

# WESTERN HARBOUR

## INITIAL WESTERN HARBOUR ENGAGEMENT



AERIAL VIEW LOOKING NORTHEAST

### THE NEED FOR CHANGE

The present Cumberland Basin road system was constructed in the 1960s and requires significant investment if it is to remain in use. It harms the visual appearance and setting of the area, which is home to iconic views of Clifton Suspension Bridge, the Avon Gorge, Ashton Court and Bristol Harbour. The surrounding environment is also negatively impacted by traffic noise and emissions, while walking and cycling routes can be indirect and confusing.

### THE OPPORTUNITY

The Western Harbour is a key element of the continuing regeneration of Bristol's floating harbour. Addressing the problems associated with this ageing infrastructure is expected to require, at a minimum, an investment of £40 million. Bristol City Council is proactively seeking a transformative approach which would redesign the road system while delivering additional benefits and opportunities to the Western Harbour, as outlined in the vision.

### THE VISION

The draft Bristol Local Plan Review<sup>1</sup>, published for consultation in Spring 2019, set out the Council's transformative vision for the type of development that could be unlocked through change to the road system to create a new city quarter:

- 2,500 new homes with a mix of types, sizes and tenures at densities and forms appropriate to achieving this figure;
- a mix of uses in addition to the new homes, including workspace, student bed spaces and retail and leisure development;
- provision of community facilities required to support the residential and student development;
- high quality public open spaces incorporating green infrastructure and public realm enhancements; and
- new walking and cycling routes to connect the development to the city centre, surrounding neighbourhoods, public transport facilities and the wider cycle network.

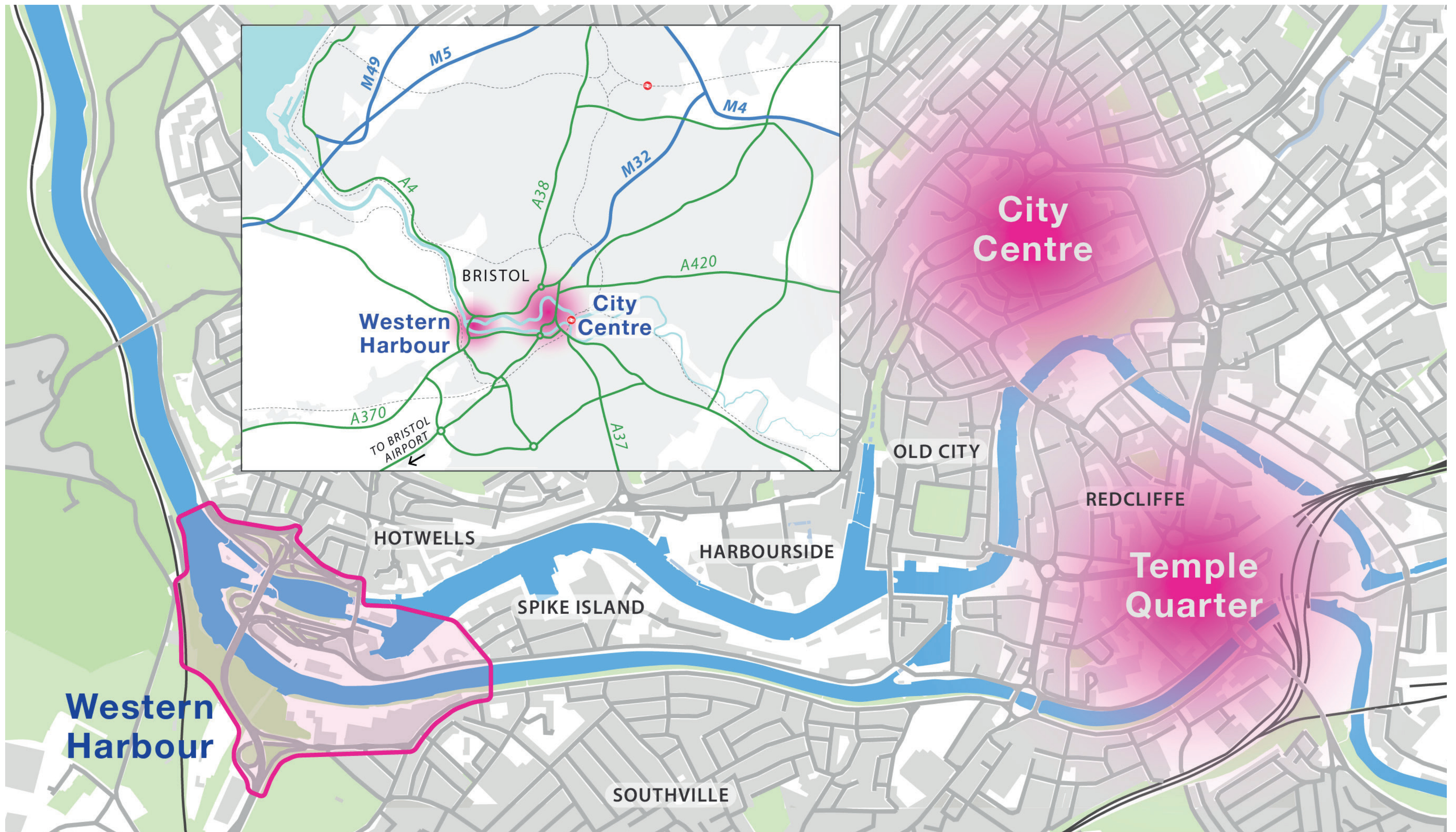


<sup>1</sup><https://www.bristol.gov.uk/documents/20182/34536/Local+Plan+Review+-+Draft+Policies+and+Development+Allocations+-+Web.pdf/2077eef6-c9ae-3582-e921-b5d846762645>



# WESTERN HARBOUR

## STARTING POINT



## EXISTING CONTEXT

The Western Harbour is a key gateway into the city and the route to Bristol Airport from the M5 Motorway. The main highways in the area can carry over 2,000 vehicles an hour during the AM and PM peaks.

## ASSESSING THE ROAD NETWORK

To realise the full potential of this area we need to look at ways to create a simpler, less intrusive road network. In 2018, Bristol City Council commissioned Arup, Alec French and JLL to undertake an initial feasibility study to consider approaches for reconfiguring traffic movements across the Western Harbour.

A number of approaches were considered against their ability to provide transformative growth and regeneration opportunities, whilst also considering the impact on the local environment and on traffic flow.

From this initial assessment, three road network approaches have been looked at in more detail. It is still early days and more detailed technical studies and design proposals will be required on any approach progressed.

Each of the three proposed approaches aims to prioritise improvements to walking, cycling and bus networks in the Western Harbour area. This would result in a slightly reduced capacity on the road network compared to its existing layout. Improved public transport, walking and cycling facilities would help reduce the need to travel by car.

Alongside the three possible transformative approaches identified, there remains the option of investment in extending the life of the existing road and bridge infrastructure. There are also interim or partial approaches, involving retention of some existing highway sections but removal of other sections, which are less-transformative but worthy of further consideration as part of future technical studies if the transformative approach is not progressed.







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## KEY CONSIDERATIONS

We have considered various approaches for the future road network and associated walking, cycling and public transport opportunities. For each approach we have assessed their ability to provide suitable road capacity as well as growth and regeneration opportunities. Initial consideration was also given to the potential impacts on the environment and heritage assets, as well as the ability to be constructed in a phased manner. As part of the work undertaken consideration has been given to harbour movements and the potential for a tunnel, rather than bridges.

### TRAFFIC FLOWS

In considering approaches for a new road layout, we have looked at the amount of traffic forecast to be using this area in 2036. This takes into account where people currently travel to and from, local trends in how much they use cars and other vehicles for these journeys, and new journeys expected from more jobs, housing and other developments which already have planning consent. In considering traffic movements, demands have been classified as either ‘strategic’ or ‘local’ in nature.

Strategic movements are those movements that cannot easily switch to sustainable transport. An example is between the A4 at Avonmouth and the A370 towards Long Ashton. Local movements have more options for sustainable travel. Local movements include those between the city centre, Spike Island and Southville. Wider transport interventions, such as improvement of the route between the M5 and the South Bristol Link Road would reduce traffic demand in the area but were not considered as part of the study. Such interventions will be considered as part of a transport study for the area being commissioned by West of England Combined Authority (WECA).



### HARBOUR MOVEMENTS

The Maritime Act ensures that should a vessel wish to pass through the locks at Cumberland Basin during the high-tide period, it must be allowed to do so.

There can be over 60 bridge opening events a month in the summer, down to less than 10 a month in the winter. Sunday is generally the busiest day.

### TUNNEL

Each approach requires new crossings of the River Avon and a tunnel has been considered as part of the study. Construction of a tunnel would be technically challenging due to the characteristics of the rocks and soils and underground water in the area. Initial estimates suggest a tunnel could cost six times as much as an equivalent bridge, while it would also result in considerably more construction traffic movements.

While a tunnel could avoid traffic impacting on the view down the Gorge and the setting of the Suspension Bridge, the tunnel’s northern entrance (with the A4 Portway) would be difficult to fit into the available space and landscape. Longer tunnels connecting to the A4 Portway north of the Suspension Bridge could therefore be considered as the least impactful option on the Gorge, but the additional tunnel length would make this significantly more expensive.

### YOUR VIEWS

The three approaches identified through the study are described in the following information and can be compared against an approach of investing in maintaining the existing infrastructure.

We are seeking your views on these initial ideas for the Western Harbour road system, including their respective strengths and weaknesses.

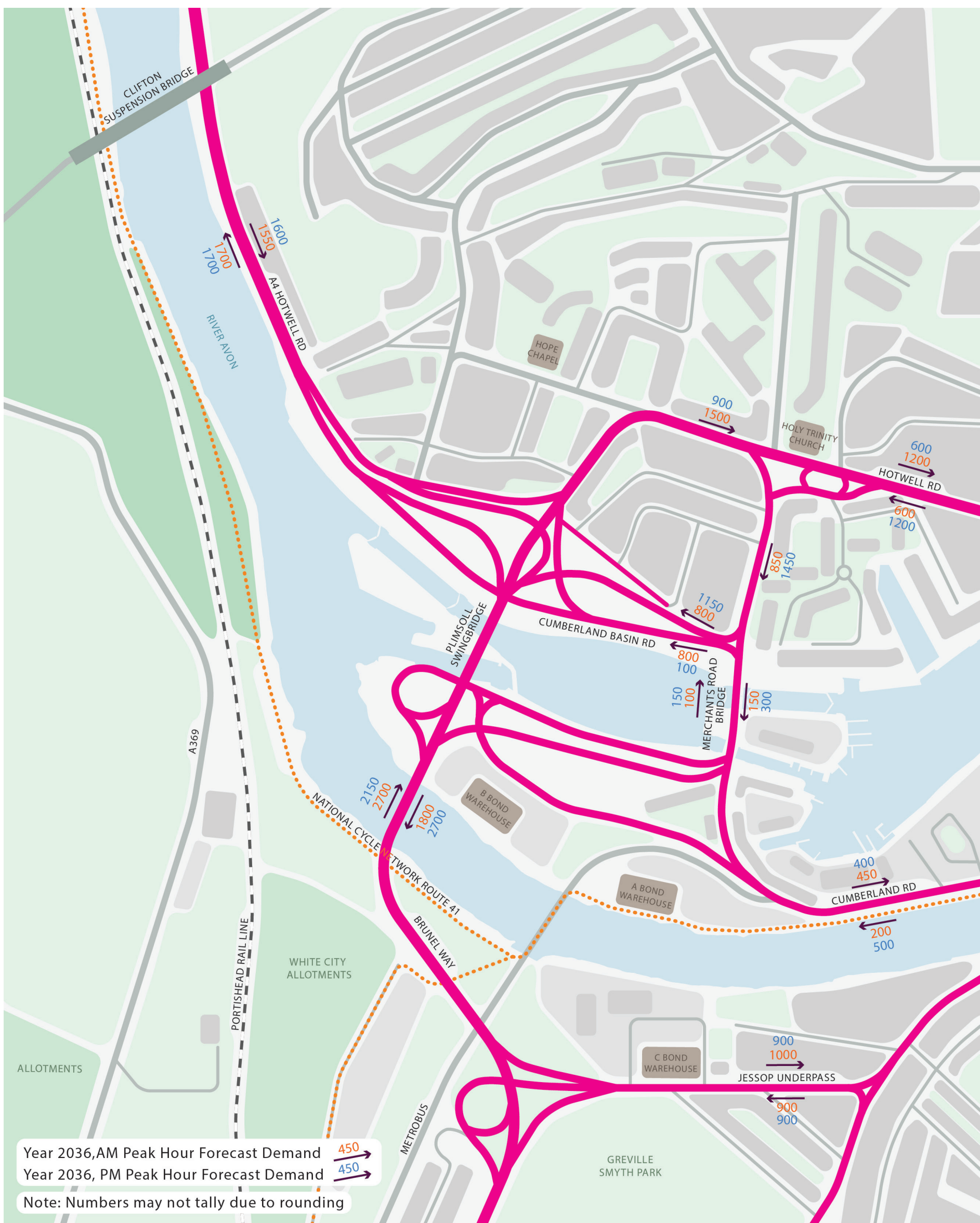


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## THE EXISTING ROAD NETWORK

The existing road layout requires investment in new bridge movement equipment (to allow ships to enter the floating harbour) and reinforcement of elevated structures, as well as general maintenance and condition surveys to enable better use of the infrastructure. It is forecast that these works could cost in the region of £40m to complete.

Investing in maintaining the existing road network would result in no significant change and therefore it would fail to create opportunities for new housing or growth. The other, transformative approaches, can be compared against it.



### Strengths

- Would retain the existing road layout and would have the least disruption to road users or Metrobus.
- Would have the least impact on the existing local community in the short-term as existing roads are retained.
- While a significant investment is required, this would be the lowest cost approach.
- With two bridges (Plimsoil Bridge and Merchants Road Bridge), there would be a degree of resilience to the road network when the bridges need to swing open.

### Weaknesses

- Would not take advantage of the significant opportunities to deliver new housing, jobs, better access to the harbourside and inclusive growth.
- Would not create opportunities for encouraging walking and cycling via new routes, river crossings, widened pavements and better legibility.
- Would not realise the full potential for the area to create opportunities for business and leisure.
- Would require significant investment in outdated road infrastructure.



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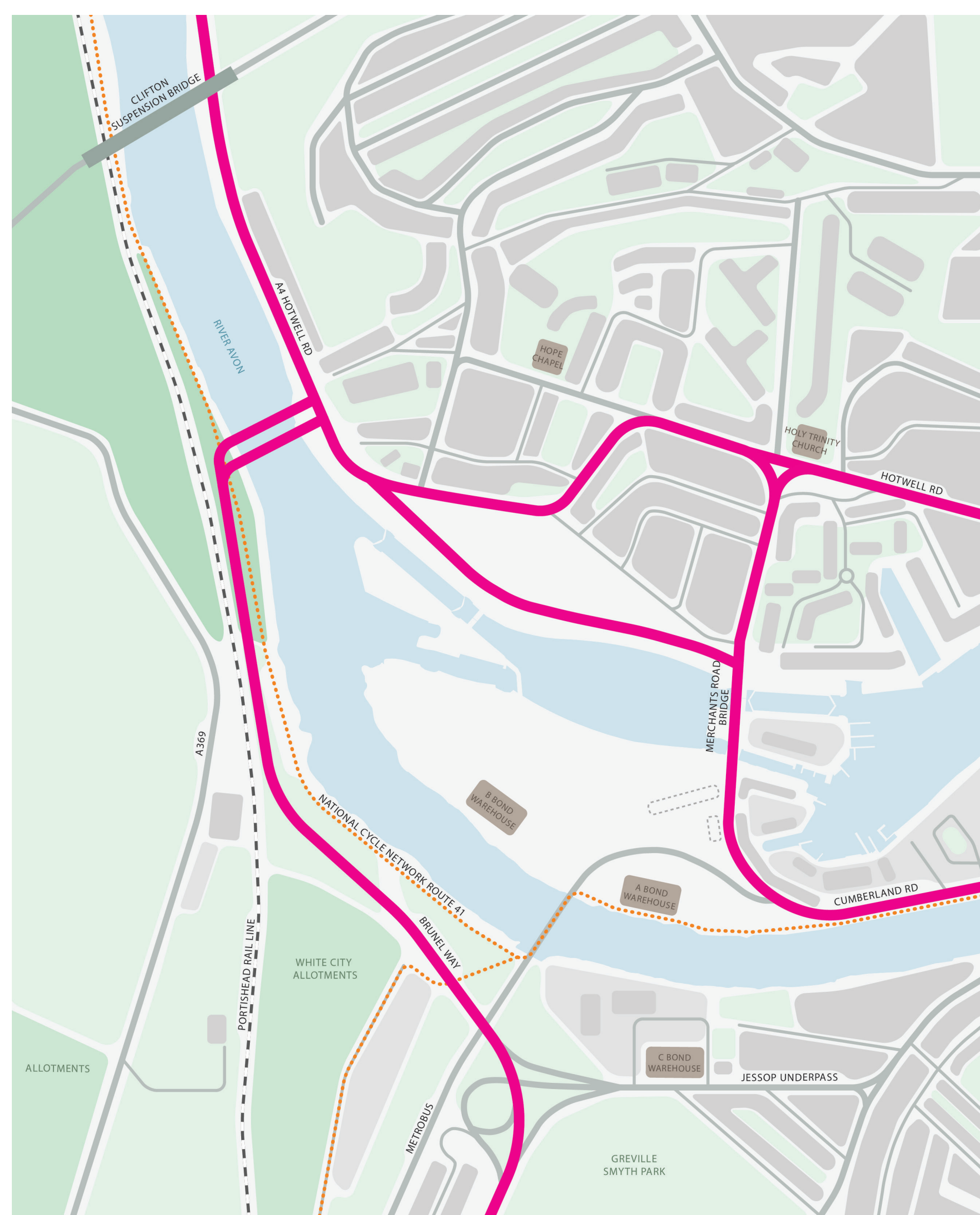


## THE WESTERN APPROACH

This approach would create a new road on the western bank of the River Avon running between the Portishead rail line and the river. It would provide two lanes in each direction and would require works to the river bank. The existing Plimsoll Swing Bridge and all the elevated road structures in Hotwells and Spike Island would be demolished along with the elevated bridges crossing the River Avon.

All traffic travelling between the north and south of the River Avon would use this new road which would be the only link between the A4 Portway, Spike Island and Hotwells to the north and Ashton Gate, Bedminster, Southville and Long Ashton, as well as the A370 or A38 to the south. To the north, it would connect to the A4 Portway via a traffic signal-controlled junction formed of two bridges (similar to Bedminster roundabout to the east). To the south, it would link directly into the existing Brunel Way, north of the Winterstoke Road junction.

Within Hotwells there would be opportunities for the existing one-way system to be retained or modified to create two-way streets. Road widths, footway widths and opportunities for new bus and cycle lanes would be considered. The existing Merchants Road bridge would be retained in this design as the link to Spike Island, but there would be an increase in traffic over it as there is no link south directly from Spike Island.



### Strengths

- Would result in the largest forecast reduction in vehicle numbers in Hotwells as the north-south traffic between the A4 Portway and A370 is relocated further west.
- As traffic numbers are reduced, the existing roads in Hotwells could be reduced in width and reallocated to other uses, such as widened pavements, cycle routes, parking areas and linear parks.
- Would remove all the elevated roads on Spike Island.
- Traffic movements would be relocated away from the Bonded Warehouses and traffic movements past the Underfall Yard would be unaffected.
- As the new highway would be constructed on the western bank, there would be limited highways disruption for much of the construction phase.
- Could release land for new uses within the area.
- Would have no impact on Metrobus.

### Weaknesses

- Constructing a new, two-lane road on the western bank of the Avon would have a significant environmental impact including impacts on the river itself.
- Strategic north-south journeys between the A4 Portway and A370/ A38 would be likely to take longer as junctions would be signal controlled, while the route from Spike Island to the A370 would be longer.
- The character of a section of the National Cycle Network Route 41 would be changed from a rural setting to a traffic-dominated route.
- The new river crossings would impact on the historic setting of the Clifton Suspension Bridge.
- The new crossing would be located on tidal water and may need to open during rush hour if vessels are travelling along the River Avon.
- There would only one river crossing, so there would be less resilience in instances when the bridge needs to be closed to traffic.



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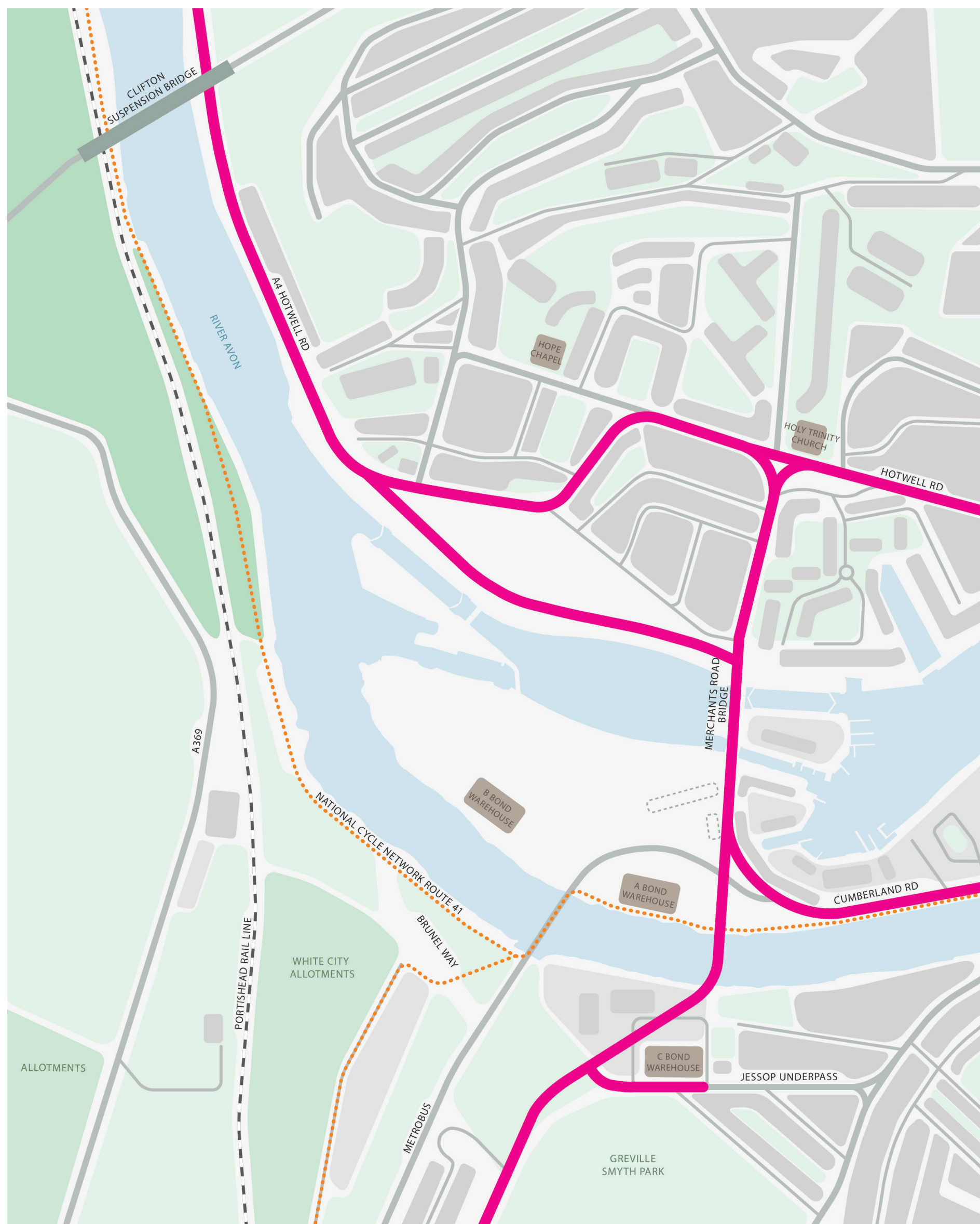
## THE EASTERN APPROACH

This approach would consolidate all the river crossings onto the eastern side of Cumberland Basin. To create sufficient road capacity the existing Merchants Road bridge would be replaced by a new four lane bridge and a new bridge crossing of the Avon would be installed alongside the A Bond and C Bond warehouses. A new junction would be created with the A370 Jessop Underpass and A3029 Brunel Way.

The existing Plimsoll Swing Bridge and all the elevated road structures in Hotwells and Spike Island would be demolished along with the elevated bridges crossing the Avon.

All traffic travelling between the north and south of the River Avon would use this new road corridor.

Within Hotwells the existing one-way system could be modified to create two-way streets, with opportunities for wider footways, cycle lanes and linear parks.



### Strengths

- Would enhance the historic setting of the Clifton Suspension Bridge by removing the existing highway and would enable the creation of new public viewpoints on Spike Island and south of the Avon.
- Would largely use existing highway corridors with little new land required.
- Would remove all the elevated roads on Spike Island.
- There would be no impact on the western bank of the Avon nor on National Cycle Network Route 41.
- The Basin would create a safe mooring area for river traffic, so the new bridge would not need to open during highway rush hours.
- The new bridge would create the potential for improved walking and cycling routes with wider footways and cycle lanes provided.
- Compared to the Western and Hybrid approaches this could be the lowest cost transformative approach and the quickest to construct.
- Could release land for new uses within the area.

### Weaknesses

- Both strategic and local traffic would navigate along the same route and all traffic would go through Hotwells and closer to existing housing on Spike Island. This approach therefore would be likely to be the worst performing in terms of noise and air quality impacts associated with traffic movements.
- Strategic north-south journeys between the A4 Portway and A370/A38 would be likely to take longer as junctions are signal controlled. Metrobus would also need a new signal-controlled junction increasing journey times.
- In comparison to the Western and Hybrid approaches, road corridors within Hotwells would be wider and busier.
- A new road would create a barrier between areas to the east and west of Spike Island.
- There would be only one bridge crossing so there would be less resilience to the road network when the bridge needs to be closed to traffic for maintenance or due to an accident.
- Potential for negative impact on the Merchants Road Bridge (which would be replaced) and on the setting of C Bond warehouse.



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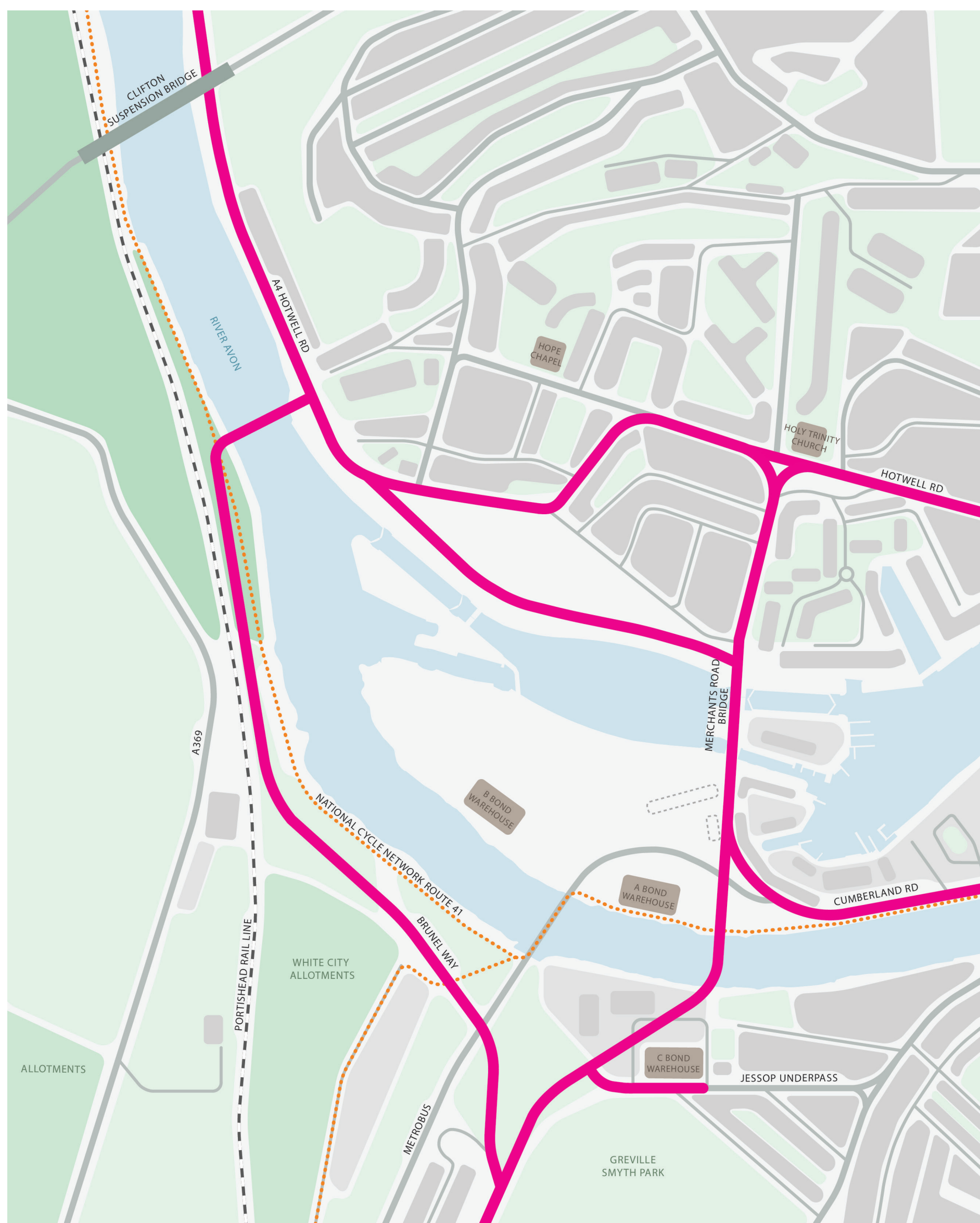
## THE HYBRID APPROACH

This Hybrid approach combines elements from both the Western and Eastern approaches. It would create a new road, providing one lane in each direction, on the western bank of the River Avon, accessed via a new bridge. This road would only be used by drivers travelling between the A4 Portway and Ashton Gate, Bedminster, Southville and Long Ashton, as well as the A370 or A38 (to the south).

This approach also creates a new bridge crossing over the Avon, connecting Bedminster to Spike Island with Merchants Road made two-way towards Hotwells Road, allowing better access to the city centre. Merchants Road bridge would be replaced.

Within Hotwells the existing one-way system could be modified to create two-way streets, with opportunities for wider footways, cycle lanes and linear parks.

The existing Plimsoll Swing Bridge and all the elevated road structures in Hotwells and Spike Island would be demolished along with the elevated bridges crossing the Avon.



### Strengths

- Strategic traffic travelling between the A4 Portway and A3029 Brunel Way would use a different route from local traffic to/from Spike Island and the city centre. Strategic traffic therefore would retain a more direct route with relatively few new junctions.
- Would remove all the elevated roads on Spike Island.
- There would be two river crossings providing an element of resilience to the road network when a bridge is closed to traffic.
- Could reduce traffic through Hotwells, particularly certain sections, depending on the final traffic arrangement.
- The new bridge would create the potential for improved walking and cycling routes with wider footways and cycle lanes.
- The Basin would create a safe mooring area for river traffic, so the eastern bridge would not need to open during highway rush hours.
- This approach could release land for new uses within the area.

### Weaknesses

- Constructing a new road on the western bank of the Avon would have a significant environmental impact including impacts on the river itself.
- The character of a section of the National Cycle Network Route 41 would be changed from a rural setting to a heavily traffic-dominated route.
- Strategic north-south journeys between the A4 Portway and A370/A38 would likely take longer as junctions are signal controlled. Metrobus would need a new signal-controlled junction increasing journey times.
- The new western river crossing would impact on the historic setting of the Clifton Suspension Bridge.
- The new crossing to the west, nearest the Suspension Bridge, would be located on tidal water and may need to open during rush hour if vessels are travelling along the Avon.
- A new road would create severance between areas to the east and west of Spike Island.
- Would impact on the historic Merchants Road Bridge (which would be replaced) and on the setting of C Bond warehouse.
- This approach would require significant new road construction, and significant modifications to existing roads, and so could be the highest cost transformative approach and the longest to construct.



# WESTERN HARBOUR

## PLEASE GIVE US YOUR VIEWS

The highway study represents the first in a series of assessments that need to be undertaken within the area. We would like to hear your views on the possible road changes and any issues you think we should consider as we develop proposals for this area.

### CONNECTED PROJECTS IN THE AREA

Engagement on the highways approaches will not be taking place in isolation. There are several other engagement exercises taking place across the Bristol City Council area, which in combination, will enable these approaches to be assessed in greater detail and a holistic and comprehensive masterplan for the area to be developed.

#### Air Quality

Air quality in the central area of Bristol is above legal limits of NO<sub>2</sub>. Bristol City Council recently consulted on two possible options for a Traffic Clean Air Zone. When a decision is made on what type of Traffic Clean Air Zone will be in place, the approaches for the Western Harbour roads will be further assessed, taking the effects of the Traffic Clean Air Zone into account.

#### Harbour Review

There is a wider review about to take place around the whole of the harbour and what happens to the Western Harbour is an integral part of that. Proposals for the Western Harbour will be considered as part of the wider vision for the whole harbour area.

#### Tidal Flood Risk Strategy

Flood risk is a critical issue within and around the waterways of central Bristol. Engagement is planned over the next few months about the level of awareness and preparedness of this risk in the city.

#### Local Plan Review

Formal consultation concluded on the latest draft of the Local Plan Review. The next formal stage of consultation will be the publication draft stage – following which, the plan will be submitted for examination before it is formally adopted by the council.

## PLEASE GIVE US YOUR VIEWS

We are contacting households, businesses and organisations in the Western Harbour area to ask for feedback. We are also asking for views of people across the city and beyond, who may visit the harbour area and/or use the roads to travel through the area.

**You can fill in the survey online by visiting [bristol.gov.uk/westernharbour](http://bristol.gov.uk/westernharbour).**

If you cannot complete the survey online, you can request alternative formats of this document by emailing;

**[transport.projects@bristol.gov.uk](mailto:transport.projects@bristol.gov.uk) or by calling 0117 352 1397.**

The deadline for comment is **15 September 2019**.

## NEXT STEPS

We will consider your feedback to this engagement and use this to help inform our next steps. Some or all of the approaches could be taken forward for future development.

We will publish a report of the feedback on the council's Consultation Hub ([bristol.citizenspace.com](http://bristol.citizenspace.com)) in the autumn. We will also provide an update on the engagement feedback to the council's Cabinet and seek approval to start the masterplanning process in the autumn. Details of Cabinet meetings are available at **[democracy.bristol.gov.uk](http://democracy.bristol.gov.uk)**.

