

The Making of the Liveable City: The Overlooked Aspects of Smart Cities Design

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This article examines the real potential of smart cities to offer a better experience to residents as humans rather than a mere user, going beyond basic needs. This is done through a lens of design, urban encounters and on-site sensations. The topic is presented and discussed in four main themes; Facilitating the Making of a Liveable City and Quality Experience, Mental Associations of the City, The Unique Intimacy of the Night Experience, Emotional Responses: Safety, Stress and Discomfort, and the Taste of the City: Character, Wayfinding and Monotony. This is to facilitate analysis and communication. Nevertheless, the topics presented here should not be separated from one another. Various qualitative methods were used in the analysis of the Milton Keynes case study; this includes interviews, field observations and visual comparisons with other cases, allowing for a deeper understanding of the different capabilities of the different approaches. The results help to further fill the knowledge gap in the literature on the overlooked aspects of smart cities and provide better information for smart city design.

Keywords: smart cities making, sustainability, city brain and smart cities metrics, smart cities standards, smart cities applications, governance, planning and policy.

Introduction

The research explores how different design aspects of the lived experience and sensations in smart city-making are being comprised for a dominant focus on the efficiency of infrastructure, basic function, and services. The interviews analysed as part of this paper engages parties involved in policymaking, technology, and smart city design to think, apply and produce them concerning the lived experience in the city. The chosen case study Milton Keynes is recognized for being a living lab and has a strong vision and agenda supporting its development as a smart city, it also has a strong reputation for being one of the UK's fastest growing and economically successful cities. The paper starts by exploring the attention given to the night experience in the case study's design, then it moves to explaining the sensations and how some city elements impacted them. Finally, it ends by describing the effect of neglecting certain characteristics of the placeness of the city. This helps to understand how important designing the human experience and providing good quality experiences and sensations is to making smart cities which render themselves better than other cities. The data collected and analysed qualitatively revealed findings that are presented under themes

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strongly related to spatial aspects found to be compensated for the mere focus on technology. These include Facilitating the Making of a Liveable City and Quality Experience, Mental Associations of the City, The Unique Intimacy of the Night Experience, Emotional Responses: Safety, Stress and Discomfort, and the Taste of the City: Character, Wayfinding and Monotony. Nevertheless, the thematic presentation is used to offer the argument in a way that makes it easier to grasp. This is not to suggest that these areas are to be understood or appreciated separately from each other or in silos. The findings reveal that Smart is focused on using and installing technology in the city as a market, assuming that basic services are what people need, using computer rationalities that are systematic and abstract dealing with the resident as a mere user to function at something. This overlooks the lived experience, feeling, and atmosphere of the city detaching the people from their habitat. On the other hand, art is highly focused on feeling the tools as a method of knowing them as well as the making of the perception, communicating with the people using a language that is powerful enough on the primitive-human level. This is usually intending to make them feel something, live something, or engage them to achieve something, which evokes a sense of belonging, ownership, and participation. Integrating art to develop smart cities in various ways; conducting research, making the city, and enhancing the level of engagement with people are recommended to generate more valid outcomes and a deeper understanding than old-fashioned ways of collecting and interpreting abstract data that sometimes reveal mixed outcomes.

Methods

To highlight the difference in the approach used in the case study through fieldwork and other recognised approaches, visual comparisons are presented in different forms throughout the paper, while explaining the difference in logic and associated failure or success. Seeking an in-depth understanding of the making process. The paper illustrates results from the case study approach that combines direct field observations and semi-structured interviews conducted with experts who experienced, lived, worked, and participated in the development of Milton Keynes. The notes taken during the field work were interpreted with reflections on the differences recognised through a comparative approach that depends on visuals. This is to efficiently examine and feel the nuances that cannot be communicated fully merely by using words, especially given the context of atmosphere, emotions or affections, encounters ... etc. This resonates with the principle that even though a case study is a unit of analysis, it may include more than one case which is called then a multiple-case design. Multiple or comparative case designs generate results that are found to be more convincing as it is derived from a set of cases, causing the whole design to be perceived as stronger or more robust than single-case designs (Wikfeldt 2016). In rare, unique or extreme cases the direction of the research design will be plausible (Yin 2009, Karvonen 2020). Milton Keynes which is known for its prestige as being a Smart City is discovered to be an extreme case of using design/urban elements in a way that is merely

functional and focused on the pleasure of the eye. This is detaching those elements of the city that could be of greatest power to enhance people's lives, explore, deliver and evoke an engaging atmosphere. The case study is discussed through comparisons with other cities and approaches in terms of their spatial design and relation to shaping the experience in the city. The focus was to use noticed practices, products or ways of thinking noticed during field trips to other cities that were found beneficial to show the difference in how they reflect their atmosphere, identity and care for the resident's experiential needs in the city. This appreciation and consideration of the lived experience, atmosphere and placemaking needed to be analysed and communicated using visual comparisons, reflections and highlights from the actual first-hand experience as well. Karvonen (2020) agrees that the search for smart cities is still in its infancy and that a more critical understanding of the concepts, implications, and possibilities associated with the vision of smart cities is needed (Amin and Thrift 2002, Karvonen 2020). Fulfilling these needs will enable researchers to be more engaged with the debate instead of adding to the dominant critics on the "banality" of contemporary urban designs which are often exposed by "the rush to theoretical order" (Amin and Thrift 2002, Degen et al. 2008). This is proven to be unproductive and incompliant with the complexities of urban visualities (Amin and Thrift 2002, Degen et al. 2008). Hence, producing knowledge on the process of making and developing smart cities can be severely impacted by factors in the process of conducting the study itself. Some of these include using traditional ways of conducting research on atmospheres as well as recycling the same views on previous data collected without further explorative questions or analysis with a new emphasis on certain areas. This issue in academia as a practice not only produces inefficient recycled views of previous literature, delaying any progression in the research because of the absence of higher efficiency and productivity found in more innovative ways of working. Working in silos produced unhelpful and contradictory outcomes. Whelan (2020) asserted visuals work better because they are quicker and more reliable than words when it comes to expressing meanings around the daily experience, providing important "complex, non-linear and dynamic entities" (Whelan 2020). Hence, using visuals in this study helped to provide rich pictures and engaging debates.

Supportive data included interviews from different resources such as the Living Archive, the BSC Gem of all Mechanisms podcast, a published interview with Prof. Michael Keith coordinator of Urban Transformation Network (UT), one of the ESRC networks with over 80 research projects presenting urban challenges and development opportunities, as well as 22 multi-disciplinary interviews with various experts in Milton Keynes making and development, as they were conducted as part of the Smart Cities in the Making: Learning from Milton Keynes project funded by the Economic and Social Research Council (ESRC) (see more in Rose (2018)).

Results

Facilitating the Making of a Liveable City and Quality Experience

Bearing in mind the current views on what smart is and what it could be, the results argue that there could be a deeper understanding of the meaning of the label Smart City and the image of the authentic smart city. The basis of the view this research work offers relies on principles that stem from the process of conducting the research as well as the literature. The need for a more comprehensive and facilitating vocabulary has been expressed by many scholars reflecting on challenges that communication raises in the design process, research, and development projects of smart cities. Facilitating better communication is not only important to achieving predefined goals of the visionary smart city or project; it is essential to get a profound understanding of the actual experience and visuality of the city or urban spaces as the inhabitant perceives or interacts with them. However, studies on the city require not only critical tools and more accurate critical vocabulary but also multiple theoretics and methodologies and different approaches to discussing urban aesthetics (see also Ellard 2015, Foss 2018, Julier 2006, McLean 2019). The lack of proper vocabulary in addition to inheriting a fixed position that merely criticises design through a lens that focuses on the way urban design is used as a tool of the system, capitalism, or consumerism, hypnotising, and depoliticizing the public (Degen et al. 2008). Criticizing the inefficiency of the notion of “Smart” is a shared view among those involved in making smart cities. The inconvenience is brought by the difficulty of defining and measuring what is meant by the term. Using the correct labels or phrases is helpful because it raises the efficiency of teamwork, as the long experience of an interviewed academic, a research director and a retired strategic consultant revealed. The same understanding and appreciation for the role labels can play in teamwork occurs in discussions on software development. In the BSC Gem of all Mechanisms podcast, Runciman (2020) explained that labels are fundamentally helpful in reducing ambiguity and increasing the certainty that “we are not misled into thinking we are doing something as opposed to something else” (Runciman 2020).

Another point is the association with high tech which leads to rationalities that are focused on efficient services and devices in the city such as robots and autonomous vehicles. Even though in terms of affects, as an element contributing to the atmosphere of the city, such services and devices are not proven to have the same impact as other aspects and goals in terms of the socio-spatial, lived experience and well-being are either disconnected or undefined. These elements that are often perceived as what smart is, as shown in Figure 1 are essential in terms of functionality. Nevertheless, they are only a small part of what a smart city means or rather a better experience in the city could be like, as they become the old new after some time.

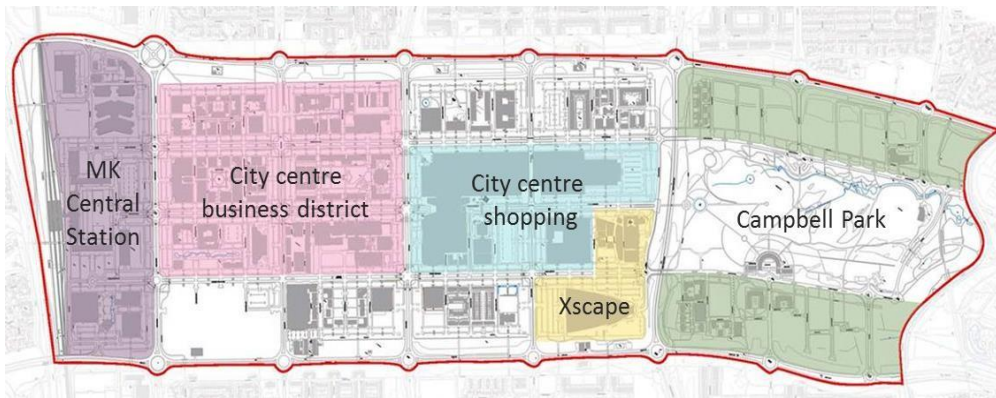
Figure 1. *Delivery Robots in Milton Keynes*

Interviews and discussions around the notion of Smart show a general dissatisfaction with the ambiguity of a term that is often used to express a sense of a futuristic, progressive, better style of cities. The impact of this uncertainty on what exactly smart is or how to assess its delivery became more apparent when experts on smart city governance and development projects were asked to filter and reflect on images representing relations between surrounding environments and human interactions, well-being, and needs. The direct answers revealed that these were not considered relevant not only to the notion and how smart cities are constructed but also to the visionary smart city. The same pattern was noticed after analysis of the interviews collected from supportive data provided by various resources stated previously. However, holding the position of an observer, the adopted approach is engaging in an open debate, instead of recycling previous insights or data collected to criticise them. This helped to reveal that human nature as well as a reflective and reflexive practice already exists at some level, however not deliberately, or consciously used in practices concerning Milton Keynes's development as a smart city. Examples include projects to develop phone applications, clean mobility and an age-friendly app called Age UK Milton Keynes. The shared pattern of thinking focuses on how the managers namely notice, recall or imagine they would have liked or disliked using the service provided to make the question more about how to make it more enjoyable and attractive. Practical cases on this were given by academics and a strategic consultant on energy and transport explaining what appeals to people as an essential asset to boost the numbers of bus users instead of using the car. Also, a manager of a content marketing agency commented on the making process of a phone application that listed all the different landmarks, celebrating the 50th anniversary of Milton Keynes saying: *"There wasn't anything around it, and the idea of it being called 50 Golden Icons was not exactly too encouraging to people to go and download. We wanted to create something a bit more inviting. We wanted to create something that had more of a challenging aspect to it. We wanted something a bit more interesting"*. This way of thinking within marketing and IT companies which are engaged in constructing and

developing smart cities is promising as it emphasises delivering the “right thing instead of selling something as another expert and academic stated” as the interviewee explained. Moreover, delivering a product not only on time but also by making it competitive by adding the user reaction to be the focus while it is under development, in turn, makes the team add thoughtful elements to make it more engaging.

Also, making senior citizens able to use and interact with technology as the smart city develops is a priority. In addition, some statements reveal that making this category of resident more confident and comfortable about living with the changes the future has or the agenda of their city to progress being “Smart”. This shows a consideration of human nature and the natural responses to change. However, other statements reveal the absence of proper understanding of the role that architecture of surroundings play especially concerning affecting human nature and needs. Some experts state that the services that central areas of Milton Keynes offer including catering, entertainment and shopping make the area surrounded by the H5 (Portway) north-going road, the West Coast railway line to the west and towards the east through the Grand Union canal, the city’s “heart”. Other experts, academic and historic professionals stated the opposite; referring to the grid system, the split between historic and modern areas, and the land’s lack of character in the architecture and typology of the city as reasons behind not having engaging collective places for people. This explains what is offered instead of the real heart and soul of the city, forcing the name of the centre to a line that connects the train station with the shopping mall shown in Figure 2.

Figure 2. Central Milton Keynes (CMK) [35]



A leading officer at services and support charity to age-friendly development in Milton Keynes added “You can have been living in Milton Keynes for 30, 40 years, but you’re not using all parts of Milton Keynes. Like, Central Milton Keynes is very commerce-driven, the shopping centre, the marketplace, although lots are going on we don’t necessarily feel that people engage all the time”. Direct observations and the researcher’s prolonged experience of living in different areas of Milton Keynes support the observations and reflections made on the case study, including that shopping is namely the dominant activity. These features were emphasized by the way the city was originally planned to use a grid system and

abstract modern designs to imitate American cities. This also resulted in a lack of a "heart" or a clear centre of the city making the daily experience of the city more seamless, plain and unvaried. Related observations to this are discussed in more detail in the following themes, confirming the need to allow people to explore and experience being in this city in an appealing way that exposes and observes how the different city elements affect their impression of the city.

Mental Impressions of the City

The Significance of a Good Quality Human Experience in the City

Human perception of architectural space involves intention as the generative force behind the experience of engaged sensations and impressions. The outer perception is engaged with physical phenomena such as the structural spatial entity and the inner perception is engaged by mental phenomena which is the motivation behind it. To upgrade the phenomenal experience architecture must stimulate both phenomena while expressing meaning taking into consideration the particularities of the site and circumstances. To develop a clear understanding of this integration between subjective and objective architects must demonstrate the whole and analyse the partial perceptions. As architecture is not understood as a totality it is understood as a series of partial views or specific experiences. Architecture is powerfully inspirational when it is more stimulating than its individual parts. Thus, the building program needs to be balanced with the phenomena of material, space, detail, etc. (Pallasmaa 2012).

By stimulating certain neural activities of the brain through the integration between steadiness and ambiguity artists are empowering imagination such as the artworks that are represented in "incomplete" forms or in a mysterious story. According to Paul Sartre imagining is to be differentiated from realizing by intention and the orientation of the awareness towards the objects not by the objects themselves. The importance of imagination comes from the fact that images and visual perceptions are in the same zones of the brain which makes them equally real and sometimes it is more important as Anatole France once stated: "To know is nothing at all, to imagine is everything" (Pallasmaa 2011, Shelton et al. 2015, Tenner 2018, Webb 2006, Whelan 2020, Wikfeldt 2016, Wilding 2018, Yin 2009)¹.

¹<https://www.milton-keynes.gov.uk/your-council-and-elections/councillors-and-committees/map-parish-and-town-councils>; <https://www.bbc.com/news/uk-england-beds-bucks-herts-22038868>; https://twitter.com/KensingtonRoyal/status/912626651057487873?ref_src=twsrc%5Etfw.

Figure 3. A Sample of Road Signs and Logos of Milton Keynes

Sources from left to right: (a): <https://www.bbc.com/news/uk-england-beds-bucks-herts-22038868>, (b): https://twitter.com/KensingtonRoyal/status/912626651057487873?ref_src=twsrc%5Etfw, (c): <https://heritagemk.co.uk/>.

The lack of a clear mental image of the city seems to be noticed clearly in the official logos, events and organisations where it is needed the most to communicate a symbol or a sense of the city (see Figure 3). On the contrary, the main characters used are overly simple and abstract using the abbreviation of the city name MK. On the other hand, other cities seem to be celebrating their identity with a stronger mental image evoked by the means of their placeness, interesting skyline and architecture as well as the village area of Milton Keynes as shown in Figures 4-5. This stimulates curiosity to know about the history of the place as a newcomer or the imagination to recall certain experiences or scenery of the city, which makes places memorable to people, and in turn boosts the sense of attachment.

Figure 4. (Left) Symbols and logos in Milton Keynes Village and Broughton
Figure 5. (Right) Landmarks in Broughton Recognisable from a Distance



Visualisation as an effective method of communication has been around for at least 35000 (Whelan 2020). Exploring early maps and Portolan charts as shown in Figures 6-7 revealed that imagery and mental images of regions were communicated with a sense of their unique elements, identity, culture and atmosphere.

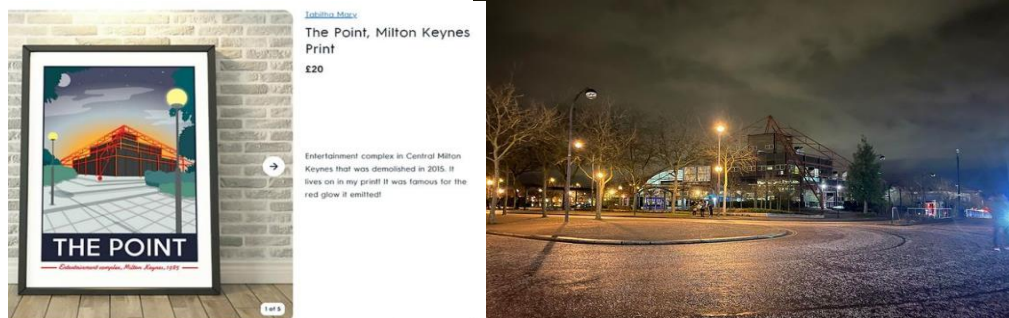
Figure 6. (Left) Portolan Chart Showing Western Europe and North Africa, Messina, Italy-Around 1550; it was taken by the Author in the British Library, London

Figure 7. (Right) Chart of the Mediterranean, Black Sea, and the Coasts of Western Europe and Northwest Africa²



According to Pallasmaa (2011), a place that can be remembered is not only a unique one, but also the one that affected the body and generated enough engagement to hold in the personal experience of the world, thus the centre of this continuous interaction is the human body. Hence, the importance of having a strong mental image stems from the need to engage the body emotionally, as it is necessary to play with conscious and unconscious intentions creating a deeper dimension of an experience through integrating body and imagination with surrounding environments rather than shallow rationalism. The concepts of the “narcissistic and nihilistic eye” discussed by Pallasmaa (2011) trace the dominance of the eye in the modern age. The narcissistic eyes focus on artistic self-expression while approaching architecture apart from cultural, and mental connections. On the other hand, the nihilistic eye detaches and alienates the senses which weaken the integration of the body when experiencing the world and contradicts the construction guided by consideration of perception of surroundings through peripheral and haptic senses of the body for example found in traditional culture (Pallasmaa 2012). Similarly, focusing on what people miss about older times in Milton Keynes, historic roads are largely lost for modern developments of the new city, this was expressed by the interviewee with sadness. This shows the higher emotional and atmospheric sensation of journeys that he used to enjoy on both personal and professional levels given that he is a historian who worked and live in Milton Keynes. In addition, The Point (Figures 9-10), one of the historical landmarks has also been affected by the impact of time, the meaning of progress and the focus on certain aspects of development. The observations and visuals present the lost effects of the landmark which in turn impacted the overall atmosphere, wayfinding and experience. An artist expressed her affectionate memories of the times using art, painting the distinguishable lighting of the entertainment complex at night as shown in Figure 8.

²<https://www.loc.gov/item/2014588812/>.

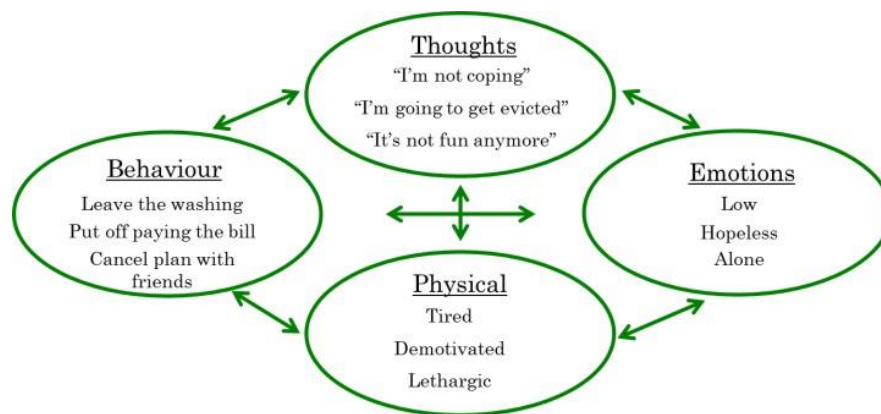
Figure 8. (Left) *The Point-Milton Keynes Painting*³**Figure 9.** (Right) *The Point at Night in 2022, After Lily More*⁴

Turning to the social aspect of smart cities, observations of Milton Keynes developments, revealed that there is confusion between offering indoor activities and shaping an experience in city planning through elements of art, nature and architecture to fulfil the human need to have a varied experience. A varied experience is not merely function, as it is providing opportunities for people in the smart city to naturally learn, feel, imagine, act, marvel, interact with their surroundings. Another misperception is related to the difference between inspiring people to have reasons to go to the city centre and giving them a motivation that is more emotional because of being attached. The connection between offering a good quality design and achieving better well-being and lifestyle becomes more apparent when exploring the low mood cycle shown in Figure 10.

According to (Milton Keynes Talking Therapies Service (IAPT)), the principle “Action comes before motivation” is used in insight corrections and behavioural activation to maintain good habits. Whereas the first is subject to procrastination cycle, the latter breaks that cycle by eliminating the natural waiting to “feel like it” as acting is faster and powered by inner motivation. Stimulating a variety of senses is proven to be a good mechanism to improve mental health and reduce stress levels, as people with stress and anxiety are advised to use a grounding exercise in which they are instructed to consciously engage with their senses and explore their surroundings. An example of this is the exercise 5-4-3-2-1; a technique to find five things they see, four things they can touch, three things they hear, two things they smell, and one thing they can taste.

³<https://tabithamary.co.uk/product/the-point-milton-keynes-buckinghamshire-print/>.

⁴<https://www.buckinghamshirelive.com/whats-on/whats-on-news/i-visited-milton-keynes-first-6717726>.

Figure 10. *The Vicious Cycle of Low Mood*⁵

The Unique Intimacy of the Night Experience

Sense of Smell

Long-term observations revealed that the low density of people on the streets at night in the new city of Milton Keynes is one of the main challenges the city faces including in its central area. This was also noticed in direct observations with little to no people on foot in the city or enjoying the night walk especially as it gets darker. Bus stops were noticed to be in dark unsafe spots surrounded by bushes or trees where the person will be walking alone with little to no access to help or other people around. This weakens the overall sensation of safety as the urbanist and activist Jane Jacobs' argument using the concept "Eyes on The Street", as the indirect monitoring or informal surveillance is lost. This is also noticed when people in Milton Keynes also must walk through underpasses which does not feel safe, especially for female residents or pedestrians. Lighting is another feature noticed to be used unproductively, especially in communicating the celebrated identity of the new city being "Smart". Hence, the night experience is devoid of inviting features or details, people are barely noticed to be walking or enjoying a walk if at all in Milton Keynes. Sometime, a pedestrian is forced to go through underpass, with no other option but feeling stressed and unsafe, also when going through dark areas where bus stops are located. This makes it easier to go with unhealthy and unsustainable decisions to drive, for example, than to go out for a walk, stay indoors to watch TV or ultimately leave the area entirely.

Unique features of the night experience also include stimulating sensations of relaxation, intimacy, and reflection. Denying the human mind, body and soul the opportunity to get lost in the details of the night sky, experience, and sensations, and to recognize its uniqueness enjoyably, is another consequence of lopsided designs that focus only on how they look instead of how they will be experienced. Such an approach is detrimental to the quality of life, human well-being, and attitude. On the other hand, appreciating the power of a multisensory approach to architecture encourages a rethinking of how what and when space is experienced to communicate the celebration of our existence. The use of some natural and

⁵https://www.talkplus.org.uk/downloads_folder/Behavioural_Activation.pdf.

building elements that make the night experience different can be noticed in some cities with more attention paid to fragrant plants and lighting. The smell of some plants like the night-blooming jasmine or the "night musk" as known in the Arab world (Figure 11) also fulfils air with a unique, light and soothing scent that makes memories of the place and events that it witnessed with you unforgettable.

Figure 11. *Night Blooming Jasmine Plant*⁶

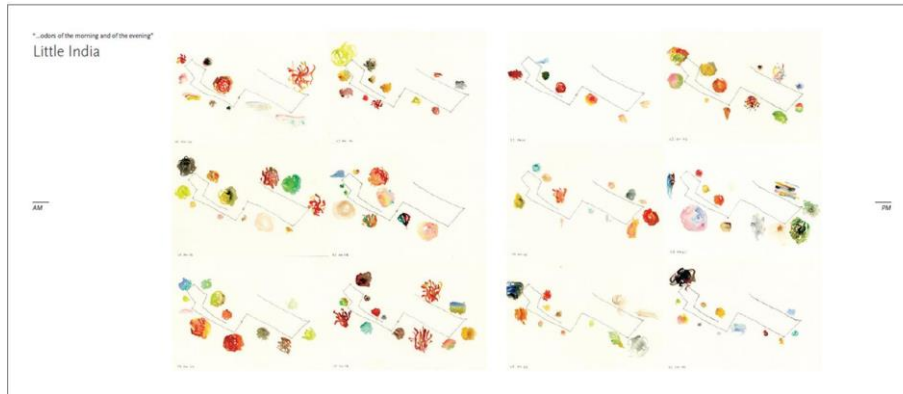


The difference between the day and evening smells was noticed more clearly in cities discussed by McLean (2019) using maps of painted representations for scents in Kampong Glam and Little India in 2017 as shown in Figures 12-13. The figures show that in Kampong Glam morning smells (left) with less intense and have shorter longevity than the evening scents (right). Whereas, in Little India, the morning smellscape illustrated on the left side was more intense and longer than the evening represented on the right.

Figure 12. *Odours of the Morning and the Evening in Kampong Glam (McLean 2019)*



⁶https://www.burncoose.co.uk/site/plants.cfm?pl_id=1011.

Figure 13. *Odours of the Morning and the Evening in Little India (McLean 2019)*

Lighting

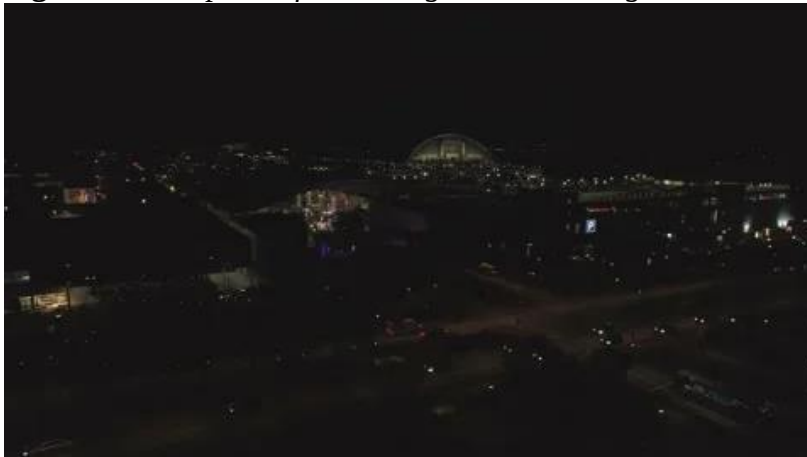
Lighting is also another element that comes in handy when setting up a night-time ambience that brings out some of the details, textures, and colours that are sometimes missed during the busy life in the daytime. The case study Milton Keynes shows no strong use or impact involving such elements to stimulate the different senses are examples that show thinking patterns focused on designing cities for namely the day. The original interpretation views for Milton Keynes as designed by the CMK team show a focus on the functional use of light in the city with an emphasis on the station square shown in Figure 14.

In addition to what Figure 9 presents, a more recent night footage of the city is shown in Figure 15, showing the case study investigated as one of the “actually existing smart cities” (Shelton et al. 2015). The capture was taken from a video that can be accessed to explore the current state and sensation of the city and its liveliness at night. Comparing logic and interpretation of design thinking in Milton Keynes and other cities as shown in Figures 14-16 reveals that the focus in the making of the case study was only functional, using streetlights in a regular way for illumination. However, This logic is proven not to be enough as Florence Lam, global lighting design lead at Arup confirmed, adding asserts that the way of thinking and the making of public spaces in the city need to change to be done with a careful understanding of how they are used at night and how lighting can affect behaviour (Wilding 2018). As light is an important aspect of urban design if public spaces are to be used effectively in a 24-hour cycle, the shows how the place as imaged to outdoor spaces at Paddington Central to open to be experienced at night by the practice in 2017 (Wilding 2018).

Figure 14. *CMK Team's Interpretation of Milton Keynes Central Station (Living Archive n.d.)*



Figure 15. *A Capture of MK at Night Video Footage⁷*



⁷<https://www.pond5.com/stock-footage/item/133026930-drone-night-footage-milton-keynes>.

Figure 16. *Arup's Work in Paddington Central Promoting the Night Economy (Wilding 2018)*



Holding competitions and thought-provoking activities to rethink design and open places at night suggest an emerging mindset to nightlife which is often seen by city authorities as an issue that needs to be managed. Much of the 24-hour cycle is largely viewed in terms of negative outcomes that need to be mitigated through licensing and oversight. Organized by the Mayor of London and the Built Environment Trust, the “Night-time is the Right Time” competition was looking for suggestions that could help cities function better 24/7 as places to live. Analysing professionals’ statements and examples of architecture practices mentioned by Wilding (2018), architects who show an overall tendency to approach nightlife differently attempt to help local authorities realize the social and economic benefits of a 24-hour city. This is noted to result in cities increasingly viewing the night as a cultural and financial opportunity rather than an issue. Using technology to better facilitate the capabilities and unique features of design and in turn to enhance the night experience promises of better understanding of the extent to which technology or “Smart” can be utilised instead of merely aimed at. On the other hand, design elements such as lighting were not only overlooked in the case study but also seemed disintegrated or not understood as an effective element that could solve certain issues as one of the effects of the built environment that alters mood, attitude, and behaviour (See more in Webb (2006)).

Figure 17. *The Winning App in Night-time is the Right Time Contest (Wilding 2018)*

The team Farrell's proposal was recognized as the winning idea in the Night-time is the Right Time competition that was held as part of the London Festival of Architecture (Figure 17). The team's idea was to combine technology with architecture as they intended to overcome the difficulties in the London environment to make it more accessible after dark, with better public use of an underutilized urban resource. The senior urban designer at the practice stated that a necessary transformation is needed to change the tendency to think of the night as a time for celebrations, pubs, and bars to be more about making the enjoyment of night-time possible for everyone (Wilding 2018). The team envisioned the capital's waterways as a network of night markets supported by a mobile app that shows the nearest floating facilities (e.g., shops, yoga studios...etc.). Given that the built environment is fundamental to the success of cities' nightlife strategy, the night experience of the city needs these so that possible for it to unravel, some architects realized that commercial pressures meant that places today need to be versatile and usable day and night. A study published by the Greater London Authority (GLA) in 2015 shows that London has lost many of its double-use spaces, in recent years, with more than a third of London's popular music venues closed in the last eight years. The factors attributed to the trend include "planning, licensing, and rising property prices". Orms, the practice behind the St Giles Circus development (Figure 19), for example, designed the venues to be flexible enough to host exhibitions and conferences, with large LED screens to illuminate spaces and accommodate the needs of events such as product launches (Wilding 2018).

Another example of a purposeful coupling of technology and the design of cities at night seems to be present in proposals to make multiuse buildings contribute to the lack of space. Ideas for a flexible building for the Ministry of Sound (Figure 18) in 2015 focused on a 24-hour cycle as companies like OMA and Casper Mueller Kneer suggested that the shape of the building changes as night comes down. "It's not just a club, it's a radio station, a production company, an events company, so it was easy to understand this new venue as a very multifaceted facility" confirmed the partner Ippolito Pestellini Laparelli. OMA's suggestions for the club hall are made to be flexible, extending usage beyond main Friday and Saturday business hours. Laparelli explained that the idea was to design it like an experimental theatre space that combines features such as a set of moving stages,

moving lights, mechanical partitions and doors with built-in tech that let the space be configured and quickly changed with a single click. Casper Mueller Kneer Architects were motivated by doing something for the community as the Managing Director stated when they suggested a series of spaces that could be used not only day and night but also at different times of the week with different configurations. In 2017, the practice also suggested a plan of many “night places” across London, these public spaces are dedicated to running hours a day, promoting a range of after-dark activities that would attract revellers, people working at night and travellers (Wilding 2018).

Figure 18. *Casper Mueller Kneer’s Proposal for the Ministry of Sound (Wilding 2018)*



Figure 19. *St Gile at Night Design (Wilding 2018)*



The practice director compared London with Berlin explaining; that parks in Berlin remain open all night hosting activities such as movie screenings and hula hoop lessons, contrary to London's parks which usually close at sunset. The director invited to know how to increase access to night-time spaces where people can gather and enjoy while avoiding problems. An important element to overcome this challenge is found to be "effective lighting" as Wilding (2018) confirmed. An example of enhancing nightlife activity in cities by using creative lighting ideas is an installation on Barcelona's Plaça de Les Glòries by artec3 Studio and David Torrents that used floor lights to change colours interactively with sounds. Also, artist Debbie Cable in Hull suggested lighting the windows and storefronts of vacant buildings in attractive colourful clusters (Wilding 2018).

Emotional Responses: Safety, Stress and Discomfort

Providing enough room for walking, the connection between buildings and the street, attractive spaces, as well as effective lighting, are recognised as key elements to sensations of safety (Pacheco 2015). However, these elements as discussed previously were not used to create an atmosphere of safety in Milton Keynes, as observations from the field suggest.

Observations of people preferring to walk on the muddy grass edge of the road, make a way through bushes and others killed trying to cross the road at night prove that limiting choices to elements like tunnels and underpasses (shown in Figure 20-21) is tiring, forceful, unappealing, uncomfortable and unsafe.

Figure 20. *Underpasses in Milton Keynes in the Afternoon*



Figure 21. *Homelessness Encountered in Milton Keynes*

These structures were also uncomfortable to interact with as homeless people occasionally used them. The logic behind using and continuing to rely on such elements shows a tendency to compromise people's impressions and impact daily encounters with the city elements, as safety is deeply ingrained in our survival mode. Investing time and effort in making an efficient city for cars, rather than securing necessary needs such as feeling reassured, emphasises the lack of design thinking that is selective, cautious and efficient for human well-being in the city atmosphere.

Also, statements and expressions of dissatisfaction were noticed by walkers having to share the same path with scooters, bicycles, and delivery robots. Other by passers were going in the opposite direction in addition to facing electric scooters left in the middle and at the entrances of red ways even in attractive spots like Wilen Lake. Old citizens and females often complained about the unsafety of the speed with which these scooters go by with some mentioning situations where they were almost hit by them meeting around blind turns.

Figure 22. (a) *Different Activities Taking Place on the Same Narrow Path*, (b) *Users having to Share Same Path in Wilen Lake*

Figures 22-24 show in comparison the way pedestrians are impacted by wide

and marked walkways separating different users and the other narrow paths with more density and varied types of red way users having to share it in and around Wilen Lake for example. The shots in Figure 24 were taken at different spots on the same path going from Willen Lake passing by the Peace Pagoda which illustrated the problematic crowdedness and inconvenience of moving comfortably.

Figure 23. *Different Captures of the same Path going from Wilen Lake and Passing by the Peace Pagoda*



Figure 24. *More Pedestrians Allowed on Wide (Pacheco 2015)*



Another form of uncomfortable sensation in the case study relates strongly to another type of stress which is the stress of boredom. The scientific definition and investigation of boredom indicate that what we aim at should be neither too easy nor too difficult experience, to avoid ending up with a boring experience and instead focus on increasing its quality and value by making them interesting, meaningful and enjoyable (Kubota 2016a, b). Providing a variety of experiences, including physical, sensory, cognitive, psychological and cultural, meets the natural needs of the population to learn, feel, act and interact with their surroundings. “Smart” meaning and progress direction as well as the resulting

impact of the new developments in the case study do not suggest an understanding or acknowledgement of the stress of boredom in cities, streetscapes and buildings. These seem to be designed in the case study to meet general functional requirements, even if they go against the grain of our inherent, embedded need for novelty and sensuality (Pacheco 2015). Given the powerful effects of architecture and planning, the seamless style in the case study reveals a failure to fulfil the claimed potential of a better place as experienced by residents daily. This is because of the associated risks of habitual burnout and depression as the stress of boredom in cities is not only linked to temporary feelings of discomfort and frustration but also severely affects our well-being as recent studies have found out. Providing a better human experience does not seem to be a top priority as interviews suggest more focus is attributed to what can be modern but also too abstract and which is sometimes devoid of emotional depth and meaning in comparison to approaches of space making (see more in Ellard (2015), Foss (2018), Julier (2020), Pacheco (2015), Salingaros (2011), Wilding (2018)). Observation also shows that the way smart cities are approached does not link conceptions of smart with the communicative and expressive way of designing, locating, and choosing the different elements in streets and parks. This can have a huge impact, if considered and more attention is paid to what it means, how it affects people and to what extent it meets their experiential needs.

The interviews strongly suggest that IT corporates and investors or business partners are the most likely to reach out, especially when it comes to doing something that promotes the city or certain events like its 50th anniversary.

Nevertheless, focusing on marketing and generating profit seems to be restricting other vital links as there is little to no connection or outreach to designers, artists, and professionals that focus on quality instead of quantity in various areas ranging from design to safety (e.g., heritage, art and nature).

Silo working as a phenomenon seems to take another form in some smart cities as the case of Milton Keynes demonstrated through direct observations and interviews. Developing smartphone applications, gadgets and devices appear to be concentrating on efficiently and easily promoting and praising the city agendas being smart in a more way or linear process that misses capturing people's feedback on the experience with and around the installed technology. The means of communication with the public are almost the same as in other ordinary cities regarding their complaints on some services or technology installed in the city. For example, electric scooters noticed to be left anywhere (Figure 25) causing disruption and frustration to pedestrians who also complained about the speed of a rider passing by given that they share same paths and red ways having no separate lanes. This obstructs the success of the city in engaging the people if it is still drawn back by unappealing routines and time and effort- consuming ways of working. Also, maintaining the cleanness of the city as part of the council's duties to provide a healthy and clean environment seems to be relying more on using machines and workforce as shown in Figure 18. Whereas bins and letter baskets were either unavailable or rarely found in different parts of Milton Keynes; people chose to through or leave a letter behind as observed, which in turn sometimes disrupts the experience parks, attraction sites such as the peace pagoda and bus stations.

Figure 25. *Scooters Obstructing Passengers' Paths in Milton Keynes*

Interviewees who were directly involved in developing a smart journey planner to visualize real-time transport data as part of the smart city development programs “Smart Cambridge” and “MK: SMART” stated that one of the challenges facing smart cities is maintaining a balance between competition and collaboration. Allowing innovation and producing a variety of creative solutions is necessary to advance. However, investing and appreciating the time consumed in reinventing the wheel or doing things from scratch such as building a city’s map, for example, was given as an example to illustrate that it is problematic. The reason behind that as the involved professional explains is that there is a single platform for mapping and travel platforms. CityMapper and Google Maps once downloaded, can be used in all the cities where they exist. This is also consistent with the general tendency of people preferring not to download a different app in every city they go to. Oxford, Cambridge, and Milton Keynes were also used as examples of smart cities competing to some degree. The interviewees asserted that networking events allow Milton Keynes to have conversations with other cities. Remarks were particularly made on doing similar things separately while not knowing they already exist in other cities and or the slowness of the process of reaching out to others as in the case of Oxford, for example, as they are having similar projects and developments going on. However, trying to build something better than apps like Google Maps, for instance, was based on research as interviewees clarified they were interested in making sure target user groups as bus users were using tailored bus apps. Professionals involved in doing business model research with a lot of competition talked about another complicated factor to balance which is open data versus closed data. Getting exclusive access to the data for one city allows a product that’s better than the leading existing ones like Google. In Cambridge, however, the council made sure it’s open data. Data have been passed on to Google, making it basic for them to compete against Google, but they also noted that they are aware of the good intentions behind this because of an obligation to deliver

something to the citizen.

Figure 26. *Using Machines to Maintain Cleanness in Milton Keynes*



The Taste of the City: Character, Wayfinding and Monotony

The lack of character is an impression that is shared amongst people from different backgrounds. In the 1970s, Christopher Booker, founder of Fogeys Private Eye, called the city “the utterly depersonalised nightmare which haunted Aldous Huxley just 40 short years”. Architecture critic Owen Hatherley lately criticised the city for its “bland, kitsch, Thatcherite reality”, adding; “Today, Milton Keynes is still the non-place it was planned to be”. Jackie Kay; Scottish poet, describing it’s the characteristics that make it full of paradoxes that she likes but adding “its public image is a bit of a joke”.

Another challenge to the unique image of the city seems to be separating it from a reputation of being a mere alternative to London or “a London overspill zone” (Jeffries 2017), as stated by interviewees with experts involved in development projects in Milton Keynes. Concrete cows seem to be another controversial part of Milton Keynes’s image, this is present on the official website of the Milton Keynes Gifts and Souvenirs of “Mini Concrete Cows”, as part of visitors’ information centre. The website stated: “Milton Keynes has become famous if not infamous for the concrete cows that live in a field in Bancroft”, adding that often appeared as “headline news to the national media, keen to brand the city with a rather quirky image”. The concrete cows have been kidnapped, held for ransom at times, and placed in precarious situations, not to mention deliberate vandalism and periodic repainting. Field observations confirm that most of the built areas in Milton Keynes's new city are seamless, some buildings look alike, and it is hard to recognise where the most functional or public buildings like the train station or the mosques ...etc. This weakens not only the skyline or the mental image of the city but also its power to evoke a variety of sensations or attachments, affecting in turn the well-being of the residents and their motive to take a walk with the stressful sense of boredom (see more in Ellard (2015), Foss (2018), Julier (2006), Pacheco (2015), Salinas (2011)). There appears a pattern of moving away from the historic or original local sense of identity of Milton Keynes Village,

which granted its name to the new city. The American city planning style has dominated the idea of new development with a focus on providing more green spaces instead of living in crowded unclean areas with no access to nature as interviews with long-experienced professionals confirm. Unlike many smart city projects that spoiled the original city with crowded high-rise buildings or skyscrapers, Milton Keynes followed a more horizontal special construction. However, the agenda seems to be revolving around modern development projects apart from heritage, focusing on what is new only and motivated by the reputation and prestige of the Smart City. On the other hand, the new projects and developments show little to no appreciation of the quality of the lived experience, a new hotel tower for example was built blocking the view to Campbell Park (see more in Outhwaite (2021)).

Figure 27. *Typical Scene in Milton Keynes Streets*⁸



Also, there is a clear lack of distinct landmarks or characters in different parts of Milton Keynes, while the city increasingly has more roundabouts over time with 130 roundabouts in the last count found on the visitors' information centre: The Destination Milton Keynes Website. This also results in bad consequences on wayfinding and on evoking a mental representation of the city that connects with people as it is easier to be disorientated. The attractiveness and the image of the city are also weakened by not making culture and sensations of attachment readily available on the streets by engaging artistic works. The engagement was obstructed by the type, location and approach of artworks found mostly in some parts of the city, mainly in the central area. As the abstract dominant approach is rare to offer meaningful communication with the viewer especially emotionally or spiritually, people were left with very little to engage with or to marvel at. Salingaros (2011) confirms that monotony sends alarm signals and makes humans anxious. Since natural environments are fractal, this means that non-fractal organisms stand out and are noted by us (Salingaros 2011). These include purely Platonic figures (cubes,

⁸MK Community Hub Social Media Channel: <https://www.facebook.com/MKCommunityHub/>.

prisms, pyramids, spheres) defining only one scale, which is the largest. Usually, these repeating shapes create the unsatisfying effect of monotonous repetition. Fieldwork and analysis are shown in Figures 27-28 and Table 1, confirming that monotony in Milton Keynes is very clear due to repetitious architecture, street elements and planning. The main repetition type is noticed to be horizontal of two dominant types: identical buildings along the streets on the scale of the new city as shown in Figures 29-31, 33-34, Table 1 and identical elements on the scale of the one building's façade as in Figure 27. Human beings perceive such monotonous regularity to be alien and reactions are expected to range from boredom to panic (Ellard 2015, Salingaros 2011). In some parts of the city wayfinding and recognition of where one was were extremely hard due to the indistinguishable monotonous surroundings as shown in Figures 29, 34 and 35, leading to feeling lost and confused.

Figure 28. *The View Looking (a) to the Right and (b) to the Left on the Same Spot in Front of the Shopping Mall the Centre: MK*



Observations over long time in different areas of Milton Keynes new city, especially the central area, established inconvenience of disorientation caused sometime by narrow paths and little to no space for a pavement. High solid hedgerows used as barriers or fences limited the ability to view or enjoy cycling or walking activities. This affected the experience with a dominant stress of boredom and it detaches the person from the surrounding elements of the city as shown in the shots and illustrations of a sample route in Enmore Gate, Milton Keynes shown in yellow on the map in Figure 29. Similarly, the artistic and psychological consideration, culture or conceptions of participating developers and architects reflect strongly on the quality of provided experience. This resulted in compromising the local skyline or identity of the city to overwhelmingly add on skyscrapers in some cases or having areas with split between the new developments and classic and historic designs in others without harmony make the image of the city at its weakest. In addition to the dominance of hedgerows shown in Figures 29-30, other elements used in the new city planning forcing people to go through underpasses. As shown in Figures 31-32 these disrupt viewing and approaching distinctive buildings, structures or landmarks such as a classic church building, Wilen lake Wheel and Peace Pagoda. This also makes wayfinding, interaction with surroundings as well as retaining a clear image of a skyline of the city or its parts more difficult.

Figure 29. *Cycling Routes, Enmore Gate, Captured from Google Maps⁹***Figure 30.** *Captured View of the Cycling Route in Yellow on the Map, Captured from Google Maps¹⁰***Figure 31.** *Eye-Level Shots, the View Approaching a Landmark; Willen Lake*⁹<https://goo.gl/maps/ubMUee8DhZDAviG58>.¹⁰<https://goo.gl/maps/zpunbQjucQ15mkpX7>.

Figure 32. Eye-Level Shots, the View Approaching the Landmark of the Peace Pagoda



Figure 33. (Left) Eye-Level Shots, (a) From Entering the Underpasses, (b) the View Walking in Central Milton Keynes

Figure 34. (Right) Identical Scenes, (a) Along the Platform in Central Milton Keynes Showing Car Parking, (b) Identical Modular Buildings Along the Street



Table 1. Seamless Architecture in Milton Keynes

Figure number	The exterior design of the building	Building Use/Function/address
35		Al-Rawda Mosque, Islamic place of worship and community centre, Milton Keynes central area. <i>Photo source:</i> https://www.mkica.org .
36		Milton Keynes Central, Railway Station, Station Square. <i>Photo source:</i> https://www.geograph.org.uk .
37		Residential buildings, The Hub Apartments, Milton Keynes hub. <i>Photo source:</i> https://www.nationalcorporatehousing.com .
38		Office building, Metropolitan House, 321 Avebury Blvd, photo after Milton Keynes, hub/central area. <i>Photo source:</i> https://www.loopnet.com .
39		Commercial (Shops, health club and spa) buildings, 489-499 Avebury Blvd, Milton Keynes central area. <i>Photo source:</i> https://www.realla.co.uk .
40		Centre: MK, shopping mall, Milton Keynes central area
41		MK Gallery, Art gallery, 900 Midsummer Blvd, Milton Keynes. <i>Photo source:</i> https://www.destinationmiltonkeynes.co.uk .

Summary and Recommendations

The topic of the paper has been concerned with aspects that are overlooked in the case study as an example of a smart city that is preoccupied with the meaning of progress, smart and development that is exclusive to gadgets, software, and similar advances. Relations to visual language and the role of architecture, mental image, impression and experience of the city were clarified showing how significant to explore in terms of the experience of a smart city and what results from it, impacts it and how it is being thought of and appreciated. There are issues encountered in the overall performance, engagement and attachment in the case study that could have been improved through a focus on design elements and elements or characteristics of the city and its planning, yet they are absent in the thinking, planning and implementation. This shows a need to rethink the focus, label meaning and outcome of smart cities. As noticed in comparisons made with the case study, the paper suggested that it helps to consider and integrate approaches that help get more focused on what can be achieved by a healthy more liveable design and environment of a smart city, instead of a prestigious smart city. This is given that the latter is namely reliable and focused on technology, robotics, infrastructure... etc. This is important given that such thinking and approach is proven to be of practical benefit and experiential fulfilment and significant to the city and its residents.

According to the fieldwork and long experience of living in the case study, the monotony that Milton Keynes suffers could be improved through more variations such as building appearance, landscape elements and character of the place. This position best accommodates function, context, and expression of authenticity to encourage higher interactions and attachments. Also, along the street and on the scale of the one façade a variety in colour, lighting, material and pattern, better engages the eye and other senses as they reflect on some taste or ambience. This would be greatly beneficial to overcome boredom and repetition that overlook function, location, human needs and nature. Furthermore, prioritising quantity over quality has been proven to have little impact on well-being, and sometimes negative outcomes. For instance, the trees as a natural element of the city have been used in a similar repetitive monotony along all streets and the streets ended with nothing to look forward to. Thus, an experience of nature in the city is not only limited to greenness that is represented by percentage or square are. It also involves how the landscape contributes and integrates concepts and tools of engaging planning of the smart city that further focuses on the experience and impact instead of numbers and grids (often thought of in two-dimensional map or way of imagining the city). Having a heart in the smart city needs to be better understood and realised by different means, not including various elements of design, nature and activities. The city needs to be considerate of it at night and not only in the daytime. The uniqueness of the night, its atmosphere, and its role in evoking mental images and attachments have been explored in the paper giving examples of lighting, landmarks, and natural elements that give scents at night. Such elements/concepts were used in other cities or approaches proving its power to elevate the memory of place and quality of experience on the ground.

Adopting such thinking patterns, understanding and appreciation of the “city” element of the “Smart City” label is important not to be compromised for focus on certain aspects such as technology or essential services to exclusively limit what “Smart” could mean. This is also significant given that many scholars have been invited to focus on what is practically achieved and realised instead of the label and vision claim in terms of the smart city being more successful, liveable, and sustainable.

As this paper presented artistic and architectural angles of a lived experience in the city, illustrations were provided to clarify how the built environment imposes vital responses in terms of comfort and safety, showing examples noticed to be disadvantaged in a way that causes unpleasant experiences. Field observation supported by comparisons and direct long experience living in the city and illustrations were provided with examples of unpleasant feelings generated by lacking “eyes on the street”, the low capacity to accommodate multiple groups and uses or user types or limitation of choice. This highlights a need not only to monitor statistics of safety or crime considered as the measure or goal for cities vision or agenda but also the sensations of being free of fear, distress or coercion to uncomfortable choices, encounters or characteristics. For example, caused by certain designs, compositions, or consequences of decisions about the built environment, planning style or approach.

The vision of smart cities and the case study explored, claim to be a better and more liveable city than other cities (not “Smart”). On the other hand, the investigation of shared understanding, or patterns amongst stakeholders, interviewees, and city elements on the field revealed issues while having a concerning level of overlooking design elements that could have helped solve them. For instance, Milton Keynes suffers low intensity of people on the street, walking and particularly at night. When stakeholders discuss this, they seem to focus on certain developments and are more likely to think of phone apps, infrastructure, high tech or similar means to hold the answer or the solution to problems. However, seeing through a lens of design and a reflexive research approach, it was clear how other tools and techniques could help reduce how plain-and sometimes dark-the city generally is. Comparisons show that lighting (if found), was used only as in functional lighting that illuminates a road. Other cities or designs successfully recognised how significant and interesting lighting can be and that a well-lit city can have many benefits if designed to encourage people to do something, to be there and to enjoy its atmosphere. Design elements such as lighting were not only overlooked in the case study but also seemed disintegrated or not understood as an effective element that could solve certain issues as one of the effects of the built environment that alters mood, attitude, and behaviour. There is a need for an interdisciplinary cooperation with those who excel at shaping a human experience, designing, or communicating the ambience or taste of it through perception and emotional response, like artists for example. They seem to be far from thinking of them as a crucial party to take part in finding solutions to the performance of the smart city. On the other hand, people who mostly were noticed to be in the group of stakeholders or circle of “experts” tend to be from regulations, information and communication, technology, transport and other

essential infrastructure and services.

By learning from the differences explored in the analysis and comparison with other cities designed using multifunctional spaces, the benefits are noted to be significantly noticed in more people engaged, using the spaces at night, boosting not only the sense of attachment and safety at night but also the city's economy and long-term sustainability. In cases where there is not enough space, adopting this approach has shown a purposeful coupling of technology and the design of cities at night, which can inspire and reduce the separation or gap in thinking and making of cities between the two parts of the "Smart City" label to produce beneficial outcomes for the residents.

Conclusion

The paper engaged with one of the existing smart cities to illustrate how important is to consider the way the focus on technology in smart cities and a certain meaning of progress is affecting other aspects of the city, especially in terms of human sensations and needs. Most of the interviewees agreed on common issues with the label of "Smart Cities", the literature and practice of space and city-making emphasized the need for vocabulary or language that is better capable of shaping and delivering atmospheric qualities and good quality human experience. The role of architecture has been noticed to be misunderstood and separated from Smart, even though, as this paper tried to argue, the design of the built environment affects the overall impression, performance and power of the city. The relationship between the Meaning of Smart and the impact on the Mental Image of the City as explored in the case study has been illustrated with the help of visual comparisons. These comparisons and arguments showed the effect of what has been lost or compromised. Having a memorable image of the smart city, its ambience, uniqueness and character not only is significant to wellbeing, a rich, well-balanced experience in the city but also in encouraging more people to enjoy a night walk, for example, which intensifies the feeling of safety for residents. Also, the paper presented ways to enhance the qualities of the night experience, with examples from other cities and initiatives. Given the nature of the topic, explaining the lived experience in the city, the paper illustrated the emotional responses and impressions of the city, clarifying how certain overlooked aspects resulted in sensations of safety, stress and discomfort. The researcher traced what is unique about the case study and what strengthened or weakened its character, memory and wayfinding. Assuming that enhancing the efficiency of basic services in the city such as transportation and food delivery is enough for it to be recognized better in everything under the label of Smart City is of great impact on the development of those experiential aspects that are important for the resident. Therefore, the ways of thinking of Smart and construction of smart cities are expected to be of better authentic potential to deliver a better experience when the social aspect is better integrated and not overlooked. Interviews strongly suggest that IT companies and investors or business partners are the most likely to be involved in the development of the case study as the experts or main stakeholders with a focus on

marketing and revenue generation. Unfortunately, this limits other important connections as there is no emphasis on the actual experience enhancement concerning quality over quantity in various areas related to design (e.g., heritage, art, wayfinding and lighting) and feelings and impressions of the city affecting the level of comfort and impression of safety. In turn, this impacts the level of participation and attachment to the city, and the decision taken by residents on staying in or moving out. The themes presented in the paper showed examples of other practices and approaches paying attention to the aspects found to be overlooked in the case study as a smart city, revealing that the economic and social benefits are practical and significant.

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