Connecting people and places

DRAFT
A sustainable travel strategy to balance mobility in Ebbsfleet

February 2020
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Welcome to Ebbsfleet, a Garden City for the 21st Century

Sitting on the banks of the River Thames, only 17 minutes from Kings Cross-St Pancras, Ebbsfleet is being planned to grow out of the chalk quarries and industrial heritage of northern Kent to become a healthy, happy new place to invest, live, work and play within.

Ebbsfleet is sponsored by Government to become a ‘Garden City’ to add ambition, quality and pace to planned development between Dartford and Gravesend.

The Garden City benchmark is a commitment to build on the legacy of Ebenezer Howard’s original Garden Cities at Welwyn and Letchworth, and create a place founded on quality place-making, community building and sustainability, making long term arrangements for the care of public spaces and assets drawing upon a fair share of land values.

The original 20th century Garden Cities of Letchworth and Welwyn are defined by their landscape setting of parks, open spaces, tree-lined streets and homes with generous gardens. The resulting leafy and green character is generally recognised as an important reason for their enduring popularity which at the same time offers a number of key benefits in terms of sustainability and climate change resilience. They were built in response to a range of urban and health issues associated with Victorian overcrowding and poor social conditions.

The government has established a Development Corporation at Ebbsfleet to address the challenges of building for and living within the 21st Century. The drive to provide access to high-quality and affordable homes is underpinned by the ambition to enable residents to live happy, healthy and sustainable lives within Ebbsfleet.

The way we travel within Ebbsfleet is critical to meeting these ambitions for sustainability, health and happiness, and this Sustainable Travel Strategy sets out guidance to inform the planning and design of the city going forwards.
The Ebbsfleet Implementation Framework (2017) set out a vision to create a 21st Century Garden City, and "provide a range of safe, convenient and affordable travel options for every journey, and reduce the need to use, or even own a car."

This Sustainable Travel Strategy is intended to provide a clear pathway to delivering this vision. The strategy elaborates on the 5 key travel moves defined within the Framework, outlining key projects that needs to be delivered, and associated design guidance to deliver the vision.

The Strategy is split into three parts:

**Section 1** Reviews how people currently choose to travel, and the impact that emerging technologies and trends may have on future travel decisions in Ebbsfleet. The study provides a comprehensive understanding of the current situation, and the likely scenarios, to allow EDC to plan and design to better balance mobility in the future.

**Section 2** Sets out the vision for delivering sustainable travel in Ebbsfleet.

The vision is expanded from five key travel moves described in the Implementation Framework:

1. Enhancing public transport;
2. Enabling walking and cycling;
3. Creating quality streets and public spaces;
4. Developing a regional transport interchange in the heart of the city; and
5. Intelligent mobility management to create an integrated, responsive and smart travel system.

Together these five programmes form a comprehensive delivery plan to balance mobility for everybody and reduce the need for many to own and store so many cars within Ebbsfleet.

**Section 3** Provides detailed design guidance for applicants preparing planning permissions in Ebbsfleet. It sets-out a sequential process for developing facilities and site plans that support balanced mobility.

**Annex 1** is a standalone document that provides all of the research data, analysis and calculations.
section 1

Journeys in Ebbsfleet today

Exploring current travel behaviours in Ebbsfleet, and how they may change...
1 Introduction

Ebbsfleet is being planned and built at a time of considerable change in the way people travel. New technologies, concerns over air quality and the environment, increasing intensification and urbanisation in northern Kent, changes to the way we work, where we work and how we shop, and the rising cost of travel are all impacting our decisions around how we make short and longer journeys, and changing our collective behaviours....

The following section provides a brief overview of the current context in Ebbsfleet, reviewing current travel behaviours, emerging technologies, and their potential impact.

It should be noted that while reviewing current behaviours and statistics is useful, these behaviours are predicated on the existing transport systems, levels of congestion, ticketing and pricing, all of which are likely to change significantly as Ebbsfleet grows.
A journey in Ebbsfleet today....

People in the Ebbsfleet area have tended to commute more by car, and less by walking, cycling and public transport than similar locations on the periphery of London.

The area is currently characterised as a collection of small towns and villages with reasonable access to London, but suffering from challenging local connections. The creation of the Fastrack bus service has improved this connectivity, but many people within the Ebbsfleet area live over 15 minutes walk from a Fastrack service, and generally perceive it as being more expensive and unreliable than taking the car.

Walking and cycling connections are limited by the challenging topography of the former quarries, and the barriers created by the roads and railways that criss-cross the area, all of which leads to most people choosing to use their car to make most journeys.

Even when compared to the more rural area of wider Kent, the level of walking and cycling is still low, when considered against the level of connectivity, density, and proximity to central London.

This also reflects the distributed nature of local employment areas in Dartford, which are not generally focused in town centres, but are dispersed throughout office parks and industrial hubs across north Kent and the wider southeast. In 2011 the area also had significantly less people working at home than in Kent or indeed England.

However it should be noted that this data is based on the 2011 census, and does not represent the travel behaviours of newly arrived residents within Ebbsfleet. The travel trends and emerging data reviewed in this strategy suggest that car ownership and usage models are changing and are likely to continue to change. Engagement with residents in the new developments suggests more home working, more people commuting to central London than neighbouring settlements, and thus significantly less car-based commuter trips amongst new residents in the area.

<table>
<thead>
<tr>
<th>5.2% across the Ebbsfleet area</th>
<th>8% across the Ebbsfleet area</th>
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</thead>
<tbody>
<tr>
<td>2.5% across Kent</td>
<td>6%</td>
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</table>

Summary of 2011 census data for 4 wards included within EDC boundary (Northfleet North, Northfleet South, Swanscombe, Greenhithe)
locally, people have tended to drive for most trips, but there are signs that this is changing for new residents.

5.1% 38% across the Ebbsfleet area
7.3% 39% across Kent
0.8% 1.1%
2 Car ownership in the local area...

Analysis has been undertaken of car ownership levels across Kent, and within the Ebbsfleet area, based on EDC’s own baseline travel analysis of 2017, and the 2011 Census data, to identify any trends between house types and tenures, neighbourhood density, and car ownership levels.

The map below shows the car ownership for all dwellings, regardless of size and tenure. In addition, the car ownership at 800m, 1.5km, and 5km surrounding the local rail stations at Gravesend, Ebbsfleet and Dartford has been indicated by the circles.

The map identifies a direct relationship between car ownership and the centrality, connectedness and density of a neighbourhood, i.e. more central and better connected a neighbourhoods tend to have access to good local services, and thus the lower the number of cars owned by a household.

Upon completion, the planned public transport, connectivity to local centres, and the availability of local services across Ebbsfleet will be equivalent to existing local centres, where the average car ownership is between 0.96 and 1.04 cars per dwelling. However it should also be noted that house types, densities and parking solutions are also different between these local centres and Ebbsfleet’s planned urban form, all of which will also impact car ownership levels.
The tables below show data taken from household surveys of residents within the Ebbsfleet area.

Table 1 shows the number of cars per household, which shows . The figures suggest that family formations within Ebbsfleet are consistent with neighbouring settlements and villages across

<table>
<thead>
<tr>
<th>Number of cars owned by household</th>
<th>Ebbsfleet Survey</th>
<th>Census</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Impact Area</td>
</tr>
<tr>
<td>0</td>
<td>10%</td>
<td>29%</td>
</tr>
<tr>
<td>1</td>
<td>54%</td>
<td>47%</td>
</tr>
<tr>
<td>2</td>
<td>25%</td>
<td>19%</td>
</tr>
<tr>
<td>3</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>4 or more</td>
<td>3%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 2 shows the formation of households within the Ebbsfleet area. The figures suggest that family formations within Ebbsfleet’s newer villages are consistent with neighbouring settlements and villages in the area.

<table>
<thead>
<tr>
<th>Household size (members)</th>
<th>Ebbsfleet Survey</th>
<th>Census</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Impact Area</td>
</tr>
<tr>
<td>1</td>
<td>11%</td>
<td>33%</td>
</tr>
<tr>
<td>2</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>3</td>
<td>23%</td>
<td>17%</td>
</tr>
<tr>
<td>4</td>
<td>18%</td>
<td>13%</td>
</tr>
<tr>
<td>5</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>6+</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
A review of parking demand in Ebbsfleet...

Comprehensive surveys of the three partially completed new villages within Ebbsfleet (Castle Hill, Springhead Park and Ebbsfleet Green) have been undertaken, to better understand current car ownership and parking demand, and supplement the census data.

Surveys identified the number of spaces / types of spaces provided within each development, and how many cars were actually parked within these spaces, at various times across the week. Sensitivity analysis was used to deal with the unknown condition around cars parked within garages.

The surveys revealed that the observed on-plot parking is significantly less than the parking provided during all survey periods for all house types, although this differential varies across developments. With respect to the apartments, it is noted that the parking demand is closer to the actual provision.

With respect to houses in the Garden City, the observed car ownership level increases with larger houses (by number of bedrooms) whilst apartments generate lower demand for parking spaces.

The greatest demand seems to occur during the Sunday morning survey period. This is not surprising as it is assumed that most residents will be at home during this period.

There are a number of factors that should be considered around these surveys, including the age of children within the developments, who are generally below the driving age, potentially suppressing the parking demand in comparison to more mature neighbourhoods.

However the general evidence suggests that current schemes are providing an over supply of parking across the housing typologies.

While this over-supply could be seen as helpful in providing flexibility to accommodate flux in parking demand as travel behaviours change and the development matures in the next few decades, this flexibility could be more efficiently provided through shared / unallocated parking within the street and the public realm.

The allocation of space for unused parking is a significant waste of land resource, which could be used for alternative facilities.
Total parking demand ratio by date and unit type (compared to provision)
Travel surveys and studies over the last decade have revealed a growing trend to use the car less for local journeys.

In January 2018, the Centre for Transport and Society (UWE, Bristol) and the Transport Studies Unit (University of Oxford) published a study, commissioned by the Department for Transport (DfT). This sought to understand the ways the changes in young people’s social and economic conditions, lifestyles and attitudes impacts their travel behaviour, and how those changes may affect future travel demand. The study found that “young people generally travel less now, with the total number of trips per person made by young men falling by 28% between 1995-99 and 2010-14”.

This is in contrast to the “baby boomers” of the fifties and sixties, who were the spearhead of a rapid, prolonged and persistent growth in driver licence holding, car ownership and car use, that peaked in 1995, with older members of the generation X birth cohort.

“The general trend has been for each cohort of young people since the early 1990s to own and use cars less than the preceding cohort, and for the growth in car use with age to also be at a lower rate”. PBA’s All Change Report, 2018

The reasons for the decline in car use are numerous, interconnected and complex due to their interactions, but are considered to be related to:

• Increasing recognition of environmental concerns amongst younger people. A shift towards more urban living, reliance in “on demand” services – not just for media, but for food and retailing

• Motoring costs (especially in the context of declining disposable income).

Trips, distance, and hours travelled per person indexed 1996-2015
• The stagnation in wage rates seen by young people.
• Increases in housing expenditure.
• A decline in disposable income that has not been experienced by older adults.
• Decline in home ownership and re-urbanisation.
• Changes in the values and attitudes of society – arguably noticeable in younger people, especially related to the valuation of time, the reliability of delivery services and a more global mode of thinking.

The 2016 PBA report titled “Planning Transport and Development – All change?” presents a number of key facts based upon published DfT statistics as follows.

• There have been huge changes to our travel patterns over the last 20 years. The number of trips (in all regions) and number of miles travelled per person per year have declined since the late 1990s, whilst average trip distance and time have increased…in both rural and urban areas.
• Despite a 9% increase in population, total personal car traffic has remained broadly constant between 2002 and 2014.
• Commuting miles per person per year have reduced by 7%.
• Total miles travelled per person per year has reduced by 7%.
• Car driver and passenger travel has reduced by 11%.
• There has been a reduction in car travel in all age and gender bands, except men and women over 60.
• Since 2002 in England, travel distance by non-car modes has increased by 19%, with the biggest increase being seen in surface rail travel, and rail usage has increased in all areas, except the most rural areas of the country.

Miles travelled by 18-30 years (1995-2014)
5 Technology is already changing how we travel...

Mobility as a service

Encapsulates the move away from private vehicle ownership, towards travel need being provided as a single service. There are several potential models, which combine transport services from public and private providers through a unified gateway that creates and manages the trip, which users can pay for with a single account.

MaaS is already being trialled in the West Midlands, where the Whim app provided users with unlimited use of buses, trams and bike share, and a fixed number of taxi journeys / car hire days for a single monthly fee. MaaS makes use of the sharing economy, the availability of big data and the internet of things, to create a feasible alternative to car ownership in urban locations such as Ebbsfleet.

Big data

Big data offers the opportunity to provide valuable insights into the travel behaviours of residents, and to use this in the planning of transport systems, services and products.

Mobile phone data has already found its way into traffic modelling and forecasting, and in the management of real time data in sat-nav system. This type of technology is likely to be incorporated within the development of apps that support and enhance the lives of people within Ebbsfleet.

Connected and autonomous vehicles

CAVs use the internet of things, big data, and a host of emerging technologies to allow vehicles to ‘self-drive’. While a fully autonomous vehicle may still be decades away, the impact of their arrival on the planning and design of the city is likely to be significant, and is worth considering in the master-planning of Ebbsfleet Central.

The anticipated changes resulting from such technologies include likely changes in propensity to own a car; the need for on-plot parking and the knock-on impact of displaced remote-parking; the potential for narrower carriageways, and the need for integrated charging station within the city.
The sharing economy

Younger people still aspire to travel, but with a different mindset to the norm that has prevailed since the fifties. They are less interested in the responsibility and cost of possession (whether leased or bought) but are more inclined to hire or borrow to meet their needs.

The rise of Uber, Lyft and other ride hailing apps has been both a significant disruptor and a flag to this changing behaviour pattern. These apps show that particularly the younger working generation are attracted to this way of travelling.

Any future rise in the costs of car ownership, which could easily arise through the electrification of the vehicle fleet and the expense of battery technology and CAV technology, would make ownership even less attractive. Some electric cars already have a split ownership model, where the car is owned or leased in the traditional way, and the battery is leased alongside it.

It is likely that the sharing economy will continue to disrupt travel behaviours, although this may not lead to more efficient use of the network or scarce resources.

Internet of things

The ‘Internet of Things’ is about the connecting of devices to allow them to act autonomously as a result of their connection. IOT will be reliant on super-fast networking, and the roll out of a ubiquitous 5G network.

Connected vehicles are becoming more and more the norm. The IOTs offer the potential to assimilate data from vehicle fleets on conditions such as the localised weather, to change vehicle set-ups to suit the driving conditions in that area.

For public transport, the IOT offers the opportunity to provide real-time journey advice tailored to a specific person’s journey, factoring in current conditions reported from travel infrastructure and vehicles across the city, or linked to monitoring of air quality / health status to advise on best journey options.

The opportunities are endless...

Personal transport modes

There are a growing number of personal mobility vehicles and devices on the market, which could impact the way people with mobility issues travel within Ebbsfleet, as well as the wider community.

The emerging technologies include scooters, electric scooters, skateboards and bikes, and self-balancing devices such as segways.

While some of these may not be legal to use on public highways currently, consideration should be given to how they may be legally supported within the public realm, and how if they could share cycle networks and infrastructure.
How can residents current travel needs be balanced with providing a choice of travel options for tomorrow?

The challenge for balancing mobility in Ebbsfleet lies in supporting current residents who do not have a convenient alternative to their cars, while simultaneously putting in place the public transport, walking and cycling facilities to provide a choice of travel options for local journeys in the future.

Private car use remains the predominant mode for many people today, especially in the peak periods when commuting and education related trips are to the fore, as virtually none of the sustainable travel network or services are in place. For new residents, the local roads are relatively uncongested, and alternatives to the car are either basic, inaccessible, inconvenient or perceived as relatively expensive.

This convenience of the car is furthered by the generous levels of on-plot parking that have been provided within the first phases of new neighbourhoods. However this period of convenient car travel is likely to become increasingly frustrated as the city grows, and more cars start to use the local road network.

Interestingly, the travel trends already reviewed in this section suggest that car ownership and usage models are likely to change significantly. This appears to be already happening in Ebbsfleet, where the demand for parking is significantly lower than planned, and lower than comparable local developments. While these car ownership levels may rise as families mature in the new villages, and older children start to travel independently, the recent data suggests that 18-25 year olds are much less likely than previous generations to travel or own a car at this stage in their lives, and thus current car ownership levels may not rise as was once common in new developments.

When this lower level of car ownership is combined with the planned provision of alternative transport systems set-out in the vision (see section 2), this would suggest that Ebbsfleet is already at peak car ownership.

Key recommendations

- To balance mobility so that everybody has a choice of travel options for local journeys we should be positively planning and delivering for the scenarios that we want to see, and not for the ones we fear. This means making positive provision for sustainable and resilient modes, and not providing for the continuation of undesirable behaviours.

- While private cars are likely to continue to provide a valuable travel option, particularly for certain users and journeys, for many the costs associated with long commuting distances, the harm to the environment, and the impact upon our well-being will
mean alternative modes will become more attractive providing they are accessible and convenient.

- Use the Ebbsfleet Parking Demand Survey figures (see section 3) as a benchmark parking ratio to be used in planning for parking across future development in Ebbsfleet.

- Consider using a resilient approach to the way that parking is provided is likely to be appropriate. The ability to plan parking provision in such a way that it could be re-purposed if not required in the future makes sense. The provision of "on-plot" dedicated spaces, house by house, does not allow for this land to be re-used for something that may be more beneficial. Instead these driveways are tarmacked over, and likely to remain so in perpetuity.

Note: Annex 1 provides technical documentation that goes with this strategy. This section sets out a comprehensive appraisal of various aspects of transport behaviour in the Garden City today – especially in respect of parking demand and activity. This has been a key determinant in the way that detailed masterplans have been brought forward, and it is recognised that this will need to be carefully managed in the future.
section 2

A hop a skip and a jump?

The vision for travel in Ebbsfleet
Hop on your bike, jump on the bus, or skip along the street..... In Ebbsfleet the focus is on making it as easy to take the bus, walk or cycle, as it is to drive the car, so you can easily lead a healthier and more sustainable lifestyle in the 21st Century Garden City.

Across Ebbsfleet on most weekday mornings, the challenges of moving around the area can be seen across the area, from Bluewater in the west to Gravesend town centre in the east. At the bus stops commuters and school children wait for a bus that has been caught-up around Bluewater. Drivers filter onto main roads and roundabouts and finally make it to the A2 motorway, caught in a squeeze of traffic with no alternative but to use the car to make it to work on time. Those on foot wind their way through and around former quarries, railway tracks, cliffs rivers and along noisy roads.

These are the challenges that leave families with no option but to own multiple cars, to allow mum, dad and the children to get to work and school on time. While we all would like to be more active by walking or cycling, and avoid damaging the environment, the practical realities of getting around quickly and ‘conveniently’ normally mean the car is the easiest option.

The Ebbsfleet Implementation Framework sets out a vision to create a 21st Century Garden City, by providing a range of safe, convenient and affordable travel options for every journey. By developing attractive walking, cycling and public transport systems, and using technology to integrate them, we can balance mobility for everybody and reduce the need for many to own and store so many cars within Ebbsfleet.

Balancing mobility is not just about making it easier to travel around the local area, but will also support the general health and wellbeing of local communities. Even a short walk to the bus within an attractive street has been shown to reduce stress, and improve mental resilience within commuters in busy urban locations.

The sustainable travel strategy is therefore intrinsically linked with a number of other EDC work areas. These links are highlighted in Section 2 by the use of the symbol on the left.

EDC is already undertaking considerable work to enable sustainable travel across the Ebbsfleet area. Current and planned projects are highlighted in Section 2 by the use of the project symbol on the left.
Enhancing Public Transport

The first priority for enhancing mobility in Ebbsfleet is to expand and enhance the existing Fastrack bus system.

The current Fastrack buses run on a 25km network that links Ebbsfleet International to Dartford, Gravesend and Bluewater. However with only 30% of the network segregated from general traffic, the buses often become caught-up in general congestion, particularly around Bluewater and the M25, causing delays and frustration across the entire area.

EDC will combine a walkable neighbourhoods approach to masterplanning with a programme of investment in Fastrack, to create neighbourhoods capable of sustaining frequent, rapid, affordable and viable services.

Planning for a 5 minutes walkable neighbourhood

Ebbsfleet is formed by the development of 9 new villages alongside the existing settlements of Northfleet, Greenhithe and Swanscombe. Each village is sized to ensure most residents are within a 5 minute walk (400-500 metres) of key facilities, including a Fastrack bus stop. The number of homes within this 500 m radius is also sized to ensure enough people live within this radius to support the viable operation of a frequent bus service.

The accessibility and viability of the bus service is further enhanced by a ’public transport oriented development’ approach which locates higher density house types, such as apartments and townhouses along the streets served by the Fastrack bus service, so more people are able to live within a 2-3 minute walk of a frequent bus service.

The Fastrack network will bind together local centres and communities across the Ebbsfleet area and these public transport corridors will create the spine along which higher densities of both housing, employment and local facilities will be concentrated.
Fastrack programme
EDC will address the current issues with Fastrack by completing missing sections of the network to ensure over 90% of new residents will be within 5 minutes walk of a Fastrack stop, and upgrading the network to provide more than 70% as a segregated bus-lane, that will avoid buses becoming delayed by congestion.

Explore the potential for a single integrated ticketing system, for public transport within the Ebbsfleet area.

Explore opportunities to upgrade the quality and sustainability of the bus fleet, and the bus stops.

Bluewater Tunnel
The construction of a new tunnel between Bluewater shopping centre and Whitecliffe is a critical missing link within the Fastrack, walking and cycling networks that will dramatically reduce journey times between Ebbsfleet and Bluewater. EDC is co-funding the tunnel which will open up access for buses, cyclists and pedestrians.

An Ebbsfleet Ferry service
EDC will continue to promote the introduction of frequent, quality ferry services from one or more locations in Ebbsfleet, connecting into London Docklands, Greenwich and Central London.

Springhead Bridge
EDC is building a new bridge to provide a third east-west route in the central area, bridging the River Ebbsfleet, and connecting Springhead village back to Ebbsfleet Central. The bridge will reduce the current 25 minute walk to Ebbsfleet station for Springhead residents to 8 mins, and open up Fastrack services for 800 homes, as well as creating new footpaths and cycleways into the central area.

Mobility as a service:
EDC will explore the opportunity to co-develop a ‘mobility as a service’ scheme for the Ebbsfleet area.

Mobility as a service describes the emerging new technology that provides an integrated travel service, where all your travel needs are supported by a single platform accessed from a phone-app or web-site. This service allows users to identify available travel options, and the associated journey time and cost for each journey, and provide a single payment system that could cover all available transport modes, including buses, trains, bike share, ride share, taxis, car clubs and even car hire.
2 Enabling walking and cycling

The next step for balancing mobility is to enable people to walk or cycle safely and comfortably within their neighbourhood, and to neighbouring villages and local centres.

Safety and convenience are often the key concerns preventing people from walking or cycling more often. While there are public footpaths and a few off-road cycle lanes that connect some of the neighbourhoods within Ebbsfleet, pedestrians and cyclists face a number of challenges. The cliff edges of the former quarries, major roads, rail lines, embankments, gorges and flooded quarries all block direct footpaths and cycleways, and force people to have to go around them. The limited number of bike lanes also pushes cyclists onto the road or the footpath, and crossings are generally prioritised for drivers, meaning time is wasted for those left waiting at the side of the road.

EDC’s approach to supporting walking and cycling has been drawn together as an ‘Active Travel Plan’, which has been co-developed with key stakeholders and organisations across Ebbsfleet. This plan combines policy, design guidance and investment to deliver integrated walking and cycling networks, high-quality storage, changing and servicing facilities, and a broader communications programme to highlight the opportunity and incentivise people to chose to walk or cycle more frequently as part of their everyday lives.

The plan recognises the need to make cycling more convenient, and builds on the Dutch approach of “civilised cycling”, using more traditional general-use bikes, that don’t require specialist clothing and don’t need the rider to shower at the end of a journey.

See the Ebbsfleet Active Travel Plan

See the Ebbsfleet Sports and Physical Activity Strategy
Planning for walking and cycling

The Implementation Framework addresses the current barriers to walking and cycling within the landscape by developing a ‘Garden Grid’ as a landscape that connects parks and open spaces with adjacent communities, and promotes street designs that prioritise space for walking, cycling, street trees and planting within the city streets and public spaces.

When developed together this will create a high quality walking and cycling network, that will help to balance mobility by offering a viable alternative to the car for day-to-day trips within each village, whilst opening up the recreational potential of the surrounding landscape. Key principles include:

• Providing new vertical connections (e.g. elevators, ramps and stairs) to negotiate dramatic changes in level and establish a landmark suite of iconic interventions within the Ebbsfleet landscape;

• Re-imagining bridges, tunnels and underpasses to create safe, attractive and exciting new places that connect between quarries.

• Upgrading the existing pedestrian and cycle routes within existing local communities (see Green Corridors programme)

• Delivering a network high quality facilities for cyclists within cycle hubs at major transport interchanges and centres;

• Improving general way-finding and the legibility of pedestrian and cycle networks across Ebbsfleet through physical upgrading of routes, and the promotion and marketing of them.

• Promoting the inclusion of attractive and secure cycle storage rooms and facilities that are prominently located and easily accessible within apartment blocks, schools, offices and community buildings.
Green Corridors Programme
EDC has kick-started an investment programme to improve footpaths, cycleways and public realm that enhance connectivity for current residents, helping them to walk and cycle across the city during its construction - over the next 20 years.

City Loops
EDC has identified a series of routes that form loops around the Ebbsfleet area. These routes will be mapped and signposted to form a network of activity routes of different lengths and experiences, allowing residents and employees to get active by accessing the natural landscape further afield.

Cycle Hubs programme
The bike storage at Ebbsfleet International is often full, and a feasibility study has identified a viable concept for an adaptable bicycle hub that could grow with demand, and include bicycle storage, servicing, cycling advice, bike shops, cycle hire and charging at the station. EDC will continue to explore the delivery of this hub as well as providing additional cycle parking in the short term. The provision of additional cycle hubs at other key cycling destinations will also be explored.

Bike share programme
EDC is working with development partners to establish a bike share system early in the build-out of the Garden City. The aim is to initially provide a network of bike share hubs in the completed villages and at the train stations, which could then grow with the city as new developments and villages are completed, and could form a key element of Ebbsfleet’s ‘mobility as a service’.

Wayfinding / signage programme
The first step in any journey is working out where you are, where you want to get to, and the best way of getting there. While we may often use a phone app to help navigate in unfamiliar places, many of us still prefer an old fashioned map that allows us to take control of our route planning, and gain a better understanding of the local geography.

EDC has commissioned a mapping system for Ebbsfleet, that has used historic maps of the area to create legible and useful maps that promote the use of active travel, and local facilities. These maps include walking and cycling journey times, information about the gradient of cycle routes, local landmarks, and available cycling infrastructure to make it easier to navigate by foot and bike.

Ebbsfleet’s Active Travel Plan
EDC has developed an Active Travel Plan, which provides a comprehensive action plan for delivering walking and cycling facilities, developing facilitative local policies, and supporting residents in choosing to walk and cycle for local trips when they first arrive in Ebbsfleet.
Ebbsfleet Way-finding Strategy
Diagram from the Ebbsfleet way-finding Strategy exploring the user requirements for Ebbsfleet public transport users, and the implications for signage in the Garden City.
Delivering Healthy Streets and Parks across the neighbourhood

Street design has typically prioritised journey times for people in cars, and the space to park them, leaving precious little space in the street for those on foot and bicycle.

Many residential streets have become a sea of concrete and tarmac given over to the car, with little to differentiate their character within new housing development across the country.

This approach is very different to the visions of the original Garden Cities of Letchworth and Welwyn, where the large leafy verges, and generous boundary hedgerows created beautiful, green and healthy streets. Attractive streets have been found to directly support not only increased levels of walking, running and physical activity, but to also improve mental health for local residents, and directly aligns with the ambitions of Ebbsfleet’s Healthy New Towns Programme.

EDC’s approach has been to develop the ‘Healthy Streets’ Public Realm Strategy, to rebalance the use of space within the public realm for walking, cycling and public transport alongside the car. The Health Streets Public Realm Strategy illustrates four types of street, each one designed to balance mobility within a different part of the neighbourhood.

Each street design provides a layout for a 50m length of street that allows EDC to quantitively benchmark the number of trees, and the area of planting within every future street, to ensure the vision for Garden City streets are delivered across the city. Each layout also illustrates how the street can be designed to integrate with the garden-grid, providing green infrastructure to support biodiversity and flood resilience, as well as a wider range of facilities for people to meet, come together to play, exercise, socialise and create.

The approach also extends to the design of Ebbsfleet’s parks and open spaces, which have been planned to form a network of attractive and relaxing green routes. These spaces incorporate alternative walkways and cycleways away from the bustle of the streets, for those keen to exercise and travel more leisurely. Public art can also provide an opportunity to create more interesting and enjoyable walking and cycling routes.

The street cross sections on the next page are taken from the Ebbsfleet Public Realm Strategy, and illustrate how generous walkways and cycleways have been incorporated into each scale of street, from the busier distributor roads that link villages, to the quieter lane and mews where many homes are located.
**Laneways**

The laneways can provide access to both the front and rear of homes, servicing both direct and no-direct access plots. They are envisaged as shared surfaces that maximise flexibility, incorporating opportunities to park, to play and to exercise and socialise in front of the home. In the short term these spaces will allow informal parking within a high quality landscape. If the need for secondary parking spaces drops away in the future, these spaces can be reprogrammed as more formal public spaces.

**Residential Streets**

Primary streets provide access for general traffic within villages. Generous verges and street trees balance the impact of cars within these busy streets. Unallocated parallel parking bays are incorporated within the verges to provide flexibility. Segregated cycle-lanes may also be included where required.

**Primary Streets**

Primary streets provide access for general traffic within villages. Generous verges and street trees balance the impact of cars within these busy streets. Unallocated parallel parking bays are incorporated within the verges to provide flexibility. Segregated cycle-lanes may also be included where required.

**Fastrack Boulevards**

The Fastrack boulevard is to be used along the Fastrack routes, providing cross-city connectivity through a segregated bus corridor, a segregated off-carriageway cycle-lane, and generous pavements that can accommodate spill-out businesses within local centres.
Healthy Streets Evaluation tool

The Healthy Streets evaluation tool has been developed to allow EDC to define the required design performance for all future streets. It covers nine specific performance areas including biodiversity, character, safety and security and will be used to evaluate and monitor progress in delivering quality public realm.

See the Ebbsfleet Healthy Streets Public Realm Strategy
Gateway landscapes
For many people arriving in Ebbsfleet, the first impressions of the city are provided by the sequence of roundabouts and verges that form the gateway from the motorway. This landscape of trees and plants creates a highly visible backdrop for most journeys across the city.

EDC has developed a planting strategy for these landscapes that will create a memorable setting for these journeys, using planting that will add colour for much of the year, that is able to survive a two degree temperature rise and lower summer rainfall, and all without requiring expensive maintenance regimes.
A regional transport interchange

Ebbsfleet benefits from having the International Railway Station at its heart, connecting residents and business to London Kings Cross/St Pancras, Paris and Brussels with frequent and reliable high-speed trains.

Just across the River Ebbsfleet on the eastern edge of the central area, Northfleet Station sits on the North Kent commuter train line, running into south London and Victoria, with an exciting opportunity to upgrade this route to form an extension to the Crossrail network, which could link Ebbsfleet directly to Heathrow.

Ebbsfleet also sits astride the A2 motorway corridor, providing excellent connections to the south-east, Dover and the continent.

When considered together, these rail and road connections provide an exciting opportunity to develop a major transport interchange for the south-east within Ebbsfleet. This interchange would provide a vital gateway into London and Europe for locals using sustainable travel modes, as well as regional visitors starting their journey by car. The interchange could provide a catalyst for the growth of Ebbsfleet, as well as an accelerator for enhanced public transport systems across North Kent.

Ebbsfleet International Interchange

EDC will work with partners to provide a major transport interchange at Ebbsfleet International. This hub will aim to seamlessly integrate international and domestic rail services with local mobility options including Fastrack, walking and cycling networks, as well as providing a park and ride gateway to London and Europe for the region. Projects will seek to facilitate seamless trips and encourage the use of public transport.

Develop a new Fastrack interchange in Ebbsfleet Central

The expansion of the Fastrack service will include additional routes, and enhanced frequency for buses travelling through Ebbsfleet Central. A new bus-hub adjacent to Ebbsfleet International will be needed to support these services, and improve connectivity with other transport modes within Ebbsfleet.

Crossrail to Ebbsfleet

EDC is working with Transport for London, and local authorities along the proposed route to develop the business case for the extension of the Elizabeth line to Ebbsfleet. The proposal would see the upgrading of the North Kent railway line which currently serves the Swanscombe and Northfleet stations, to connect to a new terminal which would form part of the Ebbsfleet International interchange.

Swanscombe Station is currently very constrained, with basic facilities and no accessible route between the entrance and the platforms. EDC will need to work with relevant transport partners to identify opportunities for upgrading the station to meet the expectations for a contemporary train station within Ebbsfleet.
A2 junction upgrades
EDC is forward funding over £40 million to bring forward Highway England’s planned upgrades the A2 motorway junctions that serve Ebbsfleet Garden City. These upgrades will boost the capacity of the junctions and the flow of traffic accessing Ebbsfleet from the A2, which will benefit both residents, visitors and business within the area.

Lower Thames Crossing
Ebbsfleet’s sits on the edge of the M25, adjacent to the Dartford Crossing, which is one of the most congested parts of the motorway network.

In 2017 the Government announced plans for an additional Thames crossing to the east of Ebbsfleet, which will boost capacity on the motorway network around Ebbsfleet.

EDC is working closely with the Highways Agency, central Government and local authorities to facilitate the planning, design and construction of the crossing and to enhance strategic road connections in the area.

Planning for a regional transport interchange
The Implementation Framework establishes a number of masterplanning principles for the central area to maximise the potential for a transport interchange at Ebbsfleet. These include;

• A generous, lively new pedestrian boulevard will link the existing railway stations at Ebbsfleet International and Northfleet, to form the heart of the Northfleet Rise development area.

• All Fastrack services will be routed through a new Fastrack Interchange facility that will be located adjacent to the Ebbsfleet International train station hub, to allow seamless integration between bus and rail.

• The existing surface car parks will be replaced with multi-storey car parks integrated into the central area’s streets and buildings, to offer similar levels of convenience for those arriving by car.

• A new cycle hub will provide a broad range of facilities for cyclists at Ebbsfleet International, providing a gateway facility for cyclists accessing north Kent.

• The network of streets and public spaces within the Ebbsfleet Central area will seamlessly flow into the station concourses and underpasses, integrating the interchange.
5 Intelligent mobility management

The final stage is to ensure the management of Ebbsfleet’s transport infrastructure and associated travel systems and services is able to respond to emerging technologies, changing travel behaviours, and changing travel conditions within the Ebbsfleet area.

The development of Ebbsfleet Central and the major new transport interchange will provide opportunities to include an integrated approach to managing travel within the central area, and use emerging technologies to improve access, affordability, efficiency and the comfort of these travel systems.

Emerging technologies such as autonomous vehicles, embedded sensors, smart mobility management, integrated ticketing, new charging systems and innovative new personal transport devices could all have a significant impact on how people chose to travel in Ebbsfleet.

- Use of smart sensors within Ebbsfleet’s streets and travel system to provide an accurate real-time understanding of travel system performance.
- Explore how this data can be presented to residents and transport users within the area to allow improved journey planning. For example, how could air quality monitoring be used to convey the healthiest route / travel mode at a certain time in Ebbsfleet?

- Explore how this data can be used in the operation of the city’s transport systems / infrastructure to improve efficiencies.

The following projects set out a number of areas that EDC could explore through the build out of Ebbsfleet central and the wider city to deliver intelligent mobility management.

Urban Traffic Management Control

EDC are already working with KCC to upgrade the existing urban traffic management control system (UTMC) within the Ebbsfleet area. This system enables traffic signals to react to traffic conditions/traffic incidents and adapt traffic signal to ease congestion. The UTMC system integrates real time traffic information to inform road users of conditions via variable messaging signs.

Building on this system, EDC should continue to explore how other sustainable and smart transport technologies, such as bus priority, air quality information, real-time parking information, etc, can be integrated into the UTMC to facilitate a more joined-up, efficient and smarter transport system.

Fastrack prioritised junctions

The majority of the final Fastrack network is based on bus-only carriageways. However, a number of key junctions will be necessary where the Fastrack network intersects or combines with the standard road network, which could significantly impact the reliability of the Fastrack network.
A number of existing and emerging approaches and technologies could be employed. These include the proactive planning of HGV movements through routing, scheduling could mitigate their impact on air quality, or the creation of an ultra-low emissions zone could establish requirements for vehicles travelling within Ebbsfleet Central.

**Smart Parking Management**
Planning for car parking within Ebbsfleet Central will provide a significant opportunity to introduce new technologies to improve the spatial efficiency of parking provision, and enable drivers to find an available parking space more easily.

EDC will continue to explore opportunities to achieve greater efficiencies in parking provision, and support Ebbsfleet’s role as a major regional transport hub that facilitates the transfer from private car to public transport.

**Air quality monitoring**
EDC will explore through the Ebbsfleet Central project how smart traffic management, environmental design and air quality monitoring and mapping may be used to manage air quality in the central area.

Ebbsfleet will continue to grow alongside the active industrial sites along the banks of the Thames. The protected wharves and industrial facilities will continue to generate a significant number of HGV movements between the Thames and the A2, which may impact the air quality, and the attractiveness of travelling within the streets and public spaces within Ebbsfleet Central.
section 3
Sustainable Travel Design Guide
Applicants applying for planning permission within Ebbsfleet should use this section to develop a travel strategy that promotes a choice of sustainable, affordable and convenient travel options, and a supporting parking approach.

- **Step 1**: Promote the use of sustainable travel. Identify design principles that will promote accessibility by walking, cycling and public transport.
- **Step 2**: Identify baseline parking requirements.
- **Step 3**: Develop parking approach.
- **Step 4**: Incorporate charging provision.
- **Step 5**: Develop Parking Management plan.
Step 1

Promote the use of sustainable travel

The promotion and enablement of safe and convenient journeys by walking, cycling and public transport should be prioritised in all projects within Ebbsfleet.

Every project should promote sustainable travel in Ebbsfleet by:

1) Supporting the set-up, operation, promotion and communication of sustainable travel networks and services within a project’s travel strategy, including public transport, walking, cycling, car clubs, bike share and any other emerging sustainable travel systems and technologies.

2) Masterplanning to ensure the location and quality of facilities included within each site will help to enhance the perceived convenience and attractiveness of walking, cycling, public transport and sustainable travel in general.

3) Developing Sustainable Travel Plans for projects that prioritise sustainable travel choices.

Guidance

G1 The travel strategy should review current, planned and emerging sustainable transport services/technologies, and review how the project could adopt, support or contribute towards the use and growth of sustainable transport modes in Ebbsfleet.

Further Guidance

- Car Club Planning guidance
- NACTO Bike Share sitting guide
**Guidance: Walking**

G2 Sites should be masterplanned to ensure safe and attractive pedestrian access from every dwelling to the street network.

G3 Aim to provide a wheelchair-accessible approach to all dwellings from a footpath which connects to the area’s wider footpath network.

G4 Aim to provide a front door onto the street for all street-facing dwellings located on the ground floor of apartment blocks.

G5 Aim to provide an attractive and comfortable entrance area which aligns with EDC guidance on entrance areas.

G6 Locate all apartment blocks on a defined street designed in accordance with the Ebbsfleet Public Realm Strategy with a communal front door accessible from the public street.

G7 Review the Ebbsfleet Wayfinding Strategy, and identify locations for wayfinding signage that supports the ambitions of the strategy.

**Guidance: Car clubs**

G7 Each project should review the proximity of existing or planned car club bays. The aim should be for every resident to have access to at least two car club parking bays within 5 minutes walking radius.

If no car club bays are currently available or planned within the neighbourhood, masterplanning should identify proposed locations for dedicated car-club parking bays.

The table below sets out the indicative level of car club provision for different sizes of residential development:

<table>
<thead>
<tr>
<th>Development Size</th>
<th>Recommended number of car club cars provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 50 units</td>
<td>Promote use of existing network car club cars (if available)</td>
</tr>
<tr>
<td>50 - 99 units</td>
<td>Case by case assessment</td>
</tr>
<tr>
<td>100 - 199 units</td>
<td>1 Car</td>
</tr>
<tr>
<td>200 - 399 units</td>
<td>2 Cars</td>
</tr>
<tr>
<td>400+ Units</td>
<td>3 Cars</td>
</tr>
</tbody>
</table>
**Guidance: Bike share**

G8 Each project should review the proximity of the nearest bike share hub. If no hub exists within a 5 minute radius, applicants should test the project site to establish the optimum location for a bike share hub.

Where a bike share hub is appropriate, a hard surfaced area with a minimum width of 5m, by a minimum depth of 2m, should be provided including space for a hub within the public realm.

**Cycle storage in buildings**

G9 Provide quality cycle storage within or directly adjacent to facilities, that are easily accessible from the main entrance, and supports the number of trips as modelled in the Ebbsfleet Active Travel modelling.

G10 Attractive facility: The cycle store should be designed as a prominent facility using high quality materials to entrances, to highlight cycling as a key option for journeys.

Carefully consider the design of doors, ventilation and openings into the cycle store to encourage it to be seen as an attractive place to leave bikes.

G11 Entrances: The access and entrance door(s) into cycle store should be generous and easy to use when wheeling a bike through.

G12 Lighting: The cycle store, and the access to it from the nearest street should be well lit. Sensors could be used to allow hands-free activation.

The high cost and portability of electric bicycle batteries means charging is likely to happen within the dwelling.
G13 Additional facilities: Consider provision of wash-down facilities (tap and drainage) within the bike store.

G14 Provide changing facilities for cyclists that are appropriate to the building / facility use, and the needs of the people using it.

See Workplace Cycle Parking Guidance for further details.

**Cycle storage in houses**

G15 A storage area should be provided within the plot that accommodates a minimum of 1 adult bicycle per bedroom within the dwelling.

Cycles can be stored within the garage (see garage design guidance for requirements)

or

Cycles can be stored in a small garden shed that would have sufficient storage for both cycles and outdoor equipment and meets the following requirements:

G16 Shed cycle storage:

- Shed should be tongue and groove construction, with minimum 18mm thickness.
- Shed should be securely fixed to a concrete foundation and ground anchors provided.
- Walls and floors should also be stout enough to allow the attachment of wall bars and stands fitted with anti-tamper fixings.
- Doors must be secured by mortice locks and not padlocks.
- At least 1m² storage space must be provided within the shed, for garden equipment etc, in addition to that provided for cycle parking.
- Where more than two bicycle spaces are required some form of stand should be provided.
- Aim for 1.2m access corridor from the rear garden to the front of the property.
Step 2
Identify the amount of parking

The amount of parking provision in Ebbsfleet should be determined by the level of transport accessibility for that site.

Where sites are highly accessible by public transport, walking and cycling, these modes will be as convenient as using the car, and the need for owning and storing cars is reduced.

EDC has mapped the accessibility of the Ebbsfleet area, based on planned road, walking, cycling and public transport networks when the city is fully built out.

The accessibility of each village within Ebbsfleet will evolve over time as transport systems are introduced and enhanced. The guidance sets out a review mechanism that provides flexibility for applicants to take account of the current transport context when making a planning application.

Ebbsfleet’s parking requirements have been developed from extensive parking surveys of existing villages in the Ebbsfleet area, assessed against the current availability of public transport and safe and attractive walking and cycling connections in the area.

The requirements provide a robust level of parking that balances the needs of Ebbsfleet’s ‘pioneering residents’ (i.e. those living in Ebbsfleet before the full public transport system is available) without undermining the viability of city-wide high frequency public transport, or discouraging the adoption of walking, cycling for shorter journeys. A full explanation of the methodology used to calculate these parking requirements can be found in the annex.

Guidance

G17 Provide sufficient parking for current levels of car ownership, and balance with the need for flexibility to address changing travel behaviours, emerging technologies and car ownership models in the future.

Applicants should use the Ebbsfleet accessibility map (on right hand side) and the associated tables on page 46/47 to identify the baseline parking requirements for their site.

The baseline parking requirement sets out the expected level of parking provision taking into account the planned public transport, walking and cycling infrastructure and services.

Applicants should also assess which sustainable travel systems and services will be available when the first stage of their scheme is completed.

The above standards would represent total parking provision for the site. The proportioning of the total parking figure into residential, visitor and van spaces would be through negotiation and agreement with the planning team at EDC. Any adjustment to the baseline parking requirement will need to be agreed with the EDC planning team.
## Residential Parking Requirements

The parking standards set out below represent total parking provision, and the proportioning of these into residential, visitor and van spaces would be through negotiation and agreement.

### Parking provision in highly accessible areas

<table>
<thead>
<tr>
<th>Residential Type</th>
<th>Proportion (x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 Bed Apartments</td>
<td>0 - 0.8</td>
</tr>
<tr>
<td>2 Bed House</td>
<td>0 - 1.05</td>
</tr>
<tr>
<td>3 Bed House</td>
<td>0 - 1.2</td>
</tr>
<tr>
<td>4 Bed + House</td>
<td>0 - 1.3</td>
</tr>
</tbody>
</table>

The red areas represent the most accessible locations within EDC, and generally align with the local centres, and public transport corridors.

The exact parking provision would be reached through agreement between developer and EDC taking into account the "accessibility map" the availability of sustainable transport systems and services, and other factors as appropriate.

### Parking provision in well connected area

<table>
<thead>
<tr>
<th>Residential Type</th>
<th>Proportion (x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 Bed Apartments</td>
<td>0.8 - 1</td>
</tr>
<tr>
<td>2 Bed House</td>
<td>1.05 - 1.5</td>
</tr>
<tr>
<td>3 Bed House</td>
<td>1.2 - 1.8</td>
</tr>
<tr>
<td>4 Bed + House</td>
<td>1.3 - 2.4</td>
</tr>
</tbody>
</table>

The amber areas are generally aligned with the Fastrack network and represent highly accessible locations within EDC.
Commercial Parking Requirements

The transport strategy that underpins the majority of planning permissions in Ebbsfleet is predicated on 40% of local journeys being by walking / cycling or public transport. The permission are therefore planned on the basis of switching 20-25% of the total number of local trips from car to walking, cycling and public transport modes.

The revised parking standards have therefore adopted a 20% reduction in the local parking standards to align with the current transport strategy, and has been assumed appropriate at this stage on the basis set out below. This can be reviewed during the scheduled review periods for this document.

- Ebbsfleet Garden City is developing as a highly sustainable location benefiting from a comprehensive sustainable transport network.
- The commercial development will predominantly be located within the urban central areas and hence closest to the Fastrack and walking, cycling and public transport networks.
- It is reasonable to assume that a proportion of residents will move to the Garden City to be close to their place of work and hence within Fastrack, walking and cycling distance.
- A proportion of employees within the Garden City will be expected to arrive from Ebbsfleet International station and use onward connections via Fastrack, and the walking and cycling network.
- Travel Plans will be implemented for commercial developments. This will encourage travel by non private car modes.
- Empirical evidence referenced within this report already shows low car ownership within the built and occupied areas.
- The multi-modal modelling work that underpins the Transport Assessments supporting the existing planning consents forecast around a shift to non car modes.

Commercial Cycle Parking

With respect to commercial cycle parking, reference has been made to the local parking standards. A circa 20% increase in the local cycle parking standards has been assumed appropriate. On this basis the cycle parking standards proposed are as summarised in the table below. It is proposed that the above standards are adopted until (and if) empirical evidence becomes available that demonstrates a need for an adjustment.

Cycle parking for the mobility impaired should be provided at the same ratio as vehicular parking for the mobility impaired as described below.
## Class A: Retail/services

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Shops</td>
<td>1 space per 167m²</td>
</tr>
<tr>
<td>A3 Restaurants and cafés</td>
<td>1 space per 167m² for staff</td>
</tr>
<tr>
<td>A4 Public houses, licensed bars</td>
<td>1 space per 83m² for customers</td>
</tr>
<tr>
<td>A5 Takeaways</td>
<td></td>
</tr>
</tbody>
</table>

**A Class Uses**

1 motorcycle space plus 1 additional motorcycle space for every 20 car parking spaces provided.

<table>
<thead>
<tr>
<th>A1 shops</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food retail up to 1,000m²</td>
<td>1 space per 22m²</td>
</tr>
<tr>
<td>Food retail over 1,000m²</td>
<td>1 space per 17m²</td>
</tr>
<tr>
<td>Non food retail</td>
<td>1 space per 30m²</td>
</tr>
</tbody>
</table>

1. Car parking provision includes spaces for staff
2. 1 space per 50m² required for Goods Vehicles
3. There should be adequate provision for the parking and manoeuvring of vehicles, including service vehicles, in loading areas and off the highway.

<table>
<thead>
<tr>
<th>A2 financial and professional services</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>All developments</td>
<td>1 space per 24m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A3 restaurants</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants and cafés</td>
<td>1 space per 2.4 staff</td>
</tr>
<tr>
<td></td>
<td>1 space per 7m² for customers</td>
</tr>
</tbody>
</table>

1. Adequate facilities should be provided to enable delivery vehicles to park and manoeuvre clear of the public highway.

<table>
<thead>
<tr>
<th>A4 drinking establishments</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public houses, licensed bars</td>
<td>1 space per 12m² for customers</td>
</tr>
</tbody>
</table>

1. Adequate facilities should be provided to enable delivery vehicles to park and manoeuvre clear of the public highway.

<table>
<thead>
<tr>
<th>A5 hot food takeaways</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeaways</td>
<td>1 space per 2.4 staff</td>
</tr>
<tr>
<td></td>
<td>1 space per 12m² for customers</td>
</tr>
</tbody>
</table>

1. Adequate facilities should be provided to enable delivery vehicles to park and manoeuvre clear of the public highway.

2. Includes ‘drive-in’ or ‘drive-through’ restaurants. Drive-in or drive-through developments must also provide sufficient on-site waiting space for vehicles to stand clear of the public highway.
### Class B: Business

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 business</td>
<td>1 space per 167 m² for staff, 1 space per 83 m² for customers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 business</td>
<td>1 motorcycle space plus 1 additional motorcycle space for every 20 car parking spaces provided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B1 business</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices up to 500 m²</td>
<td>1 space per 24 m²</td>
</tr>
<tr>
<td>Offices 500 m² to 2,500 m²</td>
<td>1 space per 30 m²</td>
</tr>
<tr>
<td>High tech / research / light industrial</td>
<td>1 space per 42 m²</td>
</tr>
</tbody>
</table>

1. Adequate provision shall be made for the parking and turning of service vehicles serving offices, off the highway. Consideration should also be given to the requirement for any overnight parking and facilities.
2. 1 space per 200 m² required for goods vehicles associated with high tech / research / light industrial.

### Class C: Hotels

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>1 space per 167 m² for staff, 1 space per 83 m² for customers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>1 motorcycle space plus 1 additional motorcycle space for every 20 car parking spaces provided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>1 space per 2.4 staff, 1 space per bedroom</td>
</tr>
</tbody>
</table>

1. Adequate facilities should be provided to enable delivery vehicles to park and manoeuvre clear of the public highway.
2. Adequate facilities should be provided for the drop off and pick up, including a short waiting period, for example for taxis.
3. For developments exceeding 20 bedrooms, suitable provision should be made for coaches. This should take the form of either: a) Facilities to drop-off and pick-up guests which may consist of a lay-by adjacent to the public highway or utilisation of the car parking area, or b) Coach parking provision of 1 space per 20 bedrooms contained within the allocated space for car parking.
4. Modern hotels often offer a variety of amenities and facilities such as conference facilities, restaurants and gyms. Where such facilities are open to the public, appropriate parking should be allocated according to the individual use class and potential for non-resident use.
Class D: Community

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 Medical centres, surgeries (including veterinary surgeries)</td>
<td>1.2 spaces per 2 consulting / treatment rooms</td>
</tr>
<tr>
<td>D1 Other non-residential institutions</td>
<td>1 space per 42 seats or $83m^2$</td>
</tr>
<tr>
<td>D2 leisure and entertainment</td>
<td>1 space per 250 seats</td>
</tr>
</tbody>
</table>

**D Class Uses**

1. There should be adequate provision to enable delivery vehicles to park and manoeuvre clear of the public highway.
2. Provision should be made to accommodate ambulances where appropriate.
3. Provision within the overall allocation for car parking should be made for mini-buses where these are used to transport people to and from day centres.

**Use class**

<table>
<thead>
<tr>
<th>D1 non-residential institutions (excluding education)</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libraries, art galleries, museums, public, exhibition hall</td>
<td>1 space per $72m^2$</td>
</tr>
<tr>
<td>Places of worship</td>
<td>1 space per $12m^2$</td>
</tr>
<tr>
<td>Medical centres, surgeries (including veterinary surgeries)</td>
<td>1 space per 2.4 staff</td>
</tr>
<tr>
<td></td>
<td>2.5 spaces per consulting rooms</td>
</tr>
<tr>
<td>Day care centres</td>
<td>1 space per 2.4 staff</td>
</tr>
<tr>
<td></td>
<td>1 space per 4.8 attendees</td>
</tr>
</tbody>
</table>

1. Adequate facilities should be provided to enable delivery vehicles to park and manoeuvre clear of the highway.
2. Provision should also be made for coach parking with a maximum standard of 1 coach space per 300 seats. Such provision is to be provided as an alternative to car parking provision. Coach parking should be designed and managed so that it will not be used for car parking.
3. Where provisions are made within the development to accommodate spectators then an additional parking provision of 1 space per 15 seats should be provided.
4. Provision should also be made for coach parking with a maximum standard of 1 coach space per 5,000 visitors per annum.
5. Multifunctional uses must be considered taking account of individual use class and adequate parking allocated to encompass all uses, when assessing the parking requirements of a development, taking into account combined visits.
**Mobility impaired parking**

It is proposed that the above standards are adopted until (and if) empirical evidence becomes available that demonstrates a need for an adjustment.

<table>
<thead>
<tr>
<th>Car parks up to 40 spaces</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car parks with 40 spaces to 200 spaces</td>
<td>4 designated mobility impaired spaces or 5% of the total capacity, whichever is greater.</td>
</tr>
<tr>
<td>Car parks with greater than 200 spaces</td>
<td>6 designated mobility impaired spaces plus 2% of the total capacity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Car parks up to 40 spaces</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car parks with 40 spaces to 200 spaces</td>
<td>3 designated mobility impaired spaces or 6% of the total capacity, whichever is greater.</td>
</tr>
<tr>
<td>Car parks with greater than 200 spaces</td>
<td>4 designated mobility impaired spaces plus 4% of the total capacity</td>
</tr>
</tbody>
</table>
Education

Ebbsfleet’s villages have all been masterplanned to ensure most homes are within 5 minutes walk of the local primary school, and most can be accessed by Fastrack. Journey to and from the schools in Ebbsfleet are among the easiest to convert into active travel trips, as the benefits of walking your child to school vastly out-weigh the stress and hassle of having to find somewhere to park near the school.

The following principles are promoted:

• A public plaza in front of the school entrance with generous seating provision for waiting parents.

• Generous, covered and secure cycle hub that is highly prominent at the main entrance, capable of accommodating cycles and scooters.

• Drop-off facilities / pupil car parking should be avoided within the school site, or located remotely from the school entrance to promote better air quality, and student safety at entrances.

• Provide generous footpaths leading to all pupil entrances, with robust street furniture and street trees / planting on approach roads to prevent informal parking around the entrance area.

• All school trust’s operating within Ebbsfleet will be expected to implement the School Travel Plan, to discourage car use, and promote walking and cycling.

Transport strategies and associated travel plans for all schools should therefore prioritise walking and cycling, and discouraging car travel in close proximity to school entrances at school opening and close. This aim will also support Ebbsfleet’s environmental performance and the communities health and well-being, by minimising exhaust emissions, and optimising air quality around the schools.
A first principles review has been completed within the Annex Technical Document, and summarised below, to inform the proposed parking provision for Primary School and Secondary Schools in Ebbsfleet.

Where education uses are combined with other local community uses there may be an opportunity to share parking areas. This is on the basis that the operational times of the various uses will not necessarily coincide. An allowance for shared parking use should therefore be allowed for within the relevant planning submissions.

On the basis of the sustainable aspirations described above and informed by the first principles data above, the table below summarises the education parking standards.

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Schools</td>
<td>10 spaces per classroom</td>
</tr>
<tr>
<td>Secondary Schools</td>
<td>1 space per 5 students</td>
</tr>
</tbody>
</table>

Cycle parking for the mobility impaired at the same ratio as vehicular parking for the mobility impaired described.

<table>
<thead>
<tr>
<th>Use class</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>1 motorcycle space plus 1 additional motorcycle space for every 20 car parking spaces provided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use</th>
<th>Employees</th>
<th>Pupils / Visitors / Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery</td>
<td>1 space per 2.4 staff</td>
<td>1 space per 4.6 children</td>
</tr>
<tr>
<td>Primary School</td>
<td>1 space per 18 pupils</td>
<td>1 space per 2.4 classes</td>
</tr>
<tr>
<td>Secondary School (inc Sixth Form)</td>
<td>1 space per 18 pupils</td>
<td>1 space per 2.4 classes</td>
</tr>
</tbody>
</table>
Step 3

Accommodating the car

The location of parking is critical to balancing the desires of individual residents to own and conveniently park a car, and the collective desire of the community for Garden City type streets that support safe walking and cycling by everybody.

The location of parking becomes even more important when considering the likely flux in car use, car ownership and thus parking demand, when framed against emerging travel behaviours, new transport technologies, the increasing urbanisation of the local area, and the global threat of climate change.

The guidance aims to deliver parking provision that is sensitively designed into location(s) within the neighbourhood, street and site that doesn’t undermine the attractiveness of green, garden city streets, or the propensity to walk, cycle or use sustainable transport for local journeys.

This guidance builds on the ‘Car Parking: What works where’ guidance to define EDC’s preferred parking solution matched to a specific dwelling type / access scenario.

Further Guidance

- [Car Parking: What works where](#)
- [Space to Park](#)
Parking in the neighbourhood

Provide a range of neighbourhood, street and on-plot parking solutions appropriate to the house type, street typology and associated access scenario, capable of meeting the needs of residents, employees and visitors.

G19 Balance allocated on-plot parking with generous unallocated parking within the public realm. A minimum 20% of the total parking requirement should be unallocated parking within the public realm.

G20 Provide sufficient parking to meet the collective demand across the neighbourhood, rather than aiming to meet the demand at an individual site basis.

G21 Masterplans should consider where unallocated parking spaces could be efficiently grouped together within a regularly shaped parcel of land.

This approach would provide enhanced flexibility to either provide additional parking provision in the longer term (through decking over), or if parking demand reduced, could become additional open space, or a development plot.

Recent approaches to residential parking provision have tended to pepper-pot allocated parking around developments, prioritising allocated on-plot spaces over unallocated street based parking. However this approach may prove inefficient in the future, making it difficult to re-use or re-purpose land allocated initially for parking.

Parking approaches therefore need to consider the need for flexibility at the site, street and neighbourhood levels, to minimise the amount of land locked-in to private parking, and allow for more efficient management of space as patterns of car use and ownership change.
Parking in the street / public realm

G22 **Use Ebbsfleet Public Realm Strategy street layouts to ensure generous on-street parking.**

Generous on-street parking could support reduced “on-plot” provision. This would result in wider overall street corridors to accommodate the parking areas, but the linear nature of this would mean that these areas could be repurposed if and as the parking demand diminished. As a wide corridor would exist there would be a range of options for re-use of this land, which would add value to the local community.

G23 Consider provision of on-street charging facilities within the street / public realm (see Vehicle charging guidance for further details)

There are significant challenges to providing rapid charging to the entire vehicle fleet in the short to medium term. Grid capacity and management issues mean that it may not be feasible to allow unlimited charging from every domestic property. Hence, making provision for rapid charging stations is easier and more cost effective if this activity can be grouped into key locations where the infrastructure can be focussed.

Parking on site

G24 **Use the table below to establish the most appropriate parking solutions for the site.**

The choice of solution should be determined by an assessment of the following conditions:

- House types
- Street typology
- Access type (Front or rear)

G25 For houses, aim to limit on-plot parking to a single parking bay which can either be incorporated to the side of the dwelling, or within the footprint of the dwelling.

A second parking space may be provided through a tandem layout, with the second space located either to the side of the dwelling, or via a drive-through solution, within the rear garden garage section for full requirements.

G26 When a garage is provided, it should not extend beyond the front or rear elevation of the house, and meet the design requirements set out under the garage design section.

G27 Locate parking in convenient locations that are viewable from associated dwellings, that do not impact on the safety, security and attractiveness of streets and public spaces.

G28 Parking design should align with the guidance set-out for each preferred parking typology in the following pages:
<table>
<thead>
<tr>
<th>Density range (net DPH)</th>
<th>Apartment Blocks 4 Storeys +</th>
<th>Apartment Blocks 0-3 Storeys</th>
<th>Terraces</th>
<th>Semi-detached</th>
<th>Detached</th>
</tr>
</thead>
<tbody>
<tr>
<td>90+</td>
<td>Podium</td>
<td>Podium</td>
<td>Front tandem</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Undercroft</td>
<td>Undercroft</td>
<td>Rear parking court</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Basement</td>
<td>Surface parking court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-90</td>
<td>Podium</td>
<td>Podium</td>
<td>Front tandem</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Undercroft</td>
<td>Undercroft</td>
<td>Rear parking court</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Basement</td>
<td>Surface Parking Court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-50</td>
<td>Podium</td>
<td>Podium</td>
<td>Rear tandem</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Undercroft</td>
<td>Undercroft</td>
<td>Rear parking court</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Basement</td>
<td>Surface Parking Court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-45</td>
<td>Podium</td>
<td>Podium</td>
<td>Rear tandem</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Undercroft</td>
<td>Undercroft</td>
<td>Rear parking court</td>
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<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Basement</td>
<td>Surface Parking Court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-30</td>
<td>Podium</td>
<td>Podium</td>
<td>Rear tandem</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Undercroft</td>
<td>Undercroft</td>
<td>Rear parking court</td>
<td>Side-Garage</td>
<td>Side-Garage</td>
</tr>
<tr>
<td></td>
<td>Basement</td>
<td>Surface Parking Court</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Avoid**

- Surface parking Court only
- Front curtilage perpendicular
- Front curtilage perpendicular
- Front curtilage perpendicular
Side: Garage Parking

Located to the side of the house providing convenient and direct access to homes, either in the form of a single or tandem garage.

Guidance

1. Garages should not extend beyond the front or rear elevation of the dwelling.

2. Garages should be aligned with the requirements set out in the diagram opposite, to provide a minimum width of 3.6m and a depth of 6m. This ensures passengers in a car’s front and rear can enter / exit cars easily when the car is parked in the garage. (This aligns with Dartford Borough Council’s parking SPD)

3. If the garage is intended to satisfy bin storage and / or bicycle parking requirements, these can be accommodated through providing an additional width or depth as defined by the purple shaded areas in the diagram below (bike provision should be 1 space per bedroom within the dwelling)

4. The enclosing walls of the garage structure should not be completely enclosed, to avoid the garage being used for general storage rather than accommodating a car. Aim for 50% of the garage door to be ‘open’.

5. Ground floor layouts should include habitable rooms with well sized windows onto the street(s), adjacent to any garage, to optimise passive surveillance and ensure there is a visual connection between residents homes and the street. Where the house types do not deliver this, the masterplan should avoid continuous runs of such house types.

6. Consider using detailing to the garage that is complimentary to the design narrative / architectural language of the adjoining house.
The guidance below sets out the design requirements for a garage to be able to contribute towards 100% of the parking requirement.

### Cycle Storage
Additional width OR depth is dependent on how cycles are stored:

- Where cycles are stored in single file add 0.3m to the width (3.9m total)
- Where cycles are stored adjacent add 0.45m to the width (4.05m total)

Circulation space (min. 1m wide) to allow a cycle to be pushed past the vehicle.
Project: Western Riverside, Bath

• The garage is located to the side of the adjoining property.

• The materiality of the garages compliments the colour palette of the buildings.

• Natural surveillance is provided by large windows/balconies over looking the street.

• Outdoor space has also been provided above the garages adding an additional level of street surveillance.

Project: Dujardin Mew

• Detailing of the garages remains consistent with the language of the house.

• The same material/colour palette has been used, integrating the garages into the street scene.

• Natural surveillance is provided by large windows/balconies over looking the street.

Project: Chorlton Villas, Manchester

• Garage to the side of each detached dwelling.

• Parking bays have surveillance from adjacent windows and second floor outdoor space.

• The design ensures that cars are parked in tandem neatly to the side of the plot, reducing the dominance of on street parking.

• The same material/colour palette has been used ensuring the detailing of the garage remains consistent with the language of the house.
This garage door uses ‘hit and miss’ timber boarding, with an open rear wall, and would satisfy the requirements to provide a 50% opening.

When combined with street layouts that limit the opportunity for informal parking, these measures can encourage greater use of garages for accommodating the car.
Guidance

1. Drive-through parking areas should be aligned with the requirements set out in the diagram opposite, to provide a minimum width of 3.6m. This ensures passengers in a car’s front and rear can enter/exit cars easily when the car is parked in the garage. (This aligns with Dartford Borough Council’s parking SPD)

2. If the garage is intended to satisfy bin storage and/or bicycle parking requirements, these can be accommodated through providing an additional width or depth as defined by the purple shaded areas in the diagram opposite.

3. The drive-through area should be secured with a semi-open gate to the front or the rear, that is open for 50% of its surface area. This is to discourage residents from using the space as an area for storage rather than parking.

4. House types incorporating drive-through parking should aim to include a habitable room with large windows at ground floor, to provide good passive surveillance.

5. Carefully consider the design and choice of materials of the flanking wall to the drive-through area. Drive-through areas are typically visible from the street, and heavily shaded, and therefore benefit from the use of warm materials that compliment the surrounding building.
Cycle Storage

Additional width/depth is dependent on how cycles are stored:

Where cycles are stored in single file add 0.3m to width (3.9m total)

Where cycles are stored adjacent add 0.45m to width (4.05m total)

Circulation space (min. 1m wide) to allow a cycle to be pushed past the vehicle.

Ensure selected surface material is permeable

Area to allow vehicle door to open (min. 0.45m wide)
Project: Abode, Cambridge

- Private amenity space is provided above, adding additional space for each dwelling.
- The materiality of the gate/slats provides natural ventilation and light, whilst importantly ensuring the area is not used as storage.
- The slats/gate complement the detail of the plot.
- Off street parking provides car free streetscapes, increasing aesthetic value and functionality of the street.

Project: Great Kneighton

- Each unit has its own single drive-through space.
- The use of gates/slats discourages residents from using the area as storage, ensuring the space is used to park cars.
- Large windows, overlook the street providing natural street surveillance.
- The materiality of the slats/gate complements the rest of the plot.
- Additional space is accommodation provided above, increases the size of the plot.
Below: Undercroft Parking

Suitable for use on:
- Fastack/Primary Street
- Secondary Street
- Residential Street
- Laneways

Undercroft parking is located below the building within its footprint, providing a space-efficient parking solution, but needs careful care and attention to create active or attractive ground floor façades to the street.

Guidance

1. Use in appropriate locations: Undercroft parking is particularly appropriate for sites with sloping topography or in areas of high density, where a parking level can be used to create a level development platform, and remove parking from the public realm.

2. Active façades: Any elevation fronting onto a primary or secondary street should be activated through the locating of communal facilities, ground floor dwellings, and/or complimentary uses such as small commercial or retail units at the ground floor.

3. Attractive façades: Where active uses are not feasible at ground floor, extra care should be taken to create an attractive facade, through the use of architectural detailing, selection of visually interesting materials, and high quality planting.

4. Attractive and secure entrance: The entrance to the undercroft parking area should be designed to create an attractive gateway, using feature detailing or a change in material that is consistent with the design narrative or architectural language of the wider building.
Project: Key Worker Housing, Cambridge

- Ground floor accommodation has been raised ½ a storey above ground level to provide additional privacy.
- The slated gates ensure natural light and ventilation.
- Controlled access enables cars to be parked safely and securely.

Project: Zilverreiger, Amsterdam

- The building has been raised by half a storey, elevating first floor accommodation above street level, increasing the privacy of ground level residents.
- Parking is well ventilated and naturally lit through slatted grills.
- There is a high level of natural surveillance from the raised ground floor apartment blocks ensuring the streets remain active and secure.
Below: Podium Parking

Guidance

1. Locate in centre of blocks: Aim to locate the podium within the centre of the site/block and maximise activity on streets around the perimeter to ensure natural surveillance and active streetscapes.

2. High quality outdoor spaces: Podiums should provide high quality outdoor space that includes trees and planting within private or shared outdoor spaces, or a combination of the two.

3. Active ground floor façades: Any elevation fronting onto a primary or secondary streets should be activated through the locating of communal facilities, ground floor dwellings, and/or complimentary uses such as small commercial or retail units at the ground floor.

4. Attractive and secure entrances: Consider the use of digital/remote access to vehicular and pedestrian entrances to optimise security of parking areas.

5. Attractive gates/ventilation areas: Use high quality bespoke screens/gates to create distinctive feature, and provide good natural lighting and ventilation into the car park.

6. Accessible: Aim to provide a direct wheelchair accessible route from the parking area to dwellings.
Project: Elephant and Castle

- The ground floor elevations of the podium are elevated with high quality materials and quality detailing to create attractive streetscapes.
- Parking arrangement is secured by slatted gates, ensuring parked cars are secure and out of sight. The slatted aspect provides natural ventilation.
- Large windows on the first floor provide natural surveillance onto the streetscape and public open space.

Project: Erdington, Cambridge

- Large podium covers the entire development block, unifying multiple perimeter buildings into a single landscaped platform.
- Lower parking level is secure and naturally ventilated.
- Large windows on the first floor provide natural surveillance onto the streetscape and the podium above the parking.
- Parking is secured by a digital/remote access system, ensuring parked cars are secured and out of sight, but remains accessible for residents.
Rear: Courtyard Parking

Suitable for use on:
- Fastack/Primary Street
- Secondary Street

Rear parking courts may be appropriate once all street and on-plot parking options are exhausted, but must be integrated within high quality planting and landscape design.

Guidance

1. Limited application: Only use rear parking courts when all on-plot and on-street parking options are exhausted, as householders prefer to park in these locations over rear parking courts, as they afford better surveillance of the car, and more convenient access.

2. Limit size: Limit size of courts to serve no more than six homes, as this encourages better security and a stronger sense of ownership.

3. High quality planting: Use trees and general planting with a height greater than 900mm to create effective screening between the ground floor windows and parking areas.

4. High quality hard surfaces: Use quality hard surfaces, lighting and street furniture to create an attractive setting and sense of address when cars are absent.

5. Do not over engineer parking bay designation: Parking bays should be subtly demarcated, to avoid cluttering the landscape. Avoid using large painted lettering, and use discrete approaches such as number discs set into the hard surfacing, and hard surfacing treatments to avoid the need for white lines.

6. Maximise surveillance: Provide large windows and doors within habitable rooms, and balconies / roof terraces overlooking any parking courts to maximise surveillance.

7. Provide secure access: Limit the number of access routes into rear parking courts, provide gates and associated digital access to enhance safety and security.
**Project: Trumpington Meadows, Cambridge**
- The rear parking court is concealed to the back of the building, minimising the impact of on-street parking.
- The parking court ensures parking is contained to an area, preventing anti-social parking and dominance of cars within the streetscape.
- Tree planting helps to break up the hard landscape.
- To the right, is an example of how bays can be more subtly marked without imposing too much on the hard landscape strategy.

**Project: Erdington, Cambridge**
- The parking court is overlooked by residential properties ensuring natural surveillance of parked vehicles.
- Mature trees help to minimise the impact of parked cars and bollards are a subtle way of dividing the area.
**Street: Housing Square**

**Guidance**

1. Housing squares provide a useful solution for the centre of larger development blocks creating an attractive sense of address for surrounding homes, by sensitively incorporating parking into a designed landscape.

2. The design of a parking squares should focus in the first instance on a landscape concept that provides an attractive and characterful space that include outdoor spaces for residents to meet and socialise. Parking should then be incorporated into the layout, rather than determine it.

3. Aim to incorporate trees and planting with sufficient height from installation, to structure the square and help conceal parked cars.

4. The layout of hard surfaces should seek to avoid directly defining conventional carriageway geometry and vehicle tracking, and instead support the landscape design concept.
Project: Great Kneighton

- The square has been designed as an area of high quality public realm, incorporating planting, informal play, a plaza area and seating.
- The square accommodates a number of parking spaces, however cars do not dominate the area as the high level planting conceals parked cars.
- A detailed planting and hard landscaping strategy ensures the area does not feel like a car park, but instead an area to gather and a place to hold community events.

Project: Great Kneighton, Phase 1

- The housing square provides a number of parking spaces around the perimeter with a large open space for the community to enjoy in the centre.
- The square also provides a SUDS feature and a variety of planting species.
The electrification of the UK’s car fleet is expected to coincide directly with the timeframe for the build out of Ebbsfleet Garden City.

Vehicle charging of ultralow emission vehicles (ULEV) is therefore likely to become an increasingly important factor in facilitating medium and longer distance journeys, and needs to be planned for and designed into contemporary projects.

Charging technology has developed fast, and is expected to continue to evolve into the future, which makes planning the appropriate infrastructure even more difficult.

The guidance provided in this document is intended to summarise emerging best practice, and establish clarity of expectation for applicants, until standards are formalised through guidance or regulation.

Guidance

G29  Masterplans: Consider existing and emerging charging technologies, and develop a charging approach that maximises the ability for all residents to charge their ULEV safely, conveniently and discretely.

G30  Masterplans: should provide space for rapid charging at key locations within a scheme / village, where the infrastructure can be efficiently focussed, and sensitivity incorporated into the urban structure for Ebbsfleet’s residents, visitors and employees.

G31  All homes with on plot parking should provide an active external ‘smart’ trickle charge point discretely either within the garage, or where no garage is provided, discretely located on a side elevation (i.e. not facing the public realm), or within utility cupboards for terraced dwellings.

G32  Apartment blocks should provide a minimum 10% active charging spaces and 10% with wiring and cable conduit in place under the car park for future use (passive).

G33  Apartment blocks could include 3 no. rapid charging points per 20 dwellings within unallocated spaces. These maybe either within a private car park, or within on-street parallel parking bays.

G34  All other uses should provide a
minimum 10% active charging spaces and 10% with wiring and cable conduit in place under the car park for future use (passive).

In situations where it is not possible to meet demand for ULEV parking on site, a financial contribution towards the provision of on-street charging points may be sought.

G35 ULEV parking spaces should be signed and marked for Electric Vehicle Charging Only, which will require ongoing management and enforcement. Charging points at public parking spaces, for example at retail parks or places of work, must be accessible to the general public and employees. Publicly available charging points should be uploaded to www.zap-map.com.

G36 Details of how ULEV parking will be allocated and managed should be included within Transport Assessments. This should also set out how ULEV parking for visitors and disabled users will be accommodated.
Step 5
Parking Management

Across Ebbsfleet it is expected that parking management will be required to ensure parking spaces are utilised by the intended user, avoid informal parking, and protect the public realm for safe access by pedestrians and cyclists.

Parking areas around attractors such as the stations and east of the Bluewater tunnels will require careful management, to ensure residents and their visitors, employees working in the city, and travellers using the Ebbsfleet International transport hub all have convenient access to parking when needed.

However, the need to react to parking issues as and when they may arise will need to be dealt with. It is therefore proposed that a two-fold approach is taken:

- As part of the Reserved Matters submissions required for individual sites, and the development of the parking schedules that define exact numbers, configuration and charging regimes, the issue of parking controls will be considered in discrete locations, and may be included in these proposals;
- Where parking problems become evident following the occupation of a development, this is likely to occur within the maintenance period for any street in any case. Therefore, the Management Company should accept the responsibility to develop an appropriate response and implement it in discussion with the planning and highway authorities (such that it would be acceptable should the road eventually be adopted).

Future review of heat-map

There will be a need to review the “heat map” approach after a period of time from its implementation to assess its contribution.

For example, the “heat map” may need a revision to reflect the development and transport infrastructure that has progressed since the previous review, and/or to re-calibrate the colours to a revised “baseline”.
Guidance

Parking management should be planned to ensure parking bays are utilised by the intended user, discourage informal parking, and ensure footpaths and cycleways are kept clear for safe and convenient access.

Management of parking should reflect the “heat map” illustrated below.

In the green areas parking management and controls would be expected to be greatest, whilst blue areas will be less controlled but may need positive forms of reinforcement to avoid conflicts between users such as controlled crossings, for example.

The plan below provides a parking management ‘heat map’ to indicate where greater control and management

This map is derived from the accessibility heat map (see step 2) to provide broad guidance on how to determine the level of parking control and management within the various development areas.

Control and management of parking should reflect the “heat map” guidance. In the green areas parking management and controls would be expected to be greatest, whilst blue areas will be less controlled but may need positive forms of reinforcement to avoid conflicts between users such as controlled crossings, for example.

Areas can change colour over time as transport systems that come forward with development increase or reduce accessibility.