

Scenario testing:  
key development projects

4





# Scenario testing

## Approach to scenario testing

Section 4 sets out a range of illustrative development scenarios for both the four Place Plan areas and strategically important sites within the Core Area (in and around Temple Meads station).

In generating development scenarios, there has been an emphasis on making quality places. Scenarios are considered to be in compliance with both the Spatial Framework guidance (Section 3) and the relevant policies of the Bristol Local Plan (see Appendix A) and in particular those relating to layout and form (DM27).

The City Design Group has used a three-dimensional 'sketch-up' model to create and test development scenarios. The model covers the whole enterprise zone (70ha), plus parts of the surrounding neighbourhoods (Redcliffe, Totterdown, Windmill Hill, Old Market). This enables proposals for individual sites to be fully interrogated in terms of the impact they have on important views and vistas, and how they sit in the overall townscape from near and far.

All proposed buildings are indicated on the model in red. Existing buildings are grey. The model also includes illustrative approaches to public realm design. Artist impressions have been provided for a number of viewpoints extracted from the model. These provide a greater understanding of the texture, atmosphere and likely activity within a space than is possible with the 3D model.

## Value of the 3D model

The 3D model has proved to be a useful tool in a number of ways:

### 1. Testing development scenarios:

The model has proved to be useful to test out different development scenarios and their visual impact for sub-areas in Temple Quarter, particularly in the core area. It is also relatively easy to extract illustrative amount of floorspace from the model. This has made it easier to undertake development appraisals and transport assessments of key sites.

### 2. Promotion and inward investment:

The model has been used extensively for promotional and inward investment purposes, with material being produced for printed and digital media, including a flythrough animation. Using the model as a base, an artist has been commissioned to illustrate key view points which give a flavour of what type of place Temple Quarter might become. Material has been used to support a number of successful funding bids, including a £20m bid from the Revolving Infrastructure Fund. It was also used to attract interest in an international design competition for the arena.

### 3. Development management:

The model has proved to be a valuable development management tool. Where developers chose to work collaboratively with the Planning Authority, the model can be used to test out early design concepts in three dimensions, allowing a thorough views analysis to be undertaken early on.



**Fig 21: Avon Street Market, Silverthorne Lane area - artist impression of a new public square on the existing car dealership forecourt**

### 4. Economic regeneration:

One of the benefits of Enterprise Zone designation is that it allows the local authority to capture business rates generated in the area to spend on projects to further economic development. Early on, the three dimensional Spatial Framework model was used to establish likely amounts of commercial, business and rate generating floorspace that would be developed. Estimates were then made of the likely business rate growth that would results.

### 5. Design of the public realm and infrastructure:

The three dimensional model is being used to design the public realm and associated infrastructure. Early projects have included Temple Gate and Temple Greenways, both projects expected to be delivered on the ground in 2018.





Fig 22: Temple Quarter - artist impression showing how Temple Quarter might develop over time



# Scenario testing

## Working assumptions for scenario testing

A number of generic working assumptions have informed the development of the 3D model. These are set out below:

### Height, Scale and Massing

A range of building heights are adopted that reflect the varied context across the four Place Plan areas. Typically buildings in Temple Quay are 5-8 storeys, and elsewhere 4-6 storeys, albeit with some more domestically scaled buildings (1-4 storeys) in locations such as Silverthorne Lane where the existing tightly grained street pattern of narrow streets is retained.

Typically a commercial floor to ceiling height of 4m has been adopted and a residential floor to ceiling height of 3m. Where active ground floor uses are being promoted, a generous ground level of 6m has been used that allows for the creation of a mezzanine floor.

On sites that offer the greatest potential for reinvention (namely the site of Bristol Arena and Former PO site), development scenarios with plot ratios of 1, 2 and 3 have been explored. (A plot ratio is the gross floor area divided by the net site area). A plot ratio of 3 was found to be an over-development of the site which undermined the placeshaping objectives for the site. A plot ratio of 1 was considered to represent an under-development of the site, and as such did not fully exploit the areas highly sustainable location at the city’s primary transport hub. A plot ratio of 2.5 has therefore been adopted. A range of buildings of different scale and height has been adopted to deliver this plot ratio rather than the adoption of a single building height across these sites.

The model illustrates a varied roof scape, where mechanical plant rooms are integrated into the building, rather than positioned on top. This provides the opportunity for useful outdoor space and green roofs.

### Servicing

Scenario testing in the core area suggests that at least one freight consolidation centre is required to meet the area’s servicing needs. Further feasibility will be required in respect to this. Without such a centre, sites will need to be individually serviced which is likely to undermine the placeshaping objectives sought for the area. Outside the core area, sites are anticipated to be individually serviced, albeit it on-street or in concealed service areas that do not undermine the public realm.

### Parking

The adoption of the suggested parking level of 1 space per 600sqm of commercial development (as recommended in the SUMP, 2016) has enabled a more integrated form of parking provision than has typically been possible in a city centre location. With this lower level of provision, it should be possible to provide parking in a basement or podium in the core area, or within a yard space in areas such as Silverthorne Lane where yards are characteristic.

Scenario testing has demonstrated that it should be possible to deliver 250 car parking spaces on the site for Bristol Arena which meets the operators expressed need. However scenario testing has shown that a car park on Plot 6 serving Temple Meads station is only likely to provide 450-500 spaces, well short of the current need expressed by Network Rail.

### Residential design

Due to the flood risk, residential accommodation is located at first floor and above, with only the lobbys at ground level. Where possible, building depths have been adopted that enable dual aspect apartments accessed from lobbys rather than long corridors. Space standards have been adopted as in Appendix G, with an average apartment size of 90sqm gross (including circulation space).

## Scenario testing in Place Plan areas

Development scenarios have been tested for the four Place Plan areas identified in Section 3:

### Temple Meads City Gateway

This has been a focal area for scenario testing. A number of key sites have been subject to fairly detailed development testing including Temple Meads station itself, Temple Gate, Temple Meads North, the Cattle Market and the site for Bristol Arena. Further work is required to test development scenarios in respect to Bath Parade (comprising the Peugeot Garage, Temple Gate House, multi-storey car park and former petrol station sites).

### Temple Quay

The majority of sites in this area already have existing planning permissions, or are close to submitting planning applications.

### Silverthorne Lane

Illustrative proposals have been generated but these will require further interrogation and refinement down

the line.

### Avon Riverside

The site of Bristol Arena has been the focus of scenario testing and this has informed designs submitted through the international design competition for the site and the subsequent planning application.

## Quantum of development

The 2016 iteration of the Spatial Framework has sought to increase densities over the 2012 and 2013 iterations. Indicative development quantum for each of the four place plan areas can be found in Appendix J.



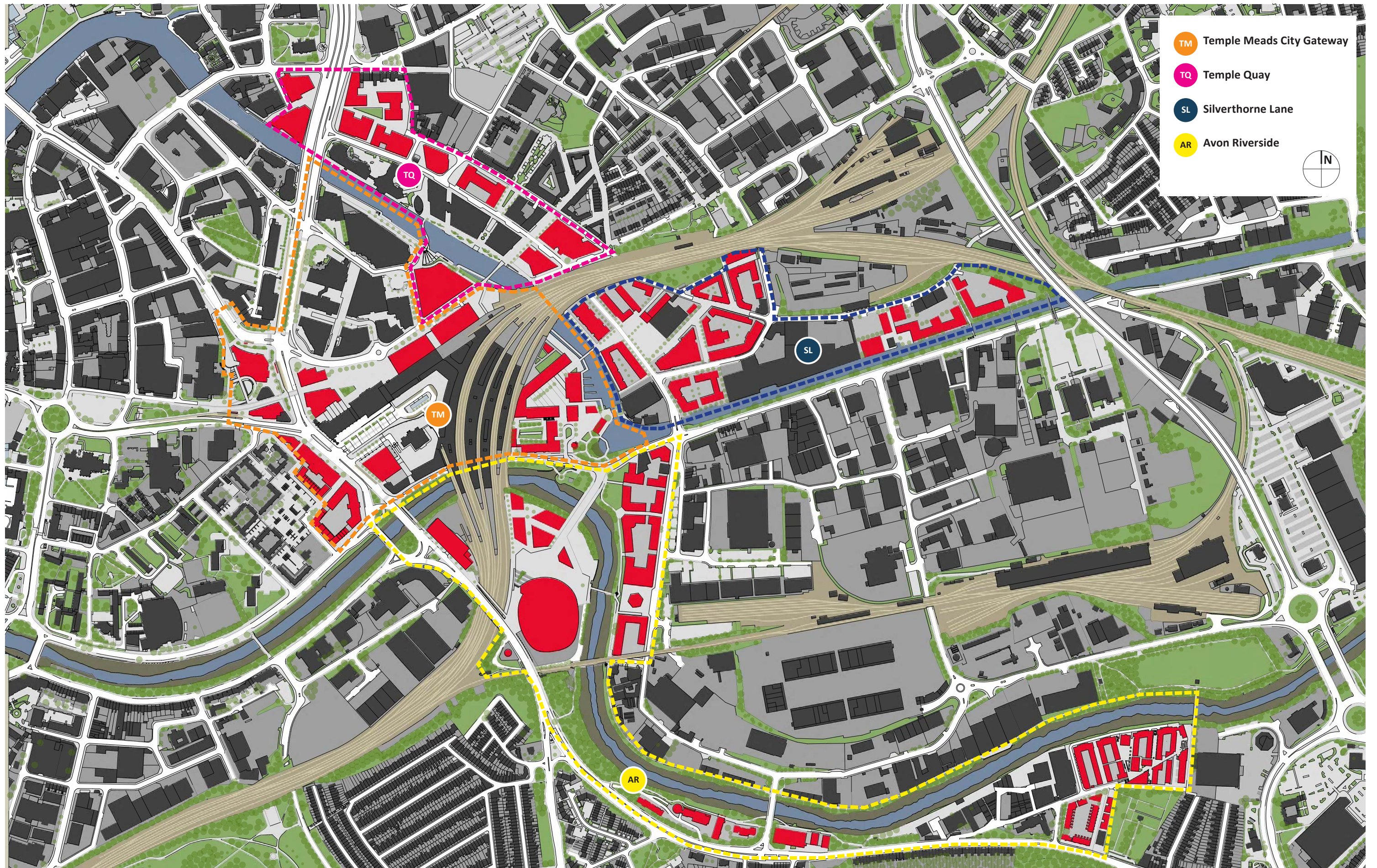


Fig 23: Temple Quarter plan



# Temple Meads City Gateway

Key development sites

- 1 Temple Meads North (Plot 6)
- 2 Temple Meads station
- 3 Temple Gate (The Island Site and Temple Circus)
- 4 Bristol and Exeter Yard (including TCN and Collett House)
- 5 The Cattle Market (Former Royal Mail Sorting Office)
- 6 Bath Parade (Former Garage site, Temple Gate House, Temple Peugeot and multi-storey car park)

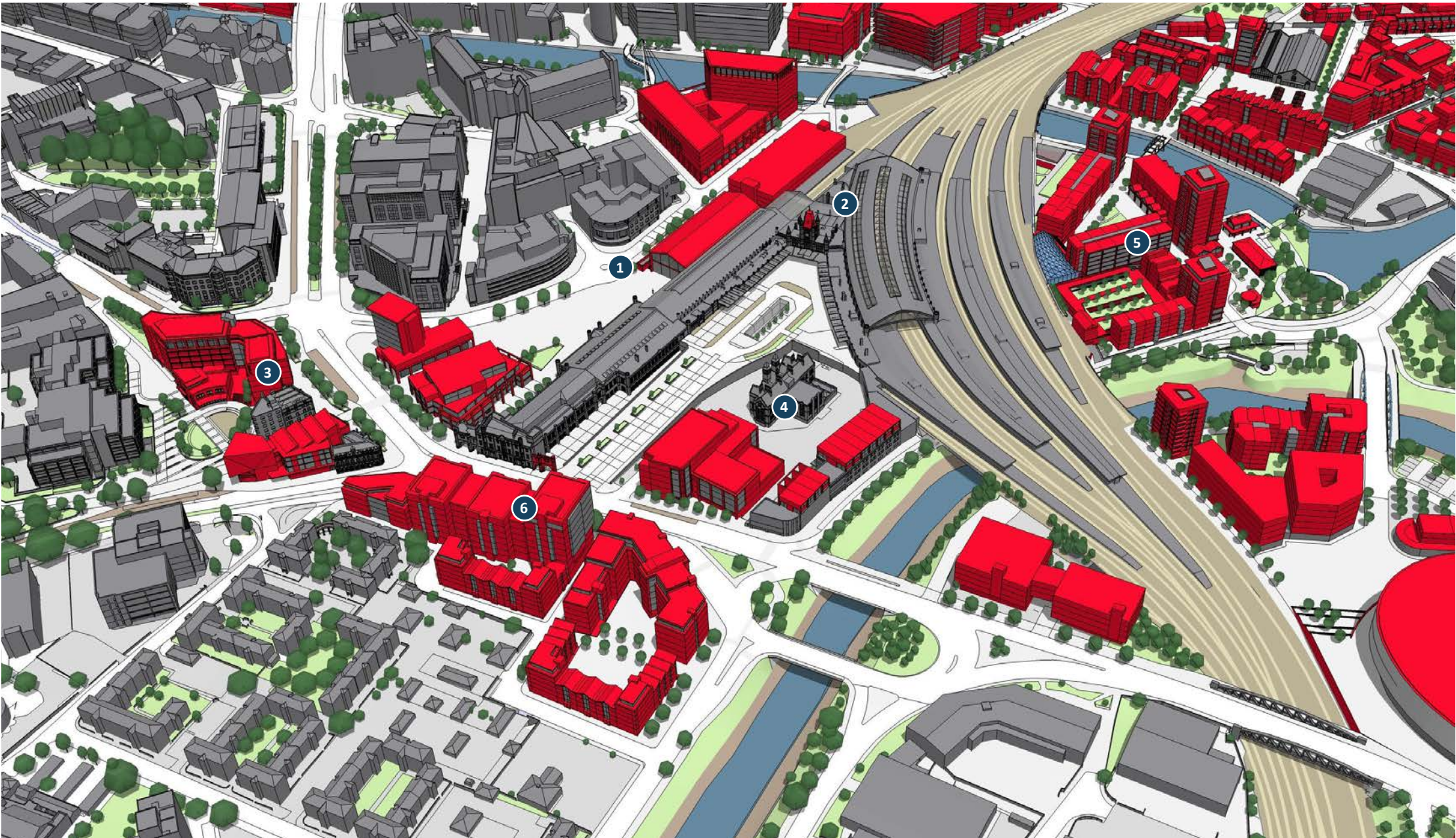


Fig 24: Temple Meads City Gateway - aerial view from west



Fig 25: Temple Meads City Gateway - aerial view from east



# Temple Quay

Key development sites

- 1 Brunel Dock (Plot 3)
- 2 Bank Place
- 3 Glassfields
- 4 Temple Quay North (including Plots ND4, ND5, ND6, ND7, ND9)



Fig 26: Temple Quay - aerial view from north west



Fig 27: Temple Quay - aerial view from south east



# Silverthorne Lane

- Key development sites
- 1 Avon Street Wharf (sites between Floating Harbour and Avon Street)
  - 2 Feeder Works (sites between Feeder Canal and Silverthorne Lane)
  - 3 Gas Works (sites between Avon Street, Silverthorne Lane and Gas Lane)
  - 4 Freestone Place



Fig 28: Silverthorne Lane- aerial view from east



Fig 29: Silverthorne Lane - aerial view from the north west



# Avon Riverside

- Key development sites
- 1 The site of Bristol Arena (Diesel Depot Site and access road)
  - 2 Victor and Albert Works
  - 3 Fish Dock (Kwik Fit site)
  - 4 Totterdown Reach (sites both sides of Totterdown Bridge)
  - 5 Paintworks (including the Open Storage site)

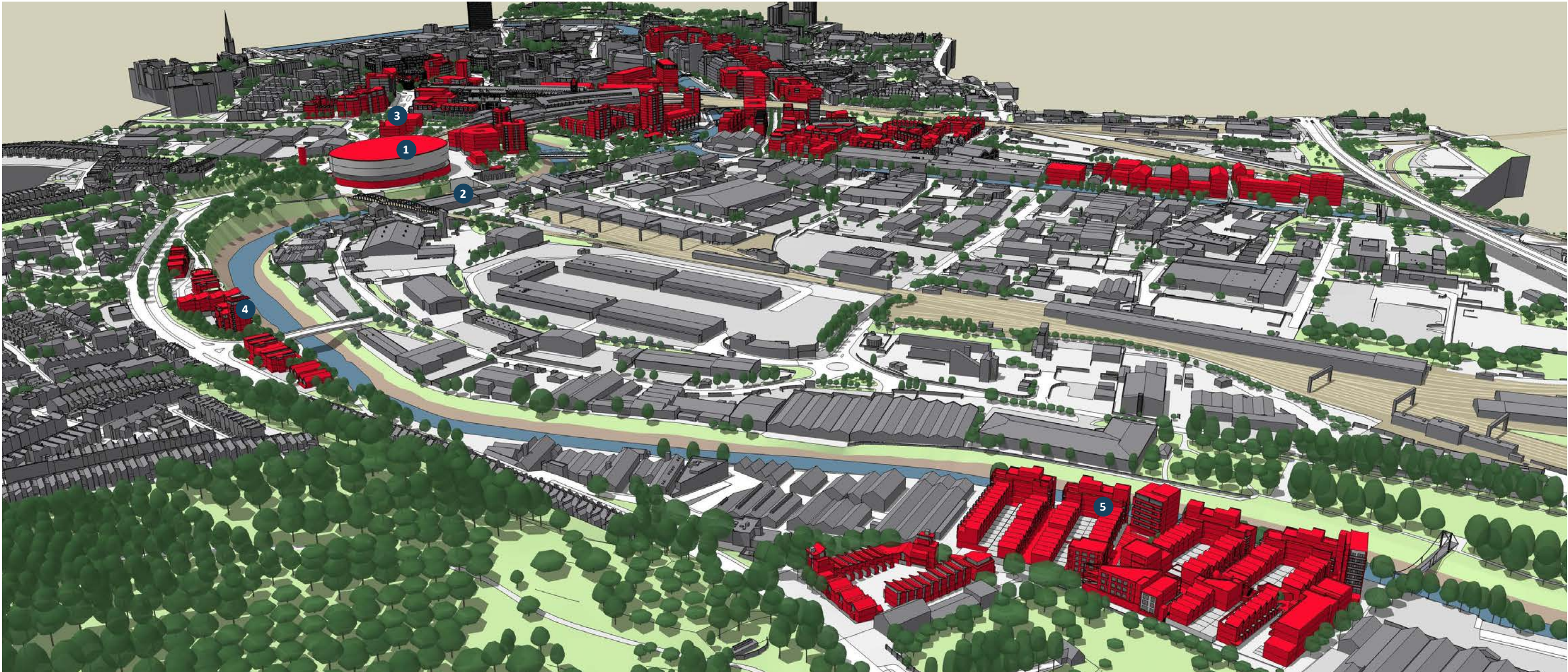


Fig 30: Avon Riverside - aerial view from south



Scenario testing for key sites in the core area

- 1 Temple Gate (comprising the Island Site, Temple Circus and Temple Gate)
- 2 Temple Meads North (comprising The Friary, Plot 6 and Isambard Walk)
- 3 The Cattle Market (comprising the Former Royal Mail Sorting Office, Cattle Market Road and the proposed Harbour Walkway)
- 4 The site of Bristol Arena (comprising the Diesel Depot site, bridge links and part of Bath Road)



Fig 31: Core area - aerial view from east



There are a number of inter-related sites in and around Temple Meads station that are considered to be strategically important in terms of realising the ambitions of the Enterprise Zone and the wider city. These sites are almost all in public ownership and development proposals/masterplans are expected to come forward for these sites in the short term (i.e. before 2020). For these reasons, the Spatial Framework has explored future potential development scenarios for these sites in more detail than other sites within the Enterprise Zone.

On these sites, a placeshaping-led approach has been taken to site planning and design, informed by a range of inputs which include:

#### Temple Gate

- Transport modelling
- Soft market testing

#### Temple Meads North

- Network Rail's requirements/aspirations as set out in the Station Masterplan (Baxter, 2013)
- HCA's Asset Delivery Plan (2015)
- BCC's wider thinking on the creation of an interchange zone
- Temple Quarter Heritage Assessment

#### The Cattle Market

- Soft market testing
- Review of previous planning consent

#### The site of Bristol Arena

- Operator requirements for an arena
- Allies and Morrison's study for the HCA
- Transport assessment
- Soft market testing exploring development potential of supporting sites
- Populous competition entry and subsequent planning application

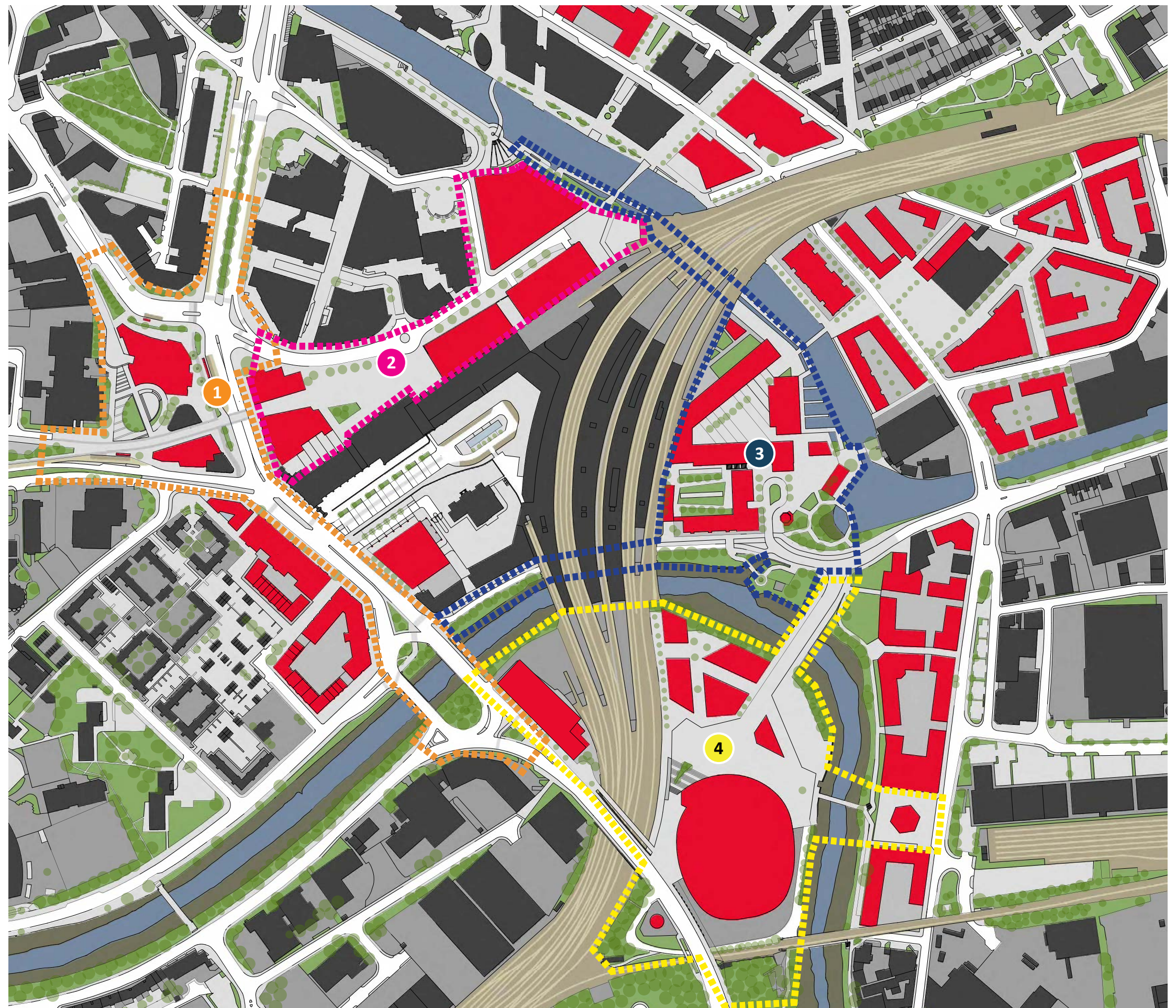


Fig 32: Temple Quarter core area - plan



# Temple Gate

**Temple Gate (comprising the Island site and Temple Circus)**

Temple Gate will become part of the expanded and rejuvenated Temple Meads interchange zone. Legible and direct pedestrian and cycle links will be created between Temple Gate and the station’s northern entrance via an extended Brunel Mile. A single phase crossing will replace the three crossings people currently encounter.

Bus services serving the south of the city and further afield, will continue to stop on Temple Gate, as will the new MetroBus service. Some of the existing more cramped bus stops will be relocated to positions with more space and better pedestrian links back to the station. This has been made possible through the proposed replacement of the Temple Circus roundabout with a more simple, light-controlled cross road.

A prominent site opposite the council’s new office hub at 100 Temple Street will be redeveloped for a mixture of commercial office and business incubator space (Engine Shed 2). A new ‘city room’, will be incorporated into the development, providing a space to showcase future development proposals for the city, including Temple Quarter. Active ground floor uses (bars, cafes, restaurants) will animate a new public square - Temple Place. Existing derelict buildings will be refurbished and integrated into the wider development.

The Brunel Mile will be positioned to maintain a visual link between St. Mary Redcliffe Church and the station clock tower.

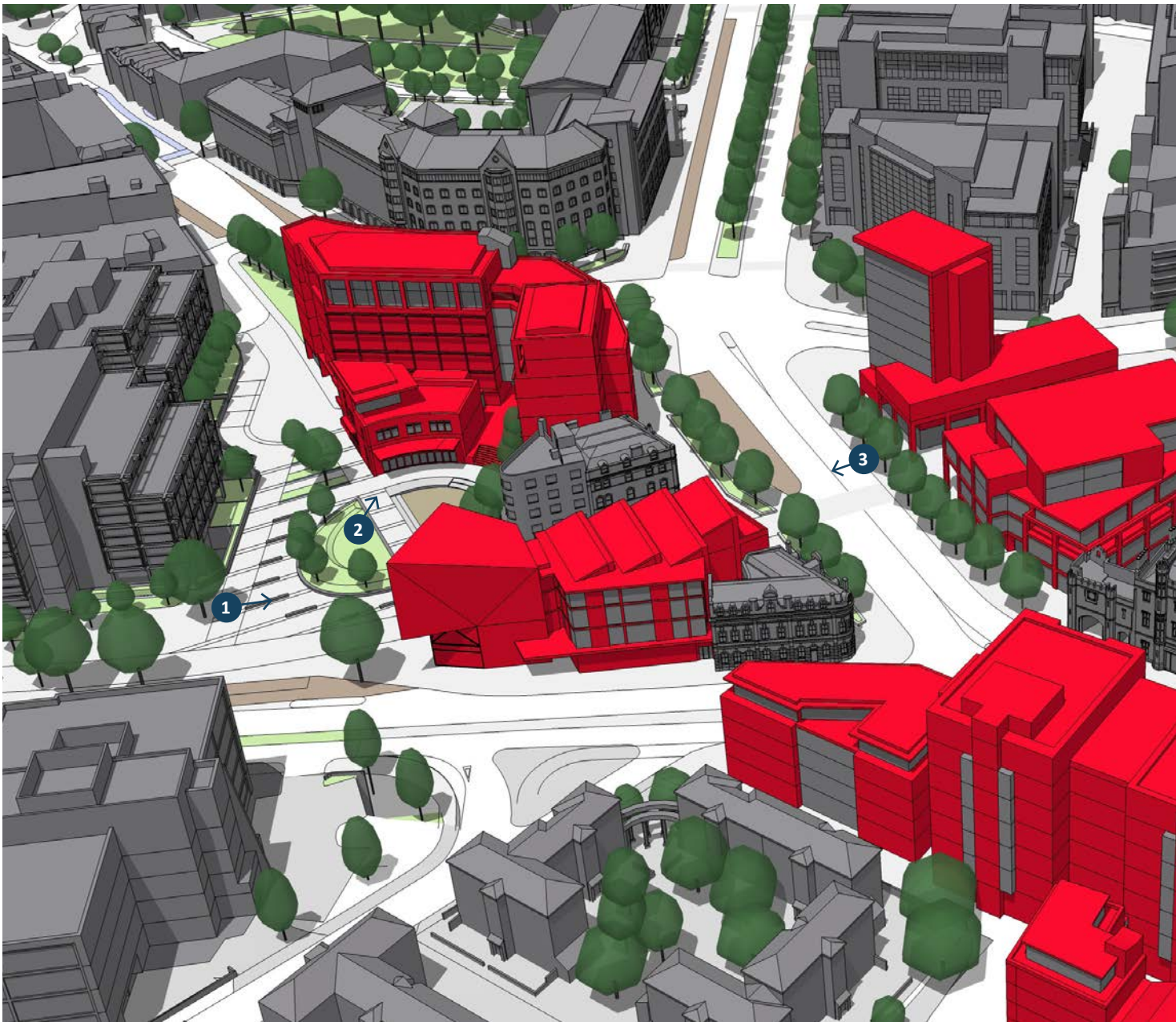


Fig 33: Temple Gate - aerial view from south

- 1 Brunel Mile**  
This high quality pedestrian and cycle route is extended to an improved northern entrance into Temple Meads station. A new one stage crossing will make it easier for people to cross Temple Gate.
- 2 Temple Place**  
A new public square to the front of 100 Temple Street in an area currently dominated by roads. A safe and vibrant orientation space.
- 3 Temple Gate**  
A more direct road layout, removing the Temple Circus roundabout and replacing it with a simplified, light-controlled cross road. Over time buildings will be set back to create generous tree-lined pavements.



Temple Gate



Fig 44: Temple Place, Temple Gate - artist impression



Fig 45: Brunel Mile, Temple Gate - artist impression



Fig 46: Temple Gate crossing - artist impression



## Temple Meads North

### Temple Meads North (comprising Plot 6 and The Friary)

As envisaged in the Bristol Central Area Plan, the area to the north of Temple Meads Station will become part of a dispersed interchange zone that also includes the Station Approach, and Temple Gate. It is proposed that buses be relocated from the Station Approach to The Friary, with the capacity to introduce additional new services in the future (likely to serve the east of the City). Bus services serving the south of the city and further afield, will continue to stop on Temple Gate.

New access arrangements are proposed in the vicinity of the station. This involves the construction of a new section of road alongside Isambard Walk linking Temple Back East with the Friary. In the short term, this facilitates the delivery of Plot 3 and the remodelling of Temple Gate. In the longer term, these new arrangements could facilitate the anticipated upgrade of the station, including the provision of access to a new multi-storey station car park.

A new multi-storey car park serving the station will be located at the eastern end of the site within a transit-shed inspired building form. The building will also accommodate a new northern entrance into the station at street level; retail, food and drinks outlets; cycle parking; and passenger drop-off /pick-up.

Commercial development to the west of the site will preserve a view between St. Mary Redcliffe Church and the Station Clock Tower, and provide an active front to Brunel Square, and enclosure to Brunel Yard.



Fig 47: Temple Meads North -aerial view from east

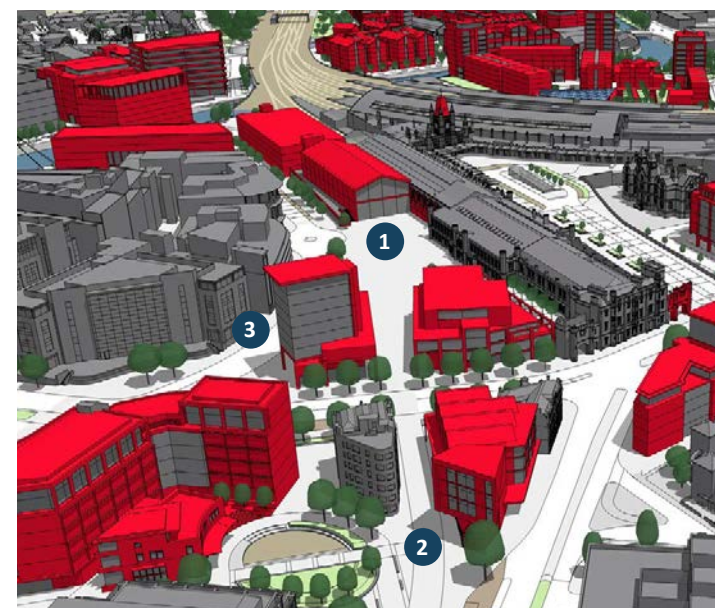


Fig 48: Temple Meads North- aerial view from west

- 1 Brunel Square**  
A welcoming arrival space serving a relocated and improved northern entrance to Temple Meads Station. It also marks the start of the Brunel Mile, the pedestrian/cycle route to the ss Great Britain.
- 2 Brunel Mile**  
This high quality pedestrian and cycle route is extended to an improved northern entrance into Temple Meads station. A new one stage crossing will make it easier for people to cross Temple Gate.
- 3 The Friary**  
An important gateway to the city where people move comfortably and conveniently between transport modes along an attractive, traffic calmed road. The Bristol to Bath railway path connects seamlessly to the Brunel Mile, enabling pedestrians (and cyclists) to move easily between the city centre and the eastern suburbs, as well as better accessing the station via Brunel Square.
- 4 Floating Harbour - South Shore**  
A new pontoon boardwalk connecting the ferry landing stage at Temple Quay southwards to Totterdown Basin.





Fig 49: Brunel Square, Temple Meads North- artist impression showing the Brunel Mile extending to a new northern entrance to the station



# The Cattle Market

**The Cattle Market (comprising the former Royal Mail Sorting Office)**

This is a pivotal site, strategically located between the station and arena, at the mouth of the Harbour. It offers an unparalleled opportunity for waterside regeneration, and the creation of a place to which people will flock - a once in a lifetime opportunity that should not be squandered.

The site’s water frontage will be brought into use with wharf-type buildings accommodating restaurants, cafes and water recreation uses. At the heart of the site, a high density, mixed use development will be accommodated in either new or creatively reused buildings, arranged around a major new public space - Cattle Market Square.

Network Rail and the City Council’s aspirations for modernising the station may provide an opportunity for a new ticketed entrance into the station from The Cattle Market. There is also a more ambitious plan to create a public street beneath the station. The site will be laid out to create legible and direct routes to this new entrance.

A range of different density scenarios have been tested for the site. A medium density scheme is shown with a generous public realm. Taller buildings have been located towards the centre of the site in locations that would not be visible from the Station Approach. Development has been set back from the rail platforms to prevent it being over-bearing from this key vantage point. Furthermore, an important long-range view of St. Mary Redcliffe Church has been maintained from the Albert Road Bridge.

- 1 New square providing an arrival space next to a potential new entrance into Temple Meads station
- 2 Mixed used perimeter block to the south of the site providing access to a podium car park serving whole site
- 3 Mixed use block adjacent to the railway line
- 4 New bridge link to Silverthorne Lane
- 5 A new inlet (Cattle Market Wharf) providing boat mooring and a potential ferry landing stage)
- 6 Lower scale wharf-type buildings providing leisure and recreational uses
- 7 Totterdown Basin
- 8 Cattle Market Road

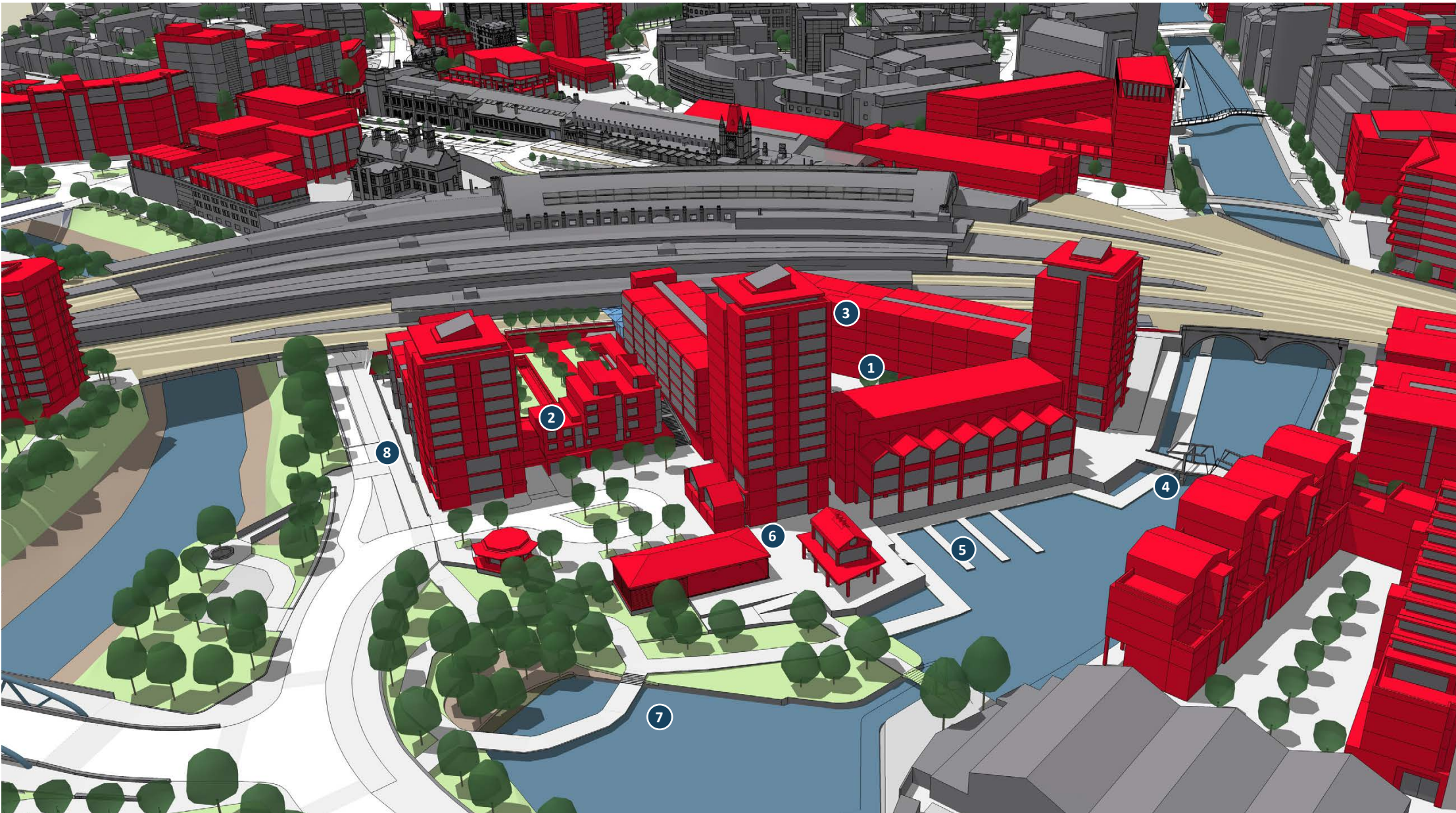


Fig 50: The Cattle Market- aerial view from the east





Fig 51: Cattle Market Wharf, The Cattle Market- artist impression of wharf style waterside frontage





Fig 52: Totterdown Basin - artist impression showing an animated quayside with a range of water-related leisure uses



## The Cattle Market

### Short term improvements: Temple Greenways

In the short term, the site provides an opportunity to create a lively 'meanwhile' destination which can set the tone for later, more permanent phases of development. People will be able to access this via a new floating pontoon walkway, and a reimagined Cattle Market Road. Together, these public realm projects are referred to as Temple Greenways. Proposals have already been consulted upon (Spring 2015) and will be implemented by 2017 in time for the opening of the arena.



Fig 53: Cattle Market Road and Tottedown Basin (short term)



Fig 54: Harbour Walkway (short term) -artist impression showing a new floating pontoon boardwalk that will connect the ferry landing stage at Temple Quay southwards to Tottedown Basin



# The site of Bristol Arena

## The site of Bristol Arena

The site of Bristol Arena is the largest cleared site within Temple Quarter. Its redevelopment for high quality, medium density, mixed uses including an arena, commercial offices and residential apartments, is likely to have a catalytic effect on the wider regeneration of Temple Quarter. The site of Bristol Arena will become a dynamic urban destination, at a pivotal gateway into the city.

Bristol Arena will be one of the most significant venues for public assembly in the city and the wider region when it is opened in 2018. The Arena, and the animated streets and spaces around it, will draw people to the area throughout the day and evening, irrespective of whether there is a performance on.

A new processional route from Bath Road (Arena Terrace), together with a series of new bridge links will bring people into the heart of the Bristol Arena site - the Arena Plaza. This space will allow visitors and the local community to rub shoulders in a festive atmosphere, where outdoor play and performance is encouraged.

The winning design for the 12,000 seat arena was selected through a high profile international competition, and sets a new quality expectation for arena design. Supporting development will frame views through to the arena, and provide enclosure and animation to the public realm. Development will be arranged within a perimeter block, with opportunities for greater height in landmark locations that support way-finding. A site for a stand-alone landmark structure has also been identified on a site opposite the arena on Bath Road. Exceptional design will be

expected in these locations.

A Transport Assessment has been prepared for Bristol Arena in support of the planning application. This considers accessibility and the transport impacts of the proposals on the adjoining highway network. Arena goers arriving by car will be expected to use existing city centre car parks. The Arena proposals do not include any intention to increase the existing general supply of City Centre parking stock, other than the provision of disabled parking and limited concessionaire/ operational parking on the Island. Arena goers using the existing city centre car parks or public transport will then make their way on foot to the arena using new links such as the proposed floating pontoon link along the south shore of the Floating Harbour and enhanced links along Cattle Market Road. Coach, taxi and passenger drop-off will be provided in the Albert Road area, with high quality public realm connections back to the arena (Victor Place). The development of the site will include the provision of a new southern pedestrian/cyclist linkage from the proposed Arena Terrace to the A4/A37 Three Lamps junction, so bypassing the existing substandard footway along the east side of the A4 Bath Road. This will vastly improve walking and cycling connectivity between the Arena and the wider TQEZ as well as the residential areas of Totterdown, Windmill Hill and Knowle to the south.

It is envisaged that sites just outside the Enterprise Zone boundary will see development pressure as a result of the arena being built. The Spatial Framework promotes the creation of a high quality business park within a linear site between the River and Albert Road (Victor and Albert Works).

### 1 Arena

A 12,000 seat arena located in the southern part of the site, with public entrances onto the Arena Plaza and Bath Road. A rear service area is screened by the hillside.

### 2 Arena Terrace

A processional route taking pedestrians down from the Bath Road down into the heart of the site for Bristol Arena and onwards to Temple Meads station.

### 3 Arena Plaza

The gathering and meeting place for people attending events at the Arena – large enough and with sufficient activity and interest around the space to create a destination in itself.

### 4 Riverside Edge Planting

An ecologically rich area, allowing people to move on foot and bike between the new bridges over to the Bristol Arena site.

### 5 Cattle Market Road

Changes to vehicular access will free up road carriageway for use by pedestrians and cyclists, enhancing east-west movement through Temple Quarter.

### 6 Bath Road Promenade

A generous pedestrian and cyclist promenade created alongside the existing Bath Road, enhancing the route to the arena and onwards to Bristol’s southern neighbourhoods.

### 7 Arena Bridge (vehicular access)

A new vehicular bridge across the river which connects via a new service route to an improved access off the A4 (Bath Road).

### 8 Arena Landmark

A tall landmark structure opposite the arena on Bath Road, that is visible from Temple Meads station entrance, Temple Gate and Three Lamps Junction

### 9 Victor Place

A small, yet important gateway space providing access to the river from the east, and onwards to Bristol Arena

### 10 River Avon

A widened, safer and more vibrant riverside path, connecting Sparke Evans Park to Totterdown Basin. Access to the arena via a new bridge (St. Philips Footbridge)

### 11 Victor and Albert Works (former Pest Control site, and industrial sites just outside EZ)

High quality business space created on a collection of underutilised riverfront sites just outside the enterprise zone. Redevelopment will provide an opportunity to widen the riverside path, and create better pedestrian linkages back to Albert Road which will be used for drop-off and pick-up for the arena.

### 12 Fish Dock (Kwik Fit site)

A prominent site on the main highway network next to Bath Bridges. Awaiting feasibility to ascertain whether this would be a suitable site for a multi-storey car park supporting either the station and/or the arena. Buildings will be set back from Bath Road creating more space for pedestrians, cyclists, and tree planting.





Fig 55: Arena - artist impression (Populous)



Fig 56: Arena - artist impression (Populous)

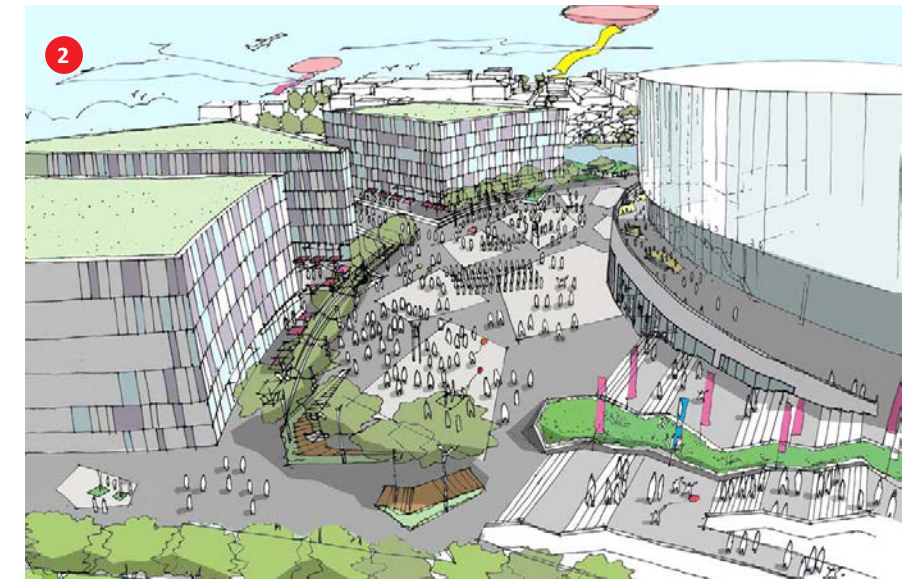


Fig 57: Arena - artist impression (Populous)

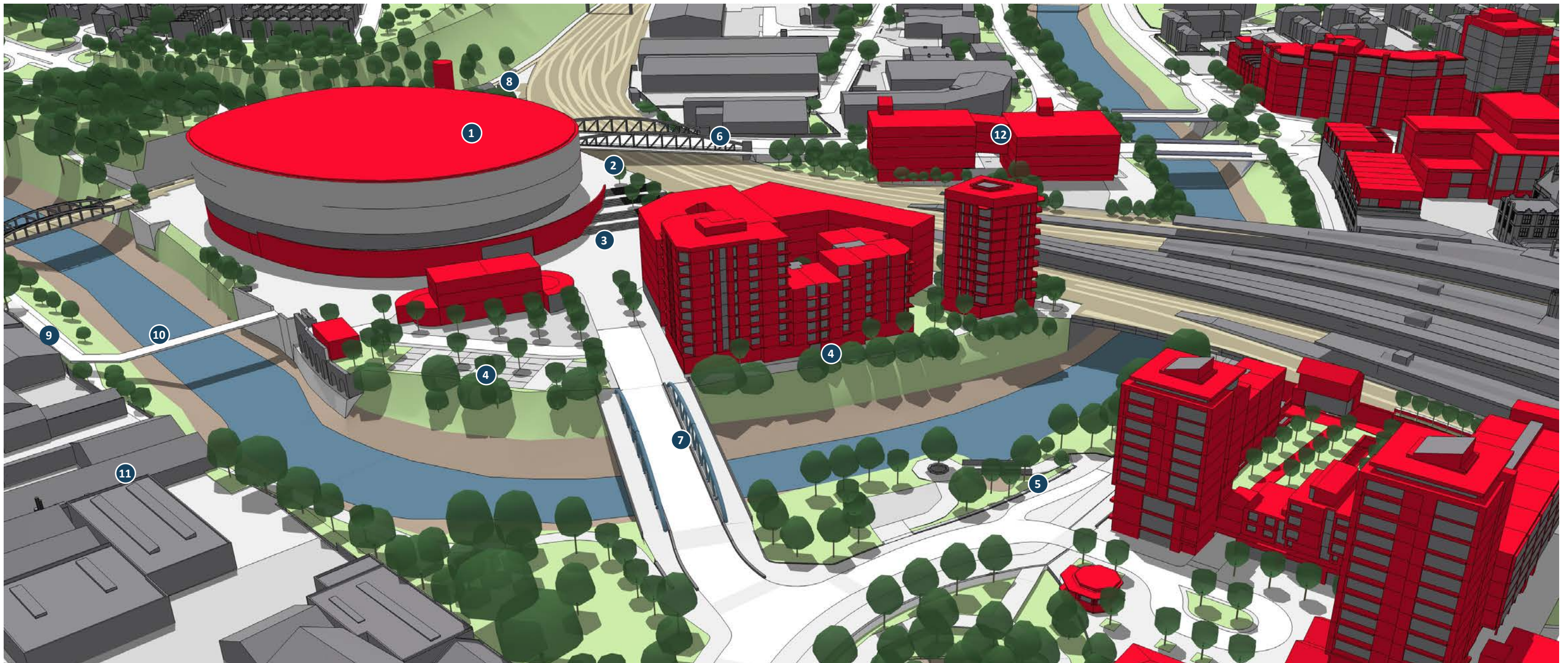


Fig 58: The site of Bristol Arena - view from north east



# The site of Bristol Arena

## Bath Road Promenade

The Spatial Framework proposes the creation of a generous pedestrian and cycle path alongside the eastern edge of Bath Road between Cattle Market Road and the arena. This route will serve both arena goers and regular commuters alike.

This is a significant and challenging infrastructure project and further work is required to assess the deliverability. The key issues that will require resolution include:

- feasibility of providing a new pedestrian/cycle bridge over the mainline railway to Plymouth, potentially linking this to any future electrification of this line; and
- feasibility of delivering a pedestrian/cycle bridge across the River Avon adjacent to Bath Bridges

Delivery of this infrastructure project falls outside of the scope of funding identified through the Revolving Infrastructure Fund and the arena project. It will be important that any proposals coming forward for the Fish Dock site (aka Kwik Fit site) are set back from the road to enable the future implementation of this proposal.



Fig 59: Bath Road

- 1 Cattle Market Road
- 2 Bath Bridges
- 3 Kwik Fit site/Fish Doack
- 4 Mainline to Plymouth
- 5 Arena
- 6 Three Lamps Junction

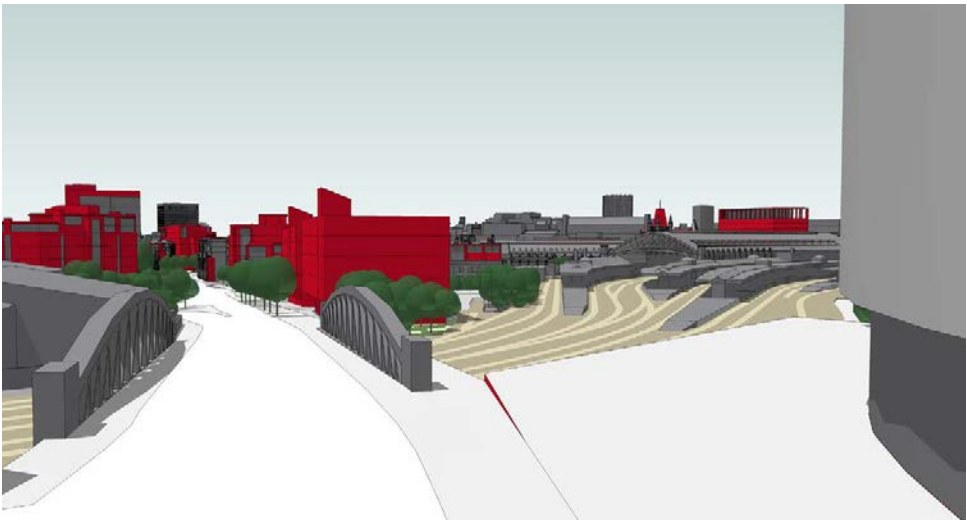


Fig 60: Bath Road Promenade - view from south east



Fig 61: Bath Road Promenade - view from north west