

## **From Grid to Green: Navigating Challenges and Opportunities in Sustainable Urban Planning - The Case Study of Milton Keynes**

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**Abstract:** Milton Keynes, a town established in 1967 in England, was conceived during the third phase of the post-war initiative known as «New Towns Act». It was the last town influenced by the Garden City Movement, as the original Garden City model was reinterpreted into a modern adaptation of Ebenezer Howard’s principles. This paper explores how the planning and development strategies employed in Milton Keynes could serve as a blueprint for future sustainable cities.

The masterplan of Milton Keynes focused on providing necessary services to citizens through thoughtful planning and specific guidelines, such as offering flexible and open access for everyone and prioritising resilience and livability. To achieve these objectives, a unique, grid-like layout was chosen, with «blocks» consisting of semi-autonomous neighborhoods, each equipped with essential amenities. This approach reduces the need for long commutes and fosters a sense of community. Moreover, the grid layout facilitates efficient transportation and accessibility. A road hierarchy system was implemented to form a network that reduces reliance on automobiles and supports the integration of public transportation, cycling paths, and pedestrian walkways. Finally, Milton Keynes’s sustainable approach is also expressed through its commitment to green spaces. The city has an extensive network of parks, forests and lakes, interwoven into the urban fabric. These green spaces cater to various citizen needs, enhance the importance of biodiversity, and aside from providing recreational areas, act as a natural flood management system.

By examining the challenges encountered in Milton Keynes, this case study offers a compelling model for new cities seeking to balance urbanization with environmental sustainability. Principles such as integrating green infrastructure, promoting mixed-use development, and ensuring community-centric planning are highlighted as key strategies. As cities continue to develop, those principles can be employed for shaping innovative and resilient urban environments for future generations.

**Keywords:** urban planning; sustainability; planning strategies; grid layout

### **1 Introduction**

The 20<sup>th</sup> century is widely considered to be one of the most pivotal periods regarding the field of urban planning, given the fact that it marked an epoch of immense worldwide growth, innovation, social and technological transformation. The challenges brought by the ongoing urbanization observed during the Industrial Revolution, led to the introduction of various planning principles with modernist approaches. Theorists began developing urban planning models to mitigate the consequences of the industrial age. Urban planning evolved into a technical and legal occupation, becoming more professionalized. The conception of urban planning legislation, combined with the principles and theories initiated by the Utopian visionaries, greatly influenced how cities functioned and adapted to the evolving needs of the citizens, while playing a vital role in shaping the development and structure of cities (Dimitriadis, 1995).

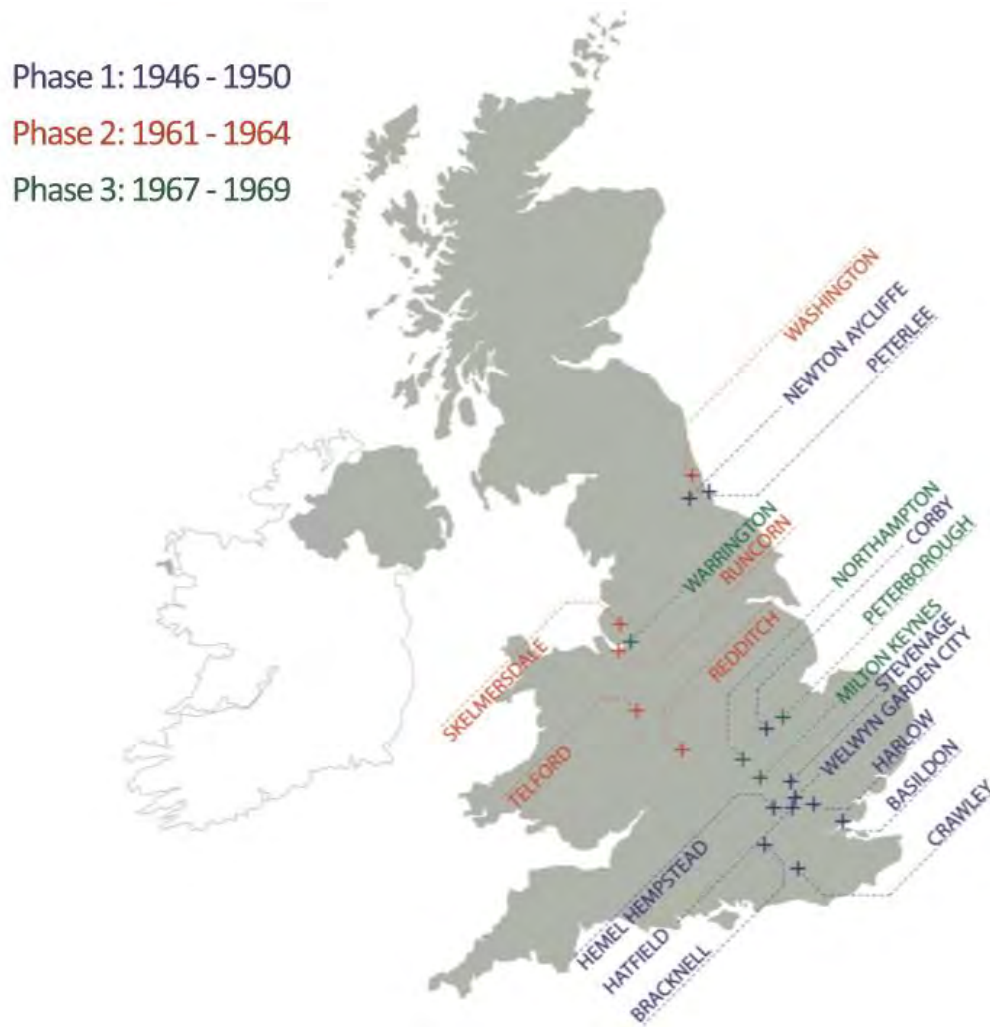
During the latter half of the 20<sup>th</sup> century, urban planners faced the challenge of designing cities that could support rapid population growth, while simultaneously improving the residents’ quality of life. Among the innovative responses to these challenges was the development of Milton Keynes, an English town designed with a unique, forward-thinking urban model that reimagined conventional planning approaches. Founded during the third phase of the New Towns Act, Milton Keynes was designed not only to address the housing crisis, but also to serve as a model for sustainable urban development. The city’s grid-based layout provided a new template for urban livability. Today, as sustainability becomes an essential consideration in urban planning, Milton Keynes offers valuable insights into how past planning principles can help create resilient cities for the future.

### **2 Historical background – The New Towns Act**

The New Towns Act, established in 1946 by the British government, was one of several reforms aimed to rebuild, reconstruct and solve the country's housing crisis (Piko, 2017). The concept was adopted in England after World War II, when the need to relocate the population of bombed-out residential areas was urgent. Furthermore, a sudden, rapid population growth occurred, with the subsequent overcrowding causing substandard living conditions for the citizens, especially in major cities such as London and Manchester (Bakermans et al., 2017).

The New Towns were developed in three distinct phases (Fig. 1) (Rivera, 2015):

- First phase (1946-1950): Overspill towns designed to decentralize large urban areas, primarily London.
- Second phase (1961-1964): Overspill towns were developed to alleviate overcrowding in nearby cities or to promote urban revival, especially in the West Midlands.
- Third phase (1967-1969): Towns designed to stimulate regional growth, serving as counter-magnets to major cities like London and Manchester.



**Figure 1** The English New Towns represented in their three phases of designation.

The New Towns initiative contributed to the creation of an entirely new urban structure in the country. Regarding their planning principles, all three phases share certain characteristics with the urban planning model outlined in the Garden City Movement from Ebenezer Howard (Dimitriadis, 1995), introduced in 1898 in his manuscript «*To-morrow: a Peaceful Path to Real Reform*» (Goodall, 1987). Garden Cities were designed in a concentric pattern and consisted of self-sufficient satellite communities, surrounding the central city and separated with green belts (Fig. 2). This urban planning principle was the most efficient way to capture the primary benefits of the countryside and the city, while eliminating the challenges presented by both (Caves, 2004). The last - and largest - of the towns whose plans reflect Howard's theories, was Milton Keynes. It represents a modern adaptation of Howard's vision, as the original Garden City concept was reimagined and blended with other planning principles (Bakermans et al., 2017). Unlike most British cities, Milton Keynes was purposely built and meticulously designed. Officially granted city status in 2022 (Pope, 2023), Milton Keynes presents a hybrid and revolutionary design, which turned out to be a pivotal point for modern urban planning.

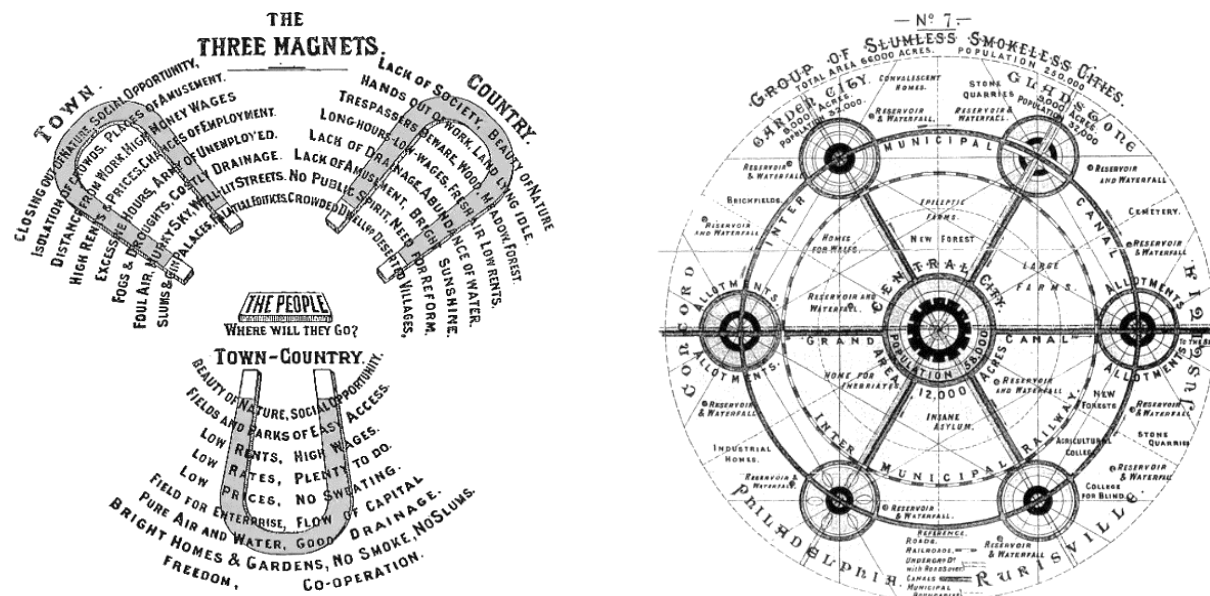


Figure 2 Ebenezer Howard’s Garden City planning model diagrams.

2.1 The masterplan of Milton Keynes

In 1964, a study by the Ministry of Housing and Local Government proposed the establishment of a «new town», identifying the area of north Buckinghamshire, in the southeastern part of England, as a suitable location for it (Fig. 3). The site where the town was to be developed was chosen for the fact that it was located at approximately equal distance from London, Birmingham, Leicester, Oxford and Cambridge (Fig. 4). Moreover, the «new town» had the prospect to be a regional hub between major cities Birmingham and London (Bakermans et al., 1970). The designated area for the development of the town was approximately 89 km<sup>2</sup>, and included five already existing towns. It consisted mainly of agricultural land and brickfields, including thirteen medieval settlements (MKDC, 1992) (Fig. 5). The name of the city, Milton Keynes, was also revealed then, and it was set to be the largest of those planned until this time. The target was to accommodate a population of 250.000 people within twenty years, thus becoming a major regional center (Llewellyn-Davies et al., Volume 1, 1970).



Figure 3 The location of Milton Keynes in England.

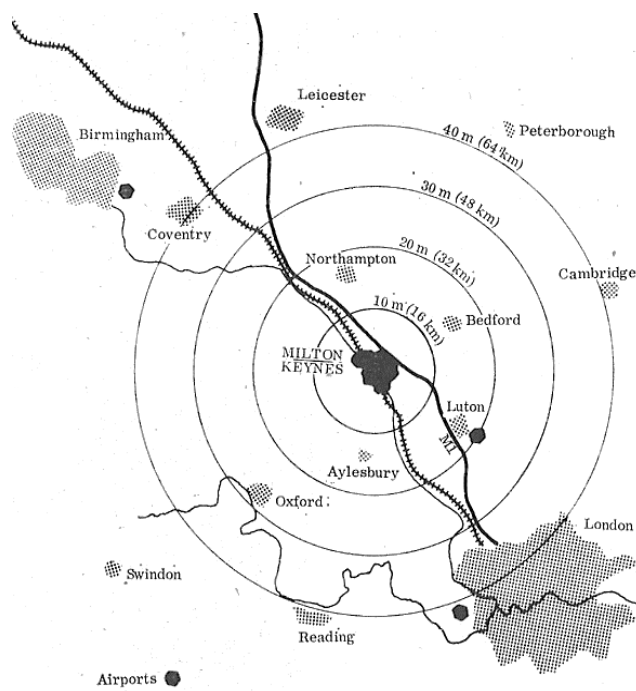
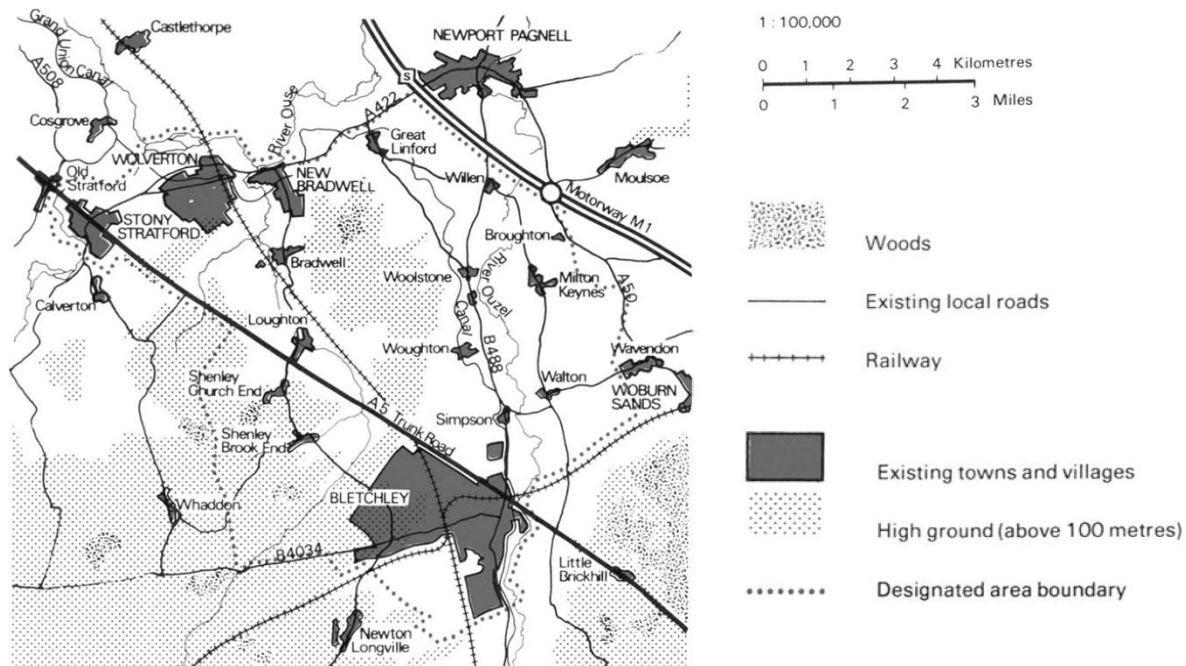


Figure 4 Milton Keynes’ distance from major cities.



**Figure 5** The designated area of Milton Keynes.

Immediately after the official announcement of the creation of Milton Keynes, in 1967, the Milton Keynes Development Corporation (MKDC) was established to oversee the development of the «new town». Urban planning consultants were selected, including architects R. Llewellyn-Davies and W. Bor, while D. Walter was appointed as the chief architect and town planner (Bakermans et al., 2017).

The MKDC initiated the planning of Milton Keynes by outlining the goals that would shape its development. The masterplan of the city was finalized in 1970, guided by the idea of guaranteeing the following six planning principles (Llewellyn-Davies et al., Volume 1, 1970):

- Opportunities for all and freedom of choice.
- Easy movement and access, good communications.
- Balance and variety.
- An attractive city.
- Public awareness and participation.
- Efficient and imaginative use of resources.

In the early stages of the planning process, extensive discussions took place, which focused on anticipating future patterns of life and exploring various strategies to meet the needs of the city's residents (Clapson, 2004). The urban planners attempted to achieve these ambitious goals, by creating a distinctive planning model that prioritized quality of life, flexibility and accessibility (Clapson, 2012). One of their concerns was, at the same time, to incorporate the existing communities that were located within the city's designated area, in such a way that their individual sense of local community was preserved (Llewellyn-Davies et al., Volume 2, 1970).

In conclusion, the creation of the new city emerged from a blend of diverse ideas, influences, and intentions. Its deliberately experimental urban planning model rejected both historic urban models and heavily master-planned post-war new towns (Piko, 2017). The vision for Milton Keynes was the development of an «urban-suburban» environment that combined the opportunities offered by a regional hub, with the open spaces and community-oriented atmosphere of suburban living. It also acknowledged the coexistence of new and traditional aspects, aiming to accommodate the diverse lifestyles citizens wished to pursue (Clapson, 2004). As the next sections will illustrate, these strategies were implemented as key points in the planning model of Milton Keynes.

### 3 The grid layout of Milton Keynes

The original planning proposals stated that Milton Keynes would be structured by implementing a strict, orthogonal grid as a planning model, inspired by the spatial structure of American cities, in particular Los Angeles (Clapson, 2004). However, it was decided that the grid concept would be indeed applied, but in a more «fluid» form, consisting of undulating curves, which would «follow the flow of the land, its valleys, its ebbs and flows. That would be nicer to look at, more economical and efficient to build, and would sit more beautifully as a

*landscape intervention*». (Kitchen and Hill, 2007). The large-scale grid system consisted of «blocks» or «squares», each with a total area of 1 km<sup>2</sup>, containing semi-independent communities lined up next to each other and contributing to a diverse collective of 100 distinct neighborhoods forming the city of Milton Keynes. Additionally, the existing thirteen villages were integrated into the grid structure, with each village assigned to its own grid square (MKDC, 1992). The grid roads, positioned between the neighborhoods, define the boundaries of the grid squares. Milton Keynes' grid planning «blocks» are the building component of its spatial organization, and exhibit diverse forms of urban development, including rural and modern suburban areas, industrial zones, and conventional neighborhoods (Fig. 6) (Bakermans et al., 2017).



Figure 6 Different forms of urban development in Milton Keynes' «squares».

### 3.1 The spatial distribution of land uses

A key aspect of Milton Keynes' urban design is the strategic distribution of land uses, which contrasts with the traditional city model where most everyday activities are concentrated in the city center. The MKDC aimed for a more decentralized approach, distributing facilities more evenly across the city, thus offering balance and variety while increasing the freedom of choice through a dispersed pattern. The residential, employment, education, commercial, natural, and heritage zones, are scattered throughout the city to ensure balanced traffic flow (MKDC, 1992). This approach encourages residents to travel towards the outskirts, rather than the center, hence, reducing traffic congestion (Fig. 7).

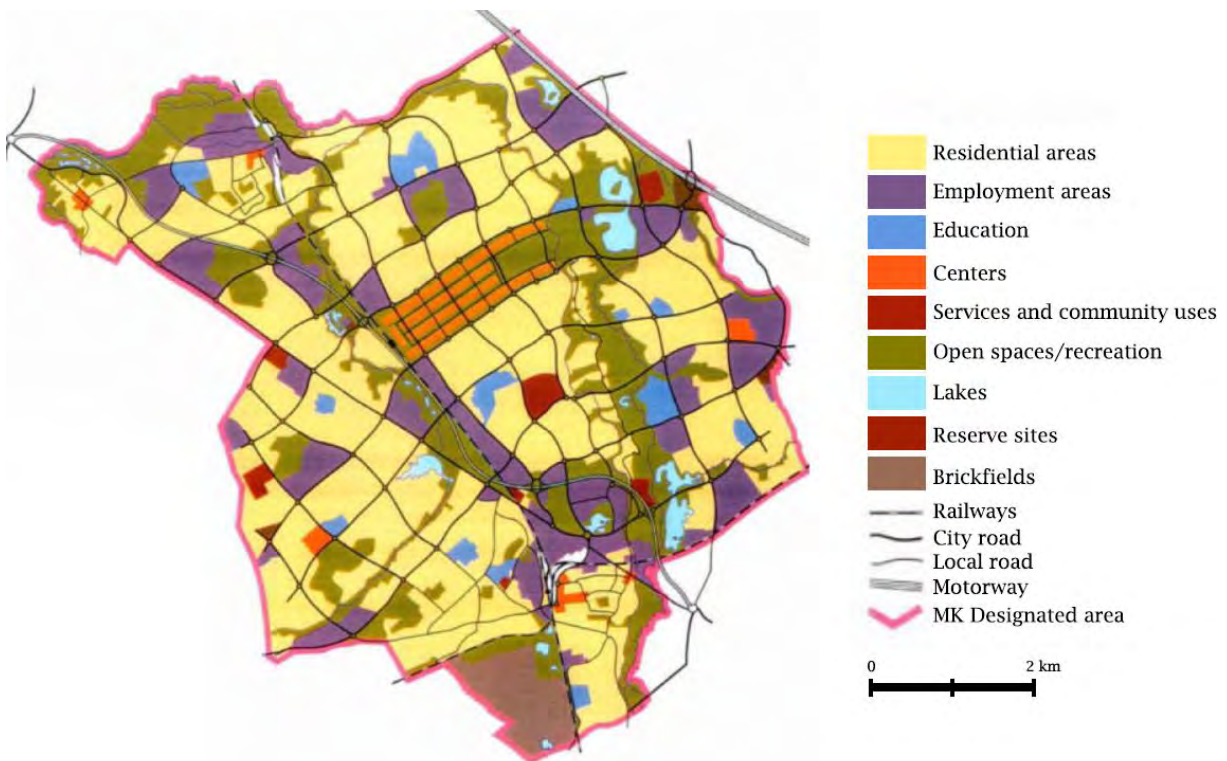
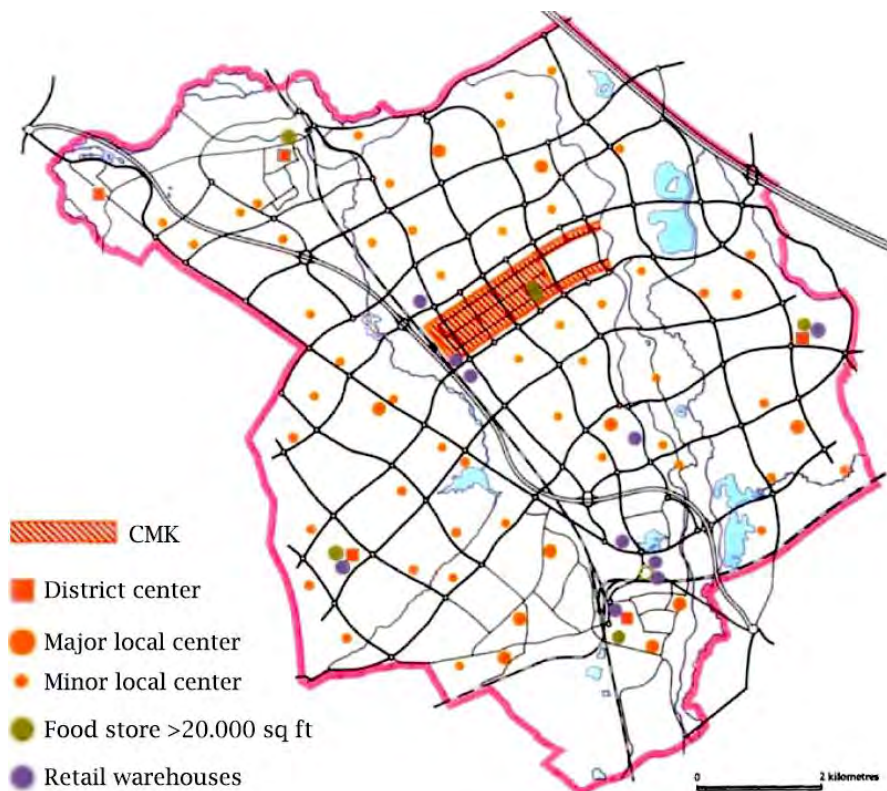


Figure 7 The distribution of land uses in Milton Keynes.

The necessity to respect the identity of the existing centers and to create a new center, offering freedom of choice and opportunity, established the pattern of centers. MKDC introduced local facilities within each grid square, referred to as «activity centers», which would act as retail hubs, along with providing other community

daily necessities such as commercial, educational and health facilities, along with bus stops (Llewelyn-Davies et al., Volume 1, 1970). Although the masterplan initially envisioned local centers located along the grid roads, most were eventually integrated within the communities (Bendixson and Platt, 1992). The centers are strategically located at the midpoint of each grid road intersection, offering convenient access to services for residents (MKDC, 1992). This concept intended to minimize traffic on the grid roads, as residents would primarily use them for commuting or accessing services beyond their local area. Regarding the historic settlements embedded into the masterplan, each of them constitutes the center of its own «block». The activity centers are divided into two categories (Fig. 8): the larger-scale local centers mostly contain educational and commercial facilities, while the smaller centers - placed roughly in the middle of a «square» - include mainly secondary commercial facilities (Bakermans et al., 2017).

The main city center, called Central Milton Keynes (CMK), is laid out in a more strictly orthogonal grid layout and is located close to the geographical centre of the city, serving as its social, commercial and cultural core (Fig. 9). CMK was designed like this in order to combine various land uses (commercial, leisure, substantial office space and higher-density housing), thus requiring a more defined spatial organization (Piko, 2017).



**Figure 8** The positioning of the activity centers in Milton Keynes.

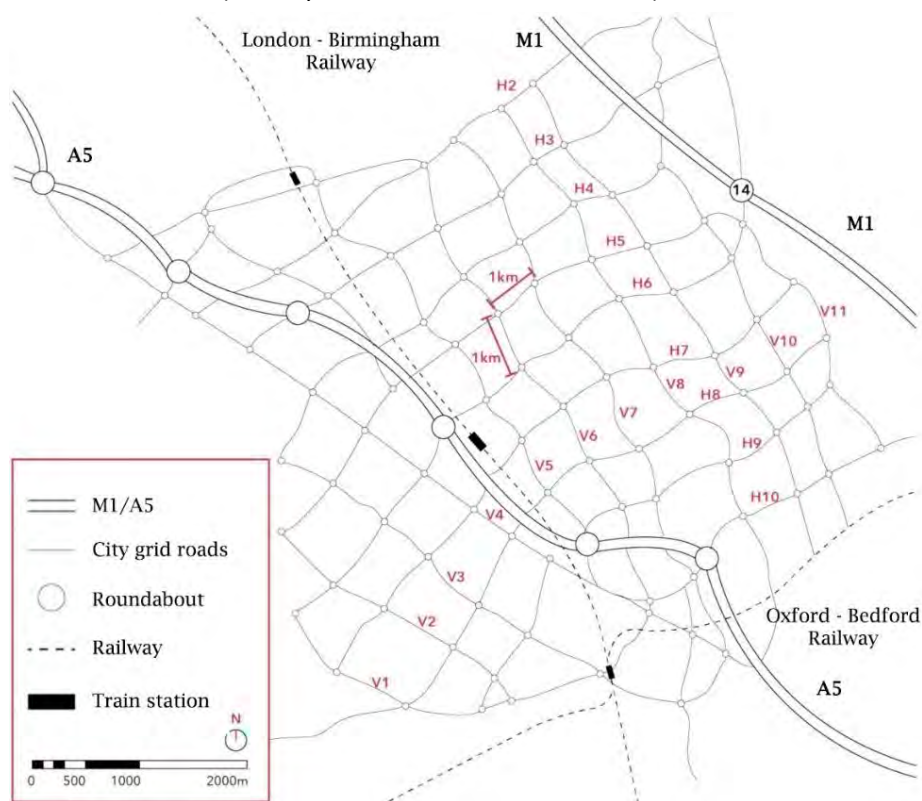


**Figure 9** Aerial view of the Central Milton Keynes district.

#### 4 Transportation network of Milton Keynes

With the rapid development of communication and transport that occurred in the 1960s and 1970s, the planned, flexible cities that made the mobility of residents easier, were considered the «cities of the future». In the case of Milton Keynes, the transportation network was chosen as the basis for this flexibility, since the automobile was seen as the means of transport of the future (Llewelyn-Davies et al., Volume 2, 1970). Milton Keynes considered car travel, mainly because it was among the last cities built during the rapid expansion of the automobile industry. Therefore, the creation of a road network that could support this growing demand was crucial. Instead of following Howard's Garden City model, which would lead to traffic congestion, the city is structured around its grid roads. The system of road hierarchy, with the grid roads positioned between the «squares» than running directly through them, was applied to the city (Bendixson and Platt, 1992).

The main transportation network is formed by 11 grid roads aligned north-south and 10 grid roads aligned roughly east-west. For better navigation, a lettering and numbering system was used: The N-S direction roads are lettered V, for *vertical*, while the E-W direction roads are lettered H, for *horizontal* (Fig. 10) (Murrer, 2020). Approximately two-thirds of the main roads are dual carriageways, while the remaining roads have a single lane in each direction. These are primarily located near the city's perimeter, where lower traffic volumes allow for adequate flow on narrower roads (Llewelyn-Davies et al., Volume 1, 1970).



**Figure 10** The main transportation network of Milton Keynes.

From an eye-level perspective, green belts featuring vegetation and trees were added along the sides of the grid roads, to allow flexibility in the transport system for future expansion (Fig. 11) (Llewelyn-Davies et al., Volume 2, 1970). They were intentionally designed to shield residential and commercial areas from traffic - the trees serve as a filter, reducing noise and air pollution, thereby protecting the activities and everyday life within the grid squares (MKDC, 1992).

Finally, the urban planning model of Milton Keynes allows for higher speed limits, due to the absence of buildings close to the roads. In fact, the grid roads were designed by the MKDC to operate without an urban speed limit – at speeds up to 110 km/h – as well as being able to support heavy traffic. In order to enable a free and efficient movement of the traffic flow, roundabouts were created at the intersections of the main roads (Fig. 12). There are currently 130 roundabouts in Milton Keynes, which have replaced traffic lights at most intersections. This approach helps to reduce air pollution by minimizing the number of times vehicles must stop and start, thus promoting smoother traffic flow and decreasing vehicle emissions (Cawley, 2020).

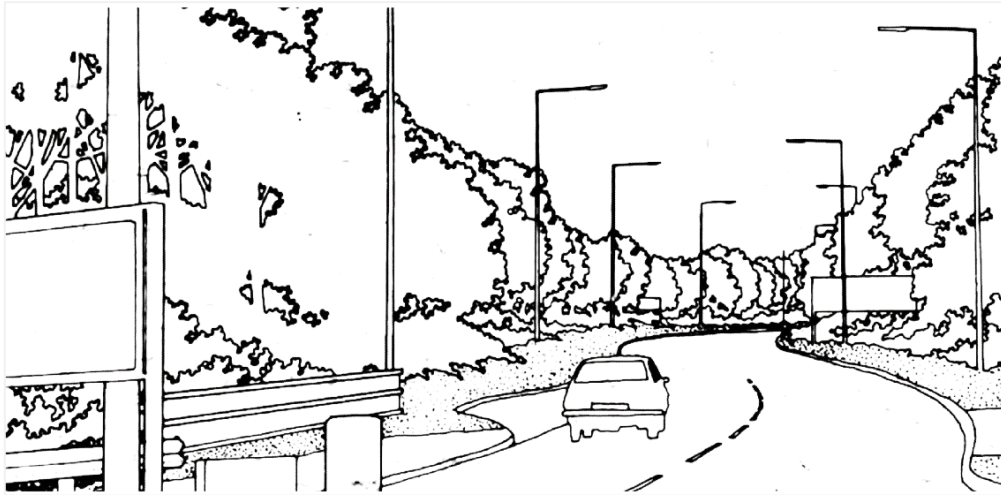


Figure 11 Eye-level perspective of the grid roads of Milton Keynes.



Figure 11 Eye-level perspective of the grid roads of Milton Keynes.

Figure 12 Aerial view of a Milton Keynes roundabout.

#### 4.1 Integration of alternative means of transport into the grid

Although the MKDC vision of cross-city movement focused on motorization, leading to a road system optimized for automobiles, it also aimed to provide an optimal public transport system to citizens. Easy access, safety and mobility were key priorities in the planning of the city, regarding pedestrians, cyclists and disabled citizens. This led to the creation of the Redway Network, an extensive system of cycle paths and pedestrian routes. The network connects all the grid «squares» of the city, while linking recreational areas and the city center (MKDC, 1992). With a total length of approximately 320 km and paved with red tarmac, the Redway was designed to segregate the cycle paths and the pedestrian walkways from the main road network (Fig. 13). These pedestrian routes cross the grid through underpasses and bridges placed at strategic locations, enabling high-speed traffic to flow, while securing that pedestrians can safely navigate the city (Fig. 14) (Bakermans et al., 2017). Referred to as the «green grid», the Redway network emphasizes the environmentally friendly nature of walking and cycling, while enhancing the appeal of the routes through landscaping alongside the red pathways. It serves as a dual-purpose infrastructure, designed not only to facilitate alternative means of transport, but also to provide recreational routes (MKDC, 2013).

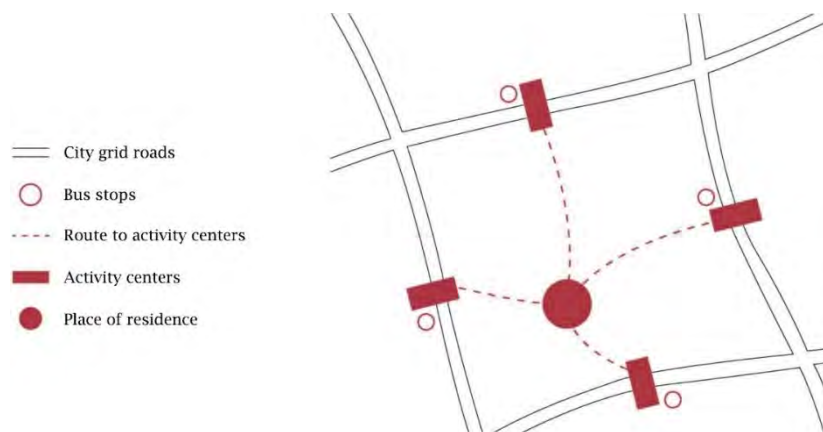


**Figure 13** A Redway cycling path.



**Figure 14** A Redway pedestrian underpass.

The MKDC aimed to ensure that transport was accessible to all by implementing a public transportation system designed for efficient travelling across Milton Keynes. Buses were to be the primary means of transport, providing frequent and affordable service. Journey times were expected to be notably faster compared to most similar-sized cities, given the fact that buses would travel on the grid roads with minimal traffic congestion. Bus stops were strategically placed along the midpoints between two grid roads, close to the activity centers, ensuring that no home or workplace would be more than a six-minute walk away (Fig. 15) (Llewelyn-Davies et al., Volume 1, 1970). The entire journey would take approximately 24 minutes, which was notably faster than similar-sized cities. To ensure that these time frames were achievable, bus routes were planned to run within 500 meters of every place of residence, ensuring equitable access to transportation for everyone (Pirmohamed, 2022).



**Figure 15** Proposed positioning of the bus stops on the grid roads of Milton Keynes.

### 5 Green infrastructure and open spaces

Following Ebenezer Howard's Garden City principles about integrating green belts and open spaces into the urban layout of a city, Milton Keynes' 1970 masterplan had set out the principle of developing a «green city» or a «forest city», resulting in millions of trees being planted and large areas of greenery being constructed (Llewellyn-Davies et al., Volume 1, 1970). MKDC placed emphasis on high-quality landscaping, recognizing that parklands and green spaces have a crucial role in supporting the guiding principle of an attractive city. Peter Youngman was appointed as landscape designer, proposing a «flowing» network of parks, woodlands, forests and lakes, interwoven into the urban fabric and following the topography of the designated area (Fig. 16) (MKDC, 2013). The new approach allowed for greater flexibility and facilitated a more harmonious integration of the urban fabric with natural elements, promoting a balance between built environment and green spaces.

The green infrastructure of Milton Keynes is organized into three different scales, which cater for the different needs and requirements for all residents:

- The linear parks, established alongside the Great Ouse River's streams, which flow through Milton Keynes. They serve as a key structural element of the city, designed to enhance the landscape and offer pleasant walking environments, and to provide recreational spaces (Fig. 17) (Clapson, 2004).
- The district parks were designed to function as conventional urban parks, catering to approximately 15.000 residents and being connected to the linear parks system through the Redway network.

- The local open spaces in Milton Keynes were designed to provide residents with quick and easy access to recreational areas within their neighborhoods. Positioned close to grid roads and integrated with the Redway network, these spaces ensure that each community has a nearby, accessible outdoor area (Bakermans et al., 2017).



**Figure 16** The green infrastructure of Milton Keynes.



**Figure 17** Campbell Park: a major feature of the city’s linear park network.

The linear parks in Milton Keynes offer well-connected spaces for recreational activities. These parks form a comprehensive network of tree-lined walkways and cycle paths, connecting to the «green grid» formed by the Redway network. Apart from promoting active transport, the parks enhance the landscape by incorporating natural features such as lakes, canals, and rivers. From the early stages of planning, water was envisaged as a key feature in Milton Keynes. The canals and the rivers are flowing through the parks, while MKDC preserved and

maintained green spaces along these waterways. Additionally, several lakes were integrated into the parks, serving both as recreational amenities and as runoff areas for road water, further supporting the city's green infrastructure (Clapson, 2004).

The urban planners of the city were committed to ensure that no resident of the city can ever be further than 800 m away from a green space (Bakermans et al., 2017). The landscape features in Milton Keynes were integral to creating a cohesive spatial environment, easily accessible to everyone (Cureton, 2023). The various scales of green infrastructure were key to providing Milton Keynes with long-term adaptability, while also shaping its unique identity and contributing to its success as a «new town». Designed from the outset as a key part of the city, the strategic open space network enhanced Milton Keynes' adaptability and shaped its identity. Beyond creating pleasant spaces, the network connects people, wildlife and water (Milton Keynes Council, 2018). More than 20 km<sup>2</sup> of green infrastructure - almost 25% of the city's total area - form an «urban laboratory», with pioneering ecosystem approaches that demonstrate innovative strategies (Forget, 2019).

## 6 Then and now: challenges and opportunities in Milton Keynes

In 1992, the creation of Milton Keynes was deemed to be completed (Murrer, 2022). During its development, the Corporation faced a certain number of challenges that had to be overcome. The most important ones were the major economic and social changes the United Kingdom went through during this time period, namely the 1973-1975 recession (Weston, 2024) and the rapidly changing political landscape of the 1980s, which resulted to a shift in privatization regarding the city's socio-economic development (MKDC, 2013). Despite this unstable scenery, MKDC remained responsible for implementing the masterplan and ensuring that the organizations associated with the city's growth were well coordinated.

The aforementioned external factors had a strong impact in Milton Keynes' masterplan. Some of the initial planning goals were significantly more difficult to be achieved to the full extent, and the city's adaptability to growth, along with its ability to integrate more contemporary sustainable practices, were strained. The main challenges that surfaced over the next years, after the completion of the city, were the following:

- Milton Keynes' grid layout was specifically chosen by the MKDC to cater to the rapidly growing automobile industry. The planners put a significant amount of effort into integrating alternative modes of transport into the main road network, in order to provide equitable mobility to all of the citizens. However, their approach was more car-centric, not prioritizing public transport or active travel options. Consequently, the public transport system struggled to meet the citizens' needs. After the privatization of public transportation, bus companies prioritized profit over efficiency. As a result, they focused on using local routes, which made buses less appealing due to higher costs and increased travel times (Pirmohamed, 2022).
- A direct consequence of the inadequate level of public transport was car dependency (Bendixson and Platt, 1992). With the public transport system struggling to offer a convenient alternative, residents were increasingly dependent on their personal vehicles, as driving proved to be faster and more economic in most cases. Furthermore, the residents that did not own a car faced difficulties, as their mobility needs were not addressed properly (Milton Keynes Futures 2050 Commission, 2016). This practice contributed to traffic congestion, environmental issues, and a lack of investment in sustainable transport options.

### 6.1 Sustainable development strategies in Milton Keynes

Despite the challenges that occurred during its development, the original design of Milton Keynes incorporated into several sustainable principles, that were implemented successfully. Although these strategies were designed to align to the urban challenges of its time, they are heavily relevant to the nowadays sustainability standards. More specifically:

- Integration of green infrastructure: Environmental sustainability was embedded into the planning of Milton Keynes from the outset. The linear parks play a vital role in enhancing biodiversity by preserving natural habitats and supporting diverse ecosystems within the urban landscape. Additionally, sustainable drainage systems, which are a form of natural flood management and can manage water using natural processes, were proposed and implemented (Llewellyn-Davies et al., Volume 1, 1970). Green infrastructure provides a range of ecosystem services, including clean air and water, risk regulation (floods, droughts, and overheating), as well as health and well-being benefits. These spaces help mitigate health and environment risks such as urban heat stress, noise pollution, and poor air quality (Lepus Consulting LTD, 2023).
- Community-centric planning: The grid layout applied in the design of Milton Keynes had a significant impact on the livability and community-building aspects of the city. It facilitates the distribution of essential services across the city, ensuring that citizens have easy access to them. The semi-autonomous neighborhoods, each designed to be self-contained with essential services and amenities, reduce the need for long commutes and encourage local living. This approach encouraged social interactions within neighborhoods, strengthening

the sense of community. By promoting accessibility and enabling an organized distribution of green spaces and services, the grid model supports the development of a more sustainable urban environment

- **Mixed-use development:** The combination of residential, commercial, and recreational spaces in close proximity, supports efficient land use, reduces transport routes, and encourages walking or cycling. Together, these approaches promote sustainability by minimizing urban sprawl, reducing emissions, and supporting local economies.
- **Pedestrian and cycling network:** The urban planners of Milton Keynes envisioned a transportation network that prioritized opportunity, freedom of choice, and ease of movement. In order to accomplish these goals, they aimed to provide a high degree of flexibility, by ensuring that different modes of transportation could co-exist harmoniously within the grid layout. The integration of an extensive network of cycle and pedestrian walkways promotes sustainable mobility, alongside efforts to minimize car dependency. It reflects a commitment to sustainable urban living, reducing environmental impact while enhancing residents' quality of life, and was ahead of its time in promoting sustainable, low-carbon mobility.

## 6.2 Adapting the city for future sustainability

While it provided a solid basis, Milton Keynes' planning model requires ongoing adaptations to meet modern sustainability standards. A combination of policy adjustments, technological innovation, and community engagement are the main initiatives that have been put into effect to address the issues presented, in order to enhance even further the sustainability of Milton Keynes. More specifically:

- **Milton Keynes Parks Trust:** An independent charity established in 1992, it aims to provide, maintain and equip parks for the benefit of the residents of Milton Keynes (MKDC, 2013). In addition to landscaping and maintenance, the Trust provides recreation facilities, hosts over 500 community events annually, and promotes public education on wildlife, biodiversity, and the environment (The Parks Trust, 2024).
- **Get Around MK:** Get Around MK, developed by Milton Keynes Council, promotes sustainable travel by encouraging smarter transport choices. The council collaborates with schools, employers, residents, and community groups to reduce car use and increase the adoption of eco-friendly transport options (Get Around MK, n.d.).
- **MK Connect:** it is the largest transport project of its kind in the United Kingdom, designed to provide affordable transit options for areas not covered by traditional bus routes, or where cycling is impractical. Users can book MK Connect vehicles for travel, which may involve sharing the ride with others (Milton Keynes Council, n.d.).
- **Net Zero:** Milton Keynes Council has been committed to make the city carbon neutral by 2030 and carbon negative by 2050, as well as advancing sustainability across various sectors and tackling the global challenges of climate change (Milton Keynes Council, 2019).
- **Updating the public transport infrastructure:** From September 2024, more frequent bus timetables will be put into effect, with adjustments to better reflect traffic conditions (Milton Keynes Council, 2024).

These initiatives reflect a comprehensive approach to enhancing sustainability in Milton Keynes, demonstrating a commitment to evolving with modern standards and addressing emerging environmental challenges. Through continued adaptation and innovation, Milton Keynes aims to strengthen its position as a model for sustainable urban development.

## 7 Conclusion

*«Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs» (United Nations, 1987).*

The visionary planners of Milton Keynes had a remarkable foresight, envisioning a city that would not only address the immediate needs of its time, but also predict future challenges associated with urban living. Thus, the city was designed with sustainability in mind, focusing on creating a city that would meet both current and future needs. Although not every element of the original plan was flawlessly implemented, these foundational aspects have enabled the city to evolve over time, facilitating the identification of strengths and the enhancement of the planning model's weaknesses. The city's emphasis on accessibility, quality of life, and environmental resilience laid the foundation for a sustainable future. However, the lessons learned from Milton Keynes also highlight the importance of ongoing adaptation and responsiveness to emerging challenges. There is a continuous need to update its infrastructure and services to meet modern demands. The balance between urban development and the preservation of green spaces, as well as the integration of modern infrastructure with environmental sustainability, remains a critical aspect of its planning legacy.

As cities worldwide continue to struggle with the challenges of rapid urbanization, Milton Keynes offers a powerful model for creating resilient, livable environments that prioritize both community well-being and environmental sustainability. The strategies employed in its development can serve as guiding principles for future urban projects. By learning from both the successes and challenges of Milton Keynes, planners can shape cities that not only meet current demands, but also anticipate and accommodate the needs of future generations.

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