
- (ii) Further exploration with stakeholders and Partners to inform a **Governance and Management Strategy** for growth to 2050, based around the expansion or replication of existing proven management and governance vehicles within MK such as the Parks Trust to play a key role in the long term management and governance of green and blue infrastructure and the public realm across the Study Area as a whole, and/or within specific parts of the area such as CMK;
- (iii) Continued engagement with **wider service providers** within and outwith the Council – such as the health and social care sectors, leisure services, education providers, arts and cultural organisations, emergency service and prisons service and the voluntary sector – as well as ‘hard to reach’ groups locally such as young people and ethnic minority communities, with the aim of testing and shaping the emerging growth strategy with wider community interests;
- (iv) Re-engagement with the **regeneration agenda** with a view to introducing some of the Growth Study objectives and opportunities as a way of informing regeneration strategies and town centre/estate renewal plans within the Study Area.

(c) Strategy Development

As the Growth Strategy is developed and as the early review of Plan:MK and local plan reviews of adjoining authorities gets underway, then it would be beneficial to have in place a number of overarching technical documents to inform the shaping of local policy and development proposals:

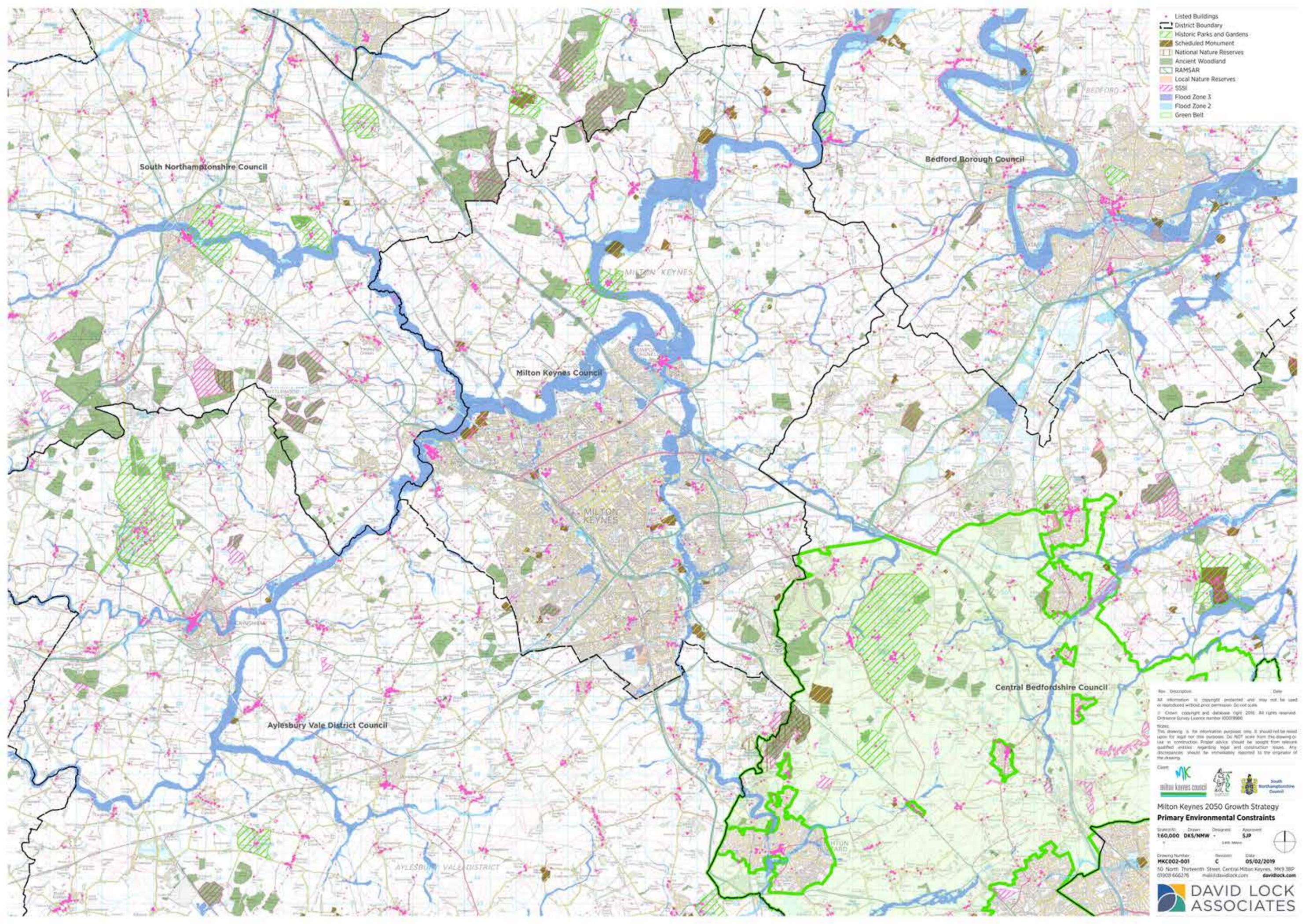
- (i) Alignment of the mobility proposition with a **refreshed Mobility Strategy and Transport Infrastructure Delivery Plan** to 2036, to ensure that the emerging list of Core and Potential Transport Strategy Options for infrastructure design and investment can be reviewed and tested against the wider long term integrated mobility and growth outcomes set out in this Study and taken forward into the emerging Growth Strategy;
- (ii) An **Investment Framework** for CMK, building on its economic success to drive forward associated elements of ‘good growth’ and placemaking to ensure equal success in terms of its mobility, residential, retail, cultural and leisure offer;
- (iii) Development of a **Regeneration Framework** for the V7 corridor, which brings together the Study recommendations in respect of intensification and regeneration, bringing investment, growth and mobility together to inform ongoing conversations around estate renewal in MK;
- (iv) A review and refresh of the **MK Planning Manual** to provide a robust and enduring design framework governing growth and development throughout and beyond local plan periods, supported by a suite of technical documents providing design frameworks for transport and mobility, green and blue infrastructure;
- (v) Establishment of a local **Design Review Panel** – well-versed in the MK legacy but open to innovation and change – to help set aspirations, raise standards and ensure long term design stewardship across the new city (and which could be extended across the Study Area with the agreement of adjoining authorities).

Part 4 - References

- ¹²⁵ The MK Planning Manual pp 271
- ¹²⁶ MK Growth Study Delivery Research Paper prepared by John Walker Associates, 2019
- ¹²⁸ See Delivery Research paper Section 4.
- ¹³⁰ MK Local Investment Plan 2015 Annex D
- ¹³⁵ See Annex Two of Delivery Research Paper
- ¹³⁶ The New Towns Act 1981 (Local Authority Oversight) Regulations 2018 Schedule One, Para 11.1
- ¹³⁷ New Towns Act 1981 - Objects and Powers of Development Corporations; Section 4,2 (d)
- ¹³⁸ Final Report of the Milton Keynes Futures 2050 Commission

ANNEX 1:

ENVIRONMENTAL CONSTRAINTS MAPS AND LANDSCAPE CHARACTER ANALYSIS



- Listed Buildings
- District Boundary
- Historic Parks and Gardens
- Scheduled Monument
- National Nature Reserves
- Ancient Woodland
- RAMSAR
- Local Nature Reserves
- SSSI
- Flood Zone 3
- Flood Zone 2
- Green Belt

South Northamptonshire Council

Bedford Borough Council

Milton Keynes Council

Central Bedfordshire Council

Aylesbury Vale District Council

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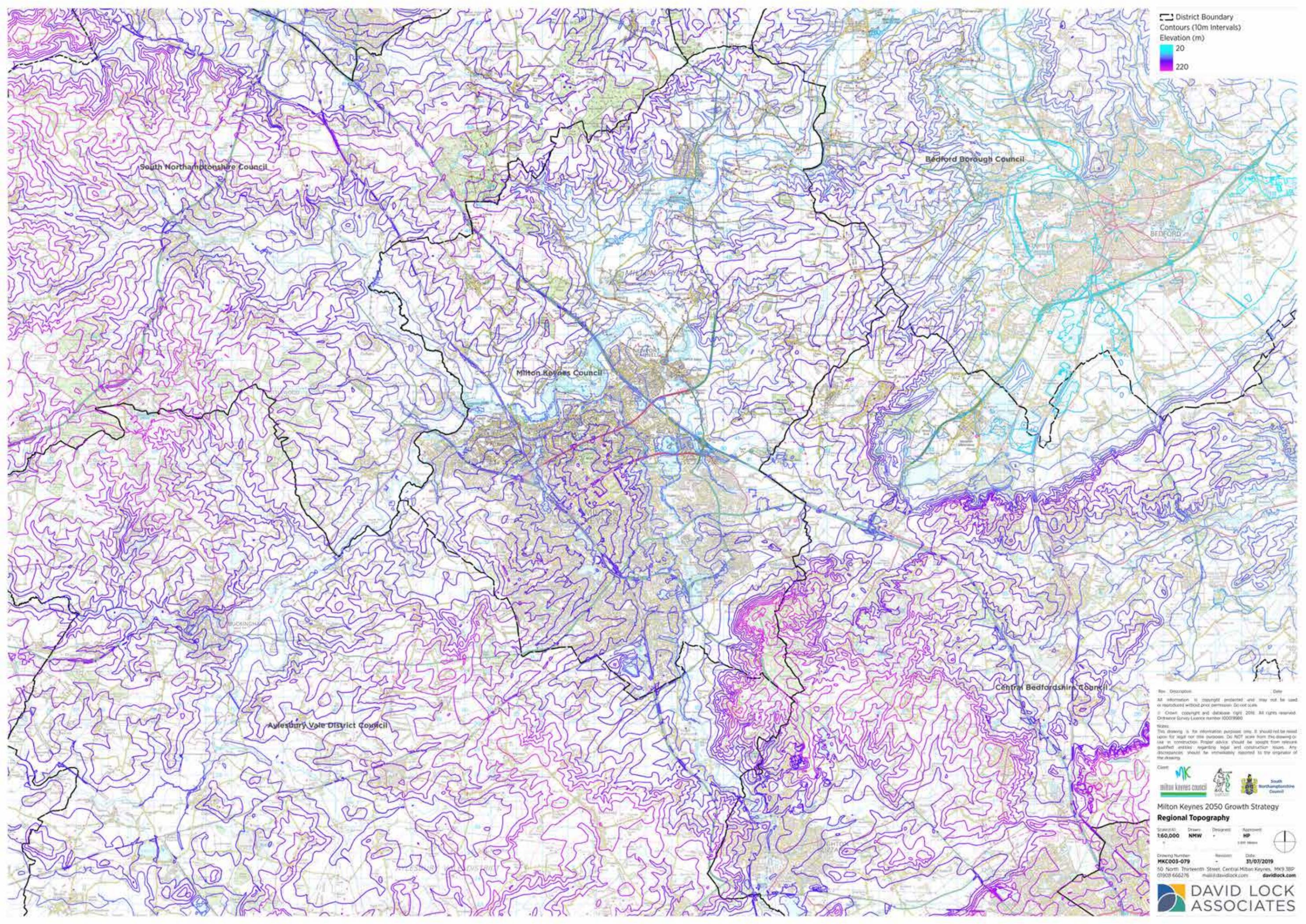


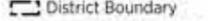
Milton Keynes 2050 Growth Strategy
Primary Environmental Constraints

Scale: 1:60,000 Drawn: DKS/NMW Designed: SJP Approved: SJP
 1:60,000 Scale

Drawing Number: MK002-001
 Revision: C Date: 05/02/2019
 50 North Thirteenth Street, Central Milton Keynes, MK9 3SP
 01908 666276 mail@davidlock.com davidlock.com





 District Boundary
 Contours (10m Intervals)
 Elevation (m)
 20
 220

South Northamptonshire Council

Bedford Borough Council

Milton Keynes Council

Central Bedfordshire Council

Aylesbury Vale District Council

Rev. Description Date
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Milton Keynes 2050 Growth Strategy

Regional Topography

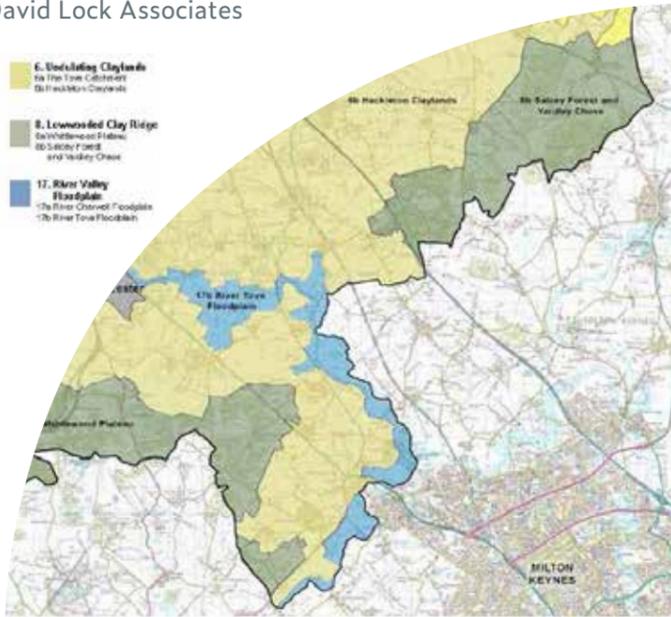
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1. Landscape character

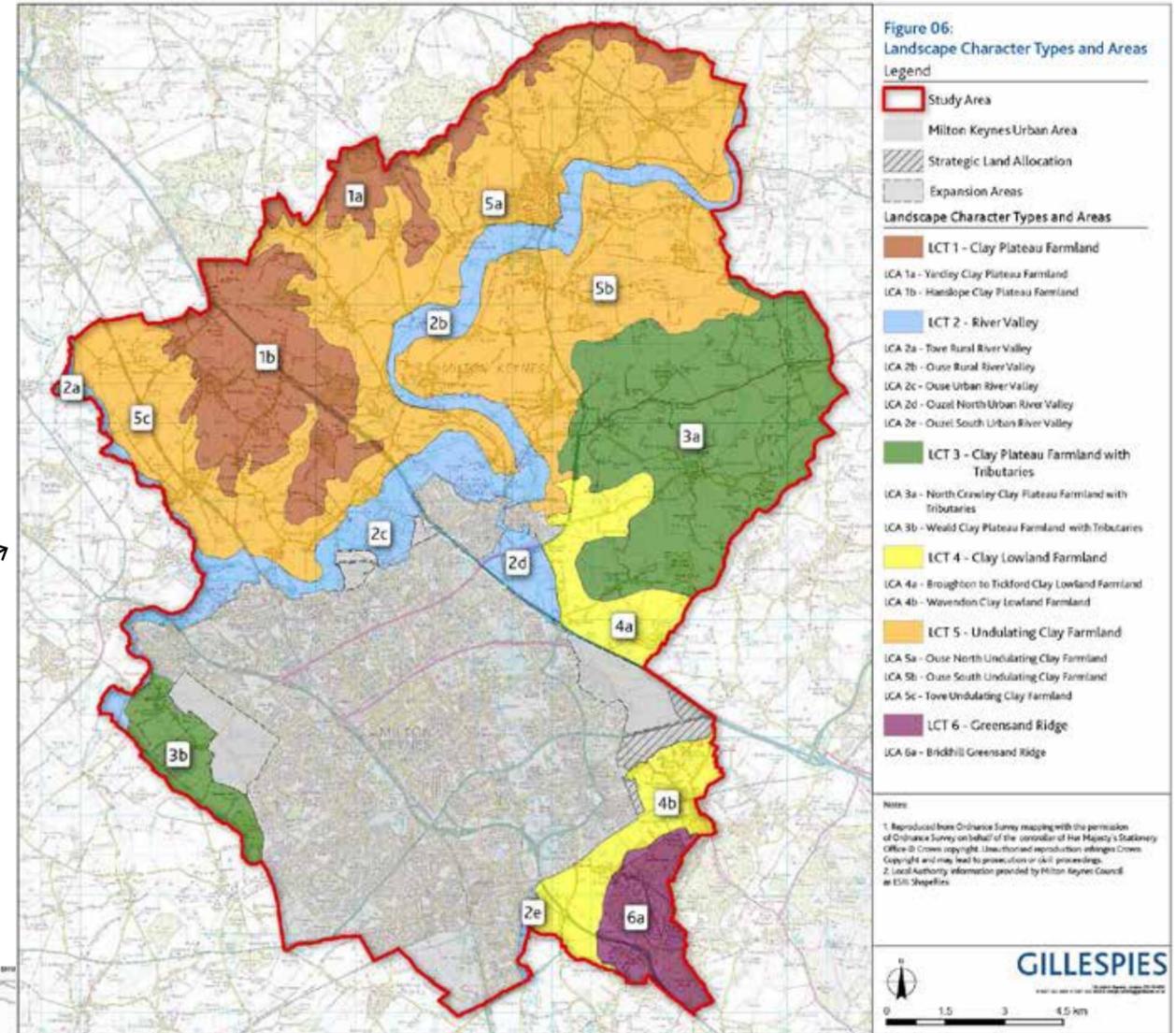
- a. Building a solid understanding and appreciation for the existing landscape character and the elements and features that make it distinct is critical.
- b. The expansion study area extends across four administrative boundaries:
 - i. AVDC
 - LCT 04 - Undulating clay plateau
 - LCT 05 - Shallow valleys
 - Whaddon Chase - former hunting ground
 - ii. SNDC
 - 6 - Undulating Claylands
 - 8 - Low wooded Clay Ridge
 - 17 - River Valley Floodplain
 - iii. MKC
 - LCT 1 - Clay Plateau Farmland
 - LCT 2 - River Valley
 - LCT 3 - Clay Plateau Farmland with Tributaries
 - LCT 4 - Clay Lowland Farmland
 - LCT 5 - Undulating Clay Farmland
 - LCT 6 - Greensand Ridge
 - iv. CBC
 - 1 - Clay Farmland
 - 5 - Clay Vales
 - 6 - Wooded Greensand Ridge
- c. Design in order to respond to and enhance / reinforce existing character and be 'of its place'
 - i. Built form
 - ii. Building vernacular
 - iii. Design and layout of open spaces
 - iv. Street patterns and road network
- d. Working with topography as a key contributor to landscape character
- e. Protect existing settlements and the rural landscape which surrounds them



MILTON KEYNES

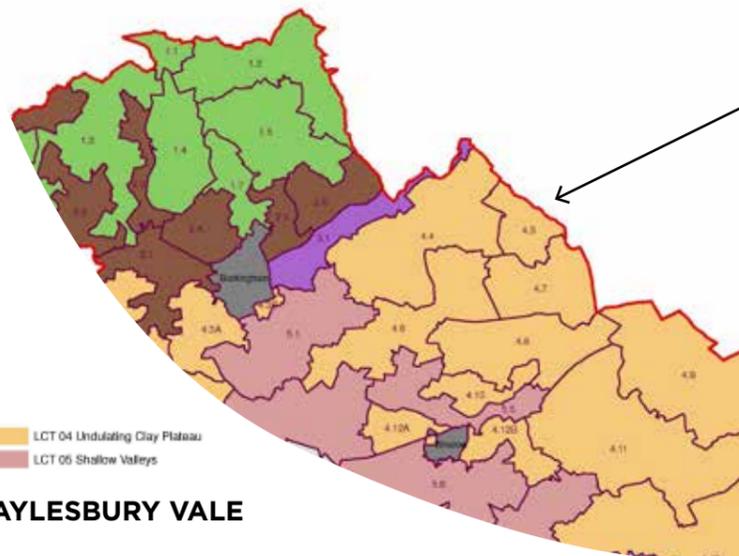
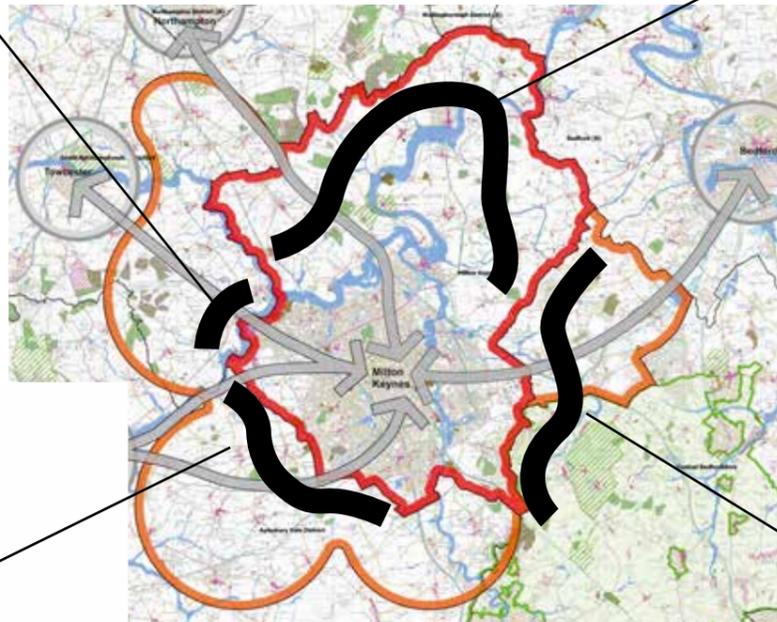
- LCT 1 - Clay Plateau Farmland
- LCT 2 - River Valley
- LCT 3 - Clay Plateau Farmland with Tributaries
- LCT 4 - Clay Lowland Farmland
- LCT 5 - Undulating Clay Farmland
- LCT 6 - Greensand Ridge

Landscape Character



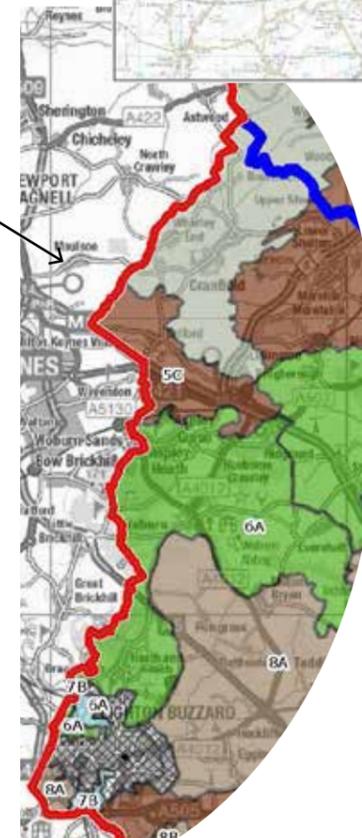
SOUTH NORTHANTS

- 6 - Undulating Claylands
- 8 - Low wooded Clay Ridge
- 17 - River Valley Floodplain



AYLESBURY VALE

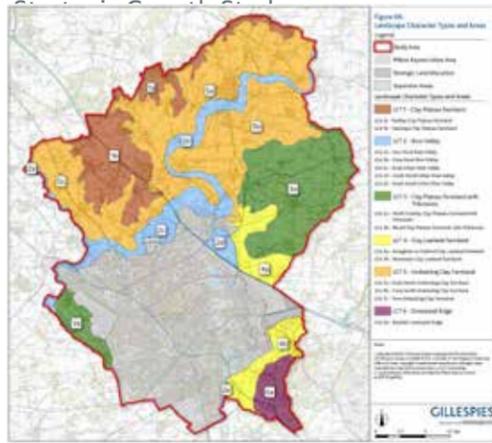
- LCT 04 - Undulating clay plateau
- LCT 05 - Shallow valleys



- 1. Clay Farmland
- 5. Clay Vales
- 6. Wooded Greensand Ridge

CENTRAL BEDFORDSHIRE

- 1 - Clay Farmland
- 5 - Clay Vales
- 6 - Wooded Greensand Ridge



MILTON KEYNES

LCT 1B - Hanslope Clay Plateau Farmland

- landscape considered to be in moderate condition
- number of large ancient semi-natural woods but limited connections
- gentle slopes falling from centre to east, west and south
- limited settlement except for large village of Hanslope - prominent church spire
- remote area crossed by minor roads, dissected by M1
- some open views to the west
- generally restrict development in the area retaining primary use for agriculture and recreation
- protect the historic setting of the villages
- development should protect local landmarks (such as views of Hanslope church spire)
- development to consider wooded skyline of Northamptonshire
- visual mitigation of M1 to be considered through buffer woodland planting

LCT 2 - River Valleys

- prevent development in the floodplain
- promote recreational activities
- improve cycle connections along their route
- improve PRoW connections between urban and rural areas
- important corridors for accessibility

2D - Ouzel North Urban River Valley

- majority of the area is in the floodplain
- limited connectivity despite proximity to urban areas - cut off by major roads (M1, A509 and A422)
- area dominated by major roads
- distinctive features of a deserted medieval village and moated site at Caldecote Farm
- sand and gravel extraction in current operation

LCT 3A - North Crawley Clay Plateau Farmland with Tributaries

- tranquil agricultural landscape, distinctly rural
- large field pattern
- undulating landform with shallow ridges and valleys formed by small water courses
- sparsely settled with small villages (largest of North Crawley) and isolated farms
- Chicheley Hall with 18th century gardens (Grade ii* listed)
- long distance and panoramic views across open areas to north
- good network of PRoW used by equestrians, walkers and cyclists - heavy clays restrict winter access
- long distance connections to the North Bucks Way and MK Boundary Walk
- towered village churches are a locally distinctive feature (including Moulsoe) and views of them are to be protected
- few roads preserving the tranquility of the area

LCT 3B - Weald Clay Plateau Farmland with Tributaries

- moderate condition of the landscape due to localised land cover change and ongoing development to western edge of MK
- small field pattern, mix of arable and pasture
- land rises gently from western edge of MK
- settlements limited to eastern side of this tributary valley
- Manor Farm in Calverton distinctive tithe barns and stone walls
- retain key views to local landmarks such as Calverton Church and Manor Farm
- valley slopes contain prominent examples of ridge and furrow
- woodland cover concentrated at Oakhill Wood, once part of the wider medieval royal hunting ground of Whaddon Chase
- promote creation of new woodland
- landscape buffers required to the edge of residential areas to soften impact on adjacent rural landscape
- seek new PRoW connections between new development and the surrounding rural areas
- development should protect and enhance the existing historic settlements and landmarks

LCT 4A - Broughton to Tickford Clay Lowland Farmland

- low lying landscape on edge of MK
- Chicheley Brook runs across the area (tributary to River Great Ouse)
- southern edge of MK visually prominent and influences the character
- large arable fields and isolated woodland copses
- M1 forms the southern boundary of this area
- screening of the M1 through earthwork profiling and soft landscape

LCT 4B - Wavendon Clay Lowland Farmland

- narrow area between the railway and the Brickhill Greensand Ridge
- tributaries of Ouzel run through the area
- poor condition of the landscape due to the presence of A roads
- southern edge of MK visually prominent and influences the character
- lack of visual cohesiveness due to the variety in built form
- Woburn Sands primary town
- shelter belts and conifer hedges around Bow Brickhill and Wavendon
- smaller scale landscape to the east of Wavendon
- Bedford to Bletchley railway separates the area from the urban edge of MK
- views to Greensand Ridge are to be retained

LCT 5A - Ouse North Undulating Clay Farmland

LCT 5B - Ouse South Undulating Clay Farmland

- open valley slopes and gently sloping, relatively tranquil character
- limited impact from development except where it is in close proximity to urban edge
- historic limestone villages punctuate the landscape on both sides of the valley, most of which have Conservation Areas - historic setting of villages to be protected
- landmark church towers / spires such as Olney, Ravenstone and Weston Underwood
- panoramic views over meandering valley floor
- late 20th century residential and commercial development in Olney have had detrimental impacts on the surrounding rural landscape
- heavily wooded skyline of Yardley Chase sits to the north
- historic houses and parklands are distinctive features of the LCA
- extensive earthworks relating to a 12th century abbey and fishponds at Lavendon

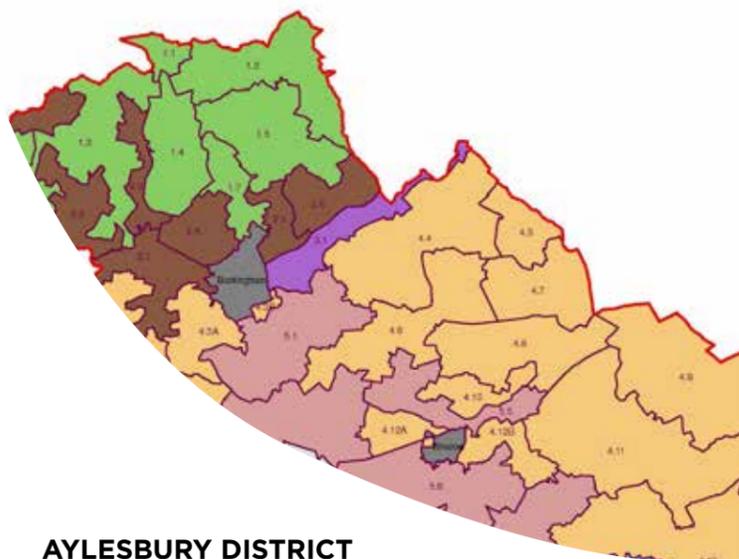
- pylons to the east and visual prominence of the wind farm lowers landscape condition
- generally low level of tree cover
- uncharacteristic edge development to existing settlements has affected the setting of them in the landscape
- protect open character and panoramic views from visually intrusive development

LCT 5C - Tove Undulating Clay Farmland

- Castlethorpe is the only settlement within the LCA
- limestone and brick buildings to its centre surrounding Castlethorpe Castle (SAM)
- mixed farmland landscape
- small areas of remnant woodland nearer the floodplain
- Tove Valley historically related to Towcester with links to the wool industry - reflected today in the extent of sheep pasture - to be promoted as a distinctive feature of the landscape
- West Coast main line passes through the area forming a strong linear built element
- limited tree cover and little connectivity between semi natural habitats
- promote additional planting in the south to reduce impact of MK and Wolverton

LCT 6A - Greensand Ridge

- high proportion of woodland cover
- small areas of original existing heath habitat on the plateau - promotion of localised reversion of woodland to traditional heath habitat is encouraged
- the landscape provides for extensive recreational uses and offers an important opportunity for tranquility close to the urban area
- settlements limited to two small villages on the slopes - Little Brickhill and Bow Brickhill
- panoramic views to MK to the north
- protect the visual importance of the ridge in the context of MK
- protect historic setting of villages
- protect the plateau from development and in particular the wooded skyline



AYLESBURY DISTRICT

LCT 04 - Undulating clay plateau

Key Characteristics

- straight roads
- shelter belts
- open landscape
- network of streams and ditches
- gently rolling landscape
- hedgerows

4.4 Thornborough-Beachampton Great Ouse Tributaries

- valley side sloping down from high ground
- undulating landform
- predominantly arable farming
- low level of woodland cover, concentrations
- Parliamentary enclosure field pattern
- electrical pylons have a negative impact on the landscape
- predominantly open landscape with more intimate enclosed character around the villages of the incised valleys
- some historic buildings of limestone thatch

4.5 Grove Farm Shallow Valley

- gently rolling landform
 - open landscape
 - sparsely populated
 - network of streams and ditches
 - some woodland shelter belts
 - associations with Whaddon Chase
- HIGH sensitivity to development (area 23, MK study)*

4.6 A421 Ridge

- ridge runs east to west
- predominantly Parliamentary enclosure field patterns
- intrinsically rural and sparsely settled
- mature hedgerows and scattered mature trees
- frequent woodland copses
- Pilch Fields SSSI - one of the last remnants of old meadowland in AV

4.7 Whaddon Chase

- extensive woodland cover, remnants of the historic Chase landscape
 - rich heritage of Whaddon Chase
 - Whaddon Hall parkland includes remnant earthworks of Snelshall Priory
 - springs and streams draining off higher ground
 - sloping ground
 - A421 runs along the ridge line
- MEDIUM sensitivity to development (area 20, MK study); HIGH sensitivity to development (area 21, MK study)*

4.8 Horwood Claylands

- undulating landform of mixed agricultural use
 - number of local streams
 - winding roads to the west, straight roads to the east
 - fragment of Whaddon Chase woodland contained
 - disused railway corridor
 - historic villages
 - landscape types include grassland, meadow, wetlands / marsh
 - pylons detract from landscape character
 - small scale industrial units are intrusive
- LOW sensitivity to development (area 18, MK study), MEDIUM sensitivity to development (area 19, MK study)*

4.9 Newton Longville-Stoke Hammond Claylands

- gently undulating landform
 - Parliamentary enclosures
 - hedgerows with hedgerow trees
 - pre-medieval archaeology
 - fossilised strip fields on western edge of village
 - disused railway
 - former brickworks site
 - area forms the suburban edge of Bletchley
 - major infrastructure includes:
 - Stoke Hammond bypass
 - West Coast mainline train line
- LOW sensitivity to development (area 18, MK study); MEDIUM sensitivity to development (area 19, MK study)*

4.10 Greenway Open Farmland

- predominantly arable farming
- lack of tree cover is very notable
- wide open views across and out of the area
- former airfield provides artificial landform, lacking field patterns (Little Horwood Airfield, built 1942, decommissioned 1946)
- pylons detract from landscape character
- several scattered farms, no villages

LCT 05 - Shallow valleys

- meandering water course
- vegetated corridor

5.2 Ouzel Valley

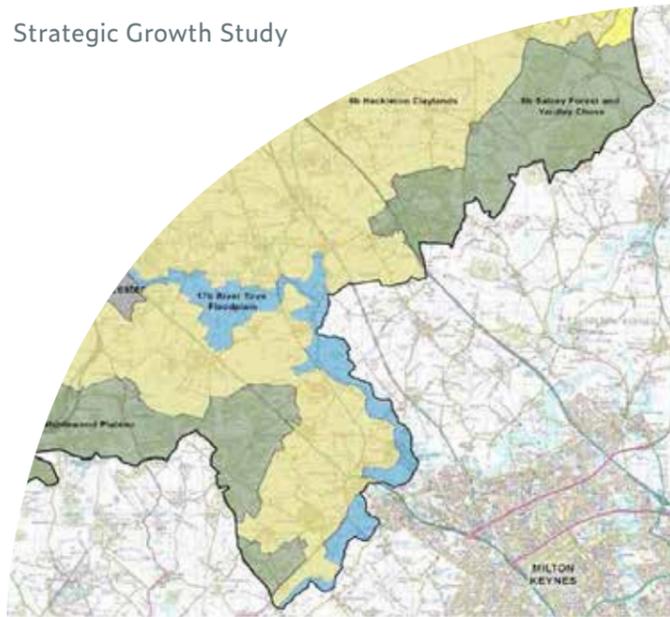
- River Ouzel follows meandering course along flat valley bottom
 - Grand Union Canal
 - watercourses provide important opportunities for recreation
 - hedgerows (clipped and mature) with occasional hedgerow trees
 - tree cover along watercourses
 - the junction of the A4146 and the Stoke Hammond by-pass have a significant visual impact views of MK
- MEDIUM sensitivity to development (area 12 MK study); MEDIUM sensitivity to development (area 13 MK study)*

5.3 Ouzel Valley Lower Slopes

- gently sloping valley side
 - intensification of arable uses
 - small parcels of woodland and shelter belts
 - hedgerows removed or in poor condition
- character of the landscape impacted negatively by
- golf course landscape in the south
 - views of MK
 - traffic of A4146
- MEDIUM sensitivity to development (area 12 MK study); MEDIUM sensitivity to development (area 13 MK study)*

5.5 Claydon Tributary

- meandering streams and vegetated sides
- larger field pattern to lower parts of the valleys
- higher parts of valleys generally have smaller field patterns
- varied habitat types including wet woodlands, reedbeds, grassland
- disused railway including Swanbourne old station and platform
- pylons have a negative impact on the landscape



SOUTH NORTHANTS

6 - Undulating Claylands

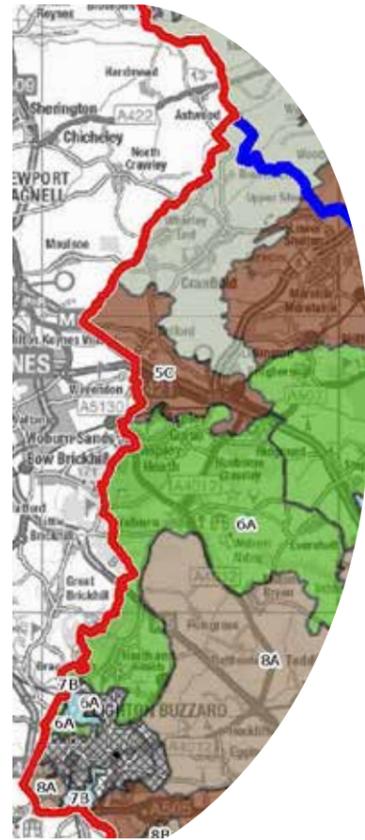
- broad, elevated undulating landscape that is more elevated to the west shelving eastwards and drained by numerous broad, gentle convex sloped valleys
- wide panoramic views
- arable land generally to elevated land, larger in size
- small deciduous copses and hedgerow trees create sense of a well-wooded character
- numerous villages located throughout the landscape
- long settled landscape dating back to Bronze age and evidence of Roman occupation
- many historic remnants including rural villages, moated sites and extensive areas of ridge and furrow
- disused railways and canals
- diverse recreational opportunities including listed manors, parkland estates, canal trips and numerous national trails

8 - Low wooded Clay Ridge

- broad elevated plateau
- open and expansive feel to the landscape, long views over surrounding lowland landscapes, views often blocked by woodland blocks
- strong agricultural character
- woodlands an integral part of the landscape, heavily wooded area since 13th century
- extensive areas of ancient woodland form backdrop to farming
- strong historic character derived from the landscape's ancient woodlands and Forest villages
- full hedgerows a strong characteristic of the landscape, species rich with herb rich verges
- low density of settlement and sparse road patterns

17 - River Valley Floodplain

- flat floodplain surrounded by gently rising valley sides
- wide views contained by woodland and rising valley side landform
- predominance of arable farming in the valleys
- small linear copses evident along river course, railways and canal
- extremely limited settlement within the floodplain
- significant urban influences from surrounding large scale settlements and associated infrastructure



CENTRAL BEDFORDSHIRE

1A - Clay Farmland

- strong skyline and big horizons
- medium - large scale landscape with open and exposed character
- long distance views
- predominantly arable farming on gently undulating landform, some pockets of horse paddocks around settlements
- number of semi-natural woodlands have been retained mostly on eastern boundary on slopes falling towards North Marston Vale
- views of Cranfield Technology Park and University and the associated urban infrastructure
- sparsely settled area
- Cranfield is a concentration of settlement in an elevated position, characterised by red and buff brick houses of a mix of ages and styles
- network of public footpaths cross the landscape and the recreational MK Boundary Walk and John Bunyan Trails run along with ridge of the plateau sloping away to Salford - Aspley Clay Vale
- sensitive view corridors to lower lying areas of Marston Vale and Salford - Aspley Clay Vale and to the wooded horizon of the Mid Greensand Ridge

5C - Salford - Aspley Clay Vale

- gently undulating, large scale landscape with an open and exposed character
- large scale intensive arable crop
- old field patterns remain
- hedgerows and hedgerow trees are vulnerable to further loss and decline and should be retained and enhanced
- tributary streams and drainage channels cut through the landscape
- M1 and A421 dominant visual features
- the vale is generally unsettled apart from the small villages of Salford and the hamlet of Hulcote, both sheltered in subtle tributary valley
- consistent settlement character
- buildings generally dark reddish brown with buff brick detailing & clay tiling
- has some relationship with Wooded Greensand Ridge vernacular

- earthwork evidence of former settlement in small fields around Hulcote and Salford, pockets of surviving ridge and furrow
- large individual farmsteads dispersed throughout the vale
- development focused around J13 of M1 exert large scale and industrial influence on south east of the area
- views south west of the region to MK enhance the area's perception of its proximity to the urban centre
- some remnant areas of woodland remain
- public footpath links exist to Woburn Sands and Aspley Guise and links to the MK Boundary Walk
- links to future MK - Bedford waterway as part of expanded recreational access - major green corridor
- safeguard open land at the foot of the ridge to provide appropriate setting for the ridge and settlements
- ensure appropriate rural interface between settlements and adjoining rural landscape
- avoid further fragmentation of the landscape
- prevent further urbanisation of rural roads - appropriate traffic management sympathetic to the rural character

5D - North Marston Clay Vale

- large scale open vale with expansive views to the Greensand Ridge and the Cranfield and Stagsden Clay Farmland
- mix of agriculture and fragmented by industry including brick works, open cast clay pits, landfill, distribution centres and industrial estates and transport corridors (rail lines, A421)
- disturbed landscape as a legacy of clay extraction - past and ongoing restoration
- sparse mature woodland
- more recent areas of community woodland planted as part of the Marston Vale Millennium Country Park
- electricity pylons are highly visible
- settlement generally concentrated on the flattest areas of the vale
- late 20th century development led to the coalescence of development at Marston Moretaine

- conserve the unique, historic character of Stewartby
- retain the separate identity of the surviving dispersed settlements and 'Ends' of historic origin
- more undulating land characterised by occasional individual farmsteads
- Grade II listed chimney stacks of Stewartby dominate the views
- numerous public rights of way cross the area including John Bunyan Trail, Greensand Ridge Walk and the Marston Vale Trail, connecting to nearby recreational routes
- areas of medieval settlement earthworks and moat remains, only a few of which are scheduled
- avoid development at the base of the ridges to conserve the distinct visual contrast between the steep slopes and the flat vale
- continue to create new areas of woodland
- continued use of woodland and hedgerows along transport corridors for landscape enhancement and to reduce visual impact of infrastructure

6A - Woburn Greensand Ridge

- prominent feature due to the height of ridge
- large scale rolling elevated landscape
- strong wooded context of large deciduous and mixed woodlands
- strong sense of enclosure from woodland cover
- active and restored mineral workings have impacted on the landscape
- number of parks and gardens exist including Woburn Abbey, Crawley Park, Stockgrove and Rushmere Country Park
- heavily trafficked ridge serviced by M1, A5, A507, A5130, A4146 and A4012 with additional secondary roads
- concentration of SSSI sites associated with ancient semi-natural woodland, heathland, open water and improved neutral and acid grassland
- small scale picturesque villages of Woburn and Aspley Guise characterised by consistent red brick, clay tiles and white window materials palette
- recent expansion of Heath and

- Reach is noted as sympathetic to the traditional style and materials
- landmark churches are distinct focal points within the landscape
- Greensand Ridge Walk and MK Boundary Walk cross a significant length of the areas connecting Woburn Greensand Ridge with the adjoining Mid Greensand Ridge
- Leighton Buzzard provides urban edge, with views channeled by Rushmere woodland cover
- conservation of individual identity of existing settlements, prevent gradual coalescence
- conserve view corridors to landmark churches
- conserve the contrast between the ridge and adjacent low lying clay vale landscape
- conserve the strong wooded context to settlements and use this as a template for integration of new development
- creation of new broadleaved woodland and heathland mosaics

ANNEX 2:

SPATIAL CONNECTIONS

Spatial considerations in and around the six potential 'Points of Connection'

Sub-Area (i) South East Milton Keynes (A5 to M1 J13)



This area has long been identified as a strategic growth location but straddles the Milton Keynes and Central Bedfordshire Council (CBC) administrative areas, which means there is a different attitude to the acceptability of growth per se, no consensus on the acceptability or extent of growth, nor on what form this growth might take.

Indications are that there is not yet a consensus within the MK part of this sub-area as to how the 'completion of the grid' may be achieved through the significant number of separate development allocations, promotions or speculative applications currently in train (despite a local plan policy requirement to provide grid roads in new development in this area). Across the boundary, neither CBC nor private sector landowners/promoters in this sub-area appear to support growth forms which are

'of Milton Keynes' (and would thus enable the MK green and grey grid structure to be completed to the A421) or of typologies and densities which would actively support rail and transit-orientated forms of growth related to Woburn Sands station¹).

As a consequence of this lack of consensus, beyond the planned SLA south of the A421, the private sector has been free to work up schemes in isolation and to come forward with speculative piecemeal schemes, some of which are consented (through appeal), some allocated and some lodged as applications but underdetermined or in abeyance. There is no strategic plan in place nor is there a requirement to do so through current plan making processes to address joined up growth and provision of infrastructure or services.

Ridgmont Station to the immediate east of the M1 is an identified stopping station on East West Rail. A Park & Ride facility is being planned by CBC to enable M1 and local traffic to access East West rail services alongside current/planned B8 distribution uses, but there is no indication that a strategy for connecting Ridgmont to other growth areas or to existing destinations by dedicated or prioritised public transport routes are being examined alongside the P&R proposal.

There is a bottleneck between MK and the strategic highway network – at junctions along the A421 with local roads, and at the A421/J13 junction. Preparatory work has recently commenced on the dualling of the last remaining section of the single carriageway A421 through Central Bedfordshire (between Magna Park and J13) but no consideration is built into the road improvement scheme in respect of how this dualling might be designed to serve, unlock or provide connections with the grid network of roads and Redways – and support or provide better or rapid transit solutions for this strategic growth area.

M1 J13 is also where the current A421 will form part of the planned Expressway. The impact of the Expressway – in terms of route alignment and changes in traffic movements through this area – is not yet known. If the Expressway is built at grade through this area it will have significant adverse environmental impacts, will limit the capacity of the area to accommodate already-planned housing growth well related to EWR, and is likely to directly impact communities through CPO of existing properties. As such, for the Expressway to have any chance of being acceptable and supported locally as well as serving a strategic purpose, tunnelling at certain locations around MK (at points between the M1 and A5 south of the city) are likely to be necessary.

Extensions and connections of the existing grid corridors in south Milton Keynes with the A421, the A5, the Expressway and to access Woburn Sands Station must also be considered and fixed. These conversations have started in respect of Plan:MK development sites and their individual Development Frameworks – particularly in respect of the H10 and V10 extensions where grid corridor reserves within the urban area are fixed – but no consensus has been reached between MKC and CBC, or between MKC and the private sector, as to the preferred routing or funding/delivery vehicle for this infrastructure.

Highways England and Network Rail are not offering any insight into how the Expressway might interact with the surrounding highway network (including the M1, A5 and A4146) or with Ridgmont/Woburn Sands rail stations in terms of grade separated crossing points, junctions or interchanges.

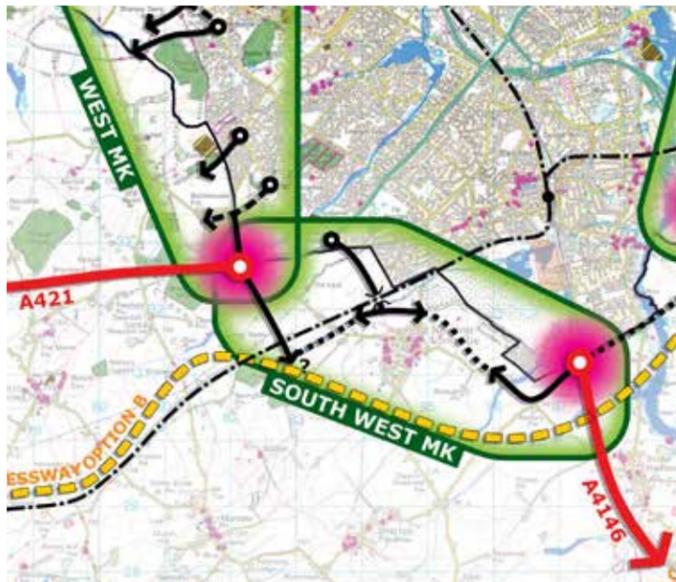
Similarly, there are integrated growth and infrastructure opportunities around the A5 'Southern Gateway' which would enable the construction of a much-needed grade separated A5 junction at 'Kelly's Kitchen' roundabout to replace the existing 5-way junction which is already a bottleneck in terms of highway congestion. However, the design of a number of development proposals – planned and speculative – on three sides of this roundabout junction are rapidly shutting down opportunities to construct a grade separated junction which would remove highway congestion, enable an interchange between the A5 and the Expressway, and create opportunities for existing and new communities to integrate road and rapid transit journeys into Milton Keynes.

The plan on page 117 shows one way in which this could be resolved to unlock strategic growth locations and move forward discussions on growth typologies to deliver transit-oriented development (TOD) to support rail use, rapid transit solutions and achieve first-last mile active travel objectives.

Similarly, conversations about the future role and design of Woburn Sands rail station and the form of surrounding planned development have begun but no consensus has been reached and Network Rail are silent on any future station objectives beyond the current Transport and Works Act proposals to extend the platforms.

¹For example, emerging design work on growth typologies for the Aspley Triangle Area (land in CBC between the edge of Woburn Sands and the A421 to J13) indicate support for development forms which in density and design reflect the styles and characteristics of 'rural Central Beds villages' (referenced in the Aspley Triangle promotional material and responses to the CBC Screening material for the first phase application).

Sub-Area (ii) South West MK (A421 to A4146)



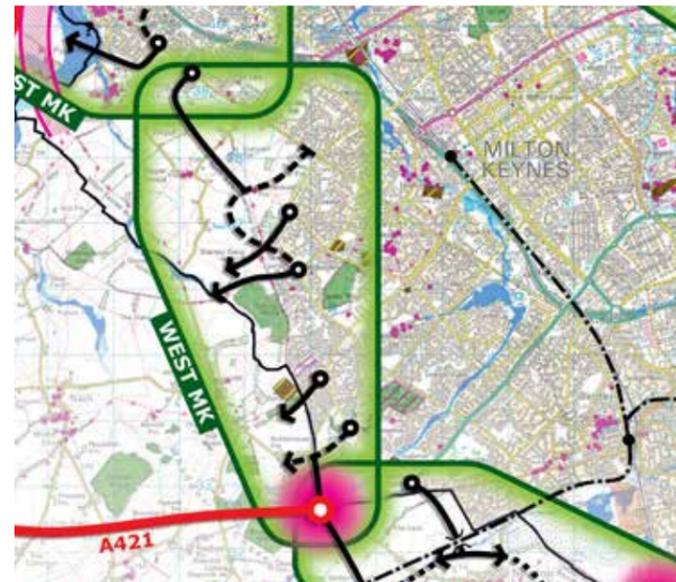
As with the South East MK sub-area, parts of this sub-area have previously been identified as a strategic growth location. Although strategic growth has been progressed (Salden Chase) and some growth is now subject to a resolution to grant planning consent, its cross boundary location between MKC and Aylesbury Vale administrative areas means that working through the details of what form and design this growth might take – and how to address the impacts of this growth for each authority in terms of the provision of financial and physical mitigation measures – has taken almost a decade longer than necessary, and is still not fixed through a signed s106 agreement. At 1,850 homes, the currently-pursued application proposal also falls some way short of realising its full locational potential.

Therefore, this location still offers significant additional potential for unlocking strategic benefits of growth, including:

- ▶ Potential for a new station on East West Rail (as originally proposed when the scheme was first put forward);
- ▶ Constructing a 'Bletchley Southern Bypass', or 'link road', to connect the A421 with the A4146 and A5(D) south of the urban area (this remains a long term policy objective in local development plans but with no fixed or safeguarded route);
- ▶ Enabling potential connections between the A4146 and an Expressway alignment running south of the A421/EWR, providing direct access to and from existing and planned growth areas in south and south west MK and between the Expressway and a new EWR station;
- ▶ Building in a permanent and strategic landscape buffer to shape strategic growth whilst protecting and enhancing existing settlement character, perhaps as part of a new regional park connecting Whaddon Chase with the Brickhills.

Elements of a co-ordinated spatial growth framework are already evident, such as a grid corridor reserved as part of the current outline scheme design for Salden Chase. However, there are other places where immediate 'transitional activity' would both enable and futureproof future growth, the most evident being the construction of an underbridge of EWR along the line of a current underpass before the line opens to passengers in 2022. Based around a 'box culvert' underbridge to replace the existing underbridge (bridleway), both the cost and ease of construction would be greatly reduced if undertaken prior to the EWR lines opening and would form part of the Bletchley Southern Bypass as a minimum, with opportunities to connect to a new rail station and Expressway offering added value.

Sub-Area (iii) West Milton Keynes



There has been considerable development activity in recent years on the western flank of Milton Keynes. The last parts of the designated development area built in safeguarded grid corridors to the design of new grid squares, and these remain opportunities for connections to be made to the west.

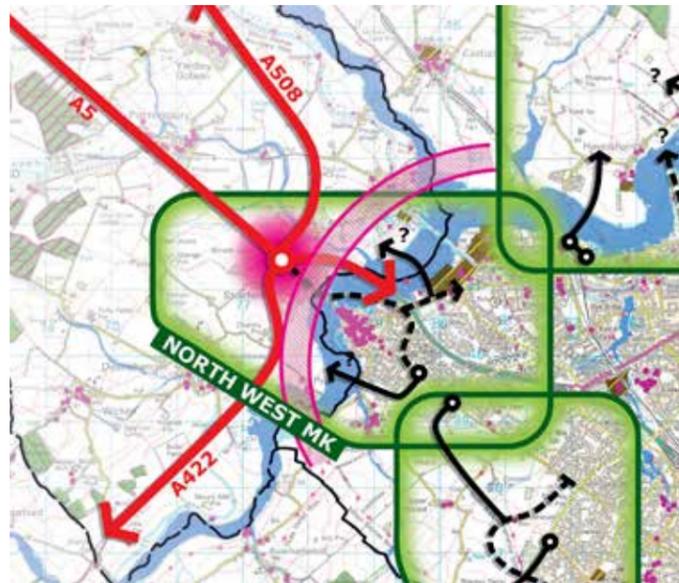
However, the design of the more recent Western Expansion Area has not followed the same approach and its primary routes are 'internalised' and generally 'off-grid', reducing the potential for good quality connections further west to be made.

Similarly, recent growth proposals adjoining the urban area but lying with Aylesbury Vale (the most notable of which is Shenley Park, a 2,000 home proposal to the immediate north of the A421 which has been in and out of various drafts of the emerging local plan) are not adopting layouts or design solutions which would easily enable extensions of the grid to facilitate a choice of routes and rapid transit connections serving new development between the A421 and Central Milton Keynes via the existing grid.

There are two principal opportunities to extend and connect the grid as a movement corridor to support rapid transit: one around the western extents of H4 and H5 and the northern extent of V2; and the second around the western extents of H6 and H7 towards the A421.

The scale and shape of any spatial growth propositions – including strategic green infrastructure – explored as part of the Area of Search West/South West of Milton Keynes will help refine thinking on these opportunities. However, it is critical that any current growth proposals in this area do not curtail these opportunities, knowingly or otherwise.

Sub-Area (iv) North West Milton Keynes



Like the southern A5 junction, the A5 'Northern Gateway' into the urban area of Milton Keynes suffers from significant congestion and is a constraint on planned growth. However, whereas the southern A5 junction has the capacity to benefit from a number of connections with the strategic and local route network, the northern junction is subject to a series of physical constraints which reduce opportunities for new connections to be made.

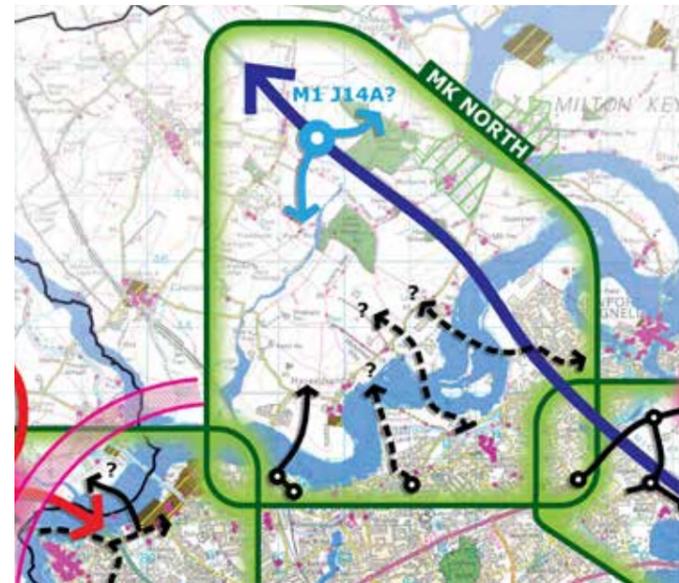
The confluence of three key radial routes around Milton Keynes – the A5, A508 and A422 – results in a severe bottleneck restricting all vehicular movements into and out of the urban area. The highway improvement works currently being undertaken are the latest in a long line of piecemeal improvements and are unlikely to offer anything more than a temporary reprieve.

As with the A5 southern gateway, to function effectively over the long term – and to accommodate rapid transit movements – a grade-separated junction is required in this location (in the same way that the A5 was re-built by MKDC as a grade-separated junction at each of its 4 junctions through MK at H3, H5, H9 and H10, to allow the free flow of strategic north-south traffic through the new city). However, like the southern gateway, land around the A5 northern gateway junction is already subject to a number of emerging allocations or planned development projects which will close down opportunities for a grade separated junction to be constructed.

In contrast to the southern A5 gateway area the A5(D) and the 'old A5' Watling Street are the only routes into MK from the north-west. As a consequence, there are few locations within this sub-area where connections could be made to enable strategic growth opportunities. These include potential connections from Stratford Road (between Wolverton House and areas of archaeological constraint) north across the floodplain towards Cosgrove and the A508; an extension of the H1 westwards to enable an additional connection from the north-west (potentially from the A422) into Milton Keynes and completion of the H1 missing link across the A5(D) to the V5 between Fullers Slade and Greenleys/Wolverton Mill to complete local connectivity and access.

Consideration should be given to safeguarding these connections in the short-medium term to avoid closing down longer term growth opportunities.

Sub-Area (v) Milton Keynes North

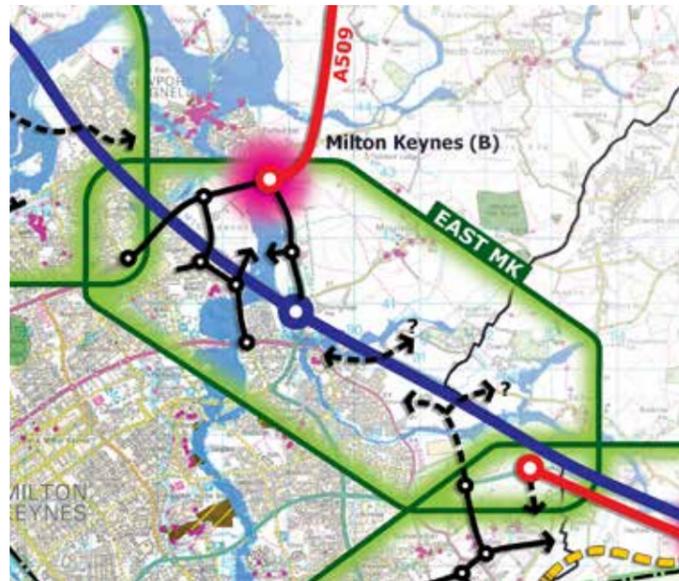


The area to the north of Milton Keynes has the potential to accommodate the greatest scale of strategic growth within the Study Area over the long term, but will require significant new investment in both strategic and local infrastructure improvements to unlock growth which complements the existing new city and delivers benefits locally.

The functional floodplain and well-established green and blue infrastructure offer an opportunity to shape growth and could be consolidated within growth proposals and 'branded' to form a strategic (or 'regional') park which also serves as part of the strategic SUDS system for the 'greater MK' growth area. However, it is also a physical barrier which restricts the ability to make new connections back into the MK grid.

Any growth propositions in this area cannot be unlocked without well-designed and sustainable points of connection. Realising and unlocking 'good growth' at scale will encompass the following considerations:

- ▶ M1 junctions 13 and 14 are already bottlenecks for strategic and local movements and are at/ close to capacity with little scope for fundamental improvement. It is considered that any significant growth in this location will thus require a new junction to connect onto the M1 (a new J14A?) as part of a wider strategic highway connectivity strategy which would also benefit existing communities within the northern parts of Milton Keynes;
- ▶ Coupled with the existing floodplain and green/blue infrastructure, the design of recent built development along the northern margins of Milton Keynes (on land north of the Newport Road/Wolverton Road across the 'top edge' of the city) has closed off many opportunities to establish new direct vehicular connections with the MK grid;
- ▶ There is one remaining opportunity to establish a new major vehicular access into the MK grid in the west of the area (onto the V6 Grafton Street at its junction with Old Wolverton Road/Haversham Road);
- ▶ Other opportunities exist for new connections across the floodplain to Wolverton Road – but these could only connect with that local road, not directly with the wider Milton Keynes grid. These include:
 - A connection to Wolverton Road north of Great Linford, on land between existing lakes;
 - A connection to Newport Road east of New Bradwell, although the Oakridge Park development has 'closed off' obvious connections. However, any link here would have little capacity for vehicular movements;
 - Potential for a rapid transit link along Little Linford Lane. However, this has very little additional capacity for any vehicular movements.

Sub Area (vi) East Milton Keynes

The need to cross the M1 to unlock growth east of MK is well documented and proposals are underway to secure funding² for a new bridge crossing north of J14.

The A509 into MK from the north east is also a corridor of congestion, with a 'pinch point' at the A509/A422 junction south of Newport Pagnell which affects traffic accessing the MK grid via Junction 14 or the A422 to the H3 Monks Way.

On this basis, any growth propositions in this area cannot be considered in isolation and will be shaped by the following:

- ▶ A study to assess and review the M1 junctions 13, 14 and a potential junction 14A in terms of their current and potential function in the context of strategic growth to 2050 (and the growth of MK to a half million people and similar scale economic growth);
- ▶ New crossing of the M1 north of J14 (already demonstrated as necessary) designed to ensure that movements across the M1 for rapid transit as well as other traffic, cycles and pedestrians) are built in from the outset and RT is prioritised as part of the shape of current and future growth propositions;
- ▶ Further south, there is potential to utilise and/or improve existing bridge connections over the M1: the existing crossings for rapid transit, cycle and pedestrian links, with improvements required for any substantial vehicular movements (albeit that this would generate higher traffic movements through the Brooklands development area);
- ▶ Potential to upgrade/realign the A509 London Road to improve accesses to new development already planned but also to serve a wider movement network as part of growth to 2050;
- ▶ Potential to intercept inbound movements with a Park & Ride facility at (or before) the A509/A422 intersection connected to the rapid transit system.

²Through a Housing Infrastructure Fund (HIF) Bid submitted to central government

ANNEX 3:

EXPLORATION OF CONCEPTUAL GROWTH TYPOLOGIES

Conceptual Typology 1: "Growing the Grid"

The first conceptual typology considered for the Study Area is a continuation of the original concept of the "MK Grid". In its purest sense, this would mean creating extended and new grid corridors from the edge of MK into the surrounding areas, following the original design rationale to create development areas or 'grid squares' of around 1 sq,km or thereabouts.

Each new grid square would have its own local infrastructure (schools, local centres, parks) and would look to existing or new district/town centres and CMK for its higher order activities, facilities and services.

Existing settlements would be assimilated within the grid in the same way that the 13 towns and villages became part of the original designated area.

Benefits of this typology would include:

- ▶ The design principles for grid infrastructure/grid squares are already embedded in the city;
- ▶ Both the design and the operation of the MK 'green' and 'grey' grid is understood and valued locally;
- ▶ A 'grid' system has significant built-in flexibility and through its retained space is resilient and adaptable to change.

However, adopting an approach which simply extends a 'MK grid' structure over a much wider geographical area has a number of spatial challenges which act counter to the good growth objectives sought:

- ▶ The 'scale' of grid expansion is a critical factor: at what point does distance become prohibitive to its effective functioning and capacity when far greater numbers of people and vehicles are traveling further but needing to access the existing MK grid within the urban area which has finite capacity?
- ▶ Expansion of the grid in certain directions would involve multiple crossings of strategic infrastructure or 'protected' environments – is this cost-effective or even possible to achieve?
- ▶ An effective grid – by its nature – includes multiple routes into and out of an area which are sized to include room for expansion. Adopting a grid-based infrastructure system for whole-city expansion would have significant infrastructure cost implications;
- ▶ A larger 'free-flowing grid' pattern of growth and development risks reinforcing current patterns of mobility, which are car-focused, generate congestion and air pollution, and do not support a move to more active or public/mass transit-based movement;
- ▶ Questions arise over density, 'edges' and futureproofing future expansion: how or where should the grid 'stop'? How could long term multiple grid connections be protected? Should we continue to build 'grid squares' at current lower densities?
- ▶ Expanding the grid rather than exploring opportunities for development/redevelopment at points within the urban area will limit the extent to which existing communities and places could benefit from growth and investment;

- ▶ Rolling out of a grid-based growth typology to the west and east would mean crossing administrative boundaries, with other unitary/planning authorities then responsible for designing, approving, delivering and maintaining a very specific MK-focused grid design.

Conceptual Typology 2: "Densification"

One of the questions raised through the MK Futures 2050 Commission work and posed by other evidence studies is the extent to which redevelopment (selective or wholesale) of grid squares, reserve sites and/or building on underused greenspace could support higher density development within the urban area which in turn would enhance support for mass transit services and enable a more accessible and walkable city, and whether this could or should be prioritised over other growth solutions.

In other settlements within the Study Area, there are also opportunities to move away from prevailing densities towards more compact built forms which would better support local facilities and services, including public transport. More compact built forms would also facilitate a wider mix of housing types and tenures (including for old and young people) and make more efficient use of resources and land.

Benefits of a typology which focuses on densification as a way of accommodating growth include:

- ▶ It would underpin transformational changes in mobility as well as improve accessibility to services and facilities for existing communities as well as new ones;
- ▶ It would support and kick-start existing and planned regeneration programmes and improve the vitality of existing grid squares/neighbourhoods and towns into the future;
- ▶ It would assist infill, regeneration and redevelopment of land within urban areas, would help create more walkable places, and would respond positively to the growing trend of urbanisation;
- ▶ It would reduce the need for greenfield expansion outside existing urban areas.

However, a model of 'densification' – which in its purest form would seek to build at high densities on greenfield land as well as existing under-used sites and redevelopment areas – has a number of spatial implications which not only act counter to the good growth objectives sought but would be very challenging to deliver without a change in the model of land ownership and control:

- ▶ Any selection of redevelopment opportunities/densification areas would need to be aligned absolutely with transformational transport improvements and regeneration plans to be effective;
- ▶ Densification in itself does not effect a change in mobility, so would need to be linked with policy changes to reduce space, extent and standards of car parking (and increase the cost of parking) to support a move to successful mass transit;
- ▶ Wholesale densification of land will not happen without measures to simplify or incentivise redevelopment within the urban area (which is often complicated by land ownership or redevelopment issues) in preference to, greenfield expansion;
- ▶ Simply increasing the density of development without addressing the mix of land uses, levels of activity and the facilities needed to serve the resultant number of people will not create inclusive or well-planned communities
- ▶ The degree to which development could occur at much higher densities across the Study Area would greatly depend on the appetite locally to accept higher density development or redevelopment not only in the urban area but also in cross-border locations and other settlements outside the main urban area.

Conceptual Typology 3: "Rail-Based Transit Growth"

As part of the Growth Study the feasibility of aligning new growth much more closely with the existing and planned rail infrastructure in and around the Study Area has been considered. Benefits of this typology would include:

- ▶ A step change in the provision of more sustainable, joined up ways of moving around by non-car modes especially for inter-city/area travel;
- ▶ Harnessing opportunities arising from current and planned infrastructure investment (including WCML improvements and its increased capacity once HS2 is in place (including the potential for a new station north of MK); East West Rail with its planned and enhanced stations at Winslow, Woburn Sands and Ridgmont (as well as opportunities for other stops along the line); and maximising station-related development opportunities at Central Milton Keynes, Wolverton and Bletchley)
- ▶ Providing higher density housing and employment hubs around stations to maximise rail catchments;
- ▶ Capturing health benefits of active non-car travel (especially for short journeys and for 'first/last mile' trips on foot or by bike from stations to and from destinations);

The challenges arising from this typology of growth relate more to the pattern of land control and delivery structures which exist in the UK as to the appropriateness of the typology when applied to the Study Area. Spatial challenges arising from this typology include:

- ▶ The need to define, secure and safeguard land for new and enhanced station facilities, transit corridors, routes, destinations and interchanges;
- ▶ The desirability of higher density new development at planned stations on the edge of or outside the urban area (or redeveloping at higher densities at stations already within the existing urban area);
- ▶ Acquiring land, funding and building new 'hard' transport infrastructure along key routes and at key destinations (new stations/Park&Ride/bridge crossings etc), including adopting the European/London model of building development as part of - and above and below - stations ;
- ▶ The appetite of Partner authorities to adopt a cross-border approach to locating higher density new developments at planned stations (EWR) or with good access to rail services within the Study Area, to ensure co-ordination and joint delivery with adjoining planning authorities and statutory agencies.

Conceptual Typology 4: “New TOD Communities”

The concept of ‘transit-oriented development’ – or “TOD” – which underpins the New Transit Communities typology is widely recognised in Europe and the US but is less familiar as a development concept in the UK.

Transit Oriented Development is typically defined as more compact development within easy walking distance of public transport stations or stops that contains a mix of activity-generating uses (housing, jobs, shops, restaurants/community and social facilities).

TOD is not just development near public transport. It is also development that

- ▶ Increases ‘location efficiency’ so people can walk, bike and take public transport;
- ▶ Boosts public transport patronage and minimises the impact of traffic;
- ▶ Provides a rich mix of housing, jobs, shopping and recreational choices;
- ▶ Provides value for the public and private sectors, and for both new and existing residents; and
- ▶ Creates a sense of community and of place.

There are many different ways in which TOD principles can be applied to different locations and circumstances, but the common principles set out above should underpin the design of any TOD growth proposals. More detailed guidance and explanation of the urban design principles of TOD can be found in Annex 4.

In the context of the Growth Study, new transit-oriented development could be designed and built outside the urban area at a ‘new settlement’ scale, connected to the existing urban area by key transit routes. The potential for establishing one or more standalone or connected new TOD settlements in locations which connect with rail services or support key city-scale mass transit routes has been analysed. Benefits of this typology include:

- ▶ Prioritising a transformational change in mobility from the car to public transport in new strategic developments;
- ▶ Realising an unparalleled opportunity to link national investment in sub-regional transport infrastructure with local transport investment to deliver significant new growth;
- ▶ Creating a different typology for new growth, but one which could complement the existing character of the Study Area and the ‘grid’ of Milton Keynes;

Many of the elements of the TOD typology sit well with the inclusive growth objectives identified in this Study. However, adopting an approach which seeks to focus all growth in new TOD communities outside the urban area has a number of spatial challenges and risks which would act counter to the growth objectives sought:

- ▶ The implications of creating new transit communities at greater distances from the core urban areas generates a more dispersed pattern of growth, and that has implications for the ‘spaces and places’ in between;
- ▶ The long lead in times associated with the planning, design and delivery of stand-alone strategic development;
- ▶ The appetite and ability to achieve densification at certain nodes and intersections (new and existing) to further support new transit routes;
- ▶ The ability to identify, reserve and protect the location and scale/extent of new/linked settlements (land for which would be greater than the amount of growth required in conventional plan periods), and reserve/protect key routes into the city and CMK from piecemeal or speculative growth at an early stage in any growth plans;
- ▶ Focusing on greenfield TOD growth areas rather than exploring opportunities for development/redevelopment at points within the urban area would limit the extent to which existing communities and places could benefit from growth and investment;
- ▶ The need for co-ordinated cross-border growth along and around key transit routes and their potential extensions/land reserved further afield to safeguard routes to other existing or new communities.

ANNEX 4:

THE CONCEPT OF TRANSIT-ORIENTED DEVELOPMENT, OR 'TOD'

Annex 4: The Concept of Transit-Oriented Development, or 'TOD'

Transit Oriented Development (TOD) can be defined as compact development with a mix of activity-generating uses (housing, jobs, shops, restaurants, community and social facilities) all with easy walking access to public transport stations or stops.

TOD is not just any development near public transport. It should have characteristics that¹:

- ▶ Increases 'location efficiency' so people can walk, cycle and take public transport;
- ▶ Boosts public transport patronage and thereby minimises the impact of traffic;
- ▶ Provides a rich mix of housing, jobs, shopping and recreational choices within close proximity;
- ▶ Provides value for the public and private sectors, and for both new and existing residents; and
- ▶ Creates a sense of community and of place.

Relevance to the Growth Study

These principles align well with the mobility and inclusive growth objectives in the MK Futures 2050 Vision work and so form a key component of the growth proposition for the Study Area to 2050.

Underlying demographic, economic and environmental characteristics of the Study Area mean that there has never been a better time to adopt a TOD approach to planning and design for future growth:

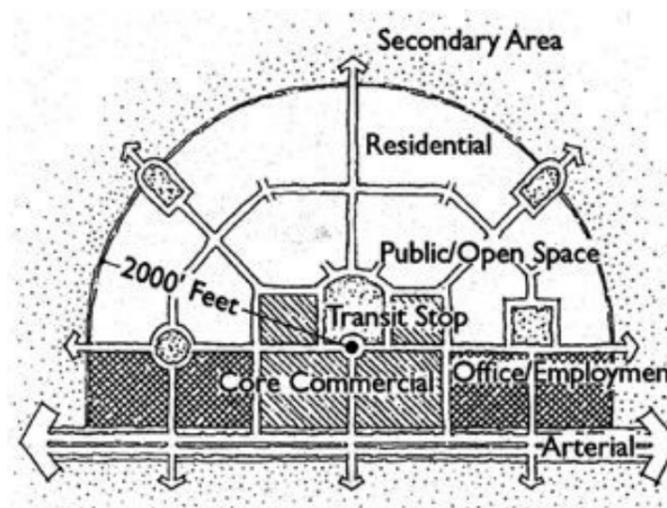
- ▶ The proportion of urban populations seeking the range of services and facilities close to home that town and district centres offer is significant, in part because increased congestion makes commuting longer (distance/time), more costly, and thus less appealing, but also because of the convenience of services and facilities accessed day-to-day;
- ▶ Encouragement for more people to adopt more active travel for a healthier lifestyle and to reduce emissions from car traffic for better air quality means that people need alternatives and better choices for shorter journeys between daily destinations, leaving the car for more occasional use on longer journeys;
- ▶ Changing demographics are causing profound shifts in the housing market. The demographic groups that are increasing in size within the Growth Study Area – older households, childless/single households and the more ethnically diverse households² – are those that, historically, have shown a preference for higher density housing near public transport.

¹ Adapted from a paper entitled 'TOD101' by Reconnecting America and the Centre for Transit-Oriented Development (Dec 2010)

² For example:

- In 2016, 26% of households in MK were single person households and 32% were couples without children, together making up 58% of the households in the Borough
- Around 26% of the population in Milton Keynes are from a black and minority ethnic group compared with c. 20% in England (MK 2011 Census Profile).
- Between 20% (MK) and 30% (South Northants) of the area's population will be over 65 by 2045 (ONS Data July 2017)

TOD Development Principles



Calthorpe's Concept for Transit Oriented Development

TODs developed as a concept in the US in the early 2000s. Peter Calthorpe described a "Pedestrian Pocket" linked to the mass transit network to be known as "Transit Oriented Development". In The Next American Metropolis Calthorpe defined TOD as:

"moderate and high-density housing, along with complementary public uses, jobs, retail and services, [which are] concentrated in mixed-use developments at strategic points along the regional transit system."

High level design principles identified by Calthorpe³ to guide the development of TOD include:

- ▶ Organise growth and development on a regional level to be compact and to support transit services
- ▶ Place commercial space, housing, jobs, parks and civic uses within walking distance of transit stops
- ▶ Create pedestrian-friendly street networks that directly connect local destinations
- ▶ Provide a mix of housing types, densities, costs and tenures
- ▶ Preserve sensitive habitat, riparian zones, and high-quality open space
- ▶ Make public spaces the focus of building orientation and neighbourhood activity
- ▶ Encourage infill and redevelopment along transit corridors and at transit stops within existing neighbourhoods

Since that time a number of different proponents of Transit Oriented Development have emerged⁴, each with their own interpretation of TOD principles at a variety of scales. For reference, a summary of these is set out opposite.

A review of the above thinking on TOD concepts leads to the identification of some common themes (set out opposite). These can help shape TOD growth in the Study Area context, recognising that especially within the existing urban area of MK, TOD principles should be adjusted to its specific design context but can still deliver key TOD objectives.

Our Study Area TOD principles are set out in the far right column opposite.

³ Source: Carlton (2007)

Peter Calthorpe	Urban Land Institute	Creating Better Communities: The LUTRAQ Principles	Institute for Transport and Development Policy (ITDP)	Transit Oriented Development Institute	Adaptation of TOD principles to the Study Area
Organise growth on a regional level to be compact and transit supportive	Vision: agree desired development patterns before transit	Focus the community towards transit	Walk: Developing neighbourhoods that promote walking	Put stations in location with high ridership potential and development opportunities	Organise new intensification areas and development sites to be more compact and well located/designed in relation to MK:RT / PT routes so that they support public transport services;
Place commercial, housing, jobs, parks and civic uses within walking distance of transit stops	Partnerships: public and private sector working	Encourage a variety of uses	Cycle: Prioritise non-motorised transport networks	Designate ½ mile radius around station as higher density, mixed use, walkable development	Position new - or if appropriate, re-structure existing - activity-generating uses (housing, jobs, retail, parks, and civic/ community/ education uses) within walking distance of MK:RT/PT hubs and stops, with the uses that support residential communities closest to stops wherever possible;
Create pedestrian friendly street networks that directly connect local destinations	Creating development opportunities: How the design of routes, stations and parking will impact on development opportunities	Create streets for people	Connect: Create dense networks of streets and paths	Create a range of densities with highest at station, tapering down to existing neighbourhoods	Provide or widen a mix of housing (in type, density, tenure and affordability) within TODs, focusing compact forms and higher densities closest to public transport stops;
Provide a mix of housing type, densities and costs	Parking: reflecting the role of the station as a park and ride hub further out and a walk-in hub further in. Use parking as an anchor for flows through development towards the station.	Provide public open spaces	Transit: Locate development near high quality public transport	Design station site for seamless pedestrian connections to surrounding development	Structure development in walkable catchment areas, typically within 400m-500m of an MK:RT /PT stop so that access requires no more than a 5-minute walk;
Preserve sensitive habitat, riparian zones, and high quality open space	Place: The role of stops as centres of activity framed by development that meets key urban design principles	Design the community for liveability	Mix: Plan for mixed uses, income and demographics	Create public plaza directly fronting one or more sides of the station building	Create continuous street networks with pedestrian priority that directly connect local destinations, have active building frontages that overlook public areas, and encourage interaction between activities within buildings and the public spaces outside;
Make public spaces the focus of building orientation and neighbourhood activity	Consider retail carefully: Retail relies on location, markets and design and cannot be supported by transit alone.	Involve citizens in the creation of their community	Density: Optimise density and match transit capacity	Create retail and café streets leading to station entrances along main pedestrian connections	Preserve/enhance existing or create new habitats and greenspace important to local communities and include high-quality green space or urban space within each TOD;
Encourage infill and redevelopment along transit corridors within existing neighbourhoods	Mix uses across nodes: To encourage travel in both directions and increase efficiency of the transit system		Compact: Create regions with short transit commutes	Reduce parking at stations stops, site a block or two away, direct pedestrian flow along retail streets	Make or enhance public spaces (small or large scale) as the focus of building orientation and neighbourhood/community activity;
	Bus Rapid Transit: Buses have potential to support TOD if part of a Bus Rapid Transit network.		Shift: Increase mobility by regulating parking and road use	Enhance multi-modal connections, making transfers easy, direct, and comfortable	Recognise that TOD characteristics can be realised within existing neighbourhoods located close to existing or future MK:RT/PT stops to unlock better community benefits through infill and redevelopment.
	Mixed housing: Home to mixed incomes			Incorporate bikeshare, a comprehensive bikeway network, and large ride-in bike parking areas	Encourage partnership working between public and private agencies in collaboration with local communities (existing and new) in the design and delivery of new TODs.
	Engage corporate attention: Looking at transit as an accessibility tool for recruiting			Use station as catalysts for major redevelopment of area and great placemaking around the station	

⁴ Urban Land Institute, 2003; LUTRAQ, 1996; Institute for Transport and Development Policy (ITDP), 2017; and Transport Oriented Development Institute, 2018)

TODs at Different Scales

Our review of TOD research and case studies found that TODs vary depending on the level of intensification of activity and development in neighbourhoods – from the introduction of non-residential/local centre uses at public transport stops to more intense mixed use development around major transport interchanges. The intensity of development is related to the location and importance of stops on networks, the quality and number of transport connections and the availability of development land.

Case study examples suggest that city and town centres, or other similar locations where the mix of uses include high-level “destinations” such as a major employment cluster, a civic hub, culture or leisure quarter or a University, for example, are the most suitable locations for the most intensive forms of TOD. Any locations connected by multiple transit modes where there are interchange opportunities are also considered most suitable.

The scale of growth envisaged for the Study Area to 2050 means that, as well as creating TOD development within or on the edge of urban areas, there is a role for wholly new TOD communities to be introduced outside the existing urban area.

Application of TOD principles to spatial growth considerations

When considering how key objectives for growth might translate into spatial growth propositions, the following criteria have helped shape and test growth plans:

- ▶ Integrate land use and transport planning both at the strategic level and for individual station/transit catchments
- ▶ Apply TOD principles at the most strategic stops on the transit network and use them as catalysts for major development and great placemaking

- ▶ Identify station locations that can act as a node and as a place in a way that transit access and intensive development can encourage two-way flows
- ▶ Create plans for each TOD catchment to provide confidence for investment
- ▶ Focus mixed use development within walking distance of TODs (400m–800m/5–10 min catchments)
- ▶ Locate existing or enhanced or new ‘destination’ uses as close as possible to transit nodes/stops.
- ▶ Create active, pedestrian-friendly street networks that connect directly to local destinations to encourage walking/cycling within the TOD
- ▶ Make public spaces and community uses the focus of building orientation and neighbourhood activity
- ▶ Provide a mix of housing types and densities and tenures, including an affordable mix, with the most compact and higher density forms adjacent to stations and transit nodes/stops
- ▶ Locate park and ride facilities at the outer edges of transit catchments to:
 - maximise patronage of transit to centres and other destinations, and at the local level,
 - generate pedestrian flows through mixed use areas to and from transit stops,
- ▶ Structure infill and redevelopment opportunities around existing, enhanced or new transit nodes/stops within existing neighbourhoods
- ▶ Integrate, protect and enhance new and existing green infrastructure assets with pedestrian/cycle routes and open spaces

Applying TOD in the Context of the Study Area

TOD principles can be embedded at a number of scales within the Study Area. TOD principles have informed each of the conceptual TOD typologies set out in the Study.

CMK - a Sub-Regional TOD

- ▶ CMK is a ‘regional centre and urban centre’ TOD as defined in core research because CMK is the primary centre of economic and cultural activity in the sub-region, serving a regional market;
- ▶ Although it is served by a mix of transport modes, this is not as rich a mix as other regional centres;
- ▶ MKC Station is not a regional rail interchange (indeed, Bletchley does and will perform more of a N-S/E-W interchange role in this regard) but MKC is a stop on the national rail network with fast services to London, the Midlands and the North West and it is a transport hub for the sub-region serving commuter destinations. Interchange opportunities at/around the station have not been fully realised to date but there is significant potential;
- ▶ Although the land area is greater, intensity of activity and development densities are not as high as typical regional centres, and at present are not significantly higher in the quarter mile radius around the station than elsewhere in CMK.

Bletchley Station – an Urban Centre TOD

- ▶ Bletchley Station is an ‘urban centre’ as defined in core research, where the station is a hub for the wider sub-region at a key N-S/E-W node (and with the advent of East West Rail, Bletchley has much greater potential to be so);
- ▶ It is served by a mix of transport options but the majority of these are predominantly local services;
- ▶ It has retained some of its historic character, preserving historic buildings and street patterns but the pattern of higher intensity of use/density of development is not related to the station/transport interchange as a typical TOD would be;
- ▶ Integrated interchange and redevelopment opportunities at/around the station have not been realised to date but have significant potential.

District Scale TODs - interchange TODs between rail stations and RT routes – potential at Wolverton, Woburn Sands and SW of MK (plus Ridgmont/Winslow)

- ▶ Main interchange between railway, rapid transit and local buses should be District Centre TODs, including cycle hubs.
- ▶ These would be highly accessible “destinations” associated with destination uses. Such destinations include major office or similar job dense employment uses; a district retail centre; local civic hubs; leisure uses. Key “destinations” are major attractors beyond the interchange function and could encourage more balanced passenger flows across the network as a counterpoint to CMK avoiding central area congestion.
- ▶ There is potential for intensification of existing development around stops to maximise opportunities. Capacity studies would identify scope for change in existing centres to accommodate a broader mix of uses allied to more intense residential development.
- ▶ “Destination” uses will be dominant within c.400m of the stop mixed with active ground floor uses such as shops and other services, meeting hubs, leisure uses, civic facilities with employment uses or residential development above.
- ▶ Public space would be a focal point for mixed uses adjacent to the interchange.
- ▶ High quality connections with walking and cycling networks linked to immediate mixed uses and the wider residential areas.
- ▶ Potential to facilitate car parking facilities for the interchange located at the edge of the mixed use area and connected via streets that are the focus for ground floor mixed uses to maximise viability and vitality. Care is required to avoid car parking that isolates mixed use development around transport hubs from their surrounding residential catchments.

Local destination TODs around Rapid Transit (RT) Nodes of Activity and Interchanges – Westcroft/ Kingston/Hospital/OU/plus potential for others

- ▶ Primary uses and activities are prime importance and are the key attractors for journeys by rapid transit. Stops will be considered more as destinations from other neighbourhood / regeneration TODs. Some destinations such as the University may be destinations in themselves (with opportunities to create a supporting diverse mix of uses)
- ▶ As with interchanges between railway stations, key “destination” uses would act as major attractors beyond the district function to encourage more balanced passenger flows across the network and avoid too overconcentration in CMK which may generate issues of congestion on the network at central stops. It may also be valuable for avoiding too much concentration at interchange points.
- ▶ Mixed uses associated with the district centres which have primary functions (e.g. University) with others that are more retail oriented intensified with a greater mix and finer grain of uses within 400m of stops.
- ▶ Where stops are at the edge of the defined areas on a grid road – consider redefining the district centre to be focussed on an axis that span across the stop and neighbouring road as a “main street” anchored with key attractors. This could include car parking to generate vitality along main streets and help support the offer of mixed uses.
- ▶ Mixed uses prioritised over high density residential development within 400m. Residential intensification within 800m
- ▶ Outward facing and most intensive development adjacent to transit route and interfacing edges of adjacent neighbourhood/s
- ▶ Good connections to adjacent residential areas to maximise the role of the station as an origin as well as destination.

Local TODs at RT stops –nodes of local activity - local interchange TOD (between RT and active travel (walking/cycling to end destination)

- ▶ Intensification around the immediate vicinity of stops with higher density residential development which is well integrated with existing residential areas by current networks of footpaths and Redway connections. Ground floors occupied by neighbourhood scale mixed uses.
- ▶ A focus for neighbourhood centre facilities and services that support 21st Century lifestyles, such as: online delivery collection points, co-working hubs, local retail and community facilities.
- ▶ Where the physical extent is constrained by existing residential development, development around transit stops could use reserve land in the grid road corridors.
- ▶ Stops and pedestrian and cycle routes leading to them would be overlooked by a mix of uses and include uses that support the transit experience (e.g. coffee shop) and by higher density development that benefits from location adjacent to transit facilities (e.g. accommodation for older households, young professionals, etc)
- ▶ Routes to stops need to be high quality, well-lit with active frontages.
- ▶ Potential to reconfigure routes to strengthen connections between transit stops and existing facilities in the surrounding neighbourhoods such as schools and nurseries.

Regeneration TODs – focus for activity within regeneration estates

- ▶ Depending on the scale of intervention, regeneration provides an opportunity for rapid transit corridors through regeneration estates to become a focal point for a new or revitalised neighbourhood centre with higher density, more compact development.
- ▶ A stop will be a focus for a mix of neighbourhood facilities supporting 21st Century lifestyles and community requirements. Potential uses might include: online delivery collection points, co-working hubs, local convenience shops and community facilities and cycle hubs.
- ▶ Stops have active frontages to act as focal points.
- ▶ Nodes are the focus for highest density development which could extend beyond 400m if the route is used to accommodate a cycle route (thus widening the theoretical catchment). Extent of higher density development / intensification extends up to 800m elsewhere.
- ▶ High density residential development above neighbourhood facilities will be a key feature to integrate types of accommodation best located near transit stops (e.g. sheltered accommodation co-located with health facilities)
- ▶ Provision of a high quality public realm adjacent to stops which may include a square or space framed with mixed uses.
- ▶ Regeneration or redevelopment of existing neighbourhoods may provide the opportunity to refocus existing facilities that may otherwise be dispersed across the neighbourhood– e.g. schools, nurseries, health centres, pubs etc.
- ▶ Routes to stops need to be high quality, well-lit and overlooked with active frontages.

ANNEX 5:

NHS HEALTHY NEW TOWNS: GUIDING PRINCIPLES

NHS Putting Health into Place -10 Guiding Principles

Published in September 2018, the NHS's 10 guiding principles focus on embedding health considerations into growth plans and placemaking from the outset:

Principle 1: Plan Ahead Collectively

The NHS wants to expand the range of considerations in the town planning process to make room for health considerations as a key input into plan preparation and decision-making. Given that public health matters such as those already outlined can have a profound impact on quality of life and life expectancy, and in turn are profoundly affected by decisions taken about the location of land-uses and the networks of connections made between them, it is clearly in the interests of the population as a whole that there is a role for health professionals to influence the planning, design and development process as early as possible.

As a result, health should be a consideration in the selection of development locations, in the quality and diversity of its transport connections, in the relative location of homes, jobs and services, and of course, in the planning for health and social care appropriate to the new community.

Principle 2: Plan Integrated Health Services that Meet Local Needs

New communities will fare best if their health provision is planned for from the outset. This requires intelligence about the likely population profile and how its needs are most likely to be met best. Robust forecasting and modelling is central to provide the evidence for what is required and to inform the specification in planning and development terms. This is not just for the recipients of healthcare, but for its providers also.

Principle 3: Connect, Involve and Empower People and Communities

Social connections improve health. And social connections are heavily influenced by the built environment and its access networks that can support strong communities. Positive engagement of existing communities in the planning and design of new communities can improve the connections between established people and newcomers in ways that are more difficult to foster post-development.

The second group of principles start to explore the implications for the planning, design and development of future places:

Principle 4: Create Compact Neighbourhoods

Compact simply means walkable, precisely the standard applied when Milton Keynes was first conceived; that jobs, services, shops and schools should be within walking distance of every home. People who encounter each other walking in the street form stronger, healthier communities through stronger social connections. This means that communities must be designed where walking takes priority over any other mode of transport, and where all active modes – walking, cycling and taking public transport – is made as attractive as possible at the expense of car travel.

So new neighbourhoods need to be compact and complete, capable of meeting all day-to-day needs without the need to drive.

Principle 5: Maximise Active Travel

Put simply, good physical and mental health requires regular physical activity. And nothing delivers that better than making regular trips by active modes of travel. Well planned neighbourhoods with legible routes and readily accessible information about services will make walking, cycling and public transport the first choice for getting around for everyone. While the emerging guidance emphasises the need for such networks to be segregated, experience in MK tells us that this can provide too much priority for car traffic and certainty for car journeys that may maintain their relative attraction, and this needs to be explored more carefully.

Principle 6: Inspire and Enable Healthy Eating

An affordable balanced diet for everyone is central to the NHS's programme and requires careful place-making and partnership working to make easy access to nutritious ingredients for home cooking and access to healthier food when eating away from home, including schools and workplaces. This is a particular issue for Milton Keynes because, while we have plenty of space devoted to allotments and garden growing, the majority of food supply is dominated by national chains – supermarkets and fast food – and there are few opportunities for independent outlets. The new city may need a bespoke, active programme to capture the imagination of its citizens and local businesses to develop a new and alternative approach to local food.

Principle 7: Foster Health in Homes and Buildings

If, on average, we spend 90% of our time inside buildings, then those buildings and what we do in them can have a profound impact on our health. Good homes need space, light, ventilation, privacy, outlook and access to outdoor space. Good workplaces and schools need many of the same features. And all need places for active social engagement and quiet, individual reflection. As our population ages and infirmity increases naturally, then our buildings need to be adaptable to changing needs.

Principle 8: Enable Healthy Play and Leisure

Good urban places include opportunities for communities to come together and be active in their collective enjoyment of leisure time. That is fostered best when communities and their representatives are engaged early in the design and planning process as proposals for new communities are formulated. And when new facilities are in place, communities need support and facilitation to create the organisations that will make the most of opportunities. When Milton Keynes was created, this approach to community development was a central and highly successful plank of its social programming, so effective that MK has more than twice the national average of community organisations per head of population. But this did not happen by accident and support is critical as the new city seeks to expand.

Principle 9: Provide Health Services that Help People Stay Well

The NHS is determined to be a true National Health Service and not just deal with sickness. This means increasing emphasis on the prevention of avoidable illness, much of which emerge from lifestyle choices. This means advice and support from healthcare professionals to help future citizens of MK to realise the benefits of the previous eight principles. New communities will have strengthened primary care to reduce the need for hospital admissions and costly, invasive treatments for chronic conditions. This will require healthcare services to be integrated closely and to work alongside social care services to provide whole-of-life support.

Principle 10: Create Integrated Health Centres

In new developments the provision of services to help people stay well will be supported by a programme to create integrated health centres or hubs. Such facilities will be at the heart of new, walkable communities and need to be planned for from the outset. Accessible, one-stop services are intended to keep people healthier and reduce the load on acute care, a clear shift of emphasis that will need support in the form of dispersed key worker homes for nursing staff, for example, accommodated in new communities.

ANNEX 6:

BRIEFING NOTE ON MK:RT FUNDING

Commentary on Potential Options for Funding of MK:RT (Briefing Note issued to MKC May 2019)



**John Walker
Consultants Ltd**

Introduction

David Lock Associates (DLA), Integrated Transport Planning (ITP) and John Walker Consultants have been asked by Milton Keynes Council (MKC) to provide further insight into how it could be possible to fund, and deliver, the proposed Rapid Transit (RT) network in such a way that it:

- ▶ **Delivers significant connectivity** for both existing communities and new residential areas from 'day-one' of their occupation.
- ▶ **Accelerates the rate of delivery of new homes**, by giving developers certainty over public transport infrastructure investment and supporting higher development densities (through lower levels of car reliance in new transit communities).
- ▶ **Creates a rolling investment fund** for ongoing infrastructure delivery and underwriting operating costs for the next expansion of the network.
- ▶ **Delivers dedicated cycle 'expressways' alongside the RT routes**, so as to significantly improve scope for non-car-based trip making in MK.

This note considers potential sources of funding for delivery of the RT network, and explores key policy levers and processes aimed at maximising the long-term sustainability of the network and minimising risk. It concludes that, like most large scale development projects, the greatest costs fall in the early years and the greatest financial rewards accrue in the later phases. With this in mind, whilst it is possible to break the project down into discrete stages, it is important to present and consider the bigger picture in order to understand how value for money and strong delivery can be combined to achieve important long term aspirations.

It is worth noting that Milton Keynes offers the biggest growth opportunity location in the UK, and is one of the fastest growing economies, where there is a demonstrable track record of housing delivery. It is therefore unique as a location in which funding can enable meaningful development at scale together with a transformation in public transport patronage which will considerably improve the overall sustainability of the city.

Sources of Funding

Para 6.65 of ITP's report identifies a number of potential sources of funding which could be used to deliver the RT network. They include:

- i. Central Government Investment
- ii. CIL/S106/MK Development Tariff
- iii. Locally Raised Investment (especially through land value capture)
- iv. Income generating Demand Management Measures
- v. Private Sector Partnerships (with PT operators, mobility service providers)

The key features of these options are discussed below, recognising that over time the relative importance and contribution of each source may vary.

Essentially the sources of funding can be divided between grant or non-refundable funding streams and loan funding, that might attract interest costs and will need to be repaid. The latter will effectively increase the overall cost burden for the development. The funding strategy should therefore seek to maximise the former, thus reducing the debt burden that will fall onto the project and consequently on to MKC.

i. Central Government investment

Central Government funding can take the form of grant or loan finance. MKC's emphasis should focus on maximising the potential to secure grant money. This will be dependent on developing a robust case that ensures delivery of the Governments objectives, in particular in relation to housing numbers and build-out rates, securing the operation of the RT system, and representing value for money in terms of wider benefit generated.

To ensure early delivery we are of the view that the principal source of capital investment is likely to be central government funding.

This is required to accommodate the abnormal levels of infrastructure cost needed at an early stage in the development to secure a successful RT network. This cannot be met by private development as the balance of cost and cash flow creates a level of debt that would represent an unfundable risk.

Similarly, the quantum of investment needed is unlikely to be available for borrowing by the public sector unless a secure repayment plan is in place. Whilst repayment of part may be available from future developer contributions, tariff and ideally CIL, it is recognised by Government that up-front infrastructure funding is often needed to unlock anticipated growth.

Government funding could be secured via a City/Growth Deal, predicated on the commitment by MKC to deliver a significant volume of new homes, and/or through future rounds of the Housing Infrastructure Fund (HIF). In addition, bid-based sources of funding can also be considered – such as the Transforming Cities fund, through which £1.7bn of investment in new local transport infrastructure (including rapid transit) is being distributed.

To be eligible for funding, the RT network would be expected to deliver a Benefit/Cost Ratio (BCR) of 2 or more. This is not expected to present an issue for a Bus Rapid Transit scheme (which has significantly lower costs than any form of light rail or metro scheme). Central government investment is a common component of the majority of rapid transit lines and networks delivered in England, and is therefore be expected to form a core component of delivering an MK:RT network.

For central government to inject funding into the MK:RT proposals a compelling case will need to be made which demonstrates that:

- ▶ Any financial investment being sought is backed-up by sound proposals and mechanisms for housing delivery, the RT and other required infrastructure.
- ▶ Use of public funds will unlock investment from other sources, and that the ratio of public to private sector funding is proportionate.
- ▶ The government's contribution is not out of step with awards made elsewhere and represents a 'good deal' in terms of the quantum of homes being delivered.
- ▶ Proposals have been exposed to public opinion and carry a good measure of support, even if expressed in a conditional way.

In practice, these represent key actions for MKC if it wishes to secure central government funding for RT-led housing growth in MK over the period to 2050. In our view there is no realistic prospect of funding the required level of investment without up-front central government intervention at an appropriate scale.

On the assumption that the total capital cost will be up to £1.1 billion (for the full network), and that this will support the provision of up to 100,000 new homes, then the funding contribution required per new home would be in the order of £11,000 per unit. It is important to note that level of cost is comparable with 'per dwelling' levels of HIF funding for infrastructure currently being approved by MHCLG at a number of other schemes, as set out at Table 1 at the end of this briefing paper.

If the proposal is assessed on a discrete phase by phase approach, the weight of infrastructure funding for the early phases will measure up poorly to other funding opportunities, which might jeopardise or delay the delivery of the integrated project. The more homes that are delivered without the RT in place, whether through priority to address need or by way of appeal, the weaker the overall case for the system. Only by assessing the entire anticipated growth programme and the benefits that an integrated RT system will deliver to this and the wider area can the comprehensive case be made and value for money clearly demonstrated. As the proposed RT system is fundamental to the long-term sustainability of the wider development a comprehensive and co-ordinated approach is in our opinion required from day one to ensure its delivery.

If funding of the magnitude anticipated for the overall scheme is secured Central Government is however expected to require some form of locally raised investment to complement the public investment it provides. Options for securing this are explored below:

ii. Developer Obligations/Tariff Payments

Payments made by the developers are not refundable by the Council (unless not spent appropriately) but indirectly add a burden of cost on the project as they will affect the overall developer debt profile (unless these costs are clear at an early enough stage to be reflected in the price paid for land). To ensure that resistance from developers does not impact on deliverability, they need to be demonstrably affordable and 'final' in the sense of removing any threats of later additions. If additional developer contributions are sought to fund the RT, then they will need to be subject to viability testing. The alternative is for part of the existing developer contributions package to be ringfenced for this use, which may impact negatively on the provision of other types of infrastructure and facilities.

Current Policy

Plan:MK and the Mobility Strategy to 2036 reference the need to safeguard space for mass transit facilities. However, there is no specific requirement in current MK policy for new development to fund rapid transit services (MK:RT) nor an agreed network plan against which land will be safeguarded.

It is currently only possible for MKC to secure financial contributions for MK:RT through negotiations with individual planning applicants. In practice this means site-by-site negotiations (S106 agreements, for which no specific method for calculating contributions has been defined in the 2017 draft SPD on Planning Obligations) or re-apportionment of MK Tariff contributions collected. Current provisions are unclear as to whether public transport contributions made through the Tariff can be unilaterally reappropriated.

Emerging Future Policy – near term options

Scope exists to introduce policy (through the MK Mobility Strategy) that would improve MKC's ability to secure development funding towards the cost of constructing and operating an RT network.

Under the emerging draft SPD on Planning Obligations this would take the form of a negotiated contribution (both in terms of principle and viability). This would not guarantee a consistent level of contributions but could enable money collected to be pooled (under S106 rules) into a city-wide delivery fund. In practice this approach would be applied to future S106 negotiations, thereby excluding consented proposals (such as to the East of the M1). This reduces the scope to secure investment for RT.

Alternatively, an MK Tariff for allocated Plan:MK urban expansion sites could be re-instated ("MK Tariff 2" or alternatively CIL). This could include a fixed 'per dwelling' contribution towards the cost of RT as part of the wider charge. The overall CIL/tariff mechanism would need to be signed up to by the developers of the strategic allocations in Plan:MK, and may need to be further tested for viability. Once secured then MK:RT would be an 'included' fixed item on the CIL/tariff for as long as this is in force.

Such a CIL/tariff approach could also be applied to private-sector regeneration and intensification sites within the city –with, for example, any additional 'per dwelling' cost for MK:RT being offset by an agreed reduction in required car parking levels.

The CIL/tariff could also be applied to public land if other land value capture mechanisms are not in force. However, we anticipate that the CIL/tariff itself would need to be agreed through SPD or as part of an overarching Estate Regeneration Strategy or Development Framework for CMK, for example.

A CIL/tariff would be preferable to S106 contributions because:

- ▶ It can be set and applied across the MK administrative area;
- ▶ It would be simple to calculate, and viewed as additional to S106 contributions (which could be retained for localised improvements to transport networks);
- ▶ If framed as part of a CIL contribution, it would be 'non-negotiable' in a way that S106/tariff contributions are not;
- ▶ If framed as a genuine MK Tariff 2, it would need initial buy-in from all relevant landowners, which might prove difficult. However, if successful, it could bring greater certainty of income, through the 'end stop' mechanism and as a result could be used to raise additional up front loans.

Implementing such a scheme would require:

- ▶ The draft MK Infrastructure Delivery Plan (IDP) to include RT as a necessary 'line-item' required to deliver a sustainable pattern of long-term growth;
- ▶ An indication of total funding requirements for each phase of RT, to serve as a basis for calculating the CIL/tariff contributions sought;
- ▶ A viability test, if this is additional to other CIL/tariff charges.

A clear consultation process will be required to secure the appropriate policy support for this funding stream.

*Emerging Future Policy – longer-term options*Growth Deal (2018–2025 or thereabouts)

MK Tariff 2/CIL could be facilitated through any agreed City Deal for MK, most probably through an 'extension' of current MK Tariff arrangements to capture new expansion area allocations in Plan:MK, (or adapted into a MK Tariff 2/CIL arrangement with the same outcomes). The IDP could then be updated to include MK:RT as a CIL/tariff item.

Typically, the agreement of City Deals with Government brings both funding and devolution of decision-making powers. This could include greater control over public transport operations, for example through the creation of a Transport Executive that enables MKC to oversee public transport planning and coordinate service delivery. The Bristol and West of England City Deal allowed for creation of a Joint Transport Executive to oversee the delivery and promotion of the region's three Bus Rapid Transit lines. This has increased certainty for developers and passengers, while improving the integration of public transport services.

It is pertinent to note that establishing a Transport Executive need not be viewed as a precursor to delivering RT. Nottingham has delivered its three-line tram network over a twenty-year period without recourse to such powers.

Plan:MK Review (2020–2022)

If the SPD and Tariff 2/CIL options cannot be actioned through SPD or a City Deal during 2019, then appropriate policy could be included in the review of Plan:MK. This may delay implementation of the CIL/tariff until the Plan:MK Review's adoption (possibly as soon as 2024), but would secure the relevant policy support for MK:RT as part of any new Plan:MK allocations.

To be effective, and to secure a mode shift that warrants the scale of funding and delivery, any RT investment should be complemented by fundamental policy changes in respect of car parking standards, car parking charges and re-allocation of parking land for other uses. This could be implemented through an updated Mobility Strategy and carried forward in individual Development Framework SPDs until policies in Plan:MK Review are adopted.

Finally, it is pertinent to note that the developer obligation/CIL/tariff mechanisms described above will **only generate contributions from developers that MKC can use to spend on RT once homes are constructed.** This is a critical point. The 'day one' provision of RT alternatives to private car use will be central to 'locking-in' more sustainable patterns of mobility than currently prevail in MK. Contribution-based funding should ideally be sufficiently robust that it can be used to raise up front loans, either directly (as with the MK Tariff) or indirectly, through stimulating other government support. It is therefore more appropriate as a mechanism:

- ▶ For underwriting early operational costs (which are expected to run ahead of patronage levels, as new transit-oriented communities are developed);
- ▶ For clawing back early investment in capital infrastructure for the RT routes, and recycling this into the provision of more homes;
- ▶ That provides a revenue stream against which MKC might prudentially borrow (with support from Government funding) to ensure the sustainability of future phase of the RT network.

iii. Additional ways of raising local investment

In providing investment Central government will seek evidence that this will release ongoing investment from other sources over time to ensure the benefit cost ratio is sustainable in the long term. These could include:

- a) Land Value Capture (LVC). Where, as well as CIL/s.106 obligations, a proportion of the increase in land value (or development profitability) that may arise as a result of the up-front investment is captured and re-invested in the ongoing sustainability of the infrastructure, or in the delivery of additional housing. This is key as Central Government will seek reassurance that its investment does not simply improve the profitability of private sector development or line the pockets of landowners. This is another form of non-refundable funding, over and above existing policy obligations, going beyond the levels that landowners and developers would normally be willing to agree. This could be achieved through the CPO process, with land being acquired at 'no scheme value'. Whilst Local Authorities can acquire land in this way, it is difficult for them to acquire early enough in the development process to avoid significant added value going to the owners. It can however be implemented at an early stage in development via a Locally Led New Town Development Corporation (LLNTDC), which has special statutory powers similar to those used to build out the original Milton Keynes Master Plan which enable value uplift to be retained as serviced sites are sold on. The LLNTDC model also offers a credible vehicle for managing the delivery of homes, MK:RT and associated infrastructure. This provides Government with additional confidence to invest. Alternatively, it may be possible to negotiate additional value capture via the application of new policy for privately led development if such negotiations started early enough in the planning process, preferably before

the land in question is allocated for development. There are a number of mechanisms that may achieve this such as capturing value uplift through a specific and additional development-related tariff, a local supplement to Stamp Duty Land Tax, or a tariff applied to developers' profit above an agreed developer return threshold. However, these may not be easy to agree;

- b) Tax Increment Financing is a way of harnessing the additional tax receipts generated by economic growth that is made possible, or results from, new transport infrastructure. It uses expectations of future income to raise capital, which is repayable out of that income as it comes on stream. However, it is a useful way of bringing forward investment and has been used for Metrolink extensions, station upgrades and significant bus and tram network improvements in Manchester. It does not rely on increases in land value, although it can be applied alongside LVC, which is the case for the extension of the Northern Line to Nine Elms in London;
- c) As noted previously, the opportunity for MKC to prudentially borrow against future LVC or tariff receipts could also be explored as part of securing additional powers as a Development Corporation or via City Deal or new MK Tariff 2. A LLNTDC would have its own borrowing powers, which place no revenue burden on the Council and are particularly well matched to its ability to buy land at "no scheme" value, enabling up-front funding for infrastructure that can be repaid from sales of land for development. Previously, the MK tariff allowed English Partnerships to borrow money from the Homes and Communities Agency to forward-fund infrastructure against expected tariff receipts, as HM Treasury has confidence in the long-term certainty of receipts; however this type of deal has not been repeated and is less secure than forward funding through a LLNTDC;

d) Prudential borrowing against future fare revenues has typically been a key component of Private Finance Initiative funded projects, which are now recognised to reflect poor value to tax payers. They typically rely on forecast surplus revenues from fares (net of operating costs) which are treated as a source of income against which the up-front capital costs of network construction and vehicle purchase (particularly in the case of LRT systems) are borrowed. This has been used for major infrastructure projects, such as Crossrail, and formed part of the financial justification for the scheme at the Transport & Works Act stage. Scope for this to happen in MK is considered unlikely under current, de-regulated, local public transport arrangements. As such, unless some form of RT franchising arrangement is made possible through either the introduction of PTE status (e.g. Metrolink in Greater Manchester), and/or MKC gains a dedicated ownership share of the RT network infrastructure and service operations (e.g. the NET Tram system in Nottingham), then this funding option is unlikely to be available;

e) MKC may also borrow money for capital investment in transport by taking out loans at low rates, usually via the Public Works Loans Board. However, to do this it must be able to demonstrate how the loan will be repaid. This therefore has potential as a supplementary form of funding as CIL/tariff money comes on stream, but will not mitigate the need for up-front capital investment.

Our view is that a LLNTDC charged with the delivery of RT led growth would be the most successful way to maximise LVC and development tariff funding. This structure would maximise the amount of genuinely non-refundable funding that could be generated to support development, without relying on diverting other sources of revenue to the MK:RT. It would also give Government the strongest possible confidence that housing growth would be delivered.

iv. Demand Management Measures

MKC could also consider the introduction of demand management measures and pricing controls. These can be used both as a mechanism for changing behaviour, and for raising revenue for investment in transport infrastructure.

One of the UK's most relevant, and successful precedents is found in Nottingham. Here the city's Workplace Parking Levy is ringfenced for spending on transport network improvements. Since its inception Nottingham's WPL has raised around £221m from employers with 11 or more liable workplace parking spaces. Each space is currently valued at £415 per annum, with the figure increasing each year in-line with inflation. The funding generated has been invested into the city's tram and bus networks, as well as cycle network improvements, electric vehicle charging networks, travel behaviour change programmes, and development of the city's 'Robin Hood' multi-modal public transport fare product and payment mechanism. The Nottingham WPL focuses on workplace parking and is complemented by a policy of high city centre parking charges (£8 'early bird', and ~£20 for 8 hours or more), together with restricted private vehicle access into the city centre. These demand management measures have established conditions that support high levels of economic vitality and public transport use, and lower levels of car use than is achieved on average in core UK cities. They are particularly suited to densely developed urban centres, where car accessibility is already naturally constrained to some extent.

Elsewhere in the UK, relevant examples of revenue-raising demand management measures include:

- ▶ London's congestion charge which raised around £2.6bn in its first ten years of operation, around 46% of which has been invested in improved public transport connectivity;
- ▶ Durham's 'Road User Charge Zone' (the first in the UK), focused on the historic Durham Peninsula, containing the Cathedral and Castle, Market Place, Chorister School and University Colleges. The access charge raises modest revenue but has reduced traffic flows within the controlled area by around 90%.

Such measures are only likely to be publicly (and politically) acceptable when genuine alternatives to private car use are available across the District. This is therefore expected to contribute as a longer-term approach to funding the maintenance of the RT network and associated integrated transport improvements.

v. Private Sector Partnerships (with PT operators, mobility service providers)

Most bus and rapid transit services in the UK are privately owned and operated; either under franchise conditions (e.g. where PTE arrangements are in place, or where route infrastructure and vehicles are in private ownership) or where commercial operators run services at-risk. In all cases, the funding proceeds from developer contributions (for example, in the form of a CIL/tariff) may be supplemented by match-funding contributions from commercial public transport operators. Such bespoke negotiations could involve a commercial operator agreeing to co-fund up-front capital investment in new vehicles or underwrite a specified service frequency or route. This approach is common to the rail industry, but less frequently used in light rail or BRT contexts.

It is not dissimilar to the operational model developed in Bristol for its first Metrobus BRT route. Here a Quality Partnership Scheme and associated Voluntary Partnership Arrangement have been defined. They confirm which services an operator will provide and set out a framework for monitoring the services and facilities. In return for meeting defined standards for (amongst other things) vehicle quality and emissions, branding, maximum fares, minimum service frequencies and cleaning regimes, a Metrobus operator gains access to the route and commits to bearing the commercial risk associated with its operation. In Bristol the bus operator First has signed-up on this basis, with scope of other operators to enter the market as routes and passenger demand scales-up.

This model could potentially be adopted in Milton Keynes, reducing the up-front cost of developing each RT route by transferring vehicle acquisition costs and operational risks to private sector operators with appropriate experience and expertise in these disciplines. While this limits scope for MKC to benefit from a share in passenger revenues, it also means that any form of tariff / CIL / developer contributions / locally raised investment could be focused on repaying prudential borrowing against capital construction and maintenance costs. Any surplus achieved by MKC would effectively establish an investment fund for future RT routes and services. The operational risks associated with RT in MK may initially be high, (as existing low population densities do not naturally lend themselves to high frequency, high capacity public transport operations) The adoption of such an approach therefore requires careful consideration and market testing to assess its efficacy. ITP's initial forecasts suggest that early levels of operating revenues may be low – particularly along corridors where new transit-oriented development is a critical factor that drives the longer-term case for RT investment. It may therefore be more appropriate for investment generated through usage to underwrite ongoing operational risks, until such time as patronage revenues allow for a Quality Partnership model to be adopted.

Initial Conclusions

Whilst there are many models through which supplementary funding to enable the development and sustainability of the MK:RT, in practice, central government is likely to be the primary source of capital investment to open up the network. Furthermore, whilst the overall cost of RT compares favourably with many other recent locations, the early phases of RT, serving large existing populations, are inevitably going to shoulder the greatest costs per new house delivered. This proposal is however of an entirely different scale to others being enabled via funding streams such as HIF. A phase by phase approach minimises the impact of the potential scale, and risks a piecemeal approach to funding that may never enable the RT to reach its full potential. This would jeopardise the deliverability, sustainability and quality of the expected development as a whole.

The main additional longer-term source of funding will be further land value capture, beyond existing levels of S106/CIL, but this cannot be secured until the later phases of anticipated growth and then only given the right delivery mechanism.

In our view a combination of land-value capture and development CIL/tariff, ideally managed by a LLNTDC charged with the delivery of RT-led growth, presents the most compelling option for MKC to secure such supplementary funding, given the scale of housing growth envisaged to 2050. This type delivery mechanism has a unique ability to combine these sources of funding with its own borrowing powers and a strong capacity to deliver all desirable aspects of growth.

The application process for a LLNTDC is still in outline form and will require the Local Authority to demonstrate that it can comply with the Regulations recently approved by Parliament. It is likely to be several years before this Delivery Agency is up and running, so we suggest an in-principle decision is needed quickly (subject to whatever conditions the Council thinks necessary) so that the process can begin. We hope and expect that this will provide a positive context for parallel discussions with government about funding of the early phases of the RT system.

Table 1: Sample of HIF bid values and number of dwellings delivered

The following table is provided to show that central government is in the business of providing funding at a level that compares to that required for the MK:RT on a per unit basis, albeit that MK:RT is at a more ambitious scale.

Local Authority	Project	HIF Funding (£m)	Dwellings	£/dwelling	Type of infrastructure	Other development
Brighton and Hove	King Alfred Development	£ 15,222,601	565	£ 26,943	Infrastructure	Leisure facility
Oxford	Northern Gateway (also referred to as Oxford North)	£ 10,000,000	480	£ 20,833	Road	Commercial land, community, leisure, education
Barnet	Finchley Central Station	£ 9,800,000	600	£ 16,333	Bridge, Public Realm	Retail, commercial
Leeds	Roundhay Road / Leopold Street: ChaCo & Unity Development	£ 990,000	63	£ 15,714	Road, Land Remediation	
East Devon	Axminster North-South Relief Road (ANSRR)	£ 10,000,000	650	£ 15,385	Road	Mixed use allocation in Local Plan
Guildford	Ash Road Bridge, to unlock housing near Ash and Tongham	£ 10,000,000	730	£ 13,699	Road, Bridge	
Stockport	Stockport Interchange - Residential	£ 2,600,000	200	£ 13,000	Bridge, Public Realm	
Rother	Blackfriars, Battle	£ 3,240,000	252	£ 12,857	Road	
Leeds	Land East of Otley	£ 6,318,000	560	£ 11,282	Road, Land Remediation, Power Supply	
Local Authority	Project	HIF Funding (£m)	Dwellings	£/dwelling	Type of infrastructure	Other development
Wycombe	Realignment of Abbey Barn Lane and junction reconfiguration	£ 7,500,000	700	£ 10,714	Road, Bridge	
Cheshire East	North West Crewe Growth and Infrastructure Package	£ 10,000,000	950	£ 10,526	Road	Funding will also support the expansion of the hospital and the Bentley factory
Teignbridge	Dawlish Link, Bridge and Cycleway	£ 4,200,000	400	£ 10,500	Road, Bridge, Public Realm	
Eastleigh	Construction of a bypass for Botley, providing a connection from Station Hill (A334/A3051 junction) to Woodhouse Lane together with associated improvements/enabling works to Woodhouse Lane	£ 10,000,000	1000	£ 10,000	Road, Bridge, Land Assembly	Funding will directly unlock the delivery of 1,000 homes, as well as providing further capacity for over 7000 further houses
BIDS NOT YET APPROVED						
Wokingham	Grazeley Garden Settlement	£ 252,000,000	15000	£ 16,800	Road, other infrastructure	Funding will contribute towards cost for improved M4 junction, dual carriageway on the A33 and possible new railway station. [Shortlisted bid]

ANNEX 7:

INTENSIFICATION AT MK URBAN AREA NODES: CAPACITY ANALYSIS

Existing MK Urban Area: Intensification Capacity Study

A high-level capacity study to determine the potential for intensification around MRT nodes has been undertaken. All nodes are within the current Milton Keynes built-up area to assess the potential contribution of the city to future growth which can be unlocked with the provision of high quality rapid transit.

This appendix presents each site with its available land for intensification, methodology and deliverability considerations.

Selection of sites

Sites selected for study are:

- Within the existing Milton Keynes built-up area
- Nodes on the proposed primary MRT network
- Identified as Local Neighbourhoods or Special Use/Employment districts

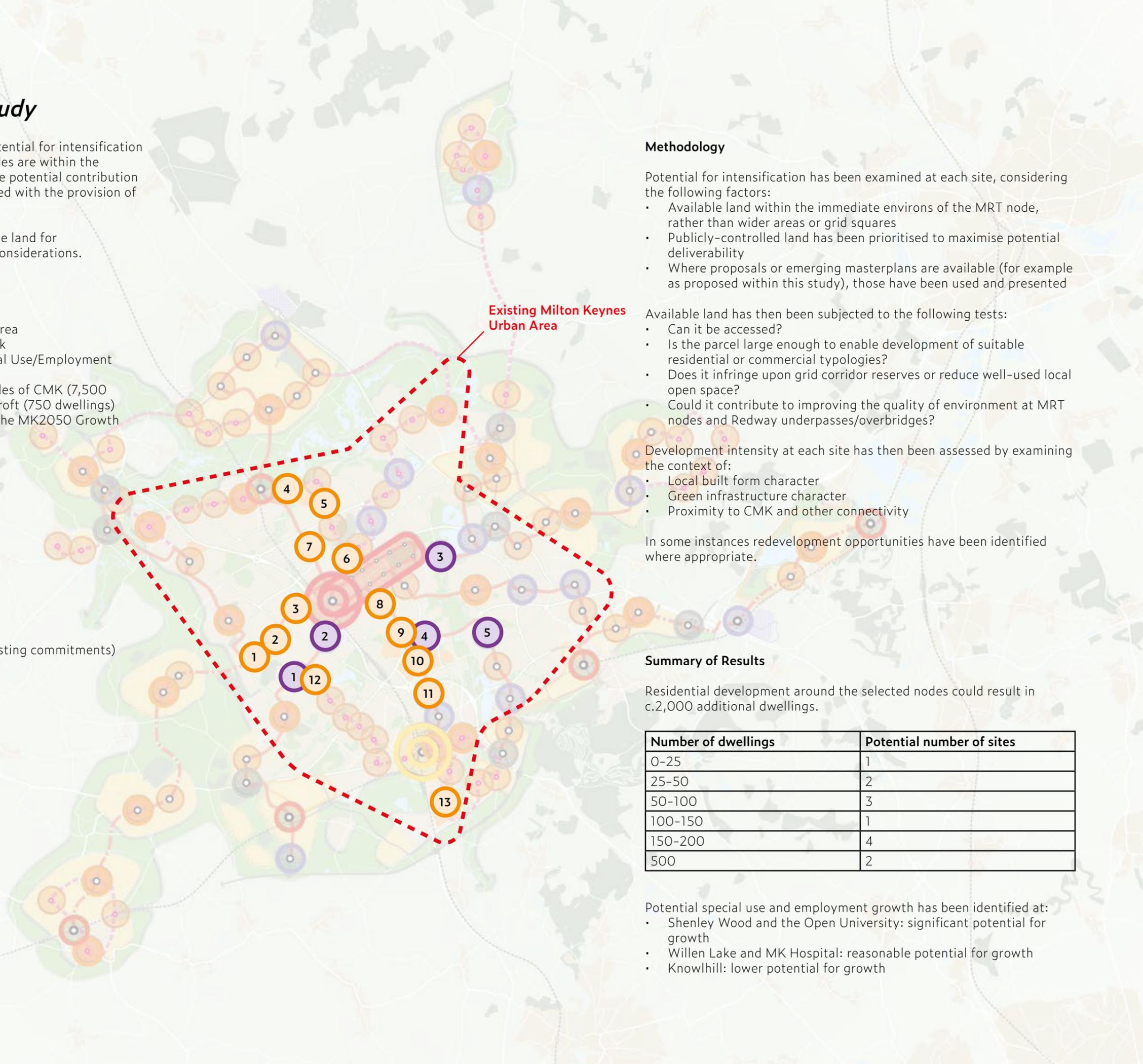
This study excludes the major intensification nodes of CMK (7,500 dwellings), Bletchley (750 dwellings) and Westcroft (750 dwellings) which are discussed in more detail elsewhere in the MK2050 Growth Study.

Residential Intensification

1. Grange Farm / Medbourne
2. Crownhill / Shenley Church End
3. Great Holm / Loughton
4. New Bradwell (already included in existing commitments)
5. Bradville / Stantonbury
6. Bradwell Common / Conniburrow
7. Heelands
8. Oldbrook / Fishermead
9. Coffee Hall / Eaglestone
10. Beanhill / Netherfield
11. Stadium MK
12. Shenley Brook End
13. Water Eaton

Special Use/Employment Intensification

1. Shenley Wood
2. Knowlhill
3. Willen Lake
4. Milton Keynes Hospital
5. Open University / Kents Hill



Methodology

Potential for intensification has been examined at each site, considering the following factors:

- Available land within the immediate environs of the MRT node, rather than wider areas or grid squares
- Publicly-controlled land has been prioritised to maximise potential deliverability
- Where proposals or emerging masterplans are available (for example as proposed within this study), those have been used and presented

Available land has then been subjected to the following tests:

- Can it be accessed?
- Is the parcel large enough to enable development of suitable residential or commercial typologies?
- Does it infringe upon grid corridor reserves or reduce well-used local open space?
- Could it contribute to improving the quality of environment at MRT nodes and Redway underpasses/overbridges?

Development intensity at each site has then been assessed by examining the context of:

- Local built form character
- Green infrastructure character
- Proximity to CMK and other connectivity

In some instances redevelopment opportunities have been identified where appropriate.

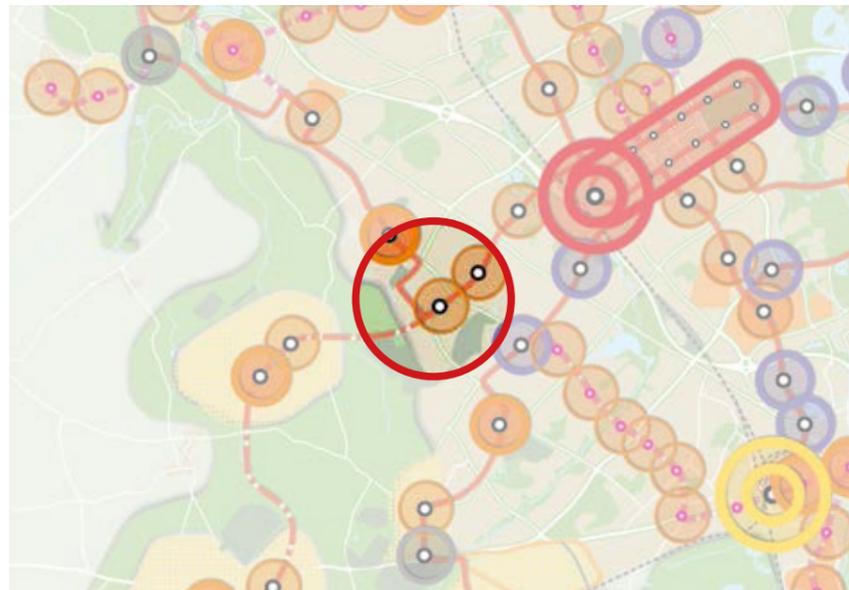
Summary of Results

Residential development around the selected nodes could result in c.2,000 additional dwellings.

Number of dwellings	Potential number of sites
0-25	1
25-50	2
50-100	3
100-150	1
150-200	4
500	2

Potential special use and employment growth has been identified at:

- Shenley Wood and the Open University: significant potential for growth
- Willen Lake and MK Hospital: reasonable potential for growth
- Knowlhill: lower potential for growth



Grange Farm / Medbourne

150-200 dwellings
Medium-high density
2.4 ha available land

Parts of site allocated for 36 dwellings
in Plan:MK (SAP 1, SAP3)



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 175m

Grid corridor considerations: Reserve/MRT route to south of grid road

Local Built Form Character

Mostly 3 storey apartments facing onto the site

Modern local centre to NW of site

Local Green Infrastructure Character

Most of the site is grass or bushes, with some new trees along the edges of local streets. A large block of large, mature bushes is present on the southern half of the site.

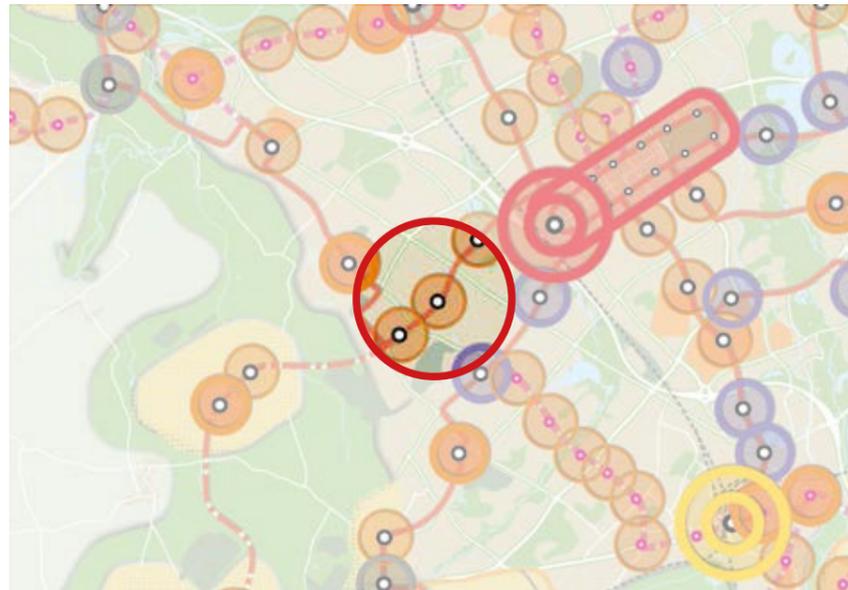
Proposition



Commentary

Surrounding context suggests this site could support medium-high density of around 100dph. There is a strong proximity to an urban-style local centre and the proposal could improve the environment around the local centre to MRT connection.

Parts of the site are currently allocated for 36 dwellings in Plan:MK - policies SAP 1 and SAP 3.



Crownhill / Shenley Church End

150-200 dwellings
 Medium/medium-low density
 2.9 ha available land

Most of site allocated for 90 dwellings in Plan:MK (SAP 6)



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 300m to edge of medium density area; 480m to edge of lower density area in SW

Grid corridor considerations: Reserve/MRT route to south of grid road

Commentary

This would be a large intensification sites on the primary MRT network, supported by the presence of reserve sites and unused green spaces which could be better integrated into the built environment.

Most of the site is currently allocated for 90 dwellings in Plan:MK - policy SAP 6.

Local Built Form Character

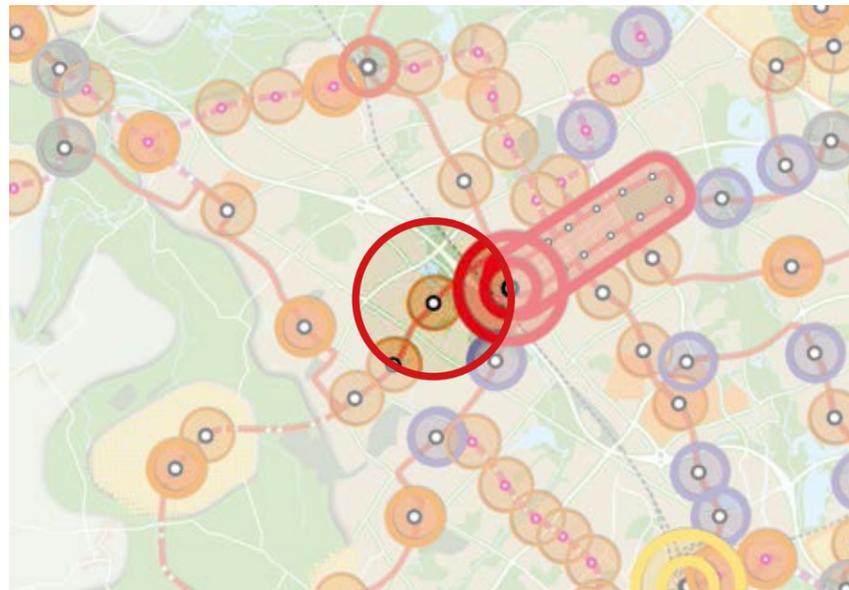
Mostly large 2 storey detached and semi-detached houses, developed at low density.

To the north a set of 2 storey office buildings shield a taller warehouse building



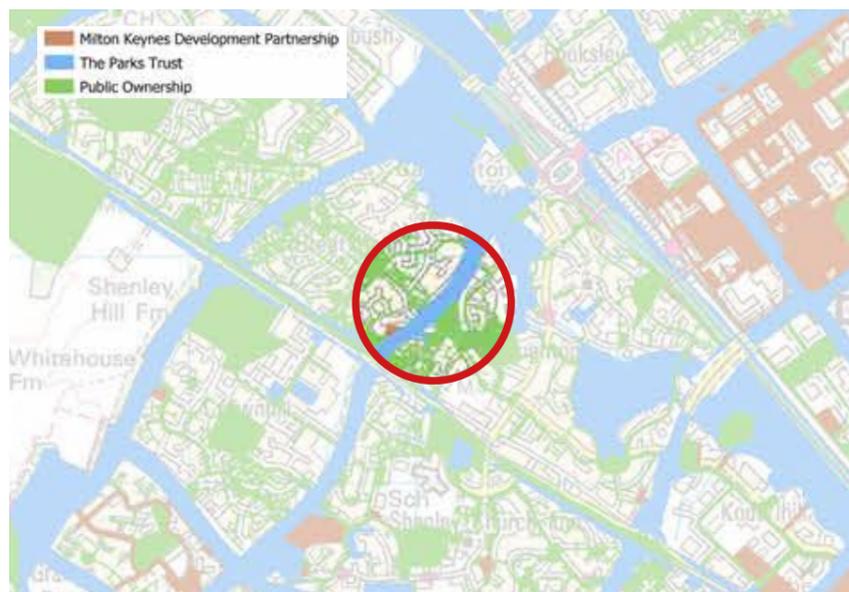
Local Green Infrastructure Character

Most of the site is open fields or left-over land, without clear function. Large blocks of scrub and bushes are present. The NW edge of the larger sites are shielded by a thin block of mature trees.



Great Holm / Loughton

<25 dwellings
 Medium density
 0.3 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 120m

Grid corridor considerations: Reserve/MRT route to south of grid road

Commentary

This site is quite constricted and only offers a small reserve site for development. The site could provide some overlooking for the southern entrance to the underpass.

Development has been moved away from the first school.

Due to the overall low intensity of development, medium density apartments would be most appropriate for the site.

Local Built Form Character

Set of reserve sites faced on to by 2 storey semi-detached and detached houses

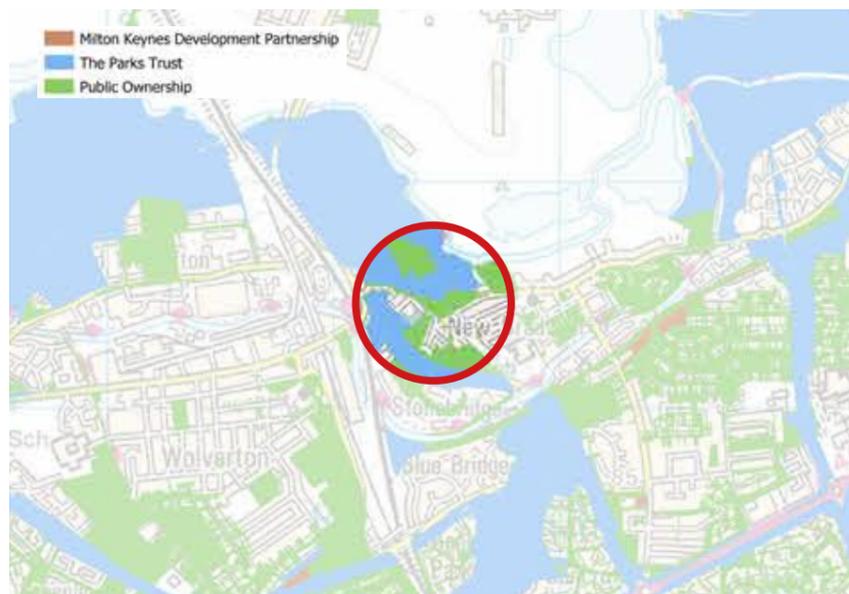
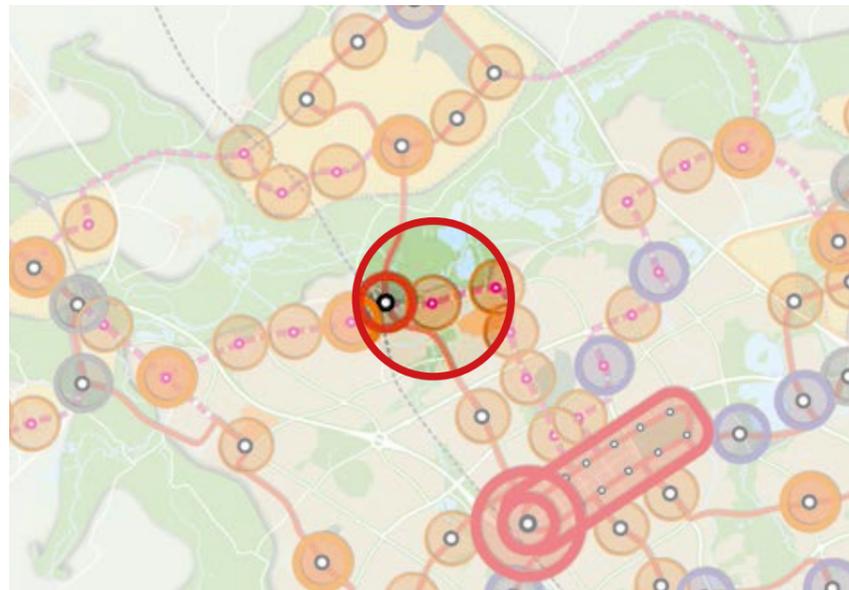
Local centre with taller landmark building to west



Local Green Infrastructure Character

School shielded by mature trees

Site has a number of mature trees on it that could be retained



New Bradwell

25-50 dwellings
 Low density
 1.1 ha available land

Existing proposal 17/00483/FUL

Already in existing commitments

Methodology

Land ownership: privately owned land, scheme currently being brought forward

Max distance to MRT: 110m

Grid corridor considerations: No grid road - MRT would use general street for this section

Local Built Form Character

Suburban village main street character

2 storey detached, semi-detached and terraced housing with mixed street line and varying setbacks.

Site is towards edge of strong urban character

Local Green Infrastructure Character

Site backs onto River Great Ouse with a number of mature trees along the river bank

Walking connection to Bradwell Lake nearby

Current Planning Application

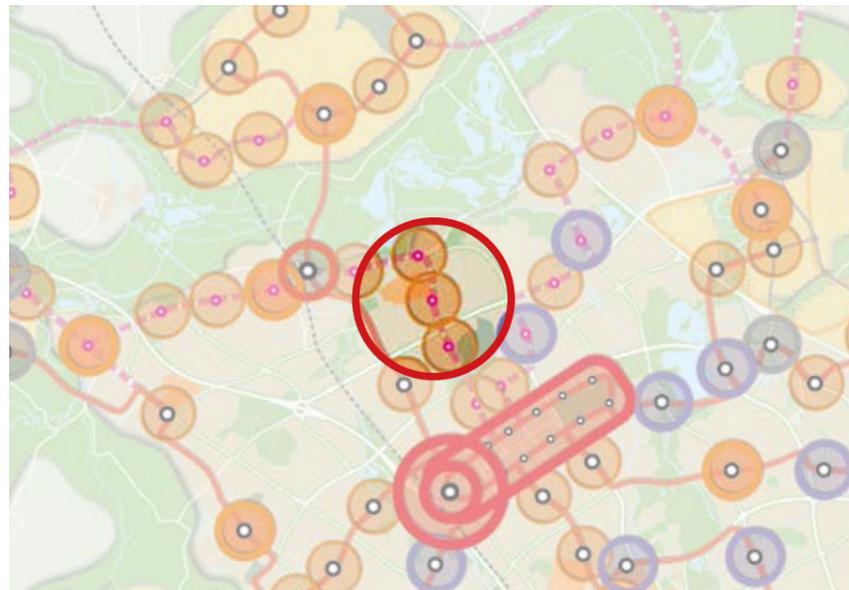


Figure 8 - Landscape Illustrative Plan

Commentary

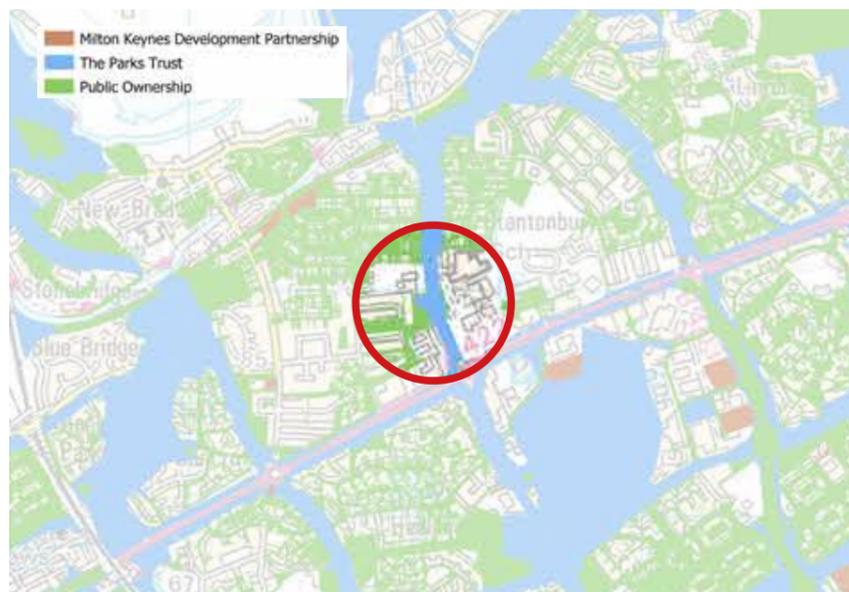
This is an existing proposal recently brought forward for infill housing on a former industrial site. Few other easily-deliverable intensification opportunities exist within New Bradwell along the MRT route.

This site and the 34 proposed dwellings is already included in the existing commitments for new dwellings.



Bradville / Stantonbury

50-100 dwellings
 Medium density
 1.0 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 200m

Grid corridor considerations: Reserve appears to be to east of grid road, but this swaps further north

Commentary

Development on this site uses the reserve and undefined green spaces facing the local centre across the grid road.

Apartment development could replace the green buffer to the industrial estate, with a thin line of trees retaining a visual buffer.

Due to the prevailing low intensity development in the area, a medium density would be most appropriate for MRT intensification.

Local Built Form Character

2 storey semi-detached and terraced houses, large setbacks

Office park and local centre immediately to east, mostly 1-2 storey

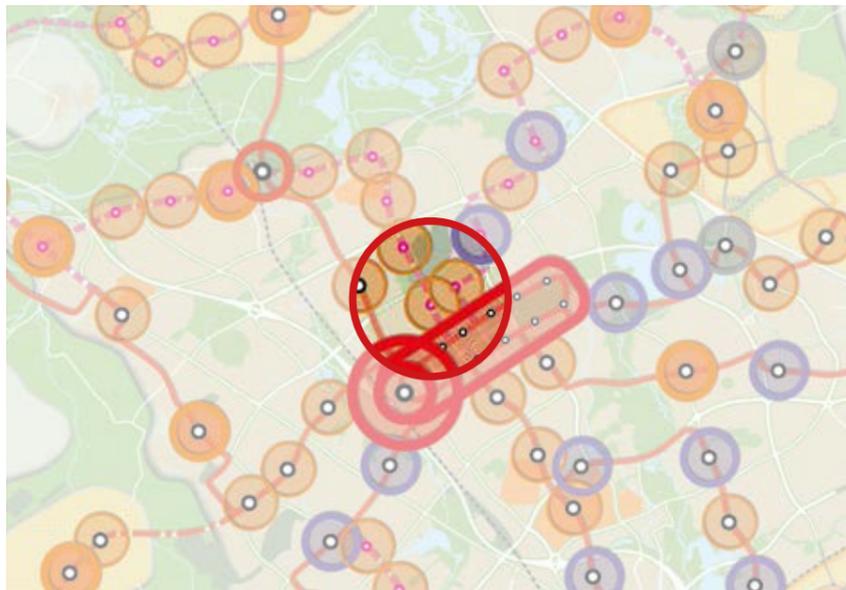
Small industrial units immediately to south



Local Green Infrastructure Character

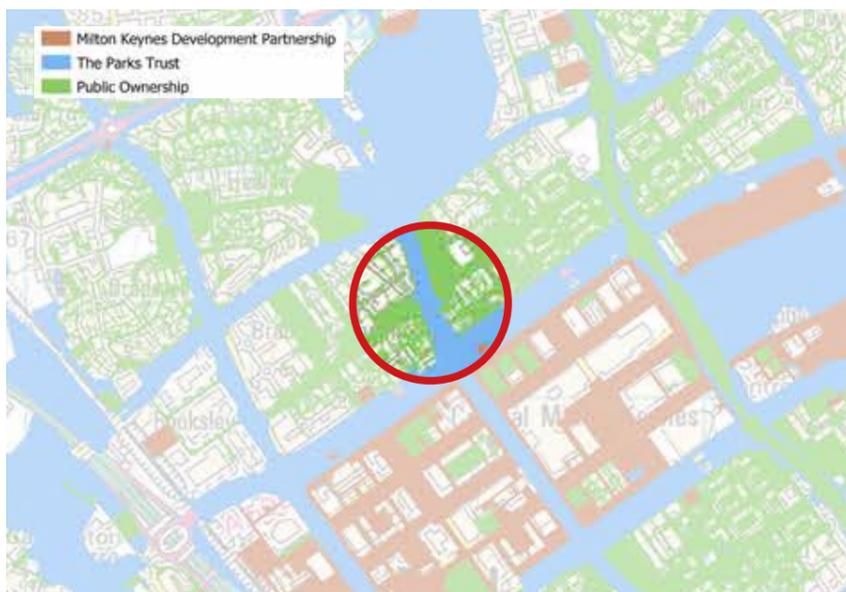
Significant woodland and lines of mature trees present to shield development from grid road

Mostly unused and undefined green space



Bradwell Common / Conniburrow

150-200 dwellings
 Medium-high density
 2.1 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 200m

Grid corridor considerations: Reserve already used – grid road already a dual carriageway

Commentary

This site offers significant intensification potential close to CMK, supporting regeneration efforts in both Bradwell Common and Conniburrow.

Development could reduce the number of poorly defined and underused green spaces and provide overlooking onto the main boulevard and crossing point.

Due to the 3 storey terrace context and proximity to CMK, a medium-high density of 100dph in apartment blocks would be appropriate.

Local Built Form Character

Mostly 3 storey terraces, many in need of renewal

To the north are 2 storey semi-detached and detached houses clustered on cul-de-sacs

Strong boulevard routing through both grid squares

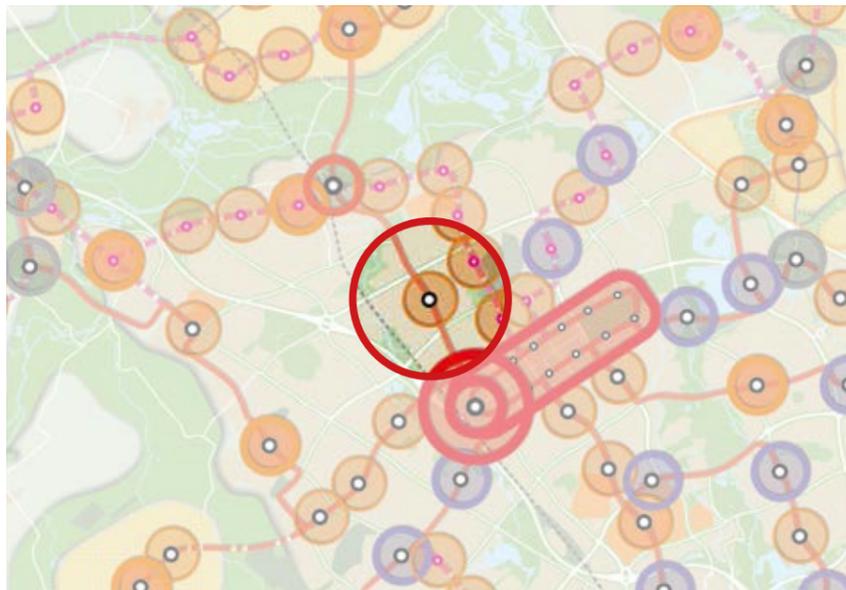


Local Green Infrastructure Character

Several defined local parks surround site, and community sports ground to north are structured green spaces

Many left-over green spaces, poorly defined and not integrated with surrounding environment

Lots of mature trees facing grid road



Heelands

50-100 dwellings
 Medium-high density
 0.7 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 200m

Grid corridor considerations: Reserve already used - grid road already dual carriageway

Commentary

This node offers limited potential for intensification due to the proximity of two schools with overlooking considerations, as well as level changes and difficulties in providing access.

Due to the character of a local centre and nearby civic facilities, a medium-high density would be appropriate for the site.

Local Built Form Character

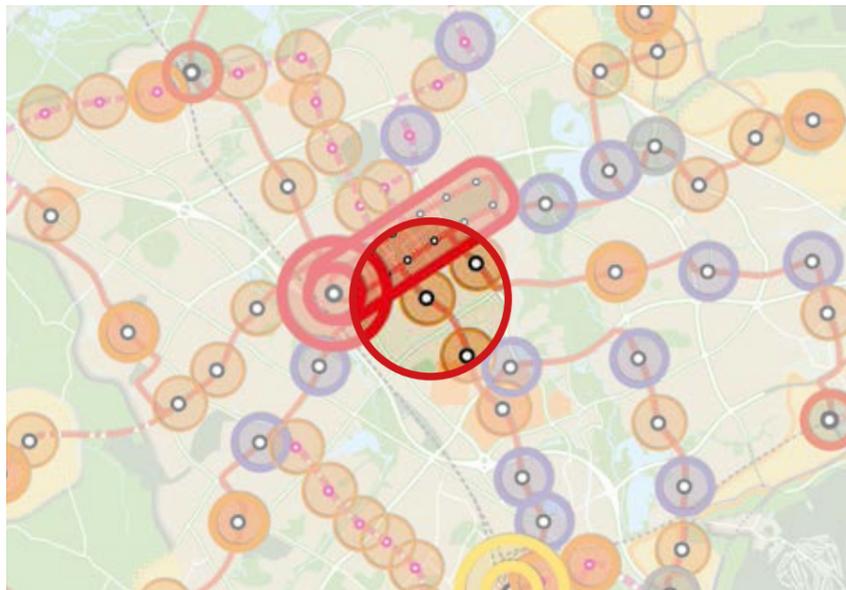
2-3 storey local centre and other civic facilities arranged in court pattern

To the north and south 2 storey detached and semi-detached houses



Local Green Infrastructure Character

Sites selected are mostly open space or bush-covered reserve sites, shielded by lines of mature trees



Oldbrook / Fishermead

100-150 dwellings
 Medium-high density
 1.1 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 250m

Grid corridor considerations: Reserve already used - grid road already dual carriageway

Commentary

This node offers potential for linear development fronting the grid road and using the left over spaces formed by the diagonal cut through the orthogonal local grid by the grid road.

Development could improve overlooking at the main crossing between boulevard and grid road, and MRT node.

Due to the 3 storey apartment blocks and proximity to CMK, a medium-high density of 100dph arranged in apartment blocks would be appropriate.

Local Built Form Character

A mix of 3 storey apartment blocks on corners, 2 storey terraces and 1 storey bungalows

1-2 storey school buildings to north of sites



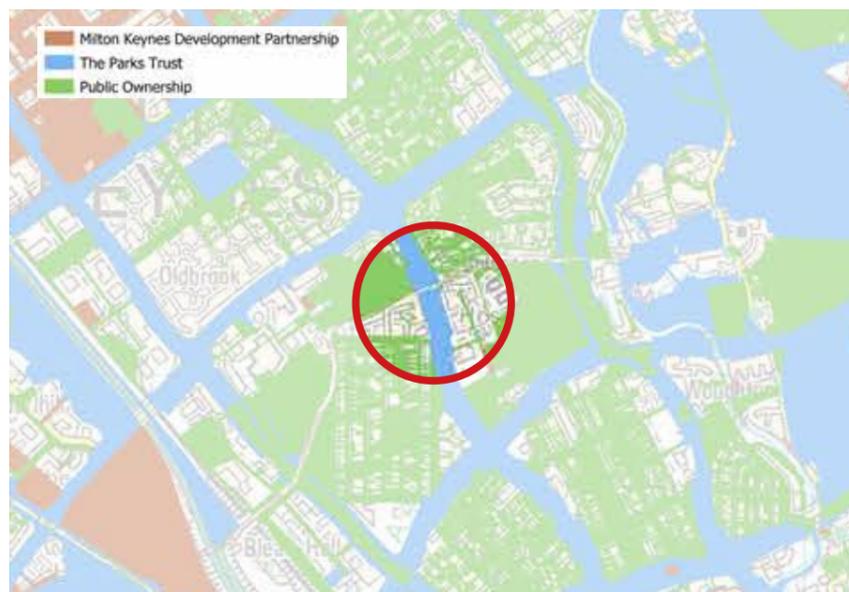
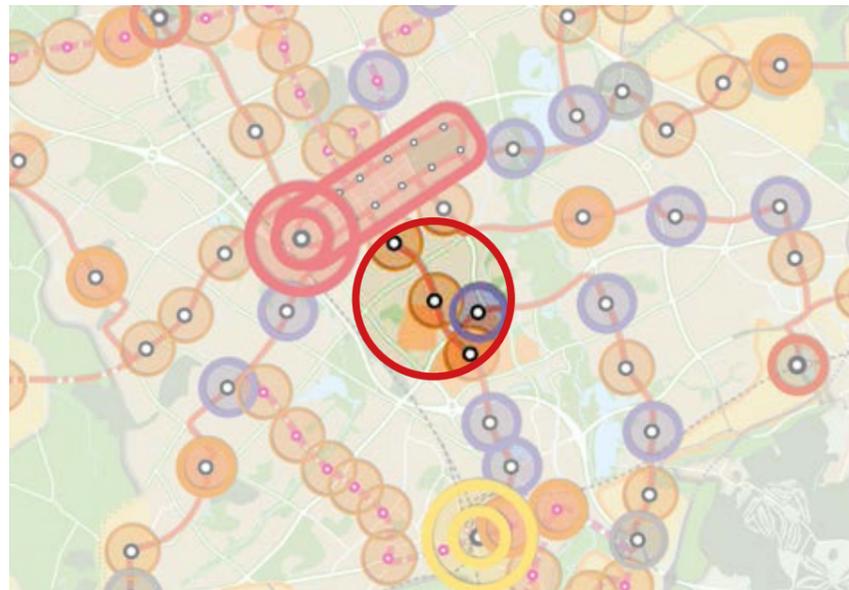
Local Green Infrastructure Character

Selected sites mostly grass with some trees surrounding

Strong open boulevard as structuring characteristic but crossing of grid road shielded from overlooking by trees

Coffee Hall / Eaglestone

50-100 dwellings
 Medium density
 1.2 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 200m

Grid corridor considerations: Reserve to west of grid road

Commentary

This is a linear intensification site primarily along the western side of the grid road. It could provide better overlooking to the Redway route and access to the school.

Due to the primarily low density surroundings and proximity to the school, a medium density of around 70dph in apartment blocks would be appropriate.

Local Built Form Character

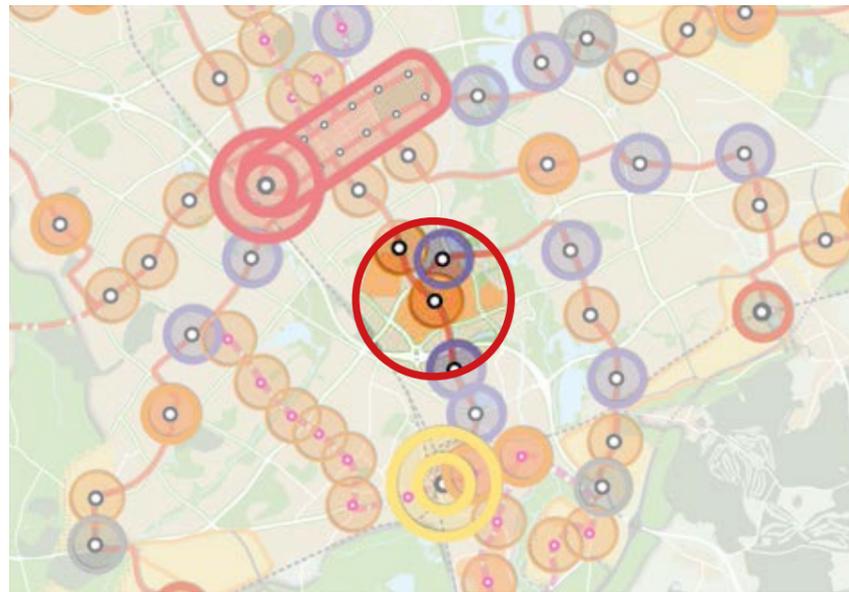
2 storey detached and semi-detached houses

Several civic buildings set apart from others – Islamic centre, MK academy

1-2 storey care home to east

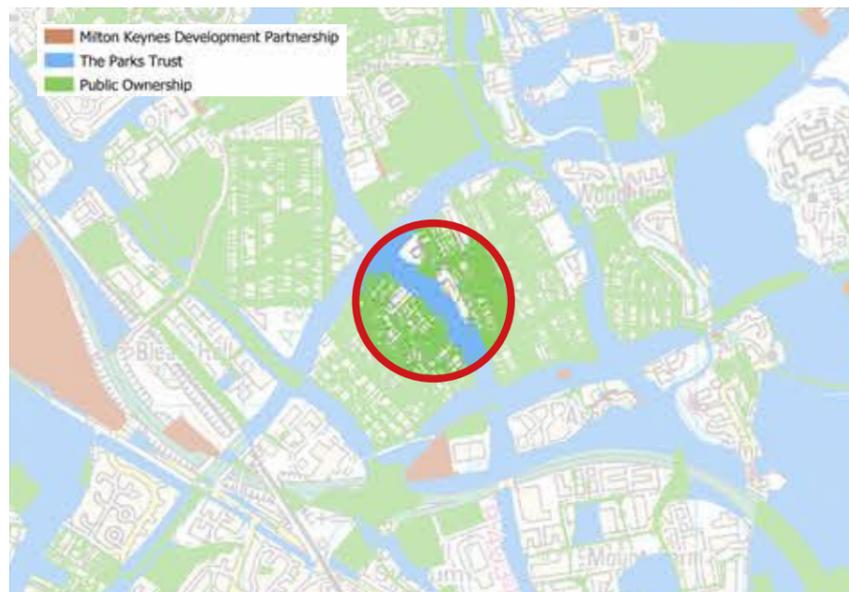
Local Green Infrastructure Character

Significant numbers of mature trees present, but sites selected are a mix of grass and trees



Beanhill / Netherfield

150-200 dwellings
 Medium-high density
 2.1 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 250m

Grid corridor considerations: Reserve to south-west of grid corridor

Local Built Form Character

Bungalows to south-west in Beanhill

2-3 storey terraces to north and east in Netherfield

Single storey local centre in Beanhill



Local Green Infrastructure Character

Presence of buffer trees and bushes between Beanhill and grid road

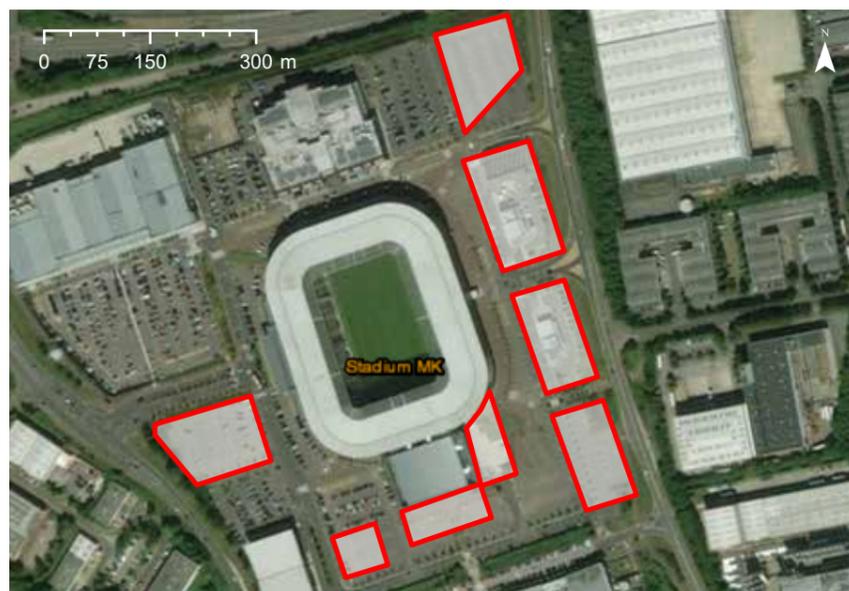
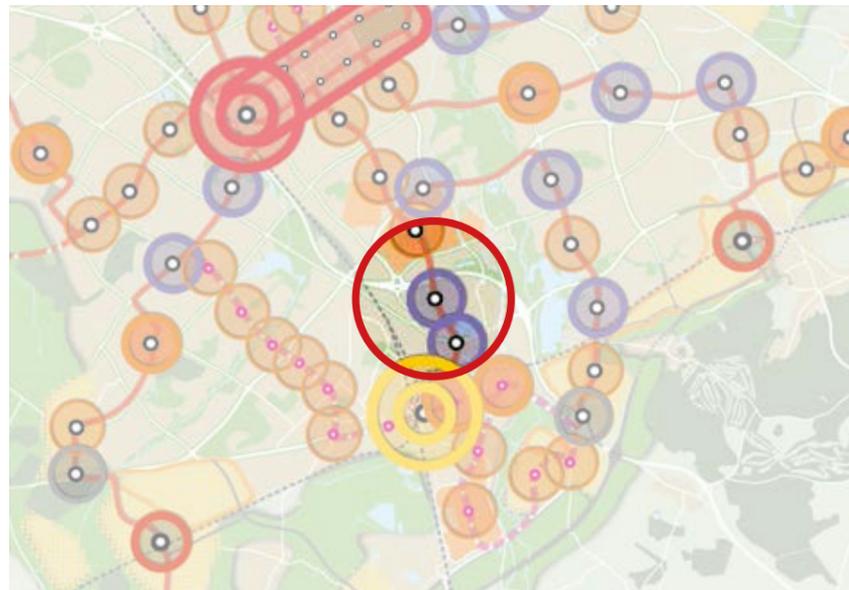
Scrubland surrounded by trees in northern site

Proposition



Commentary

This is a linear intensification site providing an improved local centre and concentrating on the SW side of the grid road. It requires the demolition of a small number of bungalows in Beanhill.



Stadium MK

Approx 500 dwellings
High density
Minimum 2.9 ha available land

Methodology

Land ownership: Initial development on privately owned land by Stadium MK and related companies. Further intensification may result on the part of surrounding landowners.

Max distance to MRT: 400m

Grid corridor considerations: Reserve to west of grid road V7

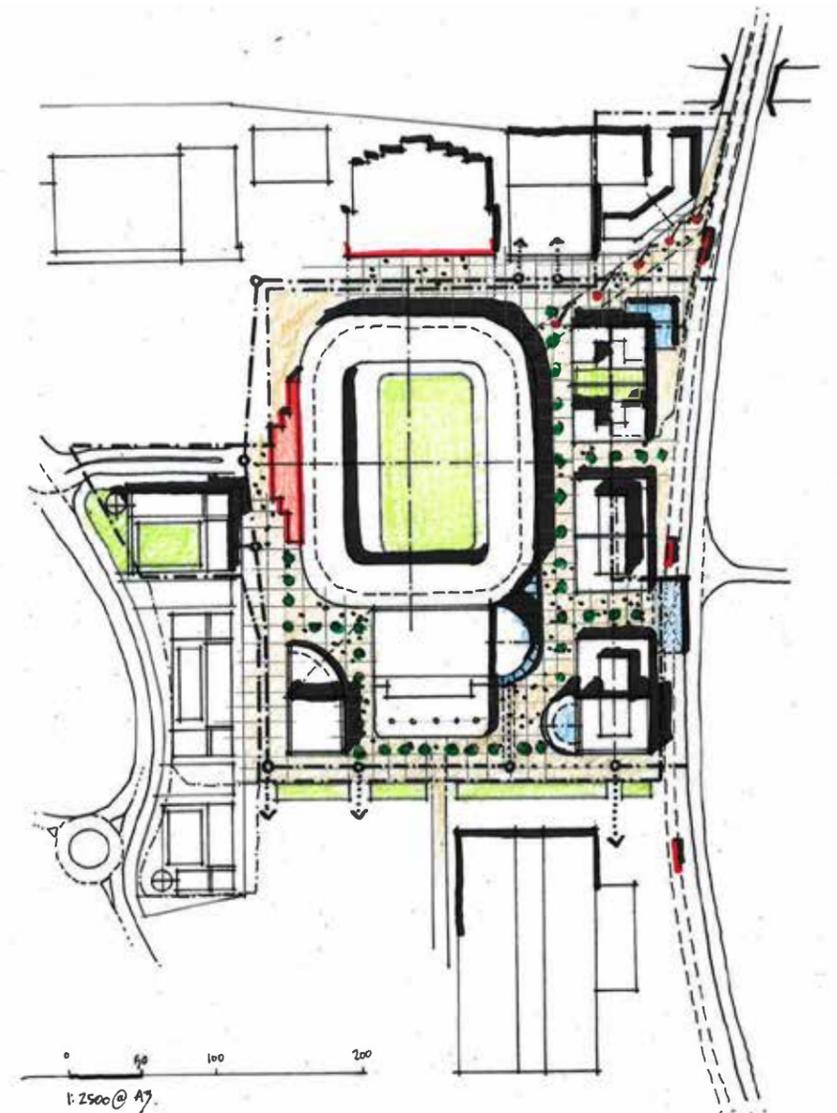
Local Built Form Character

Coarse grain stadium and retail buildings with car parks. Industrial estates border main site.

Local Green Infrastructure Character

Trees shielding industrial estate to east, but mostly GI is lacking

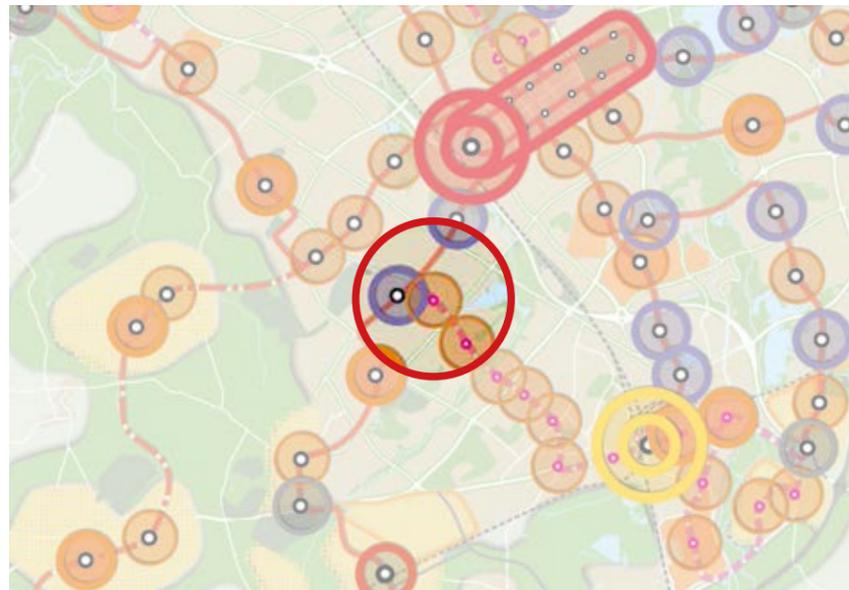
Proposition



Commentary

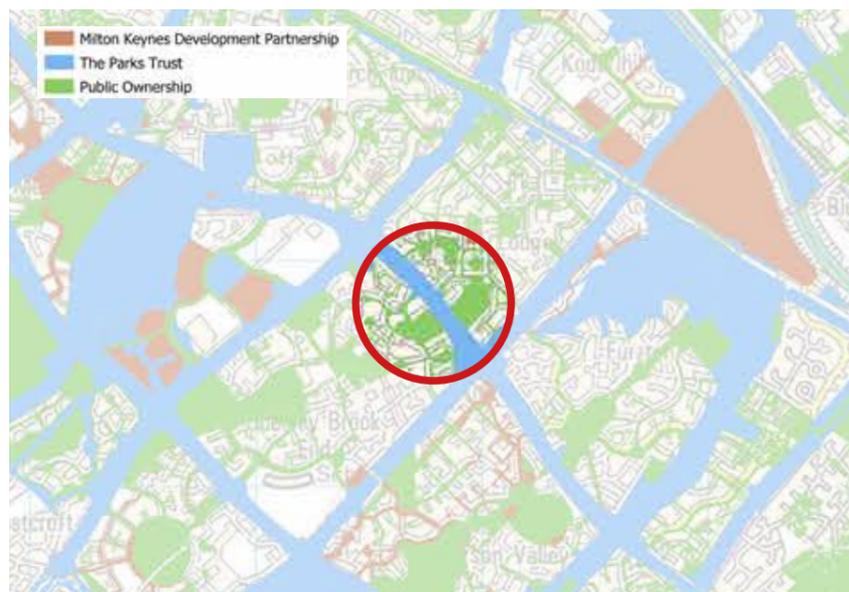
Stadium MK represents a very large opportunity for transit-led intensification outside of CMK, Westcroft and Bletchley. Significant parcels of car parking could be more intensively used to create a stadium quarter, without compromising (and potentially improving) match day and retail car parking access.

Due to the location and neighbouring built form, a high density mixed-use development is appropriate for the site.



Shenley Brook End

25-50 dwellings
 Medium density
 0.7 ha available land



Methodology

Land ownership: Privately owned local centre and MK Community Foundation reserve site

Max distance to MRT: 230m

Grid corridor considerations: Reserve to north-east of grid road

Commentary

There is limited opportunity for intensification at this transit stop and it would require the redevelopment of the local centre, which currently contains retail units and two apartments.

A nearby reserve site could provide additional space for homes.

Due to the surrounding built environment a medium density development consisting of small apartment buildings would be appropriate.

Local Built Form Character

2 storey semi-detached, detached and terraced houses arranged around courts and cul-de-sacs, as well as along residential streets

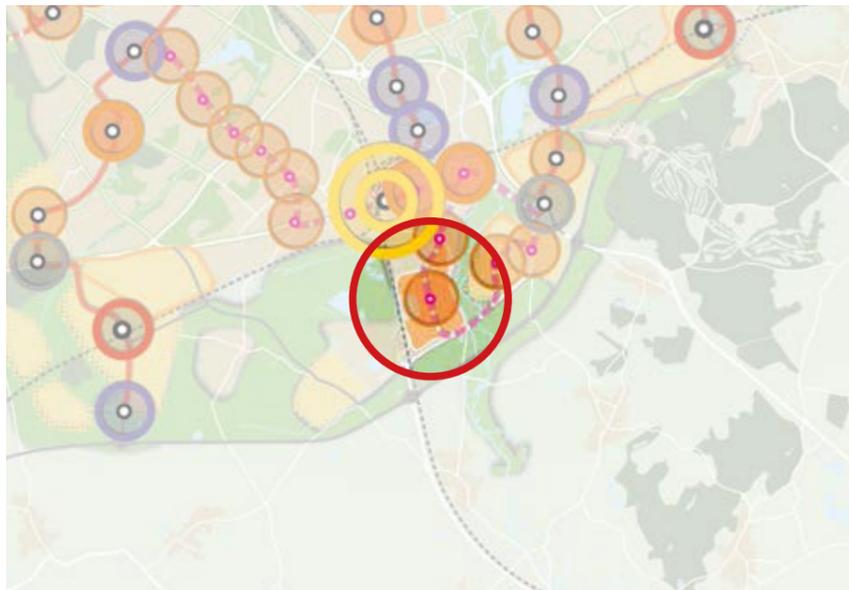
Play area to SW



Local Green Infrastructure Character

Banks of mature trees shield houses from grid road

Mature trees shield school playing fields from grid road



Water Eaton - Lakes Estate

Approx 500 additional dwellings across estate
 Medium-high density
 10.7ha in identified opportunity sites



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 330m

Grid corridor considerations: No grid road present - redevelopment of central estate precinct at end of MRT route

Local Built Form Character

Low density planned estate, typically 2 storey

Current built form likely to be replaced or significantly altered

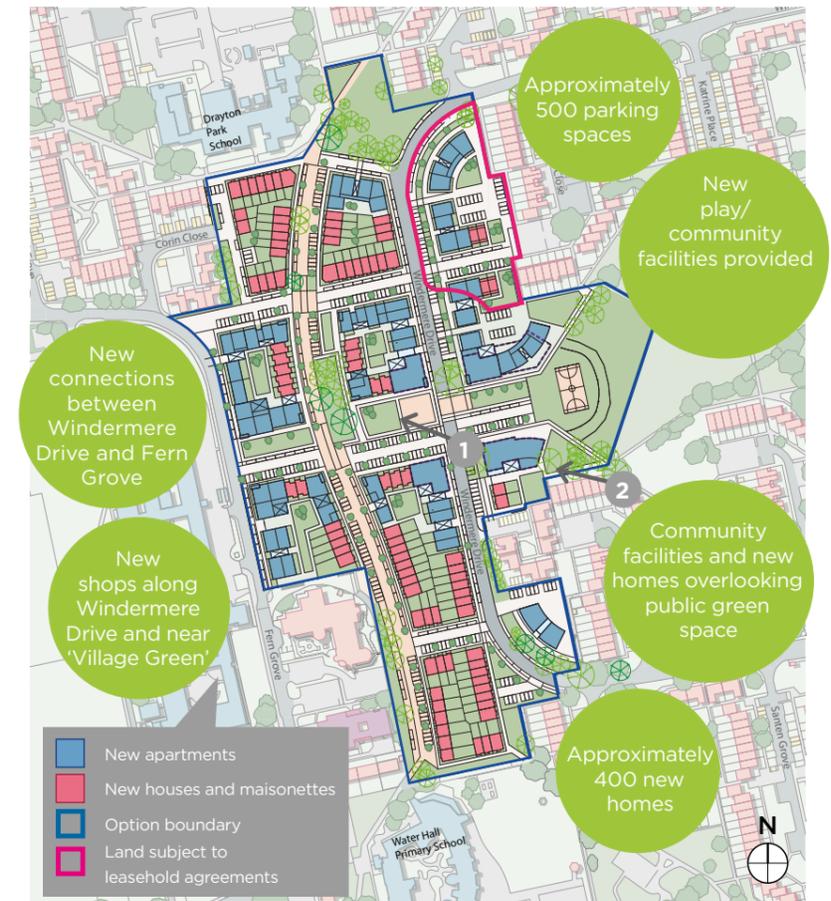


Local Green Infrastructure Character

Strong links to green corridor towards grid road

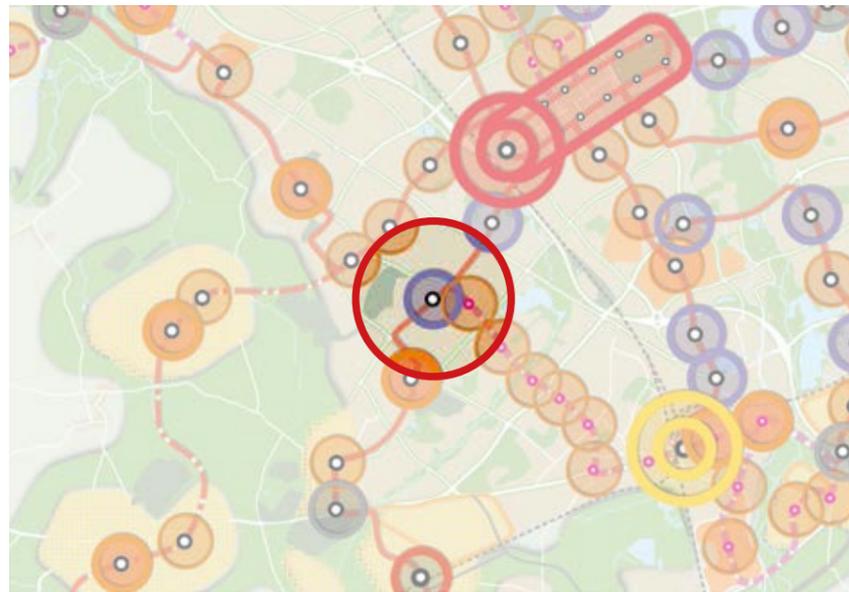
Significant mature trees along N-S axis

Extract from Regeneration Proposals Ballot



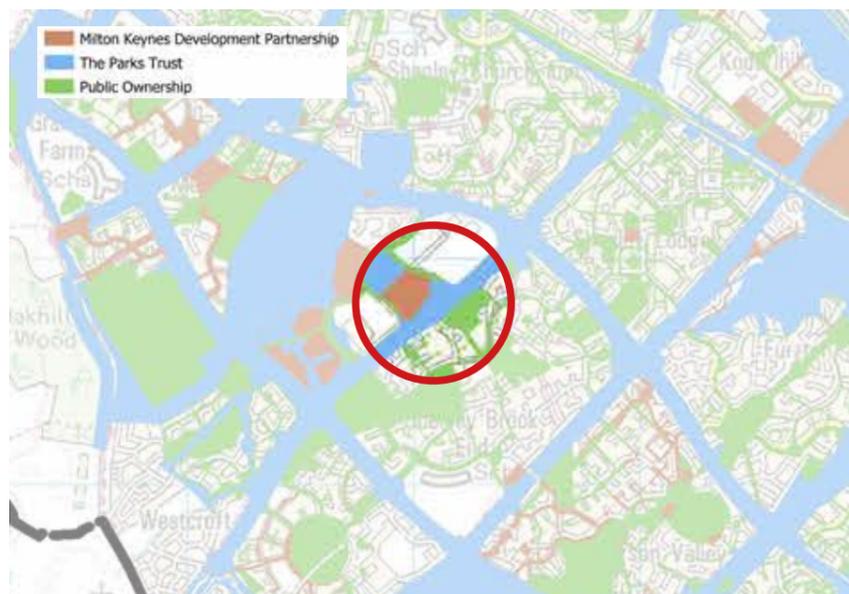
Commentary

The Lakes Estate lies at the end of an MRT line and presents an opportunity for regeneration of the central precinct incorporating retail, office and workshop space, and apartment dwellings. An emerging masterplan in the context of the 2014 regeneration framework suggests around 500 additional dwellings could be added in the surroundings of an MRT terminus.



Shenley Wood

Significant potential for growth
8.8 ha available land



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 500m

Grid corridor considerations: Reserve to north of grid road

Local Built Form Character

Large coarse grain office and industrial buildings set into landscaped surroundings. Large areas of car parking. Significant numbers of empty sites.



Local Green Infrastructure Character

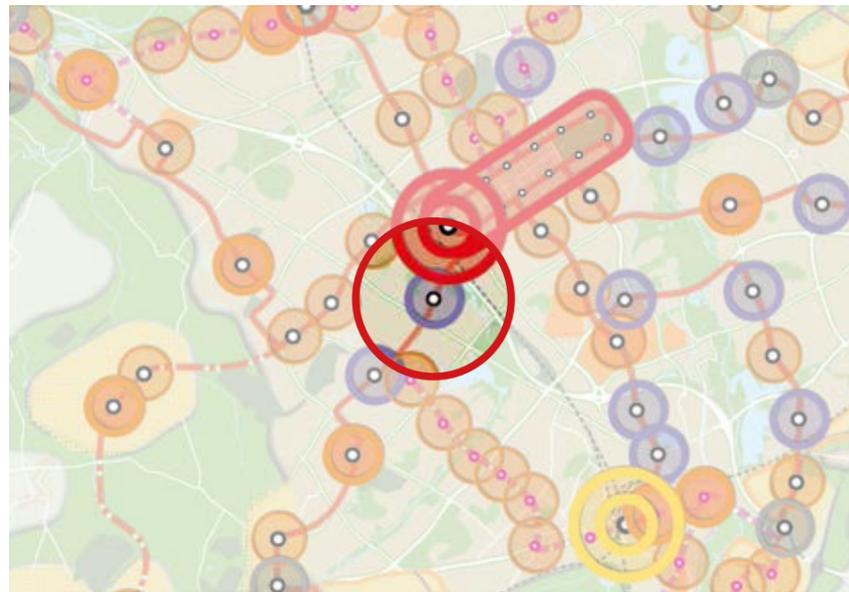
Mature tree buffers shielding residential areas from commercial buildings. Most of the empty sites are grass or scrub.

Proposition



Commentary

There is significant potential to deliver more intensive commercial growth on this site with the arrival of an MRT link, which could reduce the amount of space allocated to car parking. Creating a high quality place that positively addresses the MRT stop with open space and facilities for on-site employees should be a priority of a masterplan.



Knowlhill

Lower potential for growth

Methodology

Land ownership: No suitable land in public ownership

Local Built Form Character

Office park with some light industrial units to east. Low density suburban housing to west.

Local Green Infrastructure Character

Both sides of grid road shielded by trees, and office units set within tree buffers. Large open space to north as part of MK linear parks structure.

Proposition



Commentary

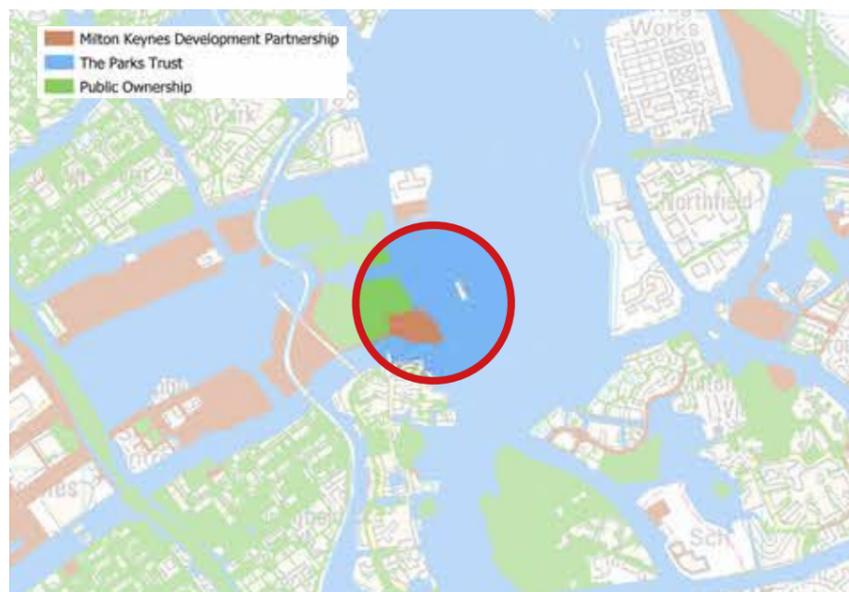
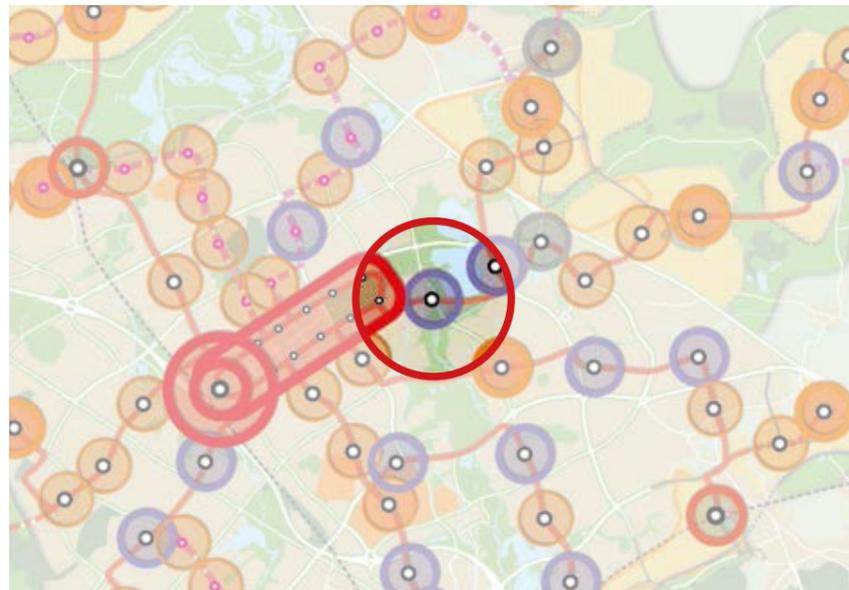
There is little available land at Knowlhill for intensification, and any change would require the redevelopment of existing units into a different form.

There is potential for infill or intensification growth in the wider area.

The addition of an MRT link does offer the opportunity for conversion of car parking space into commercial space in the future as shown in the proposal above.

Willen Lake

Reasonable potential for growth



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: 240m

Grid corridor considerations: Reserve already used – grid road already dual carriageway

Commentary

Willen Lake offers an opportunity to intensify leisure uses near the lake, Gullivers Land, and linear park. Any development should be sensitive to the context. There is potential for intensification of leisure uses on the existing site.

Although an MKDP site with potential for growth has been identified, intensification of the existing Willen Lake facilities should also be considered before reduction of green space.

Local Built Form Character

Low rise leisure facilities to east, and Gullivers Land theme park to north and west.

Low density detached houses to south in Woolstone.

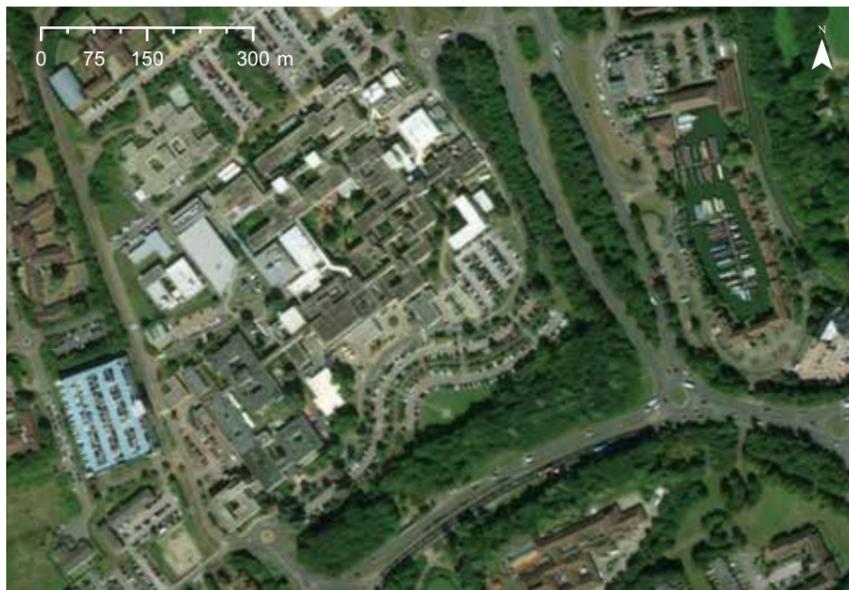
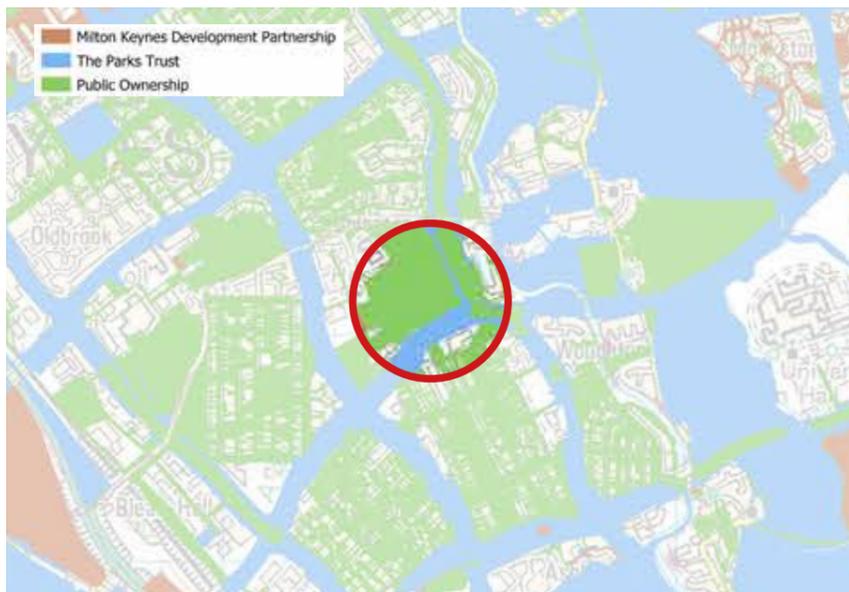
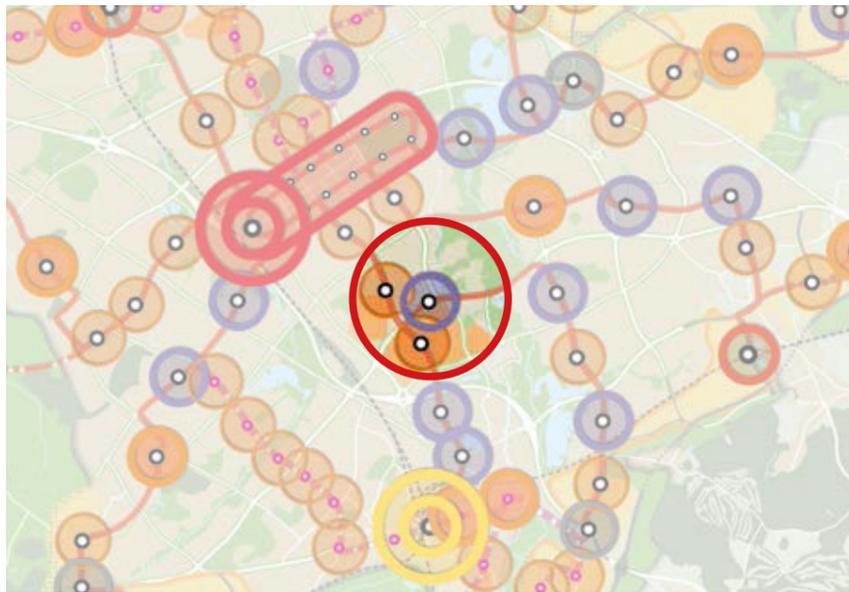
Local Green Infrastructure Character

Development in this location must be sensitive to the extensive green and blue infrastructure and natural environment. The selected site includes mature trees and some open space.

Sites to the south in Woolstone include paddocks. To the east is the linear park system in eastern Milton Keynes and Willen Lake itself.

Milton Keynes Hospital

Reasonable potential for growth



Methodology

Land ownership: All development deliverable on combination of MKDP, Parks Trust and council/publicly owned land

Max distance to MRT: N/A

Grid corridor considerations: Reserve already used – grid road already dual carriageway

Local Built Form Character

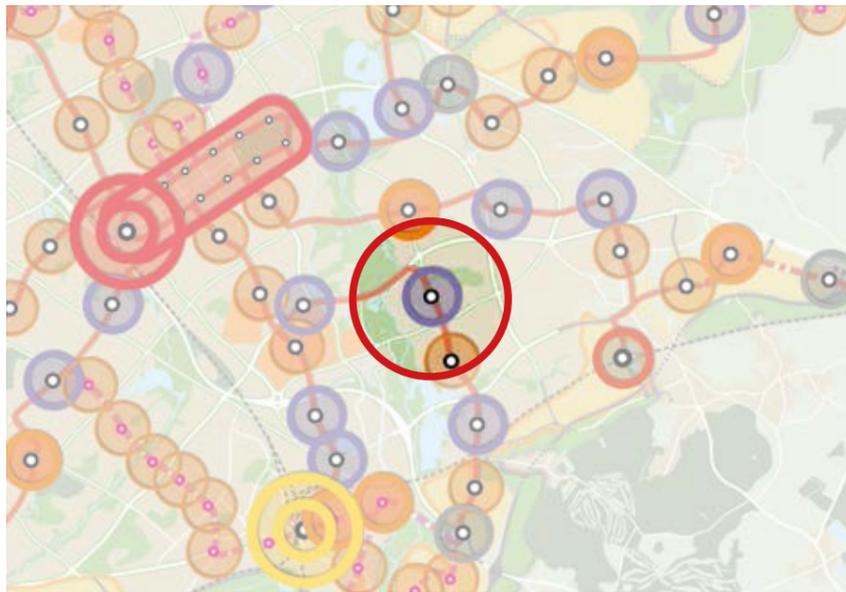
Hospital buildings and low-rise offices shielded by trees. Significant amounts of surface car parking at hospital.

Local Green Infrastructure Character

Large blocks of woodland prevent visibility of hospital from grid road. Most green space around grid roads unused.

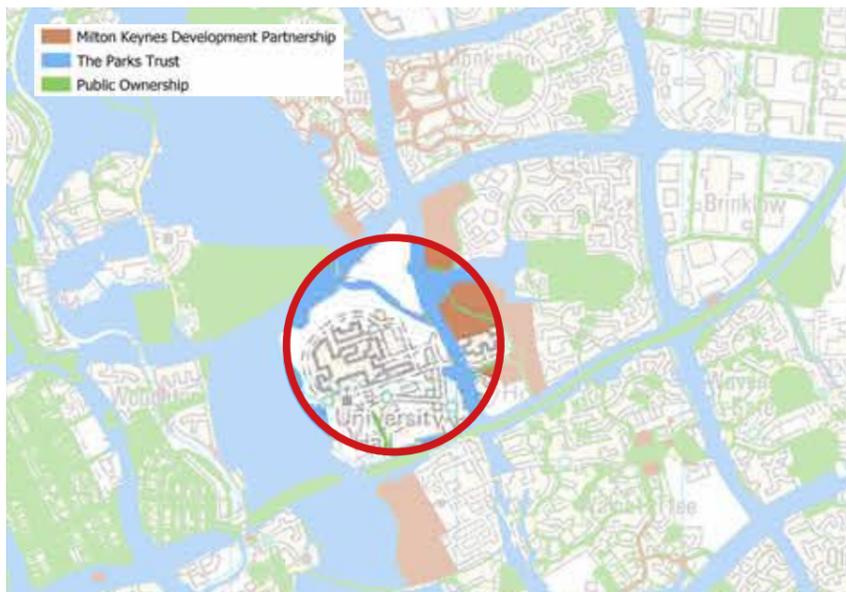
Commentary

The hospital is likely to become a major node on the MRT network and retains space to expand. Space to add residential development or offices to the south in Netherfield is also available.



Open University / Kents Hill

Significant potential for growth



Methodology

Land ownership: Most development deliverable on combination of MKDP, Parks Trust and council/publicly owned land. Some suitable land privately owned or owned by Open University.

Max distance to MRT: N/A

Grid corridor considerations: Reserve to west of grid road

Commentary

The area around the OU campus has considerable unused open space and a range of MKDP development sites. There is the potential for a commercial or education cluster around a well-connected MRT node, and a more intense use of the surface car parking on the OU campus.

Local Built Form Character

Open University campus has significant amounts of surface car parking and a range of architectural styles. The overall environment is well looked after.

Low rise office developments, sports pitches and a primary school are to the east of the site.



Local Green Infrastructure Character

Significant amounts of open green space exist, mostly unused and as a setting for the campus and office developments. A large block of mature woodland lies to the north-east.



DAVID LOCK
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