Homes England

The Housing and Regeneration Agency

West of Ifield, Crawley
Sustainability Statement

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Version 1 - Planning submission

July 2025

West of Ifield

Sustainability Statement

June 2025

Third
Revolution
Projects

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Submission Version – June 2025

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Third Revolution Reference: 1060_West of Ifield

Applicant: Homes England

1. Introduction

Purpose of statement

The Sustainability Statement will provide the basis of a high quality, futureproofed, commercially successful place that is also low carbon. It will help ensure West of Ifield (WoI) delivers the right kinds of homes, jobs and infrastructure to serve development while also helping embed the new place within Horsham and Crawley and demonstrate the value of working with major partners to achieve sustainable change.

In line with the project vision, Homes England's ambition for WoI to be a highly sustainable development is defined by the 7 Sustainability Themes developed in partnership with the project team specifically to suit the characteristics of the proposed development. Each theme is accompanied by a detailed set of criteria which have been drawn from sources including Horsham's planning policies, standards that are unique to the requirements of the Themes, Building for a Healthy Life considerations, and specific standards drawn from other systems.

In addition to judging the performance of the proposals against the Themes and Criteria, the Statement is designed to guide short and long-term decision-making and so recommendations are split across those applying to the hybrid planning application, those to Homes England in their stewardship role, and to delivery partners and reserved matters applications. As a long-term strategy, detailed targets have typically been avoided except where required by local policy, but it is recommended that the recommendations and criteria be kept under review.

This Sustainability Statement assesses the proposals against the Criteria, as submitted with the planning application summer 2025.

Third Revolution Projects

Third Revolution are specialist planning, economic and sustainability consultants operating at the forefront of innovative and future-thinking projects.

We understand that the world is changing fast, and this brings uncertainty but also opportunity to approach development differently. We help clients navigate rapid change and operate in the space created between transformational technologies, environmental, social and economic trends, and the effects these have on places, land use and communities.

Drivers-revolutions-risks-opportunities (DRROP) framework for sustainability

The development takes place against the backdrop of significant social, environmental, technological and economic change, in which major trends will be determining factors in the success or otherwise of the place. Third Revolution has applied its DRROP framework as a means of understanding what these drivers are, their interactions with a series of transformations in the way future residents will travel, live, work, shop, learn, communicate and use energy, and the risks and opportunities that they generate for WoI, as well as for nearby Crawley and Horsham. This framework can be seen in Figure 1.

This unique approach will help ensure WoI meets changing needs and sets it apart from other site allocations and typical developments.

The application of the DRROP framework to WoI concluded the following:

- The delivery horizon for WoI of 2027 - 2041 means Homes England are planning for a society that will be very different to todays.
- A highly sustainable place is one that is fit for the long term and takes account of significant societal and technological changes. It promotes sustainable lifestyles and contributes positively towards climate change and sustainability objectives.
- The Covid-19 pandemic accelerated changes that were already underway, e.g. greater hybrid working, greater online shopping, and a recognition that life can be more affordable and fun without the daily commute.

By acting on the conclusions of this analysis and striving to deliver this new paradigm, WoI will avoid designing in obsolescence. It will ensure a high

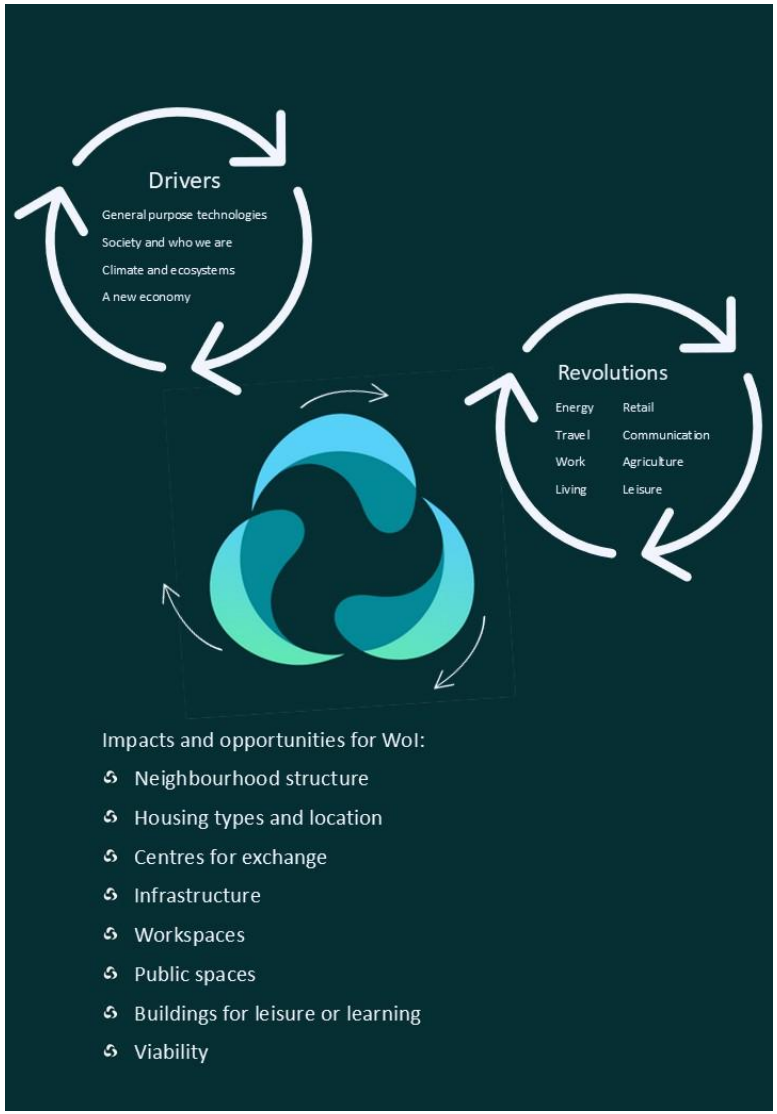


Figure 1: DRROP Framework

quality, futureproofed, commercially successful place that is also low carbon. This approach has guided the Design Code, design decisions, infrastructure and specialist strategies to deliver:

- The **right type of homes** that recognise technology and demographic change mean people will be living differently.
- The **right type of jobs** that respond to the changing nature of work and changing attitudes amongst those currently under 40.
- The **right infrastructure**, which takes account of exponential change in renewable energy, electric and automated vehicles, climate change and telecoms; and a society that is more active and drive their cars less.
- The **right neighbourhoods**, which reflect revolutions in working/learning/caring/how we move around.

Policy context

The council declared a Climate and Ecological Emergency in 2023. They have committed to achieving carbon neutrality by 2030 and for the district to be carbon zero by 2050.

These are key policy drivers for the hybrid application and Sustainability Statement. Additionally, the main planning policy documents are:

- The National Planning Policy Framework (December 2024)
- Horsham District Planning Framework (adopted 2015)

Within the adopted Local Plan, one of the over-arching objectives is to ensure that new development minimises carbon emissions, adapts to the likely changes in the future climate and promotes the supply of renewable low carbon and decentralised energy.

The key policies regarding sustainability from the adopted Horsham District Planning Framework 2015 are the following:

- Policy 9 Employment Development
- Policy 31 Green Infrastructure and Biodiversity
- Policy 37 Sustainable Construction
- Policy 43 Community Facilities, Leisure, and Recreation
- Policy 40 Sustainable Transport
- Policy 41 Parking
- Strategic Policy 1 Sustainable Development
- Strategic Policy 7 Economic Growth
- Strategic Policy 16 Meeting Local Housing Needs
- Strategic Policy 24 Environmental Protection
- Strategic Policy 25 The Natural Environment and Landscape Character
- Strategic Policy 35 Climate Change
- Strategic Policy 36 Appropriate Energy Use
- Strategic Policy 38 Flooding
- Strategic Policy 39 Infrastructure Provision

Following guidance from the Inspector, the emerging local plan is being withdrawn from submission and therefore is not considered within this document.

The 7 Sustainability Themes

The sustainability Themes were developed iteratively, starting with application of the DRROP framework and through workshops with Homes England and members of the project team. Third Revolution then worked with the applicant and specialist team throughout the pre-application stages.

The 7 Sustainability Themes set the challenges for the development, dovetailing with the wider project objectives, as well as delivering against national and emerging local policies (**Error! Reference source not found.**). In summary, the Themes:

- Formed the basis for a decision-making framework.
- Informed the masterplan, specialist strategies, and infrastructure choices.
- Guided the Sustainability Statement and the hybrid planning application.
- Will guide reserved matters and other applications, and long-term stewardship of the development.

Figure 2: Sustainability Themes

Pre application discussions

A pre application meeting with the project team and Horsham and Crawley Borough Councils on 2nd June 2021 reviewed the sustainability Themes. This identified heating, power, and water as the key areas where sustainability goals can be achieved for the development. Both councils were broadly supportive of bringing forward a site that had sustainability at its core and that sought to deliver zero carbon housing.

In addition to the framework being followed, the councils wanted the development to demonstrate it could connect to an existing or planned low-carbon heat network, maximise use of on-site energy generation, and utilise low or zero-carbon heat supplies. Further recommendations included achieving a water use of less than 85 litres per person per day and including greywater recycling.

Officers indicated that from around 2025 buildings would be expected to align with the Future Homes Standard and that should a development be considered exceptional in this regard it would have to go above and beyond just meeting these regulations.

The council noted that a scenario where heating was achieved by direct electricity heating would not constitute an exemplar sustainable development and that this choice would externalise the costs of decarbonisation.

This advice was used in developing the Sustainability Criteria, which in the context of the 7 Themes, take a broader approach to sustainability than building standards, energy and water.

Sustainability Criteria

The Criteria provide the detail needed by the project team to integrate sustainability into the design, strategies and infrastructure within the development. They were developed with input from the whole project team, informed by analysis of planning policies and standards, such as the Building for a Healthy Life.

The Criteria were then used to test emerging iterations of the application materials. Two tests were carried out, in 2020 and 2023 with the results used by the project team to iterate the strategies, masterplan and infrastructure proposals.

The first test found that the masterplan at that stage was an excellent basis for a sustainable development that delivered against the sustainability Themes and Criteria, though risks remained in the detail and degree of confidence in the delivery strategy.

The second test identified that the proposals responded well to the critiques from the first test, particularly by providing real-world examples of sustainable development for delivery partners. The second test also found that much of the language from the first test had been incorporated into the masterplan and the accompanying specialist documentation setting out the proposals. At this point, there was still some further benefit to be gained from improving the heating and energy efficiency proposals within the scheme.

The third test against the Criteria forms the basis of this Sustainability Strategy.

2. Sustainability Assessment

The proposed development has been assessed against the Sustainability Themes and detailed Criteria developed through application of the DRROP Framework, working closely with the applicant and design teams and collaboration with Homes England, Crawley and Horsham Councils.

The final assessment of the uses a RAG system:

- Green – meets all expectations of the Criteria.
- Amber – meets some of the expectation, but compromises have been made.
- Red – few of the expectations of the Criteria have been met.

It is recognised that at this stage (hybrid planning application) the level of detail provided may not be comprehensive. To ensure that important elements are not lost, the Strategy advises on where the Criteria should be incorporated into long term stewardship arrangements and applied to delivery partners and reserved matters applications.

This assessment has reviewed the following materials:

- Draft Design Code, April 2025 (Homes England, Prior + Partners)
- Illustrative Landscape Masterplan, 7th March 2025, (Gillespies)
- Draft Design and Access Statement, May 2025 (Homes England, Prior + Partners)
  - Including Design and Access Statement for the Detailed Proposal of the Crawley Western Multi Modal Corridor (Arcadis)
- West of Ifield Flood Risk Assessment, April 2025 (Ramboll)
- West of Ifield Infrastructure Delivery Plan, May 2025 (Homes England, Prior + Partners)
- West of Ifield Utilities Statement, January 2024 (Ramboll)
- West of Ifield Employment and Economic Development Strategy, May 2025 (SQW)
- West of Ifield Energy Strategy, June 2025 (Ramboll)
- West of Ifield Travel Plan, May 2025 (Steer)
- West of Ifield Transport Assessment, May 2025 (Steer)
- West of Ifield Draft Heads of Terms, June 2025 (Homes England)

The assessment is structured by Sustainability Theme.

Theme 1 – a "15-minute community" where most needs are no more than a short walk or bike ride from home

WoI will be part of a highly connected and accessible network of neighbourhood and local centres. These will include a wider range of facilities than is typical, including smaller shops, pop up spaces at low rent, and flexible employment, community and educational spaces. This has major benefits:

- Significantly reduces the need to travel.
- Provides for the changing preferences of residents for flexible working, shorter commutes and facilities on their doorstep.
- Reduces congestion and contributes to zero carbon by reducing CO_2 emissions.
- Supports health, active travel, social interaction and wellbeing in line with the objectives of the Healthy New Towns Programme.

WoI will be strategically linked by non-car modes to existing town centres, employment areas, and Three Bridges (with its frequent and rapid services to London). This connectivity brings further benefits:

- Drives economic activity to existing centres, helping to arrest their declining retail function.
- Flexible office spaces in neighbourhood centres supports the changing needs of existing employment areas, post pandemic.
- Improves inclusivity of the community and eases costs of participation in daily life.

Figure 3 - A mixed-use neighbourhood centre will provide a set of uses that meet changing aspirations and needs for living, working, caring, education and retail. These uses will be complementary to those on offer in a changing town centre, as traditional retail (Source: TRP)

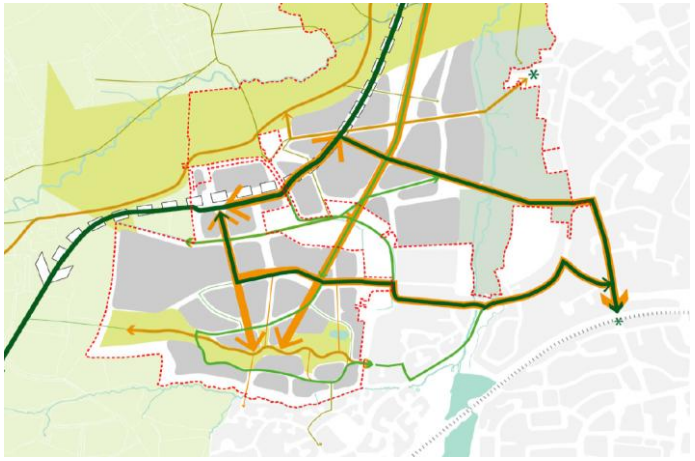
Delivering a place fit for the future

Early delivery of a prominently located, connected and accessible neighbourhood centre, including:

- Flexible planning designations for office, innovation and community uses, including day-care and education.
- Smaller shops and pop-up space.
- Discussions with the authorities and West Sussex Clinical Commissioning Group on the opportunities for primary healthcare presented by technology and changing service provision.
- Residential uses and limited car parking.
- Constrained access by private cars, but highly accessible by other modes.
- Hub and spoke logistics, with distribution via non-car/van modes.

Collaborative working to bring regeneration benefits to Crawley and Horsham, through exploring opportunities for:

- Improved pedestrian, cycle, Fastway and links to Manor Royal, the town centres and Three Bridges.
- Complementary projects on and off-site.
- Complementary land uses within WoI and the wider towns.



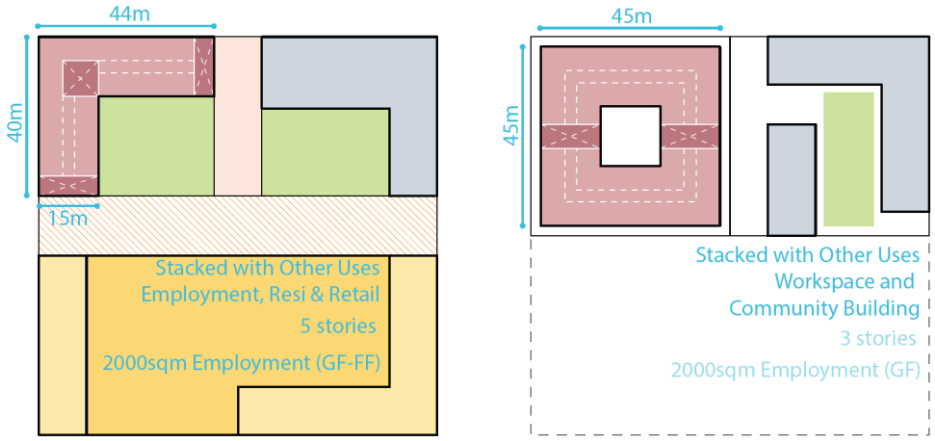


Figure 4: Neighbourhoods as important as existing town and employment centres, with complementary uses, flexible office and community spaces and subsidised small retail.

Theme 1 – a "15-minute community" where most needs are no more than a short walk or bike ride from home

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Range of facilities for everyday life within 15-minute walk from all homes Neighbourhood centres should include a supermarket/ grocery store, post office, pharmacy, primary school, flexible and co-working spaces, park or green space, play space, café, other flexible use spaces.	The public transport plan shown at figure 10 in the **Design Code** contains walking radii of 250m, 400m, and 800m. This plan shows that the entirety of the development will be within 800m walking radius of the neighbourhood centre area. This is further reinforced at figure 64, the mixed use plan, which demonstrates the entire residential area is within a 15-minute walk of the mixed-use neighbourhood centre. The **Heads of Terms** provides for a "flexible use community centre" within the neighbourhood centre area.	The Design Code demonstrates a strong mix of uses within a walkable proximity of one another including provision for areas of green space, a secondary school, commercial, and mixed-use areas. It will be crucial for day-to-day necessity tenants such as a post office, grocery store, and pharmacy to be secured within the neighbourhood centre area, however this is not matter for the hybrid application. Future stewardship agreements and anchor tenant occupancy of critical spaces such as grocery stores, pharmacies, and post offices will need to be secured after the hybrid application.
2. Health facilities Health facilities will increasingly be accessible remotely, but physical provision should be within 15-minute cycle from all homes.	The land use table within the **Design Code** makes provision for the use of 1,500 sqm of Cass E(e) space reserved for healthcare-related uses. The **Heads of Terms** notes that the Applicant will continue liaison with the ICB to ensure that development can provide for the delivery of local health care facilities.	The entirety of housing in the local area is within a 15-minute walk of the neighbourhood centre that contains the provision of health facilities. It will be important to secure a tenant for these facilities as rapidly as possible to ensure residents establish care within the local area rather than seeking care further afield, and the applicant is seeking to achieve this via the Heads of Terms.
3. Facilities to encourage cycling and micro-mobility within the development	The proposed street designs within the **Design Code** demonstrate high-quality provision of cycling facilities along the Crawley Western Multi-Modal Corridor (CWMMC), primary, and secondary streets. Further, the **Transport Strategy** notes the minimum levels of cycle parking required	The proposals for active travel within West of Ifield demonstrate excellent quality infrastructure for nonprivate car modes of transport. The proposals adhere closely to the mobility hierarchy defined by prioritising walking then cycling and micro-mobility

Walking and cycling routes should be direct, safe, attractive and signed. Filtered permeability to discourage motorised travel. Cycle/micro-mobility infrastructure to be segregated on primary and most secondary roads, with safe/prioritised crossings over roads with traffic. All facilities to include safe, covered and convenient provision for cycling and micro-mobility.	throughout the development as well appropriate storage within the residential plots. Additional details that further the use of active transportation include the provision of traffic-free routes, traffic-calming measures, and pedestrian and cycle priority crossings. The **Heads of Terms** provides additional commitment to delivering on these development aspects.	then public transportation and finally the private car. Future engagement with providers for facilities such as cycle and scooter hire would enhance the scheme during the development/stewardship phase.
4. Neighbourhoods within 15-minute cycle of town, key employment centres, Ifield and Three Bridges stations and other transport nodes Direct connectivity by safe walking, cycling and micro-mobility infrastructure.	The **Design Code** demonstrates that the proposed development is within a 15-minute walk from Rusper Road, with Ifield Station a short distance further. The Design Code also illustrates eight different pedestrian or cycle connections between the proposed development and the rest of Ifield specifically to provide access to Ifield Station. The **Movement and Access Plan** within the Design Code also demonstrates significant levels of connectivity across Ifield Brook with existing vehicle access in addition to provision of additional active travel connections to the norther across the Rusper Road playing fields. The **Heads of Terms** outlines the upgrades that area expected to be made outside of the proposed development that will increase connectivity to the existing developed area.	While the development is located further than a 15-minute walk from the wider Ifield area, the provision of direct links to Ifield station allows future access to the wider region via the rail network including London via Three Bridges. The proposed connections also afford residents of West Ifield to jobs and services within Ifield and vice versa. The applicant has drafted Heads of Terms that allow them to upgrade the off-site infrastructure to improve access for all future residents.
5. Hub and spoke logistics, with distribution via non-car/van modes	The **Land Use Plan** of the **Design Code** illustrates that proposed employment, mixed-use commercial, and the secondary school will be	The provision use class B8 adjacent to larger roads allows them to serve more delivery intensive uses such as employment or mixed-use commercial

Space allocated with appropriate use class within Masterplan with direct access from link road. Space should be directly linked by non-car modes.	served either by the CWMMC or by primary roads, indicating a high-level of availability for large deliveries for these more intensive uses. The remaining areas are residential and can be served by alternative vehicles such as e-bikes using the extensive active travel network for last-mile connectivity. The Land Use Plan also allows for use class B8 within the industrially designated areas adjacent to the CWMMC to further help facilitate deliveries within West of Ifield. The character area codes within **Chapter 4** of the **Design Code** include requirements for non-residential uses to consider deliveries from the outset and design layouts that include loading bays either at the front or rear.	which generates more efficient delivery access while smaller, lighter deliveries can be made by other means. This appropriately matches delivery need and provision. Future reserved matters applications should consider sustainable and effective logistics approaches for deliveries including frequency and timing of deliveries.

Theme 1 Conclusions

The proposed development performs very strongly against the Criteria that comprise Theme 1 and therefore should ensure a development where the majority of people's needs are located within a 15 minute walk or cycle of the home. The walksheds within the Design Code demonstrate how accessible the development is in this regard and there is specific provision for health facilities. The Street Designs also demonstrate a clear commitment to creating a pleasant and attractive walking and cycling experience across every street typology based on their separation from traffic and the use of SuDS as boundaries for pedestrians and cyclists away from traffic. The development contains several public transport links to connect to the wider Ifield area and Ifield station is slightly further than a 15-minute walk from much of the development. There is also provision for Use Class B8 (Storage and Distribution) within the land use plan to allow for last mile deliveries to residences via alternatives such as e-bikes. Together, the inclusion of these features within the development indicates that creating a convenient living environment was top of mind during the masterplan phase.

Theme 2 – a rich mix of housing typologies, low carbon with flexibility to adapt

Rapid societal changes mean people will not choose to live in places with insufficient space to work or care for elderly parents. Growing environmental awareness means they will not choose poorly insulated homes and will expect to be able to charge their electric vehicles (EVs).

West of Ifield will plan for:

- A richer mix of sizes, types, and tenures to meet local demand for homes that combine work, care, and living.
- Homes that are warm but don't overheat, which support the transition to a net zero economy, and are healthy (see Theme 4).
- A diversity of homes will foster a diverse community. It will help full local skills gaps and widen the appeal of the area, in support of the Local Enterprise Partnership's objectives, as well as meeting a broader housing need.
- A rich mix of typologies, connected and accessible neighbourhoods, and strategic links beyond WoI will mean new and existing residents will have the benefit of access to flexible workspaces and care facilities.
- Homes suited to flexible living and working patterns will reduce the need to travel. This will help deliver significantly greater CO_2 savings than could be achieved through a zero-carbon building alone.

Figure 5: Homes should be low carbon. But rapid societal changes mean homes must also be able to adapt. Larger units or smaller homes combined with easily accessible space within mixed neighbourhood centres are key to a commercially successful place (Source: WoI project team)

Delivering a place fit for the future

The housing mix will meet local demand, with the flexibility to suit changing aspirations, e.g. multigenerational and multifamily living, and different stages of life.

Homes will be located within mixed neighbourhoods, accessible to co-working and community facilities.

The S**ustainable Energy Strategy** will focus on building fabric performance, as well as energy supply. It will consider on-site solutions alongside the decarbonisation of the UK's energy system, embodied carbon, and likely future changes in policy and technology (Theme 4).

A climate change strategy will ensure homes, buildings and spaces are adaptable to a changing climate, particularly more extreme weather and drought (see Theme 6).

These strategies will inform spatial choices in the Masterplan such as layouts, density, and green infrastructure, as well as building design options.

Figure 6: Wide mix of typologies, such as co-living, will generate wider appeal. Reducing parking standards are one means of creating space for larger homes (Source: Kosy Living)

Theme 2 – a rich mix of housing typologies, low carbon with flexibility to adapt

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Diversity of home sizes and types A mix of housing types and tenures that meet the needs of the local community, including first time buyer homes, family homes, homes for those downsizing and supported living. A mix to reflect changing societal needs, including space for home working, multi-family and multi-generational living.	The **Density Plan** within the **Design Code** notes requisite dwellings per hectare within different portions of the development, ranging from below 50 dwellings per hectare to above 150 dwellings per hectare. Section 3.2.1 of the Design Code also notes that developments must include a mix of tenures and housing types including, market, affordable, and specialist housing. Within each typology of home, **Chapter 4** of the Design Code demonstrates the good design principles that will be required for all housing types.	The creation of the design chapter within the design code demonstrates that a wide variety of housing can be developed even within a specific residence type or density area. The specific allowance of specialist housing also helps maintain a mix of uses for a variety of populations that can contribute to a vibrant and diverse community. Stewardship agreements will need to confirm exact details at the implementation stage.
2. Adaptable homes Homes should be design to meet as many needs as possible, to be highly energy efficient (Theme 4) and resilient to climate change (Theme 6). However, societal needs will change, and some adaptation is likely to be needed to space standards and configuration. If the highest performance standards are not set for energy and climate, then adaptation will be required.	The **Design Code** notes that all residential units must be compliant with the Technical Housing Standards – Nationally Described Space Standards. Any future development will be required to built to the **Future Homes Standard** and residences will have to meet Dwelling Primary Energy Rates, Dwelling Fabric Energy Efficiency, and Dwelling Emission Rates. Additionally, the **Energy Strategy** provides four different heating strategies that can be taken by the development. The choice of strategy has significant impact on the CO_2 emissions of the development. Homes England KPIs on housing performance will also be adhered to and these can be reflected in lease agreements with delivery partners.	The Design code and the Future Homes Standard ensures that homes will be built to a standard that can confront the challenges posed by climate change while creating housing stock that drastically lowers emissions. The choice of heating strategy should be made with a long-term perspective in mind both in terms of the adaptability of the proposals in addition to the CO_2 emissions expected by each scenario. Eventual stewards will need to set requirements for delivery partners.

3. Comfortable homes Indoor pollutants should be minimised. Daylight levels should support high quality of life and reflect the likely use of homes for living, working, and caring. Temperatures in homes should deliver comfort during hot and cold weather. Noise levels should be managed to minimise disturbance within and between homes.	The **Future Homes Standard** will ensure that new developments will lower the as-built permeability of natural ventilated buildings by 20% while simultaneously requiring new passive and mechanical ventilation standards, both of which will improve in-home air quality. The strong performance of the proposals in providing for walking and active transportation will have a further positive impact in limiting car use – a key driver of noise pollution. The **Energy Strategy** outlines four different heating strategies for the proposed development. A decision regarding this strategy has not been made, but each strategy is considered suitable for meeting the needs of heating and cooling houses in warm and cold weather.	The Future Homes Standards sets the minimum standards for delivery partners at a sufficient level for the Criteria. There is opportunity for stewardship of the site to include additional measures within delivery agreements for partners to create highly sustainable interior environments.
4. Construction materials and methods should have low environmental impact and contribute to circular economy principles Developers should select construction materials and products with high sustainability credentials, including circular economy rated where available.	The exact construction materials and methods will be chosen at the reserved matters stage. These can be secured via construction management plans and planning conditions. Delivery partners will also be required to demonstrate the materials they are using will abide by the **Future Homes Standard.** Sections within the **Design Code** refer to the use of durable, natural, and high-quality materials that adhere to the defined character areas.	Delivery against this sustainability criteria is largely saved for the reserved matters stage. However, the Design Code creates the expectation that delivery partners will choose high-quality materials and look to use recycled or recyclable materials when possible. The Future Homes Standard will need to be adhered to at this stage which will have an additional benefit to the sustainability of the site. Stewardship and delivery agreements will set out the detailed requirements for meeting this criteria.
5. Space for amenities within homes Sufficient and convenient drying space to support healthy and low carbon homes.	Housing typologies at this stage are suggestive, allowing for exact designs to be agreed at the reserved matters stage. Delivery partners will be expected to show how they are meeting the expectations for amenity within homes and how	While delivery of specific housing design is to be resolved at the reserved matters stage, the scheme makes note expecting high-quality design for all houses and the expectation that delivery partners will strive for best practices within their designs.

Provide suitable and clear options for storing and disposing of recyclable waste, including compost and food.	they exceed standards for drying space and waste facilities. The **Design Code** specifies that the detailed design of allotments must allow for communal storage areas that include areas for compost. The **Heads of Terms** commits the applicant to provide on-site recycling containers in line with adopted standards.	The expectation that allotments will contain areas for composting is welcome and future applications are expected to demonstrate ease of recycling for residents and businesses. Future stewardship and delivery agreements will need to ensure all homes have access to external drying space, provision of internal space for recycling, and provision of composting facilities.

Theme 2 Conclusions

Many of the decisions that will impact performance of this theme will be taken during the reserved matters applications. Part of the Sustainability Strategy's responsibility is to help guide decision making during those stages and as such should be provided to delivery partners to ensure criteria are being delivered against. Of the criteria that are implemented at the hybrid application stage, the proposed development performs well. The neighbourhood character areas and the land use plans show a wide range housing typologies and densities to allow for a diverse flourishing community. Densities range from single family detached housing at less than 50 dwellings per hectare to blocks of flats at greater than 150 dwellings per hectare. This allows for accommodation sizes from studios and co-living to 4+ bedroom houses. Housing of all kinds is needed to meet the challenges of the current housing shortage and to provide for the wide variety of residents needed for a flourishing community.

Theme 3 – a highly accessible place in which walking and cycling are the norm, where mobility is inclusive, sustainable transport prioritised, and there is no need to own a car

Societal aspirations are changing as people drive less, make fewer trips, and increasingly look to work flexibly. These trends will increase as on-demand transport replaces a greater proportion of car ownership.

WoI will design in mobility that does not require car ownership, will deliver walking, cycling and micro-mobility infrastructure, and enable adaptation to on-demand mobility.

EVs are likely to be the dominant choice for all motorised vehicles within a decade and they have very different infrastructure needs to traditional vehicles. These will be planned in from the start but be balanced by a modal shift to avoid perpetuating congestion and car dependency or pushing up energy demand. Therefore, WoI will support EVs but won't be planned around them.

Economic activity will be enhanced through fast non-car connections between WoI and existing employment and town centres. High quality walking and cycling facilities in compact neighbourhoods with car free spaces, well connected beyond WoI, will ensure the place is inclusive and help deliver the NHS's Healthy New Towns principles (Theme 1).

Figure 7 - People are driving less and fewer are learning to drive. The pandemic will solidify these trends and future residents will be seeking places with high quality pedestrian and cycle links between homes, shops, work, care and education facilities (Source: TRP)

Delivering a place fit for the future

The mobility strategy will be consistent with changing aspirations, a changing climate, and the need for inclusivity and active travel; delivered holistically through the Masterplan (see Theme 1).

Far more effective results will be achieved by focussing on cheaper to deliver walking, cycling and micro-mobility infrastructure, rather than a car dominated place. Significant infrastructure will be provided in advance of occupation.

Opportunities for complementary cycle and micro-mobility infrastructure with local authorities will be explored with delivery partners.

The Masterplan will include options to embed modal shift, reduce CO_2 emissions, and deliver a 15-minute community, including:

- Prioritising walking, cycling and travel via public transport over car travel to create healthy communities and reduce climate change impact.
- Permeable streets which ensure walking and cycling are the most convenient option between homes, green spaces and neighbourhoods (Theme 6).
- Streets which allow for a variety of uses, including play.
- Positively provide for new and active forms of transport (e.g. electric scooters and e- cycles) within mobility hubs and anticipate the onset of 'mobility as a service'.
- Car parking minimised, with the ability to be repurposed overtime.
- Routes allow for easy, fast access to other employment centres and the wider area.
- Fast access to other employment centres.
- Flexible design to accommodate changing travel patterns and advances in technology.
- A servicing strategy linked to non-vehicular distribution.
- Sensors to enable review of modal split and parking standards (Theme 5).

While EVs reduce pollution, they do not reduce congestion and will add pressure to the site's electricity grid. Therefore, accommodating EVs within the Masterplan and **Transport Strategy** will be accompanied by measures to reduce reliance on private cars.

Figure 8 - To avoid street clutter from EVs and telecoms infrastructure the Masterplan will encourage multi-functional uses, such as lamppost charging, as part of design guidance and standards (Source: TRP)

Theme 3 – highly accessible place in which walking and cycling are the norm, where mobility is inclusive, sustainable transport prioritise, and there is no need to own a car

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Facilities to encourage cycling and micro-mobility within the development	Theme 1 outlines the specific measures to encourage cycling and micro-mobility within the development including the provision of cycle lanes, suitable bicycle parking, and a speed limit of 20mph on primary and lesser roads.	The proposals perform to a high sustainability standard in their facilitation of active transportation and non-car modes mobility.
2. Neighbourhoods within 15-minute cycle of town and employment centres, secondary schools and Three Bridges station	Theme 1 demonstrates the location of the proposals in relation to the remainder of Ifield and Ifield Station in order to provide links to the wider region, including London and Gatwick Airport.	The plans demonstrate a high level of connectivity to nearby jobs, services, and education via planned transport links including multiple bus routes, active travel paths, and upgrading of existing facilities to provide rapid, convenient, and safe access to the wider Ifield, Crawley and Sussex region.
3. Rapid bus routes Fastway and Bus Rapid Transit (BRT) routes should provide as much segregated bus infrastructure as possible to limit interaction with other vehicles and possible congestion issues. There should also be a limited number of stops to ensure fast journey times.	The proposed design of the CWMMC within the **Design Code** demonstrates separated bus traffic from general traffic to allow for improved travel times and throughput. The remainder of the route through West of Ifield does not utilise separated bus infrastructure however through traffic will be limited to access only via Rusper Road which should limit the number of cars competing for space with buses along this stretch of the route. There the routes have proposed three stops each within the development per the **Transport Assessment** and **Travel Plan**.	The proposals demonstrate that careful attention has been paid to determining the balance of providing frequent, convenient stops within the development that does not unduly harm travel times. The **Travel Plan** notes that most of the development is within 400m of a bus stop. These conveniently placed stops are paired with high-quality separated bus infrastructure to reduce the variability in travel time as these buses will be key links to employment centres throughout the area such as Manor Royal and Gatwick Airport. Reducing trip time variability is a key factor in

		ensuring that the buses become a widely used method of transportation rather than private car.
4. Improved rail facilities services There are proposals for upgrading Ifield station to improve connectivity. However, for WoI (3,000 homes), this will focus on improved accessibility and facilities.	The **Transport Assessment** shows illustrated walk catchments for Ifield Station that demonstrate the large majority of the proposed development will be within a 20-minute walk of the train station. As such, the proposed enhancements to the pedestrian realm including additional pedestrian and cyclist connections to the rest Ifield will have a positive impact on the accessibility to the station. The assessment also notes that since the station will play an important role in providing non-car transportation to the area, Homes England has worked with network rail to identify potential improvements to the development including enhancing the station entrance, providing more cycle parking, and enhanced waiting areas. The **Heads of Terms** indicates that a specified financial contribution to support these improvement will be provided.	The proposed development will improve the access to the station by way of foot, cycle, and bus access which will allow for easier use of non-car modes of transportation. The transport assessment and the travel plan further note that the applicant is committed to securing upgrades to Ifield station and has indicated their support via a financial contribution through the Heads of Terms.
5. Mobility hubs Mobility hubs offer of different and connected transport modes supplemented with enhanced facilities and information. They are designed to facilitate access between different transport modes as well as provide transport related and digital services. They should be strategically situated	**Chapter 8** of the **Design and Access Statement** outlines the proposals for the CWMMC which form the detailed portion of the hybrid planning application. Provision for two Mobility Hubs is shown at section 8.5.5. One mobility hub is located within the WoI neighbourhood centre area and adjacent to the secondary school. The other is located at the eastern end of the primary street. Both hubs are comprised of multiple bus stops, car club parking bays, cycle parking, and	The design of the Mobility Hubs allows for seamless movement between different transportation such as from active transportation to public transport and vice versa. The hubs have been strategically located within the proposals to provide transition access to first/last mile portions of trips and encourage multi-modal journeys without compromising convenience. Further exceptional design should be secured via the Reserved Matters applications and delivery

to provide reliable first and last mile personal transport solutions and be complementary to the wider transport network.	seating to provide a place to stay as well as to transit through.	partners to create places that are pleasant to stay in as well as to move through.
6. Modal share Modal share should favour non-vehicle modes where possible.	The **Design Code** demonstrates that all residents will be located within a short walk of the West of Ifield neighbourhood centre area where they are expected to be able to meet most of their needs. The expected design of streets within the site and the CWMMC makes excellent provision for the use of active transportation and the **Transport Strategy** demonstrates how public transport will integrate with the development design.	The proposals adhere to the transportation modal hierarchy that places the requirements of pedestrians at the forefront followed by active transportation, then public transport, with the personal car having the lowest priority. The coupling of this strategy with the provision for facilities meeting most daily needs within a 15-minute walk or cycle demonstrates an ideal proposal in creating a sustainable modal share.
7. Car parking Parking standards should reflect societal trends away from car use in the context of delivering a modal shift and a 15-minute community (Themes 1 and 3).	Given current guidance on the promotion of sustainable travel modes and choces, the **Transport Assessment** provisions a lower level of parking than what is listed in West Sussex County Council Parking Standards. The interim parking provision demanded by the proposed settlement in 4,501 spaces at a ratio of 1.5 spaces per dwelling which is comparable to similar developments at Elmsbrook, Poundbury, and Northstowe. The strategy for providing parking is for a high number of these spaces to be unallocated which can allow for the reallocation of space over time. The exact layout and location of parking provision will be a matter for reserved matters applications and delivery partners.	The provision of high levels of parking is heavily associated with inducing demand to drive private vehicles and a key component of a sustainable transport strategy is to mitigate this effect. The proposals allowance for 1.5 spaces per dwelling of largely flexible spaces achieves this. This also gives the development the opportunity to reclaim these spaces for additional public amenity should modal share goals be met in the future.
8. Provision for electric vehicles	The **Design Code** states that EV charging points must be provided in accordance with standards set in the transport strategy and that future	While the exact provision of charging points will be confirmed by delivery partners during the reserved matters application, it shows good

	reserved matters applicants should show the appropriate incorporation of on-plot and shared charging points. The **Transport Assessment** states that EV charging points will be provided in with existing Building Regulations which is equivalent to every residential dwelling having access to a charger and one space per building for non-residential/non-mixed use.	foresight set minimum baseline provision levels early on to allow these to be incorporated into plans early.
9. Personalised travel planning Measures designed to help residents and businesses make sustainable travel choices.	Both the **Travel Plan** and the **Transport Assessment** note that if the modal shift targets are not met, that additional measures could be taken to support this including increasing the level of personalised travel planning on offer.	Further comments on the existing level of travel planning on offer would welcome to see that this has been considered as well as more detail on what further strategies could be implemented in support of this goal.

Theme 3 Conclusions

Overall, the proposals meet, and frequently exceed, each of the criteria that comprise Theme 3. The proposals show a development that centres sustainable modes of transportation in the provision of facilities within a brief walk or bicycle ride of all proposed residential areas. Further, the design of the pedestrian and active travel facilities demonstrate that priority has been given to these modes of transportation over the individual car. Specific design features such as separated cycle paths, green buffers from traffic, and pedestrian priority at crossings demonstrate the priority of non-car modes. Ultimately the proposals demonstrate a place that has been designed to be highly accessible, where walking and cycling is the norm, mobility is inclusive, and there is not a need to own a personal car.

Theme 4 – the development will deliver a low carbon and future-proofed **Energy Strategy**

The transition of the UK's energy system away from centralised fossil fuel energy towards a more complex decentralised zero carbon energy system brings energy to the heart of communities. At the same time, nearly half of the UK's annual carbon emissions are attributable to buildings.

Therefore, energy efficiency and supply cannot be easily ignored, but the right **Energy Strategy** is place specific. It also means that more of the necessary infrastructure will need to be delivered within new developments.

Getting it right is crucial to supporting the local electricity grid, reducing CO_2 emissions in line with net zero carbon legislation, viability, quality of place, and the long-term resilience of the development without locking the place into high emissions infrastructure.

The current Labour Administration has made the renewable energy transition a key part of its Plan for Change goals to make Britain a clean energy superpower and to kick start economic growth. The Committee on Climate Change's 2024 Progress Report concludes there are clear economic, social, and environmental benefits from immediate investments in low-carbon and climate-resilient infrastructure.

A range of scenarios and technologies are being tested that will form the site's **Energy Strategy**. This will be in line with anticipated policy, trends towards decentralisation and EVs, viability (for developers and occupiers), and site opportunities. The strategy will influence the Masterplan, such as layout, density and landscape, infrastructure provision, and building standards.

Therefore, the outcome of the **Energy Strategy** may iteratively affect the **Transport Strategy** (Themes 1 and 3), telecoms (Theme 5) and the Masterplan.

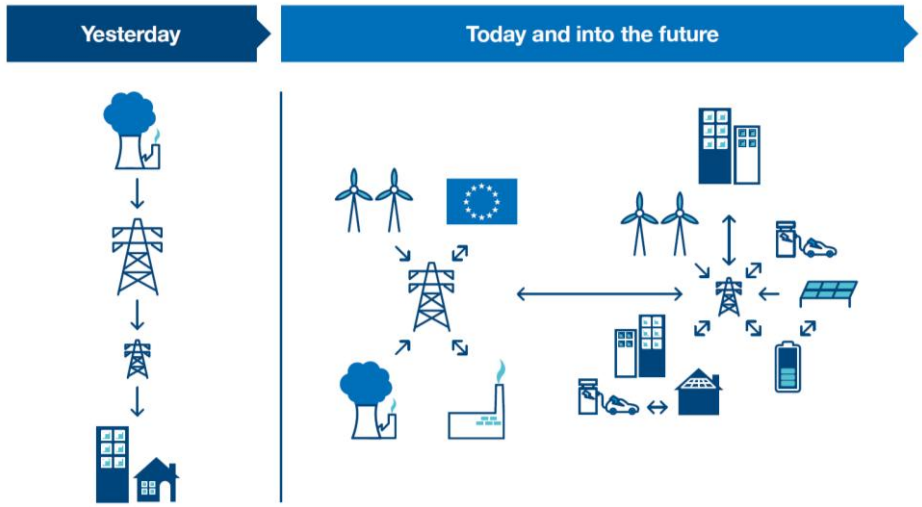


Figure 9 - The UK's transition from centralised fossil fuel energy to a more complex decentralised zero carbon energy requires communities to host more prominent infrastructure. This presents challenges for the Masterplan but also economic opportunities, such as household energy trading. (Source: National Grid Future Energy Scenarios)

Delivering a place fit for the future

The Energy Supply Strategy will deliver against the following criteria: ability to reduce CO_2 emissions in line with net zero carbon legislation and policy; development viability; cost for future occupiers; and future proofing. In doing so, the strategy has considered:

- The dramatic cost reductions in decentralised and zero carbon energy supply and efficiency solutions.
- The implications of the growth of EVs and electric heating, e.g. for significantly increasing electricity demand or grid costs.
- The implications of modal shift away from private vehicles.
- The space implications of the **Energy Strategy** on the Masterplan.
- The balance between cost of living and infrastructure.
- Delivery, including using third party delivery partners.
- Future trends, e.g. occupiers are likely to use building and EV batteries for energy trading, which will place heavy demands on electricity and telecoms infrastructure.

Figure 10 - Standalone, home and EV battery energy storage can reduce infrastructure costs, be used for energy trading and will be an important feature of WoI's energy system (Source: upper images TRP and lower PACE)

Theme 4 – A low carbon and future-proofed energy strategy

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Site-wide Energy Supply Strategy that contributes to the achievement of zero carbon through a range of measures Committing to meeting anticipated building regulations and local planning policy will lead to lower carbon emissions and help create a large development will contribute to the achievement of zero carbon. Meeting this criterion requires an **Energy Strategy** that encompasses heat, power and transport energy demand and supply. This strategy should make a significant contribution to zero carbon from day-one, supported by a whole site net zero carbon trajectory to 2050 and using off-site, site-wide infrastructure and plot level energy standards. It should make reference to the energy hierarchy: ▪ Be Lean: use less energy (reduce energy by design); ▪ Be Clean: increase efficiency of energy supply; and ▪ Be Green: use energy from renewable and low carbon sources.	The **Energy Strategy** assesses the proposals against the Energy Hierarchy for Horsham. Regarding the efficient use of energy, the strategy outlines three different scenarios for delivering against the Horsham local plan requirements for energy demand and supply for heating, power, and transportation. The three scenarios are as follows: ¶ Heating supplied by direct electric heating with on-site solar PV to deliver 10% of buildings' electricity demand. ¶ Individual ASHPs on property level and 10% solar PV on-site generation ¶ Individual ASHPs on building level with communal heating for flats and 10% solar PV on-site generation It is noted that each of these scenarios meets planning policy requirements for new developments, however additional CO_2 reductions can be achieved in scenarios 2 and 3. Each option can deliver efficient heating and energy generation without the need for the additional space of an Energy Centre. The proposals for energy generation are broken into three categories: existing energy supply assets, planned energy supply assets, and potential low	Decisions that have a significant impact on the energy strategy and therefor the overall sustainability of the site have not yet been taken and so it is not possible to definitively conclude on compliance with this Criteria and an addendum to this Strategy may be needed once a decision has been taken. In the meantime, three scenarios for the provision of heating are provided and scenario one of these represents a large CO_2 emissions increase in comparison to the other two. While the exact provision of 10% of energy demand to be supplied via rooftop solar PV is to be determined at the reserved matters stage, it is good that this expectation is being set at this point so delivery partners can factor this into their proposals. Based on information provided, the greatest contribution to net zero carbon will be achieved through scenario 2 or 3 of the proposed heating solutions. As shown in Themes 1 and 3, cycling and walking facilities are provided extensively throughout the development and the neighbourhood centre has been designed to provide most necessary facilities within a 15-minute walk or cycle of their home. These will have the impact of lowering car use and therefore demand for EV charging and overall

	carbon energy resources. The existing assets note that the River Mole could be an energy source for a centralised water source heat pump. The Strategy notes there are no planned energy supply assets. The strategy assumes that 10% of energy demand will be meet via solar PV panels. Provision for solar panels is an issue for the reserved matters applications. The goal to achieve net zero is supported by the proposals to reduce car trips via developing a walkable community where most people's needs can be met within a 15-minute walk or cycle (Theme 1, 2, & 3). The **Design Code** demonstrates the design of the CWMMC provides for pedestrian, cycling, and dedicated bus lanes to provide alternative modes of transport that are crucial to reducing dependency on automobiles.	electricity demand even as uptake of EVs over internal combustion (IC) vehicles continues. Overall, the proposals should confirm the heating strategy prior to any reserved matters applications being submitted so sustainability benefits can be locked in at an early stage.
2. Energy Supply Strategy will be incorporated into the Masterplan The Masterplan should incorporate: ¶ **Provision for EVs and charging infrastructure without causing clutter.** ¶ **Energy centres, trenching and other space required by the Energy Strategy.** ¶ **Sufficient future proofed space for a substation.**	The **Design Code** provides for both public and private EV charging infrastructure and requires that these utilities be incorporated at the reserved matters stage. As the potential for a Heat Network has been discounted, the need for an Energy Centre has also been removed. On-site generation is provided for via solar panels and are expected to generate 10% of the electricity demand for the site. The location of a substation has been provided for at parcel NC1 of the **Land Use Parameter Plan** and is shown within the **Infrastructure Development Plan**.	Provision for EVs and the necessary charging infrastructure has been made within the Design Code. Space has also been provided for the substation within the Land Use Parameter Plan. The need for energy centres will be determined by the selection of heating strategy and is therefore to be resolved at the reserved matters stage. As the choice of strategies is between air source heat pumps and electric boilers, there is no longer a need for energy centres so this criteria can be discounted. Confirmation of the chosen heating strategy will play a significant role in determining the success of the development in regards to this criteria. On-site solar generation is expected via

Masterplan should incorporate space for on-site generation and be able to connect to site-wide infrastructure (if used).		roof top solar panels but there is additional potential for panels to be installed on building facades and ground arrays as well where space allows.
3. Energy systems should be smart, responsive and able to adapt to future changes in demand and use The UK's transition to a zero-carbon decentralised energy system means it must be smart, responsive and adaptable. West Ifield's energy supply and demand strategies should also operate in this way. Occupiers are likely to use on -site generation, building and EV batteries to reduce energy bills, to support the operation of the grid and even for energy trading, which will place heavier demands on electricity and telecoms infrastructure.	Smart controls have been recommended within the **Energy Strategy** for all scenarios as they can be incorporated into solar PV infrastructure and aid with demand-side management. The Energy Strategy provides additional estimates of the future demand of all proposed types of uses and incorporates these into its generation and supply strategy.	Developers of individual plots will be expected to ensure all homes and buildings are smart meter-ready. Confirmation of energy strategy to either scenario 2 or scenario 3, proposed by the **Energy Strategy**, would demonstrate exceptional performance of the proposals against the sustainability theme and criteria.

Theme 4 Conclusions

Decisions that will have a significant impact on the on the overall sustainability of the development have not been made at the moment of writing. The minimum scenario for energy efficiency and generation meets baseline planning policy standards for Horsham District Council which earns the proposals the Amber rating against theme criteria. However, both Horsham and Crawley Borough Council noted during pre application discussion that they expect an exemplary application with regards to sustainability and the proposals could meet this request by confirming intentions to meet one of the additional scenarios proposed by the Energy Strategy. Confirmation within the Masterplan and Design Code of the use of individual air-source heat pumps at building level or property level would push the development to be an excellent example of sustainable design and energy efficiency.

Theme 5 – a smart place strategy with high-capacity telecoms to facilitate low carbon energy and transport, a 15-minute community, and economic growth

High-capacity telecoms are fundamental to a sustainable place in which residents can have a low carbon lifestyle.

A smart connected mobility network is integral to delivering a 15-minute community and modal shift away from private cars (Themes 1 and 3). This network must be able to communicate with the on and offsite energy network to avoid the need for costly grid upgrades that could affect viability. The whole community will be serviced by a low carbon **Energy Strategy** (Theme 4), and water use must be monitored and reduced.

None of this can happen without high-capacity telecoms.

Additionally, they are integral to a place where people can work flexibility (Theme 2), receive the best medical care, in which businesses can expand, that supports autonomous deliveries, vehicle driver assist, and ultimately self-driving cars, should technology and regulations allow in future.

Infrastructure will need to provide 5G services along with fibre with very high upload and download capacities.

Delivering a place fit for the future

Future-proofed and high-capacity telecoms infrastructure is fundamental to a smart, low carbon, and sustainable place. Therefore, a place fit for the future will deliver a minimum fibre capability of 10Gbps, with built in capacity to 100Gbps, plus 5G connectivity.

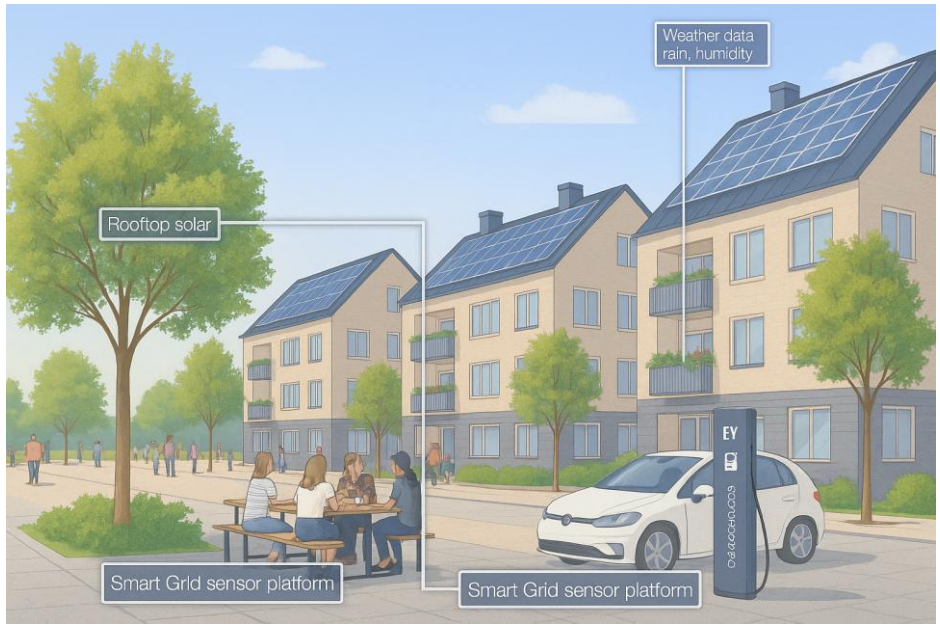


Figure 11 - A commercially successful place must have high capacity telecoms to support holographic medical care, advanced manufacturing, flexible working, gaming, management of smart energy, water and transport systems, and trading of energy stored in buildings (Source: TRP)

Theme 5 - A smart place strategy with high-capacity telecoms to facilitate low-carbon energy and transport, a 15-minute community and economic growth

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Deliver high-capacity telecoms infrastructure from day-one Strategic infrastructure will need to provide ultrafast fibre capability, plus 5G connectivity. Telecoms infrastructure strategy should facilitate delivery of the zero-carbon strategies for energy (Theme 4), water (Theme 6) and transport (Theme 3). Connecting homes/buildings with cables may conflict with air tightness standards and so delivery partners should provide the connection at construction.	The **Utilities Statement** notes that the proposal is to provide full fibre into each property from Openreach, Virgin Media, and City Fibre with the capability to deliver ultra-fast broadband. Further, the duct network design will cover the entire development to provide future flexibility for connection to various fibre suppliers. This will further prevent the need to add connections later which could compromise air tightness standards. 5g is available across the entirety of the development area.	The provision of a telecoms strategy that delivers full fibre to each property and plans ahead for the delivery of these services immediately from construction meets the modern demand for teleworking from home and helps create a community that is connected digitally to social and economic infrastructure that is crucial in the contemporary world.
2. A telecoms strategy will be incorporated into the Masterplan Assess the implications for the Masterplan, such as masts, large number of small cells and antennae and cabinets. These should be sensitively incorporated with adequate space. Where possible, cabinets and other street furniture should be combined with EV charging facilities.	The provision of street furniture, including masts, small cells, antennae, and cabinets are largely decisions to be made at the reserved matters application stage and do not feature prominently within the **Design Code**. The **Utilities Statement** provides minor examples of street furniture.	Further analysis of the requisite amount of equipment such as masts based on the character areas and the proposed density of development would help construction partners understand expectations of the reserved matters applications. Close liaison with these partners will be required as provision for a telecoms strategy has not been made yet. Future stewards should set requirements with delivery partners on the delivery of telecoms equipment to be sensitively and efficiently situated within the development landscape.

Theme 5 Conclusions

At the outline planning stage, the Design Code and Utilities Statement deliver the most crucial aspect of the telecoms strategy in the provision of high-speed broad across the entirety of the development. The expectation to be set with delivery partners is that this is to be implemented upon construction and that additional cabling from the street will not be required as this can compromise air tightness standards. However, delivery of certain aspects has gone unmentioned at this stage, and so is reliant on active communication with delivery partners to confirm performance against criteria such as co-locating telecoms infrastructure with EV charging points. It is recognised that this remains largely a decision for the reserved matters stage and for the detailed design of the streetscape and individual buildings. This statement should be provided to delivery partners to ensure their performance against this standard.

Theme 6 – build climate resilience and support health and wellbeing through multifunctional landscapes and infrastructure

The Masterplan will incorporate multifunctional landscapes and green infrastructure that are resilient to climate change and reconcile a wide set of priorities, including Healthy New Towns, zero carbon energy, water management, and movement, as covered in the other themes.

Considerable work is going into devising landscape and SuDS strategies. The Project Objectives include biodiversity net gain, open space standards, protecting sensitive areas, connecting residents with nature, and supporting healthy lifestyles and leisure activities.

The sustainability strategy builds on these aims to manage high temperatures, reduce private and public water use, deliver renewable energy, and support CO_2 emission reductions.

These will be consistent with the climate emergency, planning policy, plus site specific risks. For example, the local area is extremely water-stressed and high temperatures will become increasingly dangerous for more vulnerable members of the population.

Figure 12 - A comprehensive approach to resilience will take action at strategic, neighbourhood and plot/building scale. Solutions will need to be multi-functional, e.g. SuDS, play and ecology (Source: Gillespies)

Delivering a place fit for the future

A comprehensive and future-proofed approach places climate change resilience at the heart of decision-making, shapes the Masterplan and infrastructure choices, and sets standards for developers. A sustainable place will include:

- Exemplary water use standards that make use of smart infrastructure, rainwater harvesting, grey water recycling and efficient appliances.
- Water sensitive landscapes and public spaces, that will not require potable water beyond establishment.
- Green infrastructure designed to keep spaces cool and usable during extreme weather, such as green walls and street trees.
- Spaces and streets with high-quality microclimates, including use of "cool materials" and shading.
- Publicly accessible "cool buildings" for short term respite.
- Passive cooling of buildings.
- Modal shift and parking restraint to free up space to manage water, high temperatures, improve biodiversity, and enable local food growing.
- A play and open space network linked by car free mobility to promote active lifestyles.

There is a long list of demands on space within the Masterplan and so multifunctionality of uses is important, e.g. combining renewable energy and biodiversity, water storage and leisure.

Local planning policies include policy minima:

- Horsham Local Plan Policy 25 (The Natural Environment and Landscape Character) requires that development must maintain and enhance the Green Infrastructure Network and address identified deficiencies.
- Horsham Local Plan Policy 35 (Climate Change) requires development take measures to mitigate the effects of climate change. It emphasises appropriate flood storage capacity, dual use SuDS to absorb heat, water conservation, and design measures to provide natural ventilation.
- Horsham Local Plan Policy 37 (Sustainable Construction) requires that proposals limit water use to 110 litres per person per day in addition to emphasising the use of sustainable materials in construction, accommodating flexible layouts for future modification, and incorporating measurements to enhance the biodiversity of the development.
- Minimise internal heat generation through energy efficient design.
- Reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation and green roofs and walls.
- Design to enable passive ventilation (e.g. cross ventilation).
- Provide mechanical ventilation.
- Provide active cooling (ensuring they are the lowest carbon options).

Theme 6 – Build climate resilience and support health and wellbeing through multifunctional landscapes and infrastructure

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Flood defences and sustainable drainage systems designed for a changing climate Where possible, these should be multifunctional and be considered as part of green infrastructure (Criterion 4). Horsham Local Plan Policies 37 (Sustainable Construction) and 38 (Flooding) requires proposed development minimise vulnerability to flooding and incorporate SuDS or water management features to ensure the risk of flooding is not increased elsewhere. SuDS should consider vulnerability and importance of local ecological resources, including water quality, availability and biodiversity, amenity value and green infrastructure.	The **Design Code** provides that surface water runoff and flood risk will be managed via establishing SuDS in line with the approved drainage strategy and that these areas must be integrated into green spaces throughout the development. SuDS are further expected to maximise ecological and amenity value and be designed with the neighbourhood character in mind. They are required to be designed in accordance with industry standards and allow for climate change and act as heat sinks. The exact design of SuDS will be tailored to the individual location and will be determined at the reserve matters stage. The **Flood Risk Assessment** confirms that the proposed Flood Compensation Areas will provide for a combined volume of 4,568 m^3 of additional flood storage.	The provision for maximising residential amenity and ecological benefit within the SuDS demonstrates that the drainage solutions will meet the expectations of the Sustainability Strategy within their design and work towards multi-functional use of the land. SuDS will be expected to perform multiple functions including floodwater storage, biodiversity improvement, heat sinks, and others. The **Flood Risk Assessment** confirms that the proposals will not increase the flood risk elsewhere. The confirmation of their design will be left for Reserved Matters applications with stewardship expected to make the requirements to consider vulnerability and ecological resources clear from the outset.
2. Exemplary water use standards in buildings The Horsham Local Plan Policy 37 (Sustainable Construction) expects that new residential development is designed to utilise no more than 110 litres of mains supplied water per person per day.	The water usage per person will be an issue to be overcome at the design stage for individual developments and therefore will be dealt with at the reserved matters stage. Delivery partners will be made aware of standards for water use that they will be expected to achieve.	In large part, the decisions that will directly impact the water use within individual buildings are a matter for the design stage. The Horsham Local Plan policy has been superseded by water neutrality requirements and reserved matters applicants will be expected to comply with these standards. These include specific measures to meet the water main use limit and to incorporate

		features such as rainwater storage and grey water recycling.
3. Water sensitive landscapes and public spaces Horsham Local Plan Policy 35 (Climate Change) requires measures to ensure the development is resilient to climate extremes. Due to the already water stressed nature of the area, water sensitive landscapes and public spaces will be designed to not require potable water beyond establishment.	The **Design Code** makes it clear that any planting strategies must account for the impacts of climate change, including change in water availability, in their species planting regime. This includes a preference for drought tolerant and semi-drought tolerant species. The provision of SuDS as integrated within green infrastructure and amenity greenspace will also allow for the capture and dissemination of rainwater throughout the water table within the development. The **Heads of Terms** notes that there are a number of potential routes to ensuring water neutral development and confirms the development will achieve this.	The **Design Code** has provided for climate resilient water sensitive landscapes and for the direct incorporation of green infrastructure to assist in making landscapes as water-efficient as possible. The **Water Neutrality Statement** should clarify that sensitive landscapes and public spaces will not require potable water beyond establishment.
4. Green infrastructure designed to keep spaces cool and usable during extreme heat Horsham Local Plan Policy 35 (Climate Change) requires measures to ensure the development is resilient to climate extremes. Green infrastructure designed to keep spaces cool and usable during extreme weather, such as green walls and street trees.	The **Design Code** expects that future establishment of Neighbourhood Equipped Areas of Play (NEAPs) will provide strategically located trees and shrubs to provide shade and play opportunities to ensure these areas can be used even during hot weather. The street design proposals with the **Design Code** demonstrates that all levels of street design will incorporate areas of SuDS and planting that will provide additional canopy cover and shading to mitigate any potential heat island affects. Further tree planting to mitigate any visual impact of development on the landscape will enhance these cooling affects.	The extensive landscaping proposals within the design code demonstrate a development that is sensitive to the challenges posed by a climate change and provides for amenity open spaces and NEAPs that can be utilised during all types of weather events. These planting regimes are expected to take consideration of climate change and provide drought-resistant and semi-drought resistant trees such that shade will be available even during extreme weather events.

5. Spaces and streets with high-quality microclimates Horsham Local Plan Policy 35 (Climate Change) requires measures to ensure the development is resilient to climate extremes. Spaces and streets with high-quality microclimates, including use of *"cool materials"* and shading. Potential for modal shift and parking restraint to free up space to manage water, high temperatures, improve biodiversity, and enable local food growing.	As with Theme 4, the **Design Code** provides for streets of every typology to be designed with significant areas of planting that incorporate SuDS and have space for large, shade-producing trees. These will ensure pedestrians are provided shade and pleasant walking experiences. These spaces have the added benefit of providing ecological benefit and habitats for native pollinators. The choice of building materials is a decision to be made during the reserved matters application, however the **Design Code** notes that high-quality materials are expected to be used that complement the natural environment.	The street design typologies demonstrate a commitment to creating a high-quality pedestrian and active transportation user experience through the expectation of extensive tree planting, particularly in hot weather. This will have the added benefit of improving the experience for those waiting for public transportation as well. Streets that are more inviting and pleasant for users will attract additional users, contributing to the goals of Theme 3 and reducing the modal dependency on the private car.
6. Passive cooling of buildings Horsham Local Plan Policies 35 (Climate Change) and 37 (Sustainable Construction) emphasise overheating and microclimate, including design measures such as use of solar shading, thermal mass, ventilation, green and brown roofs, green walls, and dual use SuDS to help absorb heat.	Individual plot design for passive cooling will be determined during the reserved matters stage. The **Design Code** notes that it is expected that mobility hubs, street design, and other non-residential buildings will incorporate features such as solar panels, green roofs, and permeable paving to help with passive cooling and the prevention of overheating.	The design decisions relevant to this sustainability criteria are to be taken at the reserved matters stage. However, the supporting documents for the hybrid application demonstrate that the expectations for delivery partners are high. The extensive provision of high-quality SUDs throughout the development also ensure that significant progress towards this goal will be attained even before additional measures can be taken.
7. Design of the development should ensure flexibility to account for future climate change Horsham Local Plan Policy 35 (Climate Change) requires measures to ensure the development is resilient to climate extremes. These should be	Flexibility is incorporated as a priority within the **Design Code**, with most sections containing a specific call out for stewardship agreements to provide for flexibility in their designs to ensure resilience. Examples of this can be found at sections 3.2.3, 3.3.5, 3.3.17,and 3.4.2 among others. This will generally be an issue to be resolved at the detailed design or reserved	The submission documents for the hybrid planning application, particularly the **Design Code**, place space flexibility at the heart of the proposals in order to create a development that can adequately respond to the needs of a changing climate. Both residential and non-residential space are expected to incorporate design features that will allow for easy

designed in from the start, however, Horsham Local Plan Policy 37 (Sustainable Construction) notes the need for development to be flexible to allow future modification of use or layout, facilitating future adaptation, refurbishment and retrofitting.	matters stage in order to maintain the overall flexibility of the development, however it is clear that this type of design should be prioritised by delivery partners. Within the Residential Standards section, it is expected that there be an element of flexibility in the approach to density within the neighbourhood character areas. This idea is further expressed in the Good Housing/Apartment Design Principles section that notes layouts should be easily able to be re-furbished for different lifestyles. The flexibility demonstrated extends to non-residential uses as well and ensures that buildings can seamlessly change occupants over time.	refurbishment to other commercial uses or to other lifestyles.
8. Biodiversity net gain Horsham Local Plan Policy 31 (Green Infrastructure and Biodiversity) requires that proposals will contribute to the enhancement of existing biodiversity and should create and manage new habitats where appropriate.	The **Design Code** contains a commitment to provide at least a 10% biodiversity net gain in line with statutory requirements. This is expected to be achieved via landscaping within built environment such as via SuDS areas adjoining roads or adjacent to mobility hubs. Further enhancement natural and semi-natural green spaces is expected to provide significant biodiversity benefits. The design of all green infrastructure is expected to prioritise the use of natural materials and features (for example over the use of soft rubber). Detailed BNG assessments must be submitted as each phase or parcel comes forward that demonstrates how they contribute to the overall biodiversity net gain.	A commitment to improving the biodiversity of the site has been programmed into the proposed development at every level. The current use of the proposed area is for a golf course. As such, a thoughtfully planned development that incorporates biodiversity at every level would provide significant habitat benefits over a managed golf course that provides little ecological benefit. A full biodiversity net gain report is being prepared and will follow and accompany the application.

9. A play and open space network linked by car free mobility to promote active lifestyles 50% of the site should be publicly accessible open space. Open space should be connected to homes, neighbourhood centres and each other by safe, direct, care-free, pedestrian and cycle friendly routes.	The **Design and Access Statement** confirms the proposals will meet the requirement for 50% of the site to be publicly accessible green space. Key to meeting this requirement is the River Valley Park that makes up the entire northern half the masterplan. The proposed park is to include a managed regime of re-wilding to return the valley to its pre-agricultural state. There is further provision three neighbourhood parks located within different character areas within the development and many smaller areas of amenity green space. These areas are all connected via hierarchy of street designs that promote walking and active transportation that is outlined in Themes 1 and 3.	The proposals outline a development that provides large amounts of green space of varying typologies, from a nature conservation area to neighbourhood parks to smaller allotments and amenity areas that are easily accessible by the entirety of the residential areas within a short walk or bike ride. This provision of green space demonstrates a commitment to improving the resident experience that improves sense of place and aids mental and physical health.

Theme 6 Conclusions

Against the criteria that can be determined during the hybrid application period, the proposals demonstrate that they meet and frequently exceed the expectations set to create a healthy and resilient place. The Design Code sets out a wide range of multifunctional amenity green space that will allow residents to exercise and enjoy the outdoors in a multitude of ways, all of which is accessible without the use of a private vehicle. These green spaces have the added use of being habitats for native species and pollinators and can provide storage for floodwaters during high intensity rain events. Additional green space is provided for within the development that can help create microclimates and provide shade for pedestrians and active transportation users that will help create a more enjoyable experience and further entrench modal shift habitats away from the private car. These all have positive contributions to the improvements in biodiversity that are guaranteed by the site. The proposals overall show an excellent level of green space that in turn has significant benefits to resident health, local ecology, and overall enjoyment for residents of the development and as such is considered to well surpass the criteria laid out in Theme 6.

Theme 7 – the economic strategy should respond to the rapidly changing local, national, and global context and deliver benefits to the wider local economy

Shorter term economic challenges to the area are a significant concern. However, the impact of economic power pivoting towards Asia will have a long-term effect on the Gatwick Triangle.

Automation, the circular economy, climate emergency, 3D and additive manufacturing will transform work and lead to whole new industrial sectors. As a result, longer-term fewer jobs may be outsourced to other parts of the world, which creates opportunities for large and small scale manufacturing within the WoI and wider Crawley and Horsham area.

Automation of more and more parts of the economy will see some jobs simply disappear, while others will emerge to replace them. This is a very fast moving field and so flexibility in economic proposals is important.

Dramatic falls in the cost of generating energy from renewables could lower the cost of industrial processes, while simultaneously reducing associated carbon emissions. The relative maturity of many *"green"* sectors means it could scale-up relatively quickly to deliver mass energy efficient retrofits of existing properties, while creating large numbers of lower, semi and highly skilled jobs.

Delivering this theme

Planning policy requires delivery of significant new employment opportunities. The context for this work has changed and the effects of the pandemic are likely to be long-term and, in some cases, transformational.

Not all responses can be achieved within a single development, and many of the responses will be driven by national policy decisions. This reinforces the need to think of the growth of WoI alongside that of Crawley. Homes England should work with the authorities and Local Enterprise Partnership (LEP) to explore the economic opportunities from the circular economy, 3D manufacture and other growth sectors, and the extent to which facilities could be accommodated on site and Crawley town centre, e.g. combining 3D manufacture facilities alongside workshop/industrial premises.

Attracting a well-educated workforce will help fill local skills gaps, reduce out-commuting and benefit the local economy. This reiterates the importance of the other seven themes and will help attract quality businesses.

Accommodating flexible workspaces in homes and neighbourhoods will help retain and recirculate money locally and improve the viability of smaller shops.

Theme 7 – An economic strategy that responds to the rapidly changing local, national, and global context and delivers benefits to the wider local economy

Sustainability Criteria and objectives	Proposed relevant development element	Assessment of development against Criteria
1. Flexible workspaces provided within the development Workspaces should be accommodated within the Masterplan and have a use class that allows flexibility.	The land use within the **Design Code** provides for 6.15 ha of employment use and an addition 5.26 of mixed-use area. Within these classifications are areas of Use Class E (Commercial, Business and Services), B2 (General Industrial), and B8 (Storage and Distribution). Part of these areas is set aside for flexible residential/commercial development that includes Sui Generis uses. The **Design Code** further requires that the individual developments are designed with future flexibility in mind. The **Employment and Economic Development Strategy** further outlines the expected typologies of working space that will need to be designed in at the reserved matters stage.	Both the **Design Code** and the **Employment and Economic Development Strategy** emphasize the need for a flexible employment development environment to meet the challenges of the modern digital economy. The creation of a wide variety of physical office and industrial space will allow for West of Ifield to create a diverse and thriving economy and allow nearby residents to further find their employment needs met within the local area, further reducing the CO_2 generation of the development by reducing trips outside the area. Stewardship will need to ensure flexibility in economic use is built into agreements with Reserved Matters applicants.
2. Contribute to a strategic growth plan Individual developments have limited scope to deliver significant change. Therefore, growth of WoI should be considered alongside that of the wider Crawley and Horsham areas.	The **Employment and Economic Development Strategy** locates the proposed development within the wider context of the Horsham/Crawley economic area and within the wider north west Sussex region. The document has been developed in consultation with both councils in order to provide specific economic growth following damage from the covid-19 pandemic. Section 5.4 finds that West of Ifield will need to contribute substantially to broader sub regional regeneration objectives and that if key outcomes of West of Ifield are met then this will benefit the wider area in a tangible and clear-cut way	The **Employment and Economic Development Strategy** and the **Design Code** demonstrate that the wider economic benefits to the Horsham/Crawley area will be key in delivering re-generation of the area and that the economic strategy has been developed in tandem with both councils.

Theme 7 Conclusions

The economic strategy, the design code, and the land use plans demonstrate that the proposals have had care for building a place where a diversified modern economy can thrive and on those terms and against the Theme criteria, the proposed development performs strongly. Within the development there is space provided for employment related Use Class E, B2, and B8 and provision of land specifically for employment as well as mixed uses. The wider economic strategy expects West of Ifield to contribute significantly to the regeneration of the Crawley/Horsham region in terms of jobs created during construction, jobs located within the commercial, retail, and industry, and the demand generated by future residents. Because of the significant contributions to the local economy and the progress towards creating a flexible, modern economy the proposals are considered to meet the criteria contained in the Theme.

3. Conclusions

Overall, the proposals outlined in the hybrid planning application for the West of Ifield Development demonstrate a high level of performance across the Sustainability Themes and their composite Criteria for a highly sustainable place and deliver strongly against local planning policy that relate to sustainability. Long-term stewardship and securing performance by delivery partners and Reserved Matters applicants against these proposals remains an important aspect delivering sustainable developments, but on the whole, the proposals can be considered highly sustainable.

The West of Ifield development as proposed promises to deliver significant levels of housing that meets important standards for convenience by placing most daily needs within a 15 minute walk of every residence within the development. Street design has also emphasized the importance of the pedestrian and has prioritised walking and active transportation over the use of the private car. These two themes positively reinforce one another in creating a sustainable development where people want to walk and to cycle rather than drive which in turn encourages more people to walk and to cycle and reduces dependency on individual car trips. Exceptional performance of the development against the sustainability themes and criteria can be met by making decisions regarding the heating supply, electricity efficiency, and electricity generation of the development. At present, the minimum criteria for this theme is being met but there is room for further enhanced performance once the final energy strategy is agreed upon. In conjunction with Theme 1, the proposals also demonstrate a commitment to providing the development with a variety of different green space amenities, all within a 15 minute walk of the residential areas. These include a wide range of typologies from re-wilded nature conservation areas, to neighbourhood parks, to pitches for ball games, to small play spaces for children. The proposed development at West of Ifield is also prepared to development a 21st Century economy that will help regenerate the wider Horsham/Crawley area in the aftermath of the covid-19 Pandemic. The provision of flexible working space with multiple potential use classes and the expectation for residential development to provide access to high-speed internet from day one signifies a development that is aware of the challenges faced by the modern digital economy and is striving to meet those challenges head on.

Given that the proposals meet the sustainability criteria that have been developed in conjunction with Homes England, the project team and Horsham District Council, we can concluded that the proposals for West of Ifield comprise a highly sustainable development that is well-positioned to deliver much needed housing and prepared to meet the challenges of the coming decades head on.

Appendix A – Application of the DRROP Framework

Core messages

Message 1 ςan exemplar place is fit for its time and takes account of significant societal and technological changes

Third Revolution Projects

The 30-year time horizon means we are planning WoI for vastly different world.

The pandemic is accelerating changes that were already underway, e.g. a shift towards working from home, in favour of online shopping, and a recognition that life is more affordable and fun without the daily commute.

dWe always overestimate the change that will occur in the next two years, and underestimate the change that will occur in the next 10. Don Đlet yourself be lulled into inaction. É(Bill Gates)

If the team fails to act, then we will be **designing obsolescence into WoI**.

We are designing for a new normal, which will bring higher value to WoI

In particular, if we fail to act we will be planning:

- The **wrong type of homes** because technology and demographic change mean people will be living differently.
- The **wrong type of jobs** due to changing nature of globalisation, automation, the changing nature of work and changing attitudes amongst those currently under40.
- The **wrong infrastructure**, which does not account for exponential change in renewable energy, electric and automated vehicles, climate change and telecoms; and a society that is more active and drive their cars less.
- The **wrong neighbourhoods**, which do not reflect revolutions in working/learning/caring/how we move around.

Making the right decisions and investing in sustainable measures will maximise value, meet future aspirations of delivery partners, and realise the full benefits of the scheme. Specifically:

- A place **more aligned with market and urgent environmental objectives**. People will pay a premium for the savings on living costs from shorter commutes, low car ownership, efficient buildings and flexible living and working.
- This will **attract forward thinking developers** who see value in providing for this market.
- A delivery strategy utilising public, third party private and community sectors will **enable Homes England to achieve more with limited resources**

Message 2 ÇHomes England as master developer is responsible for delivering a sustainable WoI

Simply de-risking plots for developers to produce the same thing they always do amounts to a subsidy of this obsolete product.

The aims are to directly deliver and to create the conditions for partners to deliver a product that meets changing aspirations.

Homes England need to consider how land values can be invested in accordance with the Principles, e.g.:

- Instead of a narrowly conceived link road, how can the £23m investment be targeted to maximise sustainable movement across Crawley?
- How can higher standards and reallocating spending increase value across the site and wider area?

Eddington in North West Cambridge has attracted multiple partners, and developers such as Hills, who are willing to do things differently

Third Revolution Projects

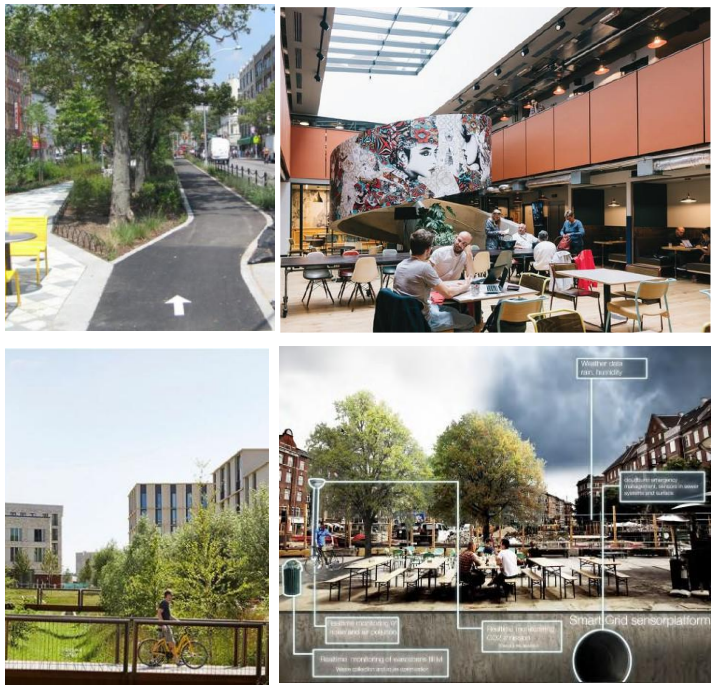
The aim is to raise values, rather than simply de-risking development. By considering the fast changing world and sustainability, Homes England can better achieve their Strategic Plan objectives of accelerating delivery, supporting a more resilient market, and partnership working.

The master developer takes a long-term interest by investing in quality and meeting changing aspirations.

The variety of smaller parcels creates a richness and supports viability by encouraging a diverse range of uses, typologies and tenures.

A long-term interest enables effective stewardship and the early investment in neighbourhood centres needed to ensure their viability, in particular for smaller retail or community facilities.

Third Revolution Projects



A master developer can invest in things that generate long-term value, such as diverse uses, high quality, infrastructure and stewardship

Message 3 ςthe success of WoI is depended upon making Crawley a more sustainable town

Crawley Development Corporation bought land on Site A in the 1950s and some of the subsequent increase in land value needs to demonstrate its benefit to Crawley as a whole; otherwise WoI development values will not realise their full potential.

Moving forward, Homes England should build support for the allocation by:

- Progressing discussions with Crawley and West Sussex about how best to use WoI to boost values across the wider area
- Using the masterplan to achieve a mix of uses, homes and typologies.
- Engaging with partners to deliver infrastructure that meets the needs of the place and surrounding communities.

Investing land values captured by the original new town can be invested in improved on and off-site infrastructure, and will secure wide support

Third Revolution Projects

Drivers-Revolutions-Risks-Opportunities (DRROP) analysis

The following summarises some of the key findings of applying the DRROP framework and formed the basis of the Sustainability Themes and Criteria.

Appendix A

Summary of the Drivers-Revolutions-Opportunities (D-R-OP) analysis. This work has been used to develop the Sustainability Themes.

Third Revolution Projects

Living ςcar parking

Drivers interacting with revolutions in: decline in people driving; largest cohort will drive dramatically less by late 2020s; younger people not replacing them

Impacts and opportunities:

- Lower car ownership and increased active travel will reduce parking space requirements and may increase GDV
- Non-drivers will still need to travelςan attractive place to live for them will be one with great public transport, walking, cycling and micromobility links
- Positive impact on streetscape andpotentialhigher densities
- Growth in multigenerational living could create parking problems without constraint linked to modal shift

The largest cohort of driver licence holders are approaching 60 years old and are not being replaced by as many younger drivers.
Source: ONS vehicle licencing statistics, June 2019

Third Revolution Projects

35

Movement and transport

Drivers interacting with revolutions in: electrification of transport; connected everything allow transport systems to be better understood, planned and evolved; fewer drivers coupled with growth in automation and on-demand services

Impacts and opportunities:

- Accommodating demand for electric vehicles will push up cost of connecting WoI to grid, risking viability.
- Compounded by:
  - Trends away from car ownership and an older and longer - lived population, brings risk of isolation and loneliness
  - Congestion risk from transferring from car ownership and use to very low cost on -demand private vehicles

Third Revolution Projects

Electric scooters

Cycle friendly infrastructure

Electric bike

Car share and bike share hubs

Third Revolution Projects

Infrastructure

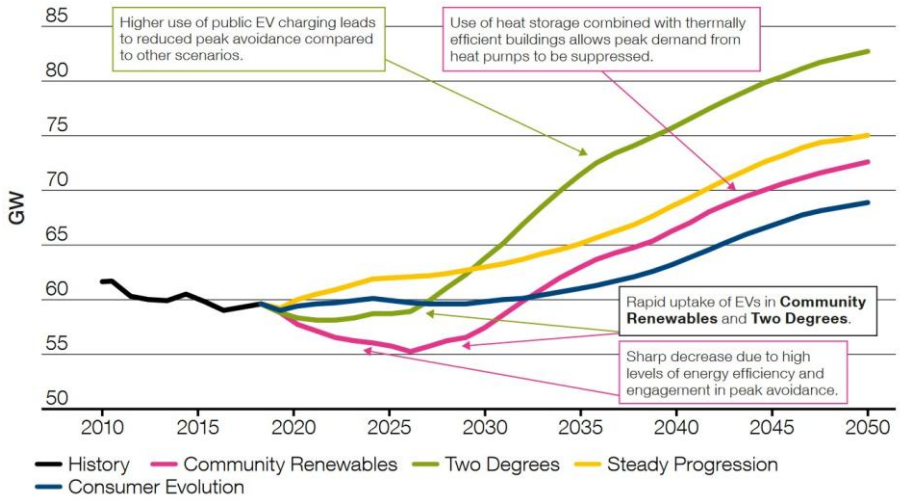
Drivers interacting with revolutions in: climate change; net zero legislation; electrification of heat for buildings and transport; decentralisation of energy system; big data and connected energy, transport, homes, businesses and other physical assets

Impacts and opportunities:

- Simply predicting and supplying energy demand for power, heat and transport via connection to electricity grid may impact on viability
- Provision of super fast high capacity telecoms across the neighbourhoods will be essential to supporting increasingly connected infrastructure, assets and things, and to delivering net zero carbon

Figure 4.2

Electricity peak demand (including losses)



All current demand scenarios show a significant increase in demand due to growth in EVs and electric heating (recent demand drops have been due to significant improvements in energy efficiency). Source: National Grid Future Energy Scenarios

Living ςdwelling typologies and density

Drivers interacting with revolutions in multigenerational living; children living with parents longer; growing elderly population; changing and more flexible working practices

Impacts and opportunities:

- Need for larger plots due to multigenerational and multifamily living and home working
- Risk of higher levels of car ownership in early years in multigenerational homes, highlighting importance of achieving modal shift and parking restraint
- Intergenerational child and elderly care in multigenerational homes and/or mixed neighbourhoods
- Reduced demand for daily commute

Communal and other types of multifamily and multigenerational living are growing in response to affordability constraints and changing societal preferences. These can be combined with flexible work spaces where larger homes are not possible.

Working

Drivers interacting with revolutions in: young people likely to apply views on environment to choice of job; highly educated young generation looking to locate in places with good jobs and social infrastructure; Brexit and a new globalisation; automation pushing jobs out of existence; gig economy and downward social mobility; and creation of a circular economy and new manufacturing methods

Impacts and opportunities:

- More flexible working patterns place greater demands on how homes are used but also opportunities to rethink neighbourhoods
- Movement of people may be constrained, restricting skills
- Automation of a growing number and breadth of jobs
- Mismatch between employer needs and local skills
- Low skill population will hit affordability of neighbourhoods

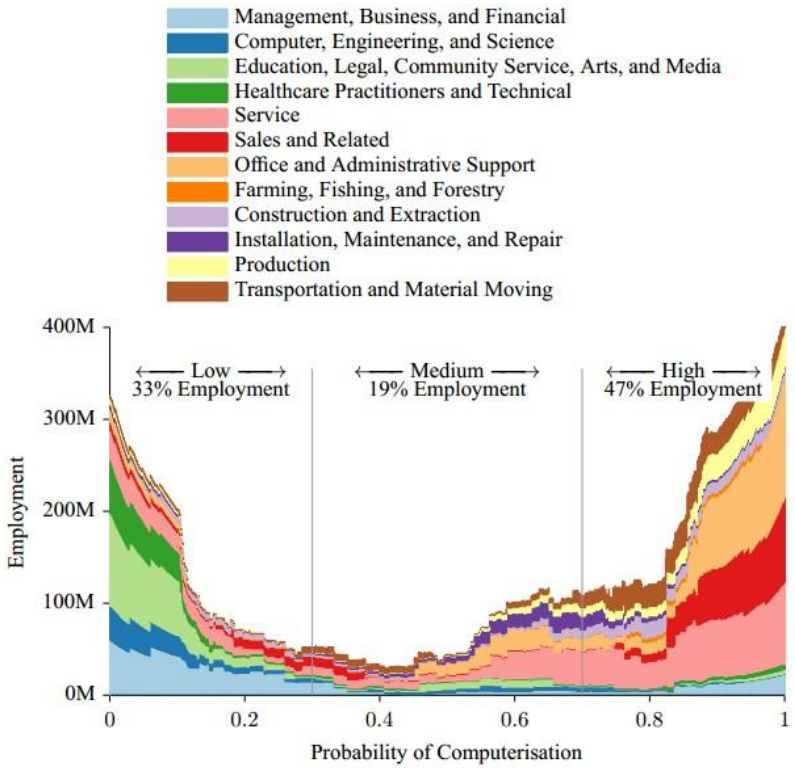


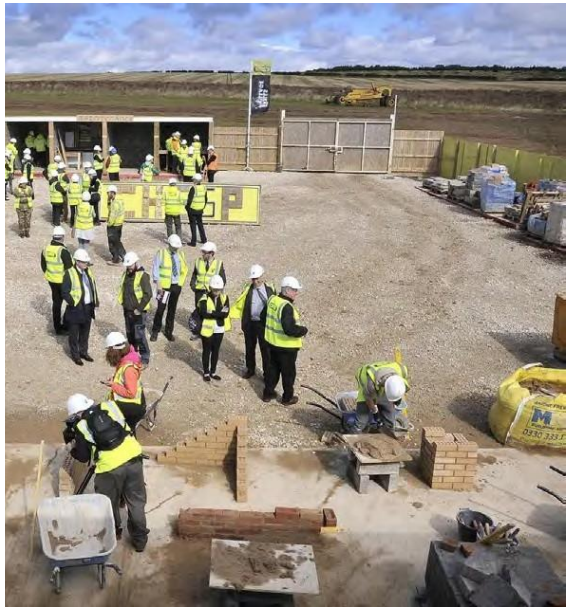
FIGURE III. The distribution of BLS 2010 occupational employment over the probability of computerisation, along with the share in low, medium and high probability categories. Note that the total area under all curves is equal to total US employment.

New ways of learning and caring

Drivers interacting with revolutions in: solving economic and social impacts of climate change starts with education; educational technology is extending access; micro -mobility leads to opportunities for modal shift; aging but longer -lived population; concerns about high costs of care provision leading to growth in multigenerational living

Impacts and opportunities:

- Opportunities for intergenerational child and elderly care are created by proximity of family members within communities
- Opportunities for different tenures of homes located close to education facilities, connected by safe and direct walking, cycling and micro-mobility
- Need to better relate education to real world climate impacts and solutions in local environment
- Ed-tech bended with physical provision to fill local gap between higher education, research and innovation and employment
- Risk of isolation as people drive less

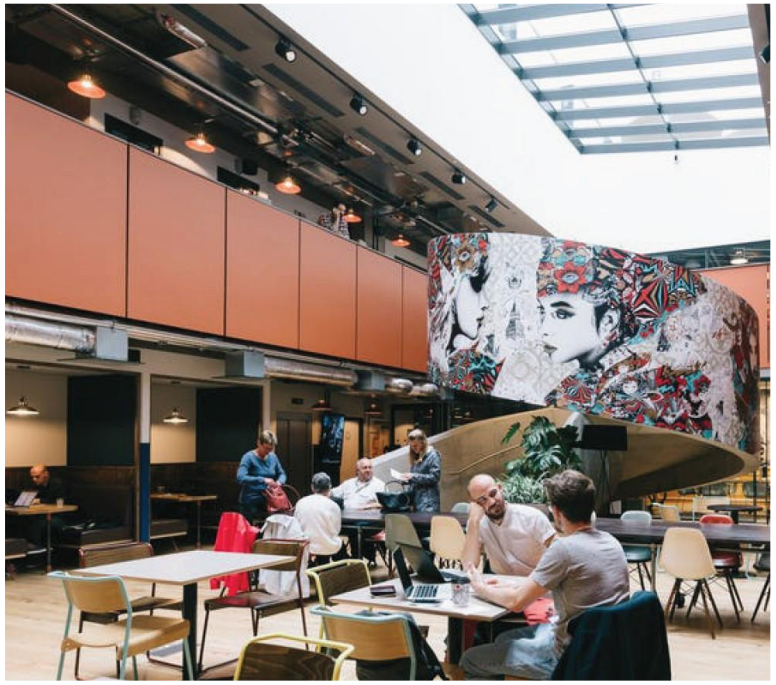


Changing nature of retail

Drivers interacting with revolutions in: retail increasingly on-line and decline in traditional high street; people likely to be seeking more occasional and experiential shopping and may prefer to travel to London and Brighton; growth in dark kitchens; and changing patterns of employment and mobility

Impacts and opportunities:

- Traditional function of Crawley and Horsham town centres as places where goods are exchanged will decline. Early acceptance and planning could see them transformed into places of leisure, working, specialist or temporary retail and learning, connected with high-quality public transport and micro-mobility to neighbourhoods and employment centres
- Neighbourhood centres as places of interaction, supplementary workspace hubs, education and care as people drive less. This could bring additional footfall, support activity and services, while reducing travel at peak times
- The traditional concept of food takeaways is changing to one of ódark kitchens é with no face-to-face customer contact
- Growth in servicing deliveries could result in roads and parking spaces becoming congested without measures to manage them, including modal shift

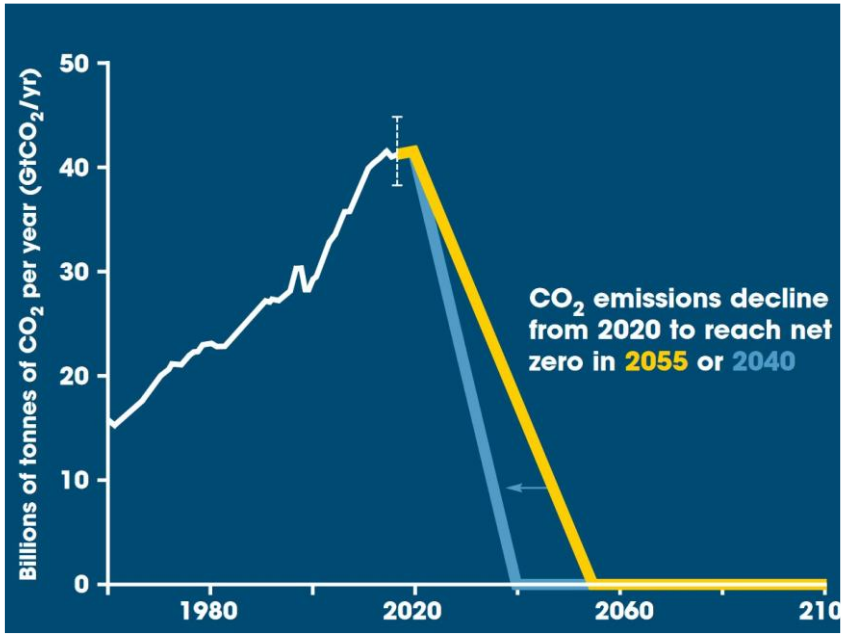


Climate change

Drivers interacting with revolutions in: understanding of science and risks of climate change is shaping public opinion; net zero carbon target; public priority and willingness to take action; dramatic fall in cost of zero carbon technologies

Impacts and opportunities:

- Net zero requires comprehensive action across masterplan and infrastructure, and will become more demanding in each development phase:
  - Risk of poor performing buildings, spaces and infrastructure needing costly retrofit
  - Legal duty ç risk of legal challenge to local plans
- Making space to manage flooding, more intense rainfall, and high temperatures requires space within masterplan and multifunctional landscapes and spaces



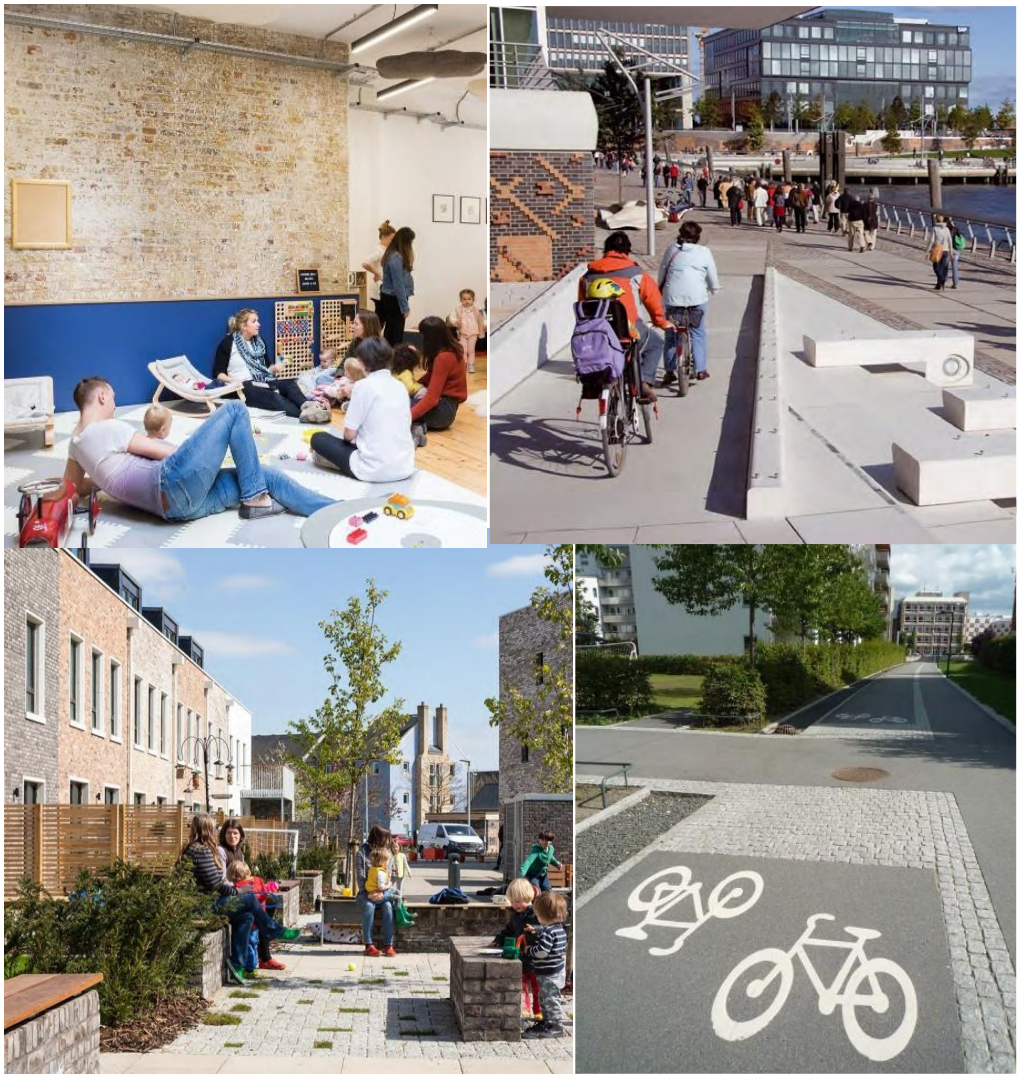
TCPA Rising to the Climate Crisis: A Guide for Local Authorities on Planning for Climate Change, December 2018

Landscape, neighbourhoods and health

Drivers interacting with revolutions in: low activity lifestyles amongst young; growth in overall obesity; digitally connected generation and health technology.

Impacts and opportunities:

- Wearable technology and apps that involve outdoor activity are of limited use unless they are supported by high -quality play, open space network, safe mobility and car -free streets in the masterplan
- Health tech can improve care provision without increasing the number of professionals employed
- Potential to combine surgery provision across existing and proposed neighbourhoods to take advantage of health tech apps, remote consultation and testing



Future Thinking Practice

Current practice:

Neighbourhood centres subservient to existing town and employment centres.

Only basic amenities provided in neighbourhood centres, such as day-to-day retail, community centre, surgery, café, pub.

Significant space given over to parking.

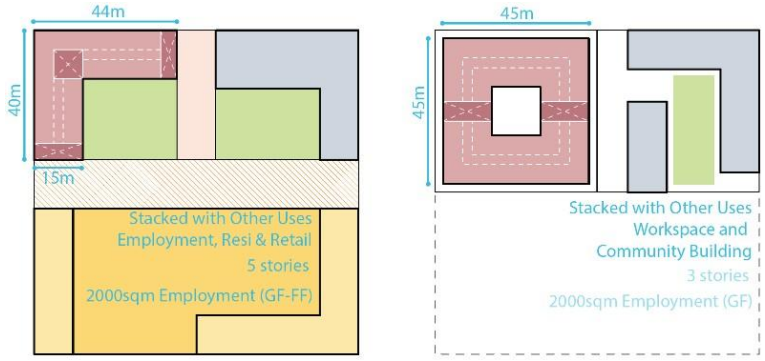
Risk of over provision of GP surgeries as growing proportion of consultations are carried out remotely.

Often segregated uses with poor connectivity.

Future thinking practice:

- Flexible planning designations for office, innovation and community use, including day-care and education.
- Smaller shops and pop up space – the master developer can cross subsidise rents until catchment grows.
- Technology potentially allows fewer GP surgeries.
- Neighbourhood centre prominently located, combining residential uses and limited parking.
- Highly accessibility from homes by walking, cycling and micro-mobility, and constrained access by private cars.
- Hub and spoke logistics, including *'dark kitchens'* with distribution via non-car/van modes.

Typical neighbourhood centres, such as Maidenblower, are segregated and poorly connected, with minimal office, care or supporting retail uses.



Neighbourhoods as important as existing town and employment centres, with complementary uses, flexible office and community spaces and subsidised small retail

Current practice:

Limited connectivity between proposed development and existing town and employment centres means the benefits of a growing population may be lost to areas beyond the towns.

This accelerates town centre decline as retail function declines.

It also results in poor land use decisions, e.g. access to a secondary school or leisure facilities by sustainable modes, and their catchment, are reduced if located on the periphery of places.

Education, leisure or arts uses located in locations with poor accessibility will draw economic activity away from the town centres that urgently need it.

Future thinking practice:

The master developer will create a place well connected to existing centres by non-car modes, sharing legacy land value from the New Town and driving footfall to the town centre.

Close working with local authorities will demonstrate the wider economic benefits and lead to support for the allocation. Additionally:

- Declining town centre retail frees up land for education or leisure, which drives economic activity andcreates space within the masterplan for other uses.
- Connectivity between employment centres and flexible office spaces in neighbourhood centres supports their changing needs post pandemic.

Town centres should be reconceived as places of interaction, with economic activity coalescing around education, arts and leisure activities, as well as retail.

Current practice:

Masterplans are largely structured around vehicular routes and traffic relief on existing networks. Primary routes are segregated and prioritise traffic speed and volume. They ignore opportunities for multifunctional streets.

Pedestrian and cycle links rarely look beyond the immediate development boundary to existing town and other centres.

Parking standards reflect outdated thinking, whereby most people commute or shop by car, most people own their cars rather than using on-demand services, and neighbourhood centres have a limited role in daily life.

Permeability of street patterns is typically focussed on the car.

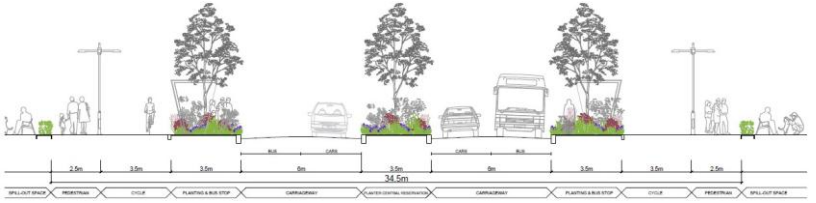
Pedestrian and cycle connections rarely look much beyond the boundary, which misses opportunities to drive footfall from new development to existing centres (Burgess Hill)

Future thinking practice:

The master developer's role is to deliver a movement strategy consistent with changing aspirations and limited funds for infrastructure.

Constraining use of private cars will benefit existing communities by reducing congestion, and walking and cycle infrastructure will be considerably cheaper to deliver. Economic activity will be enhanced through fast non-car connections between Manor Royal, town centres and Three Bridges.

The place will be very well connected internally with streets designed for people, inclusivity, climate and nature, with significant infrastructure provided in advance of occupation.



The Western Link road will better serve changing aspirations and deliver economic benefits if it provides a transit corridor between WoI and existing centres.

Current practice:

Standard practice is to rely on published housing market assessments, guided by local authority evidence and property advisors.

These result in a standard mix of flats and family homes of differing sizes. Sometimes this may be appropriate, but the location of WoI with its potential for direct access to employment centres, including London, presents opportunities for a broader mix.

Rapid societal changes mean that standard practice is likely to result in typologies ill-suited to changing needs and aspirations, which will diminish market appeal. At worst, it will deliver places that are obsolete.

Narrow range of typologies and minimum internal space standards will not meet the needs and aspirations of those using homes to live, work and care.

Future thinking practice:

The mix will suit changing aspirations Ç multigenerational, multifamily, co-living, retirement plus traditional Ç and target developers able to deliver.

Where larger properties are not possible, homes will be located within mixed neighbourhoods, with co-working or community facilities. This approach brings significant benefits:

- Appeals to a wider audience, leading to higher volume sales/rentals and faster returns.
- Higher density co-living or retirement homes can achieve higher yields and land values.
- A broad demographic will help fill skills gaps and widen the appeal of the area, leading to local authority support.

A wide mix of typologies, such as co-living, will generate wider appeal. Reducing parking standards are one means of creating space for larger homes.

Current practice:

Business as usual sustainability thinking would support EVs through provision of dedicated parking bays, often in preferential locations, and charging infrastructure.

This reinforces the dominance of the car in the design of streets and neighbourhood structure, does nothing to relieve congestion and risks creating obsolete places as more and more people drive less.

Future thinking practice:

While EVs reduce pollution, they do not reduce congestion and may create street clutter. They will also add pressure to the site Ω electricity grid, which could affect scheme viability. Therefore, the master developer will support EVs but only in line with Principle 3. They will:

- Prioritise walking, cycling and public transport in streets and neighbourhood structure.
- Test grid connection viability implications of EVs and refine the modal spit accordingly.
- Require installation of smart meters and smart charging.
- Use the masterplan to test charging infrastructure options

Accommodating EVs without designing in constraint or prioritising alternative modes will lead street clutter and risk exacerbating car dominance

EVs and telecoms infrastructure will create street clutter and the master developer should encourage multi-functional uses as part of design guidance and standards

Current practice:

May seek to meet a proportion of energy demand from onsite low carbon sources, promote modern methods of construction and adopt an accreditation scheme to minimise carbon emissions in line with regulations.

This is unlikely to be consistent with the needs of a decentralised energy system or demands of future residents.

Poor outcomes are likely for most without a strategy that considers grid connection costs, EVs and electrification of heating/cooling, running cost for occupiers, as well as the cost for developers.

Future thinking practice:

The right energy strategy is crucial to viability and its attractiveness to future residents:

- EVs and electric heating significantly increase electricity demand and potentially grid costs.
- Home and EV batteries will be used for energy trading and place heavy demands on electricity and telecoms infrastructure.

The strategy will balance cost of living, infrastructure and the effect of higher building standards on site values. The master developer will focus on delivery using a range of partners, accommodating the strategy within the masterplan and setting building standards.

Electrification of heat and transport may push up energy infrastructure costs without investment in energy efficiency and modal shift

Standalone, home and EV battery energy storage can reduce infrastructure costs, be used for energy trading and will be an important feature of Wol© energy system

Current practice:

Telecoms are rarely given the attention they need. It is assumed that providers will install suitable infrastructure without considering whether it will meet the demands of a place where significant parts of the population are working remotely, using on-demand transport, receiving holographic medical care or locating a data intensive business.

Nor will consideration have been given to the central role of telecoms in managing smart energy, water, and transport systems, including energy trading.

Implications for the masterplan, such as multi-utility trenching are sometimes considered, but less so the impact of large street furniture.

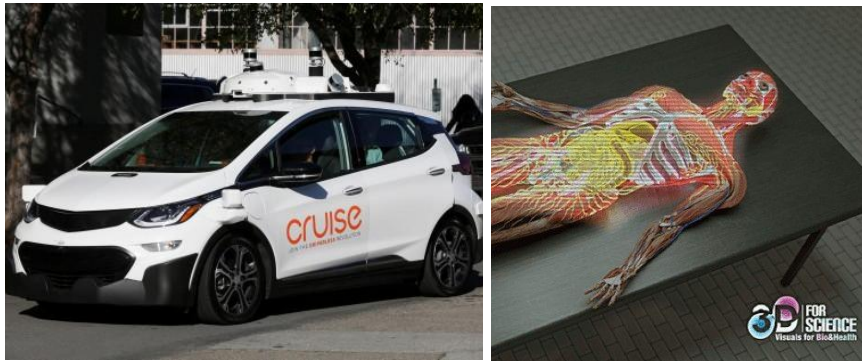
5G requires more street furniture than older generations, which together with EV charging infrastructure needs to be managed through design guidance and standards

Future thinking practice:

Neighbourhoods should have minimum fibre capability of 10Gbps, with built in capacity to100Gbps, plus 5G connectivity. The cost of providing this infrastructure is likely to be borne by the network providers, but it is essential that a master developer understands the implications for infrastructure and the masterplan.

Supporting businesses, individuals and infrastructure with intensive data needs, is a key part of reinvigorating the local economy and will help gain LEP and local authority support.

Support can be compounded by working to develop a smart town strategy that integrates energy, transport and communications.



Transport, energy, industry and medical systems will be data intensive. Economic and commercial success will depend on the right infrastructure being in place

Current practice:

Developments of this scale will normally be required by policy to deliver employment opportunities. Analysis of published evidence and discussions with local stakeholders will translate into floorspace requirements for an agreed mix of accommodation types.

While this methodology has merit, it assumes that the inputs are sensible. Need assessments are often little more than forward extrapolations of historic trends and can easily miss the rapidly changing national and global context or revolutions.

The LEP economic strategy provides a more forward looking vision, but includes little reflection on Brexit or global change and lacks the spatial dimension provided by local plan-making.

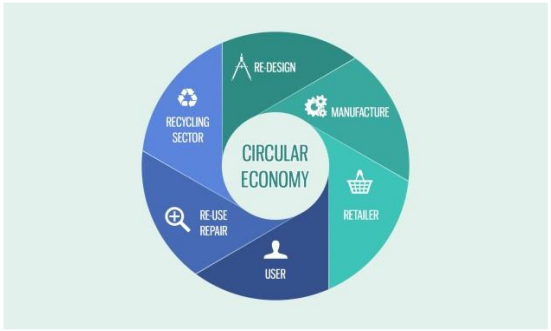
Long term impacts on Gatwick and dependent sectors from the pandemic, then Brexit and the changing nature of globalisation may severely hamper the success of WoI.

Future thinking practice:

Attracting a well educated workforce will help fill local skills gaps, reduce out-commuting and benefit the local economy. This reiterates the importance of the other 9 Principles and will help attract quality businesses.

Accommodating flexible work spaces in homes and neighbourhoods will help retain and recirculate money locally and improve the viability of smaller shops.

The master developer should work with the authorities and LEP to explore the economic opportunities from the circular economy, 3D manufacture and other growth sectors, and the extent to which facilities could be accommodated on site and Crawley town centre, e.g. combining 3D manufacture facilities alongside workshop/industrial premises.



The emerging circular economy and advances in 3D manufacture present significant opportunities for diversifying the economy and for different land use choices.

Current practice:

Planning policy already requires that new development addresses elements of climate risk, notably flood risk and drainage. Crawley and Horsham local plans (draft and adopted) go further and require that applications are accompanied by climate change strategies that address wider effects of climate change, such as water consumption.

However, the UK government has declared a climate emergency in recognition of the scientific imperative for action. The local area is extremely water stressed and high temperatures will become increasingly dangerous. Piecemeal approaches are a commercial risk if they result in unpleasant environments requiring expensive further retrofit.

Flood defences and sustainable drainage that take account of a changing climate are already a common feature in new development

Future thinking practice:

A comprehensive approach is needed, which places climate change resilience at the heart of decision-making. The master developer can shape masterplan and infrastructurechoices, and can set standards for developers.

Engaging with the local authorities to inform a strategic resilience plan will help demonstrate the sustainability credentials of the allocation. Supportingchallenging targets for water use, high temperatures and flood riskwithin the local plans will level the playing field with other developments

There is a long list of demands on space within the masterplan and multifunctionality will be important to meet objectives on open space and biodiversity, e.g. Combining renewable energy and biodiversity, water storage and leisure.

A comprehensive approach to resilience will take action at strategic, neighbourhood and plot/building scale. Solutions will need to be multi-functional, e.g. SuDS, play and ecology

Current practice:

Typically, sites are promoted through the planning process, strategic infrastructure provided to re-risk the site and standards set at levels that maximise sales value. Plots or land parcels are sold off to developers, with planning obligations used to deliver remaining infrastructure.

The aims are to deliver the greatest number of homes as fast as possible, while generating the highest land receipt. This results in viability concerns reducing quality, limited benefit to communities and little interest in long-term stewardship.

Upon sale, a significant proportion of development value goes into land and infrastructure costs, leaving little for delivering quality or innovation.

Future thinking practice:

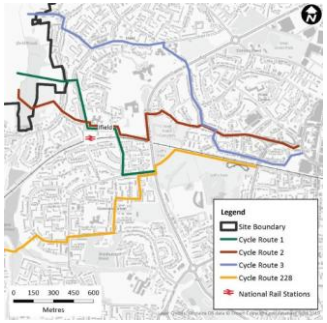
HE as innovator requires engagement with partners willing to innovate, rather than subsidising those wanting to do what they always do. The master developer role is key as it retains greater control over decision-making.

Delivering infrastructure and seeking patient returns on and sales reduces upfront costs and improves cash flow for developers, which allows higher standards to be set.

Infrastructure might be delivered and stewarded by Homes England, partners or communities.

Engagement with partners to deliver infrastructure beyond the red line can create a wider investment space, whichdrives up values and provides genuine benefits to existing communities.

Short-term thinking, a focus on speed and land receipts and reliance on developers for infrastructure leaves little development value for quality and innovation



Patient investing and thinking about infrastructure beyond the site boundary will deliver quality, wider investment spaces and improvements to existing centres