

# APPENDIX 1: TONBRIDGE TYPOLOGY AND DENSITY STUDIES

# TYPOLOGY STUDIES

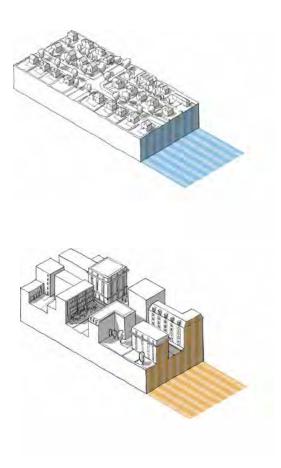
An exploration into the existing built form of Tonbridge and the surrounding area, finding inspiration from the best-practice examples and delivering appropriate densities in Tonbridge Town Centre

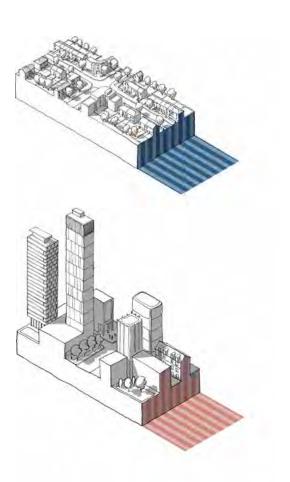
# **Urban Capacity Studies**

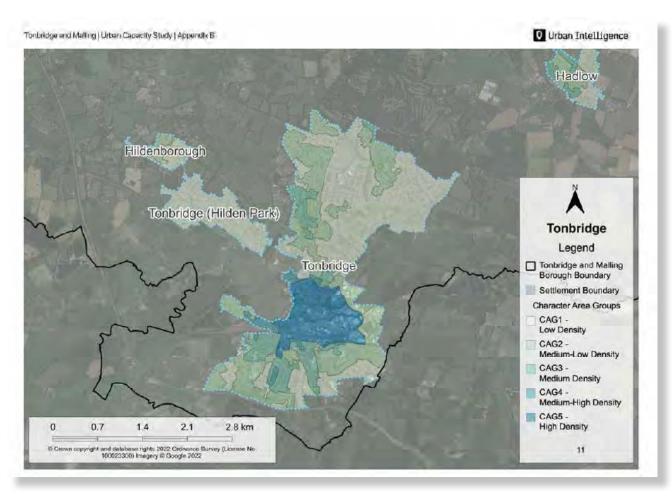
The study categorised the town into density zones by the TMBC Urban Capacity Study

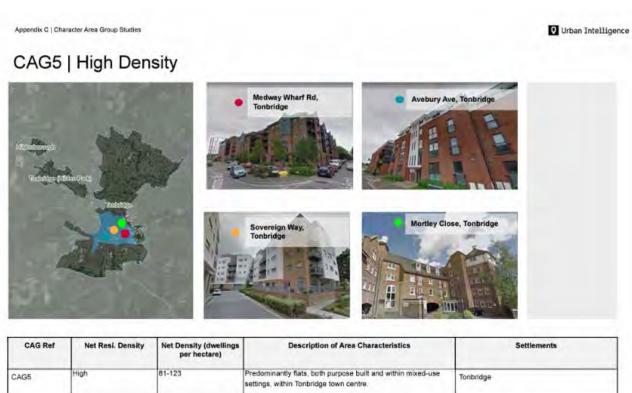
The area displayed on the plan below highlights the 'High Density' zone within Tonbridge, in which the study area sits.

This density zone specifies a net density of 81-123dph, with typical characteristics including flats being the dominant typology (both purpose built and within mixed use), and centralised parking areas.









# **Local Density Case Studies**

This section looks at recent developments in the Tonbridge High Density zone, analysing their real-world densities and accompanying characteristics.





# Sovereign Way

**Built**: 2012

Density: 190dph

Land Uses: Predominantly private residential, with 37% affordable housing and 200sqm of commercial space on the ground floor level

**Typologies**: 1 (27%), 2 (67%) and 3 (6%) bed

flats

Height: Predominantly 4-5 storeys, up to a maximum of 6 storeys at the corners of the blocks

**Parking**: Undercroft parking on lower ground floor level under the blocks and in the internal courtyard. 0.67 spaces per unit. Efforts have been made to conceal the parking space beneath the blocks to reduce visual impact and maximise the site area.

**Amenity Space**: Balconies or terraces for the majority of the flats, in addition to communal courtyard gardens within the block interior

**Public Domain**: A public riverside walk has been created in a green corridor. This walk connects to Sovereign Way in the west, and through the public street between the blocks. A public play area has been created, but this is somewhat inaccessible from the main street.

**Street Level Treatment**: Vibrant planting on the street level to screen the wall containing the lower ground floor parking level, with terraces and balconies on the upper ground floor level to add a sense of activity. Stairs and a raised terrace surround the commercial unit.

**Notes**: Created a new walking route between the Angel Centre and Sovereign Way/ Waitrose.



# Pormer Gasholder Site

**Built**: Planning Consent

Density: 175dph

Land Uses: Predominantly residential with 567sqm of flexible ancillary Class-E use, public plaza

**Typologies**: 1-bed (31%), 2-bed (56%) and

3-bed (16%) flats

**Height**: 8 Storeys, with a stepping down towards the River Medway to 4 storeys

Parking: 0.64 Spaces per unit, predominantly within an undercroft courtyard supported by some on-street (23%). Undercroft parking sits within blocks away from the river.

**Amenity Space**: All flats benefit from private amenity space in the form of balconies for most flats, or gardens at the ground floor. In addition, there are two communal terraces plus a semi-private internal courtyard with children's play.

**Public Domain**: Public realm improvements proposed with new accessible footpaths along the riverside. A new public plaza is proposed in the west.

**Street Level Treatment**: The stepping down of heights towards the street level creates a massing more tailored to the human scale. The ground floor of the river-facing block is raised from the street, accessible via steps and a secondary street. To ensure a positive frontage to the public street, the retaining wall is furnished with planters and public seating.

**Additional Notes:** Utilised Modern Methods of Construction (MMC).



# **River Walk**

**Built**: Under Construction

Density: 225dph

Land Uses: Residential with associated

amenity space.

**Typologies**: 1-bed (42%) and 2-bed (58%)

**Height**: 3.5-4 storeys high with mansard roof

detailing

Parking: 1 space allocated space per unit.

Ground floor undercroft parking.

Amenity Space: Private balconies supported

by a small private communal inner

courtyard.

Public Domain: A large area of public realm is proposed in the area along the River Medway, mostly hardscaped, connecting to the River Walk path and on to the High Street.

**Street Level Treatment**: Planting at the street level to shield the undercroft parking courts. Active frontage proposed with habitable room windows and balconies animating the street.





# Castle Mews

**Built**: 2022

Density: 56 dph

Land Uses: Residential

**Typologies**: 100% 4-bed detached town houses

Height: 3 Storeys

Parking: 1.14 spaces, predominantly courtyard

and some on-street

**Amenity Space**: Good sized private back gardens for each property, with smaller front garden

spaces

**Public Domain:** Front gardens with low boundary treatment delineate the development from the public street, with a shared surface private road providing access to the rest of the homes in the development. No additional public space is included.

**Street Level Treatment**: The ground floors of the property have large feature windows in habitable rooms that provide overlooking and surveillance of the street. Each house also

has their own front door onto the street generating activity. Planted front gardens with low boundary fences create an attractive divide between the public and private spaces. The wooden gable feature detail adds interest and character to the street scene, with a style in keeping with other newer developments in Tonbridge.

**Additional Notes**: An unusual example of detached new homes provided within the 'High Density' zone of Tonbridge Town Centre. Not in the flood zone, unlike the other examples.



# Whitefriars Wharf

**Built: 2004** 

Density: 208 dph

Land Uses: Residential

**Typologies**: 1, 2 and 3 bed flats, maisonettes

and FOG.

Height: 6 Storeys

**Parking**: 1.6 spaces per unit over 2 floors of undercroft parking in both blocks, accessed from the block interior. Some street and courtyard parking within the block, with a few private garages for the larger unit types.

**Amenity Space**: A lack of general amenity space, with no balconies for flats. Inner block courtyards are paved with a lack of facilities. For some units, the elevated walkway to front doors has been treated as small front gardens, despite being public space.

Public Domain: Little public realm is delivered with this development, however the internal streets are attractively paved with some shrub planting and additional planting

at the development access. Tonbridge Lock is opposite the development.

**Street Level Treatment**: The residential units begin on the upper ground floor, delineated by elevated walkways and railings. At the street level is the undercroft parking with windows and railings on to the road. The residential units have large windows overlooking the street, which adds to the activity of the area, but the blank walls still create a rather passive street scene.

**Additional Notes**: The oldest case study in the section.

# **TMBC Housing Needs Survey Analysis**

The TMBC Housing Needs Survey (2022) details the perceived market housing mix in the table below, summarised in the pie chart on the page. The data shows that 3 & 4+ bed houses are the most in-demand for Tonbridge.

This market demand data has been tested to determine the real-life densities that this mix would provide. A model has been created, suggesting the market housing mix provided by the TMBC study would produce a real-world density of around 70dph.

This contradicts the proposed density stated in the character area assessment, and also does not correspond to the recent new developments in Tonbridge Town Centre, which almost exclusively offer 1, 2 and 3 bed flats.

# Tonbridge Ideal Housing Mix

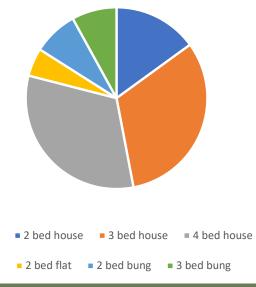


Chart shows the housing typology proportions determined by the Housing Needs Survey (2022) for Tonbridge

Table 5.4 Market housing mix by sub-area

Sub-area	1- bedroom house	2- bedroom house	3- bedroom house	4 or more - bedroom house	1- bedroom flat	2- bedroom flat	3 or more- bedroom flat	1- bedroom bungalow	2- bedroom bungalow	3 or more- bedroom bungalow
Malling & Kings Hill	0-2%	10-15%	25-30%	45-50%	0-2%	2-5%	0-2%	0-2%	5-10%	2-5%
Medway Gap	0-2%	15-20%	30-35%	15-20%	0-2%	2-5%	0-2%	2-5%	15-20%	10-15%
Rural East	2-5%	5-10%	30-35%	35-40%	0-2%	2-5%	0-2%	0-2%	2-5%	10-15%
Rural North	0-2%	10-15%	25-30%	30-35%	0-2%	2-5%	2-5%	0-2%	5-10%	10-15%
Rural West	0-2%	5-10%	25-30%	35-40%	0-2%	2-5%	0-2%	0-2%	5-10%	5-10%
Snodland	2-5%	10-15%	20-25%	35-40%	0-2%	0-2%	0-2%	2-5%	10-15%	10-15%
Tonbridge	0-2%	10-15%	30-35%	30-35%	0-2%	2-5%	0-2%	0-2%	5-10%	5-10%
Total	0-2%	10-15%	25-30%	30-35%	0-2%	2-5%	0-2%	0-2%	5-10%	5-10%

Source: 2022 household survey and market need analysis





# 40-50dph - Marmalade Lane, Cambridge

A co-housing scheme that places community at the heart of design. A flexible range of typologies give a housing mix to suit all stages of life, with a communal 'Common House' used to provide additional liveable space. A seamless blend between public and private open space creates an open and friendly land-efficient space.

**Built: 2018** 

Architect: Mole Architects Ltd

Density: 43dph Land Uses:

Residential

Community Space

**Housing Mix**:

17% 1-bed flats

• 33% 2-bed flats

• 5% 2-bed houses

• 19% 3-bed houses

• 23% 4-bed houses

2% 5-bed houses

### **Typologies**:

- 29 configurations of the classic house type
- Terraces of 1-5 bed houses and flats.
- Townhouses
- 'Common House' community building

### **Tenure Type:**

- 100% private sale co-housing ranging from 80-100% of market value
- The development is part of a wider plan with affordable housing of 35% overall

### Height:

Up to 4 storeys

### Parking:

- 1.2 spaces per unit
- Car parking is kept to the periphery of the site within a multi-storey block

### **Amenity Space**:

- Compact private back gardens with no physical boundary treatment blends into a shared garden space known as 'The Lane'
- Large community garden and grow space in addition to The Lane
- Additional community area in the 'Common House' with indoor amenity space, including play area, large kitchen, guest rooms and courtyard.

### **Placemaking Impact:**

- Co-housing and the social integration it encourages creates an active, well-looked after urban environment
- Range of materials and colours used to create a vibrant street scene and sense of place

### **Street Level Treatment:**

- Front door with porch detailing lines the main street, with low garden wall and unique windows overlooking
- Open private back gardens create a social 'lane' space at the back of the block, which is open at both ends to provide an attractive walking route
- The lane has an abundance of street furniture and chances to pause or interact

- Community involvement from the project concept, with an element of selfbuild
- Co-housing scheme centred around a communal space with common ownership and investment towards to community.





Masterplan showing the street layout of Marmalade Lane





Section showing a integrated parking within the block

- Smaller units can be more desirable when supplemented by a central community building that can accommodate uses that may not fit within smaller typologies, giving greater flexibility
- Co-housing schemes can work well when seen as a small designated area within a larger development
- Smaller private gardens supplemented with a seamless transition into shared open space

# 60-70dph - Port Loop, Birmingham

A development centred around community, shared spaces and communal buildings break down the divide of private and public spaces. These modular homes consist of configurable pre-fab floors that can be designed according to the owner's requirements. Vibrant gardens and an attractive waterfront add to the unique sense of place at Port Loop.

**Built: 2019** 

**Architect**: House by Urban Splash.

**Density**: 60dph **Land Uses**:

Residential

Community houseboat space

### **Housing Mix**:

- 1-6 bed configurable houses, based on how the occupier decides
- 25% 2-storey town houses
- 75% 3-storey town houses

### **Typologies**:

Configurable townhouses with adjustable layouts

### **Tenure Type:**

• 100% private sale

### Height:

- Predominantly 3 storeys
- Some 2-storey terraced

### Parking:

- 1.1 spaces per unit
- On-plot driveway in front of house

### **Amenity Space**:

- 1 acre of public park
- Communal gardens within block interiors with vibrant planting
- Small balconies overlooking public spaces
- Patios on canal facing properties
- Communal space within canal boat

### Placemaking Impact:

- Vibrant landscaping and garden design across the development to create an interactive environment and sense of place
- New waterfront space with positive frontage
- Continuous and coherent building line gives a positive sense of enclosure

### **Street Level Treatment:**

- Active travel and public realm area along waterfront
- Houses stepped back from canal line for privacy, while giving an element of overlooking
- Front doors and large windows over living rooms and activity and liven the street scene

- Modular, pre-fab construction that is made off-site
- Solar PV panels on roofscape





Masterplan demonstrating the block layouts needed to achieve density





Housetypes that can be customised

- Modular houses provide a flexible housing mix that suits the end user
- A continuous architectural style creates a strong sense of place
- Large communal gardens can supplement smaller private outdoor spaces
- Creative landscaping enhance the local placemaking and create an engaging environment

# 70-85dph - Goldsmith Street, Norwich

An award winning scheme consisting of houses and flats at a moderate, yet 'gentle' density of around 80 dph, with every property having their own street-level front door and private outdoor space at a maximum height of three storeys. Green spaces are incorporated into the streetscape, and connect to streets and a park beyond the site.

**Built: 2018** 

**Architect**: Mikhail Riches & Cathy Hawley

with Norwich City Council

Density: 80dph Land Uses:

Residential

Landscaped shared spaces

**Housing Mix:** 

38% 2-bed houses

5% 4-bed houses

3% 2-bed flats

53% 1-bed flats

1% 3-bed flats

### **Typologies:**

- 2-bed houses and scattered 4-bed houses within terraced streets, backing on to shared garden street.
- Terrace street corner units of 3-storey blocks of 3 flats with corner aspect.
- Additional larger block of flats proposed to the south.

**Tenure Type**: 100% Local authority social housing

### Height:

- 3-3.5 storeys for corner blocks of flats.
- Houses are 2-3 storeys.

### Parking:

- 0.73 spaces per unit.
- On-street parking.
- Parking is permitted around the perimeter of the areas to ensure streets are primarily pedestrian oriented.

### **Amenity Space:**

- Every home has private amenity space, either private gardens for the houses and ground floor flats, or balconies for the first- and second-floor flats.
- All balconies face south, east or west, maximising the direct sunlight.
- The central space that runs through the development is a shared communal space, linking the two terrace blocks, which each resident has access to via a
- A play area is in a central location of the communal space.

### **Placemaking Impact:**

- Planted public realm and landscaping between the scheme and the existing streets helps ground the new development in its context.
- Every unit has it's own front door, each with an individual colour to give ownership and a sense of place, alongside contributing to a vibrant streetscape.
- The design incorporated traffic calming measures to prioritise pedestrians.

### **Street Level Treatment:**

- Every home has a street-level access, including flats.
- The front gardens are designed as 'liveable spaces', with permeable boundary treatment to contribute to an active streetscape.

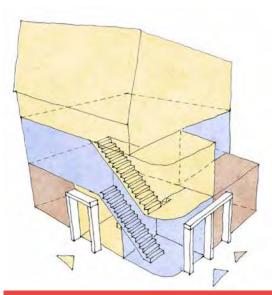
- The largest Passivhaus scheme in the UK.
- Intentionally narrow 14m wide streets to encourage socialising.





3d Axo sketch showing the terraced streets and shared gardens of the scheme





Sketch detailing the concept behind the 3-flat corner block with private entrances

- Gentle density created through terraced streets and efficient flat block layouts.
- A street-level front door for every home, facing in two directions on corner plots to encourage an active streetspace.
- Smaller private amenity in favour of attractive and active landscaped shared spaces.
- Flats and houses share same characteristics, creating a (tenure)blind scheme.

# 85-100dph - Knights Park, Cambridge

A sustainable new development that offers a highly diverse housing mix of flexible homes, each with a generous amount of private amenity space, at a high density. A higher provision of parking than other schemes of this density creatively integrated into the site in a way to prioritise the pedestrian and street scene.

**Built: 2021** 

Architect: Pollard Thomas Edwards and

Alison Brooks Architects

Density: 92dph **Land Uses:** 

Residential

Community (School and Market Square)

Retail

### **Housing Mix:**

0.5% 6-bed house

20% 4-bed houses

17% 3-bed houses

4% 1- and 2-bed maisonettes

32% 2-bed flats

4% 1- and 3-bed flats

5% studio flats

### **Typologies:**

Multi-aspect mews houses

Coach houses/FOG straddling garage parking

• 10-unit blocks of flats

**Tenure Type**: 100% Private Owned

### Height:

Flat blocks up to 6 storeys

Houses up to 3 storeys

### Parking:

1.3 spaces per unit

- Below-ground car store covering the majority of the site area
- Some units have an allocated parking space directly underneath the home
- Integrated garages and courtyard parking for larger units
- Relocated away from the heart of the development

- High level of provision, but not all at around level
- Private gardens for larger homes
- Flat blocks share a podium garden
- Terraces at varying levels
- Multiple types of amenity space per unit

### **Placemaking Impact:**

- The fine grain and higher density of the urban grid is designed to encourage walking and social connections.
- Variety of setback distances between buildings create view corridors

### **Street Level Treatment:**

- Houses intentionally designed with ground-level home offices overlooking the street to create activity
- Front gardens with no boundary treatment to create openness and continuity
- Verges and green spaces planted with native, seasonal flowers and shrubs

- Gyms and store rooms occupying lower level of homes alongside undercroft parking
- **Building With Nature Winner**
- Zero-carbon neighbourhood for emissions.
- Designed as a walkable '15-minute city'.
- Versatile typologies intended to be longterm, flexible 'lifetime homes'.









Example house types, displaying integrated parking and private amenity space

- Activity at street level created though large windows and open gardens, despite undercroft parking and integrated garages
- Creative offering of amenity space at multiple levels to use space efficiently
- Over-provision of parking through a large undercroft space, courtyards within mews blocks and integrated garage spaces

# 100-120dph - Paintworks Phase III, Bristol

A mixed-use residential and commercial scheme on a riverside, brownfield location. A wide mix of house types and tenures creates a vibrant and flexible community which supports 24-hour activity. The development is built entirely on a podium to allow for a totally pedestrianised environment while still providing adequate parking and essential services.

**Built: 2018** 

Architect: Stride Treglown

**Density**: 110dph **Land Uses**:

Residential (inc. live/work)

Commercial

### **Housing Mix:**

27% 1-bed flats

35% 2-bed flats

• 3% 2-bed houses

20% 3-bed houses (inc. live/work)

14% 4-bed houses

### **Typologies**:

- Live/work units with ground floor workshops and maisonettes on upper levels
- Large 7 storey street- and riverside apartment blocks
- · Terraced houses in streets

**Tenure Type**: 95% Private, 5% Affordable Rent

### Height:

- Up to 7 storeys at corner plots and 5 storeys fronting the river
- Houses 2-3 storeys

### Parking:

- 1.6 spaces/unit
- Entire development is constructed on a podium so all parking can be served underground
- Includes parking for retail units

### **Amenity Space:**

- A public plaza and wide walking route has been provided linking the main road with the riverside.
- Private space is provided to the rear of residential blocks, with some private garden space on the 1st floor
- Increase in density and narrowness of blocks has seen a reduction in private amenity space compared to other case studies.

### **Placemaking Impact**:

- The scheme does not use a uniform architectural style or material palette resulting in a visually pleasing and quirky townscape of new and old
- Small businesses woven into the residential areas of the scheme to create a sense of community and activity.

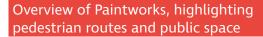
### **Street Level Treatment**:

- Pedestrianised streets and pathways to private front doors
- As the entire development sits on the podium, there is not the issue with dead frontages that can sometimes be associated with undercroft parking

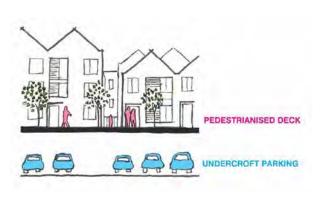
- Entire development constructed on a podium so parking, servicing and infrastructure can be hidden, allowing for pedestrianised, narrow, vibrant streets on the ground level.
- The high density of the scheme justified the creation of the complex podium











Sketch showing the podium concept, with all parking under the ground level

- Eliminate vehicles from the street level to enhance placemaking and allow for higher densities
- Integrate small retail units into the street scene for activity and vibrance
- Use an eye-catching colour and materials palette for memorable placemaking
- Creation of new desire lines framed by taller buildings aids local waymarking

# 120+dph - South Gardens, London

An urban scheme offering high densities and compact living, while delivering attractive and usable amenity space, high quality public realm and a broad housing mix. Landscaping has been used to achieve a positive sense of place, and creative typology blends ensure active frontages even on the larger apartment blocks.

**Built: 2019** 

Architect: MaccreanorLavington

**Density**: 180dph

### **Land Uses:**

Residential

Commercial

### **Housing Mix:**

- 41% 1-bed flats
- 42% 2-bed flats
- 17% 3-bed flats

### **Typologies:**

- Townhouse unit containing maisonette and flat over 3 storeys
- · Tall mansion block of flats
- Duplexes on ground level of large blocks
- 'Skyplex' townhouses on top floor of tall blocks, with front door onto roof garden

### **Tenure Type:**

- 25% Affordable Housing
- 75% Market Sale

### Height:

- Maximum 8 storeys
- Townhouses 3 storeys

### Parking:

- 0.19 spaces per unit
- Underground basement parking under townhouse terraces

### **Amenity Space:**

 Private communal gardens in the block interiors, with children's play area

- Back gardens and deck spaces for ground floor units, with terraces for townhouse flats
- Flats in the larger block benefit from private balconies
- Local 'pocket' communal food growing space for the use of residents and the public

### **Placemaking Impact**:

- Retained 30+ mature trees to give a green context and aid green infrastructure
- Pocket parks and mini areas of public realm break up the area and give a sense of place
- New desire lines and key active travel routes created

### **Street Level Treatment:**

- 3-bed duplex units sit under the mansion blocks to create activity on the ground floor level, with private front door and windows to the street
- Small front gardens, hedges and low fences create an attractive street environment
- Recessed porches and large bay windows into living rooms overlook the street creating an active interaction
- Abundant, lush planting in verges and front gardens

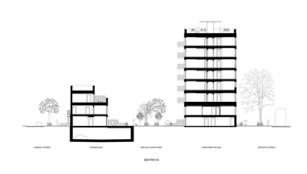
- Blind tenure
- Major urban redevelopment scheme
- CCHP communal power system powers new scheme and existing residential buildings





Masterplan showing the traditional block layouts with generous landscapes areas





Sections of South Gardens detailing the blend of housetypes within typologies

- Traditional local typologies, such as the Georgian Terrace House, can been replicated in an efficient and modern way
- Combine typologies to create attractive, efficient solutions. Duplexes on the ground floor of large blocks can create an active frontage.
- High densities and a sustainable context can reduced the parking offering on this scheme
- Landscaping should be used to generate a positive streetscape

# **Summary of Density Case Studies**

The density case studies have shown a range of successful schemes from a mid-level option of 43dph to a high density scheme of 180dph.

The study has highlighted that at all densities, good placemaking, generous amenity space and an attractive environment is possible.

In these examples, the additional density is achieved without sacrificing positive, community-focussed elements of the scheme. Instead, increased housing numbers are created through increased heights, differing proportions of houses vs flats and maisonettes, use of terracing, and a reduction in private or on-plot parking solutions.



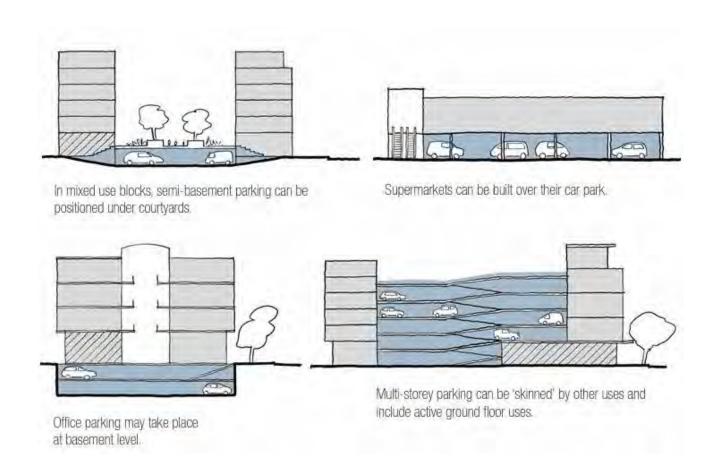
CASE STUDY	Density	Primary House Type	Primary Typology	Parking	Amenity Spaces	Additional Uses
Marmalade Lane, Cambridge	43dph	2-bed flats and 4-bed houses	Terraced townhouses	1.2 spaces, on street	Blended boundaries between public and private open spaces with gardens that open into community space	'Common House' community space for sole use of co-op residents
Port Loop, Birmingham	60dph	2-6 bed houses	Configurable townhouses in terraces	1.1 spaces	Terraces around on a garden square, no private gardens	New public park, moorings and a slipway
Goldsmith Street, Norwich	80dph	1-bed flats and 2-bed houses	Terraced houses and 3-storey corner blocks of flats	0.73 spaces, on street	Every home has private amenity space, either a garden or balcony. A shared street with public open space runs between the backs of the terrace block	Shared linear 'street garden'
Knights Park, Cambridge	92dph	3- and 4-bed houses and 2-bed flats	Multi-aspect mews houses, coach houses and 10-unit blocks of flats	1.3 spaces per unit, below- ground car park and integrated garages	Shared podium garden for flats, roof terraces and gardens for larger units	Rain gardens and SUDS for water management. Extension of houses into underground with gyms and storerooms
Paintworks Phase III, Bristol	110dph	1- and 2-bed flats and 3-bed houses	7-storey blocks of flats, live-work maisonettes and terraced houses	1.6 spaces in large underground podium	Large public plaza, and some private gardens for houses	Pedestrianised streets with small retail spaces and live/ work workshops
South Gardens, London	180dph	1-, 2- and 3-bed flats	8-storey mansion blocks of flats and 'townhouse' style flats	0.19 units in basement car park	Balconies and terraces with large shared garden in block interior	Pocket public growspace on street scape

# **Precedent Examples - Multi-Storey Car Parking**

As the parking often takes a landmark spot within the development, efforts must be made to ensure a positive, active frontage and attractive facade to ensure a positive contribution to the streetscene and local waymarking.

This could be done in a number of ways, whilst maximising land and parking efficiency, such as:

- Mixed use ground floor uses
- Vibrant entrances and façades
- Material and colour palette in keeping with the local vernacular
- Shielding by planting and street trees



# High Street East: Density | 29







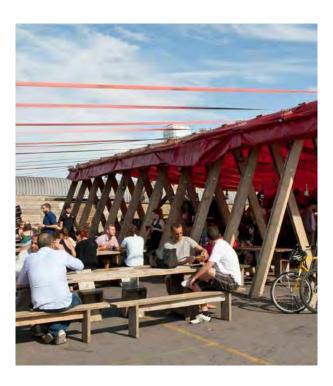


# **Precedent Examples - Flexible Parking Concept**

The multi-storey car park proposal in Option 4A is designed to a flexible space that works much harder than a typical car park, as well as adding to the quiet, green character of the area. In addition to providing much needed car parking spaces. it could also:

- Contain a basement parking level that could be used as storm water storage during storm events, alleviating the impact of flooding on the pool and wider local area
- Offer a flexible rooftop space which benefits from attractive views to the park and Castle, that when not being used for parking offer a new public realm area that could be used for markets, cafés, yoga or public events
- Greening of the facade could upgrade and improve the area from the existing tarmacked, car-dominated surface space







# **Precedent Examples - Outdoor Fitness and Wellbeing Area**

- Integrate a wellbeing ethos surrounding the new and old leisure centre facility.
- Create an outdoor activity fitness trail / gym
- Link with water sports
- · Create a new leisure centre that provides indoor-outdoor feel to boost energy and healthy living.
- Take advantage of natural shading from trees during summer months and decrease air conditioning dependence.





