05. TRANSPORTATION & MOVEMENT

Figure 124: *Elevated road network across Central Western Harbour and Cumberland Piazza with Clifton Suspension Bridge in the background*

Transportation & movement

05.01 Road network

Key principles:

Context and opportunity

The rearrangement of Cumberland Basin's road infrastructure is absolutely paramount to unlock Western Harbours greatest potential and reshape it, the strategic gateway to Bristol. By rebalancing movement in favour of people, place and landscape, the area can evolve from a vehicle-dominated environment into a connected neighbourhood that reflects the city's ambitions for inclusive growth and carbon neutrality.

The infrastructure challenge:

- The Cumberland Basin road network opened in 1965, designed to accommodate forecast traffic growth to 1985. Modern traffic volumes have since exceeded those anticipated levels, accelerating structural deterioration and increasing long-term maintenance liabilities and costs.
- Brunel Way serves as a vital strategic connection for the city and the wider region, linking South Bristol to the centre and the major strategic road network via the Portway.
- Substantial investment is now required to secure the safety, resilience and continuity of operation. Regeneration provides a strategic opportunity to simplify and rationalise the highway infrastructure.

The strategic opportunity:

- Car journeys are to be reduced by 40% by 2030, and the city will transition to 90% Ultra Low Emission Vehicles (ULEVs) as set-out within Bristol's One City Climate Strategy (excluding wider strategic journeys).
- Release land of significant civic value that is capable of supporting new homes and public space. This will better integrate the Hotwells, Southville and surrounding communities with the city centre.
- Promote Bristol's transition towards more sustainable modes of transport and transform the area into a more walkable, people-focused environment.
- Car dependency will need to align with the principles of the One City Plan and the city's ambition to achieve carbon neutrality by 2030.

% 77% of people asked placed a medium to very high importance on reducing the number of diversion roads to make room for other uses

"This area has so much potential and is currently very car heavy, but it's a really special place that is not celebrated."

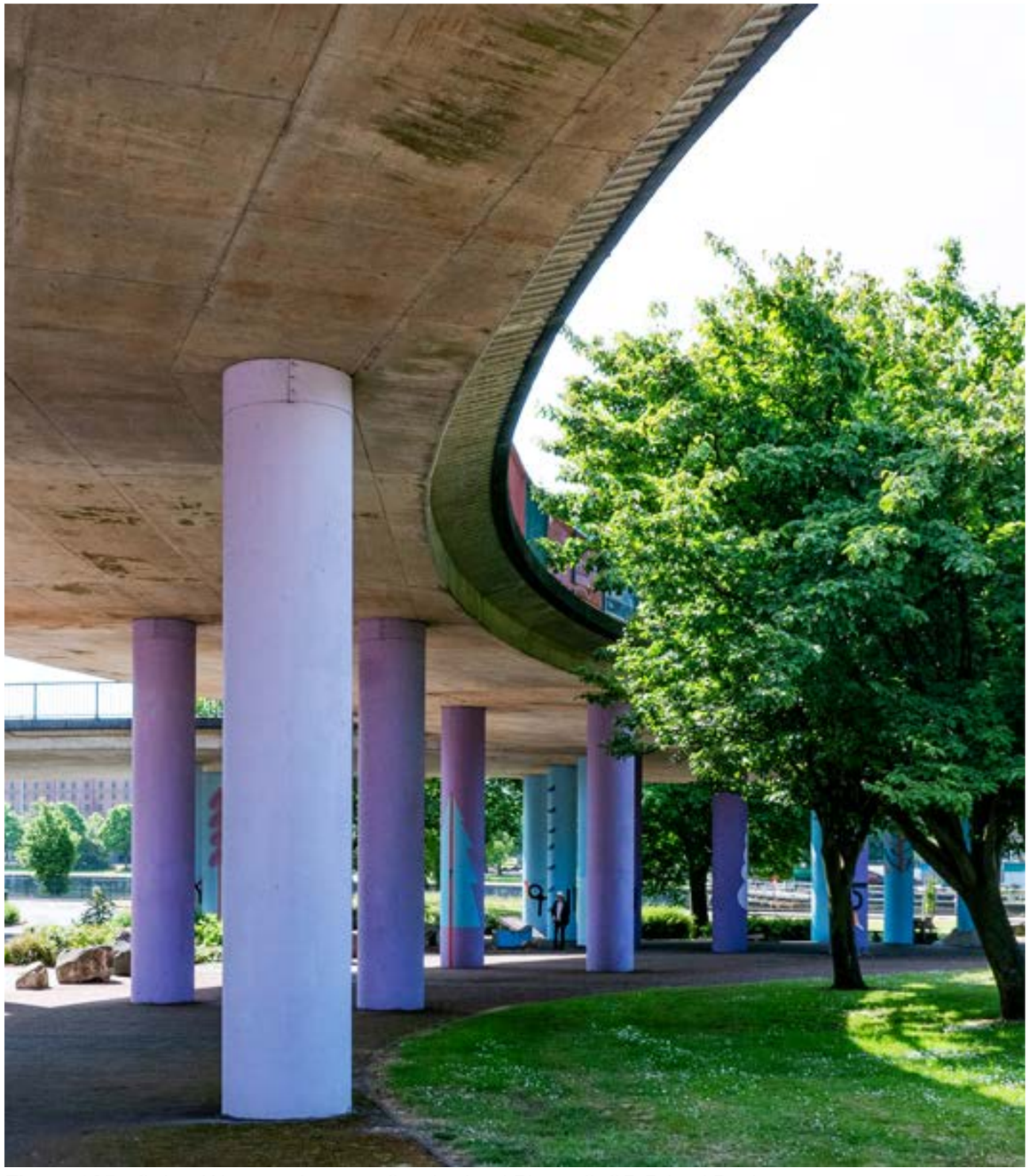


Figure 125: *Cabot Way passing over Cumberland Piazza © CB Bristol Design*

Transportation & movement

05.01 Road network

Existing context

Western Harbour is currently defined by an extensive, mid-century highway network that physically divides the landscape. Resolving and reducing this tangle presents a generational opportunity. By carefully rationalising surplus roads, safeguarding critical city-wide connections and drastically strengthening sustainable transport links, we can craft a movement strategy that transforms Western Harbour into a highly accessible neighbourhood with low car dependency.

While the strategic function of Brunel Way remains as a vital artery for the wider city network, much of the surrounding local road infrastructure has become redundant. Reclaiming over 2 hectares of underutilised asphalt will unlock prime waterfront land, directly supporting regeneration, improving active travel and reconnecting our existing communities.

Key findings:

01) Need to safeguard the continued, safe and reliable operation of key road and harbour assets, including Avon Fixed Bridge and Plimsoll Swing Bridge.

02) Need to maintain a resilient and functional strategic road network.

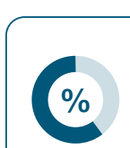
03) Limited potential to rationalise the road network around Cumberland Piazza.

04) Predicted future car journeys evidence surplus roads across Western Harbour's central area.

05) Key MetroBus and public transport connection between South Bristol and the City Centre can be enhanced.

06) Long-term maintenance liabilities associated with ageing infrastructure.

07) Priority of southbound traffic to maintain traffic control within the City Centre.



72% of people asked placed a medium to very high importance on maintaining the existing Brunel Way alignment

"The spaghetti of roads in the area is so depressing and difficult to navigate on foot or cycle. It feels like you are trespassing on an industrial estate."

Key

- Existing roads (within Development Framework boundary)
- Existing MetroBus route
- Existing bus routes



Figure 126: *Plan highlighting all the roads within the Development Framework site boundary*

Transportation & movement

05.01 Road network

Key principles:

Proposed strategy

Our strategy boldly reconfigures today's vehicle-dominated environment into a simplified and fundamentally place-led movement network. By removing the underutilised highways we make way for a more human-scaled city.

A new, efficient, single spine road along the central area of Western Harbour will replace the current sprawling arrangement. This vital upgrade maintains essential vehicular and MetroBus connectivity while simultaneously allowing us to strip away redundant slip roads and surplus carriageway. Ultimately, this framework champions the quality of our public realm, putting walking, cycling, and public transport first to create a safer, lower-speed environment that actively contributes to cleaner air for the whole of Bristol.

Key outcomes:

01) Maintain the existing alignment of Brunel Way and upgrade the roadway to accommodate increased non-City bound traffic.

02) Removal of McAdam Way and Smeaton Road slip roads to unlock the regeneration of Western Harbours central parcels.

03) Delivery of a single spine road.

04) Reconfigure the Brunel Way circular ramp to provide public transport and diversionary traffic access only.

05) Realign Faraday Road, unlocking northern parcels of land for new homes.

06) Reconfigure Cumberland Basin Road to slow traffic, add pedestrian crossings and better active travel routes.

07) Introduction of traffic-calmed streets along Ashton Avenue and Avon Crescent while maintaining access for residents.

08) High-quality, well-designed streets with coordinated materials, tree planting, street furniture and wayfinding to creating a coherent and inclusive public realm.

09) Reduce long-term maintenance liabilities associated with ageing infrastructure.

68% of people asked supported the simpler route through the centre of Western Harbour.

Key

- Existing roads (within Development Framework boundary)
- New / realigned roads
- Refurbished road
- Traffic calming / reduced speeds

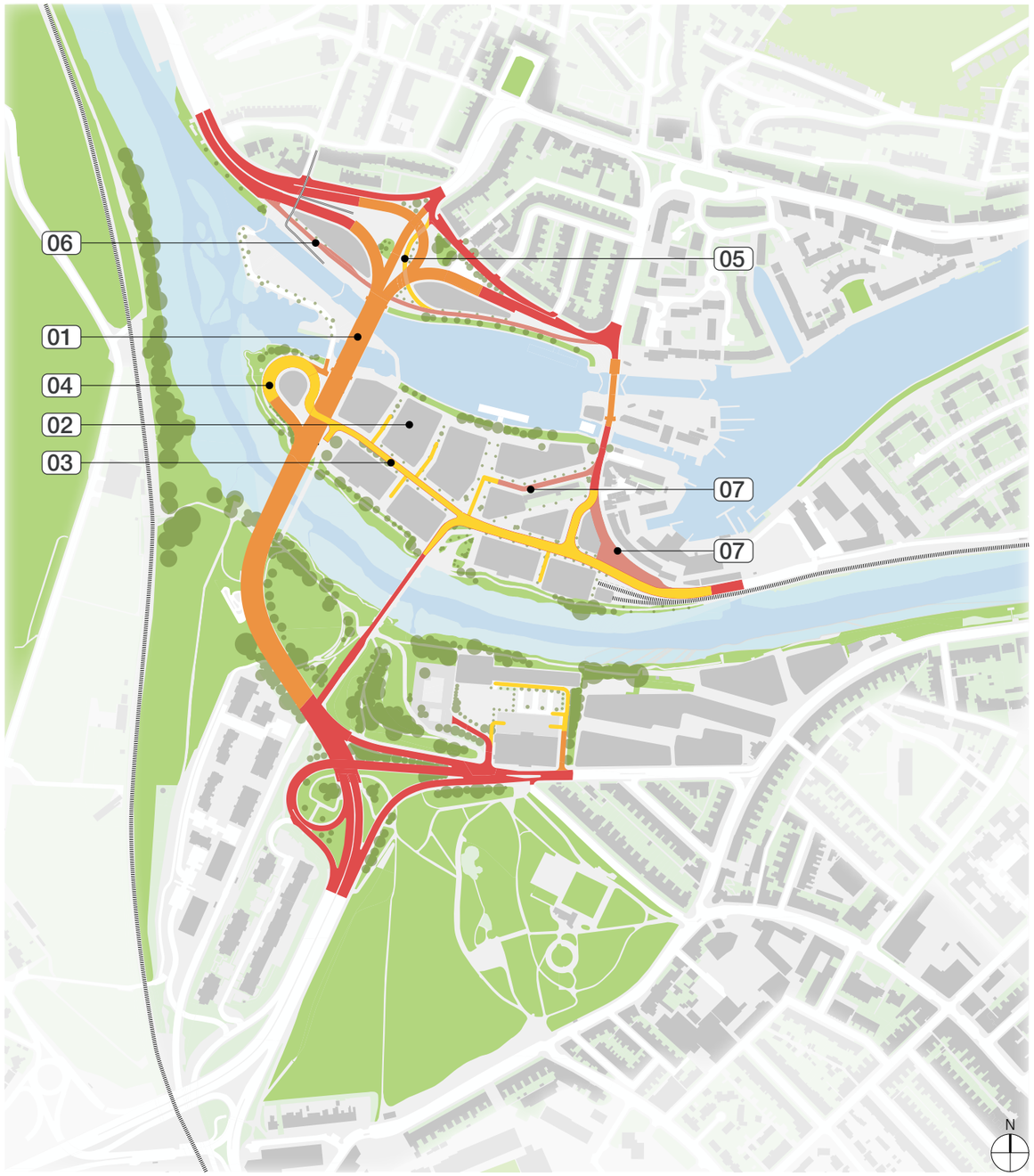


Figure 127: *Plan highlighting proposed changes to the existing road network*

Transportation & movement

05.02 Brunel Way diversionary route

Key principles:

Day to day traffic and emergency services

Cumberland Basin is a critical part of the Floating Harbour that creates an important connection between the city and the River Avon. This relationship is exemplified by the navigable Plimsoll Swing Bridge which allows vital tidal access into the Floating Harbour.

Maintaining a resilient road network when the Plimsoll Bridge swings requires a robust diversionary route to avoid significant disruption to the City Centre.

Key outcomes:

01) Upgrades and ongoing maintenance are required for Plimsoll Swing Bridge to provide reliable operation and improved swing times.

02) Southbound traffic to be given priority over northbound to maintain capacity within the City Centre.

03) Brunel Way circular ramp reconfigured to provide access onto Brunel Way

04) North and southbound emergency vehicles must be integrated into the diversionary route design.

05) The diversionary route should allow for general traffic to be diverted during planned bridge maintenance or other temporary road network closures.

06) Earlier driver notification through telematic signage or apps would allow for greater alternative route choices.

Plimsoll Swing Bridge opens c. 5 times a month during the winter & c. 50 times at its peak in July (largely due to harbour festival)

On average Plimsoll Swing Bridge takes 20 minutes to open and close, plus 2 minutes per vessel to pass

Key

- Diversionary route southbound
- Northbound traffic held on Brunel Way
- Potential for emergency vehicles, public transport and planned maintenance
- Diverted traffic to the east



Figure 128: *Plan indicating the proposed diversionary routes for general traffic through the Site when Plimsoll Bridge is open for harbour navigation*

Transportation & movement

05.03 Public transport

Key principles:

Public transport routes

Alongside active travel routes, public transport forms the backbone of a low-car neighbourhood. By safeguarding and enhancing MetroBus connectivity, introducing a mobility hub for buses, bikes and taxis and prioritising bus movements, the area can evolve into a highly accessible neighbourhood where sustainable travel is convenient, legible and attractive.

Western Harbour already benefits from excellent bus connections with nine routes serving the area. The regeneration will further enhance these services as the provision of new homes will increase demand and increase bus frequencies. Extension of the ferry service could enhance public transport availability further.

Key outcomes:

01) A new mobility hub for buses, bikes and taxis located at the heart of Western Harbour.

02) Minimising disruption to existing bus routes and maintaining MetroBus continuity across Ashton Avenue Bridge.

03) Priority access for northbound buses and emergency vehicles.

04) Potential to extend the water taxi service into Cumberland Basin.

05) Bus gate leading onto Brunel Way from the spine road that allows buses to move southbound along Brunel Way.

06) Improved signage and intelligent transport systems, including real-time bridge information, to manage traffic flow effectively.

87% of people said it is important to make the site easier to access and get around without a car.

Key

- Bus route (Avonmouth / City Centre)
- Bus route northbound
- Bus route southbound
- Metro bus route
- Potential for additional resilience built into northbound road network
- Bus stop
- New bus stop
- New bus gate
- New mobility hub
- Railway
- Ferry route
- New ferry stop

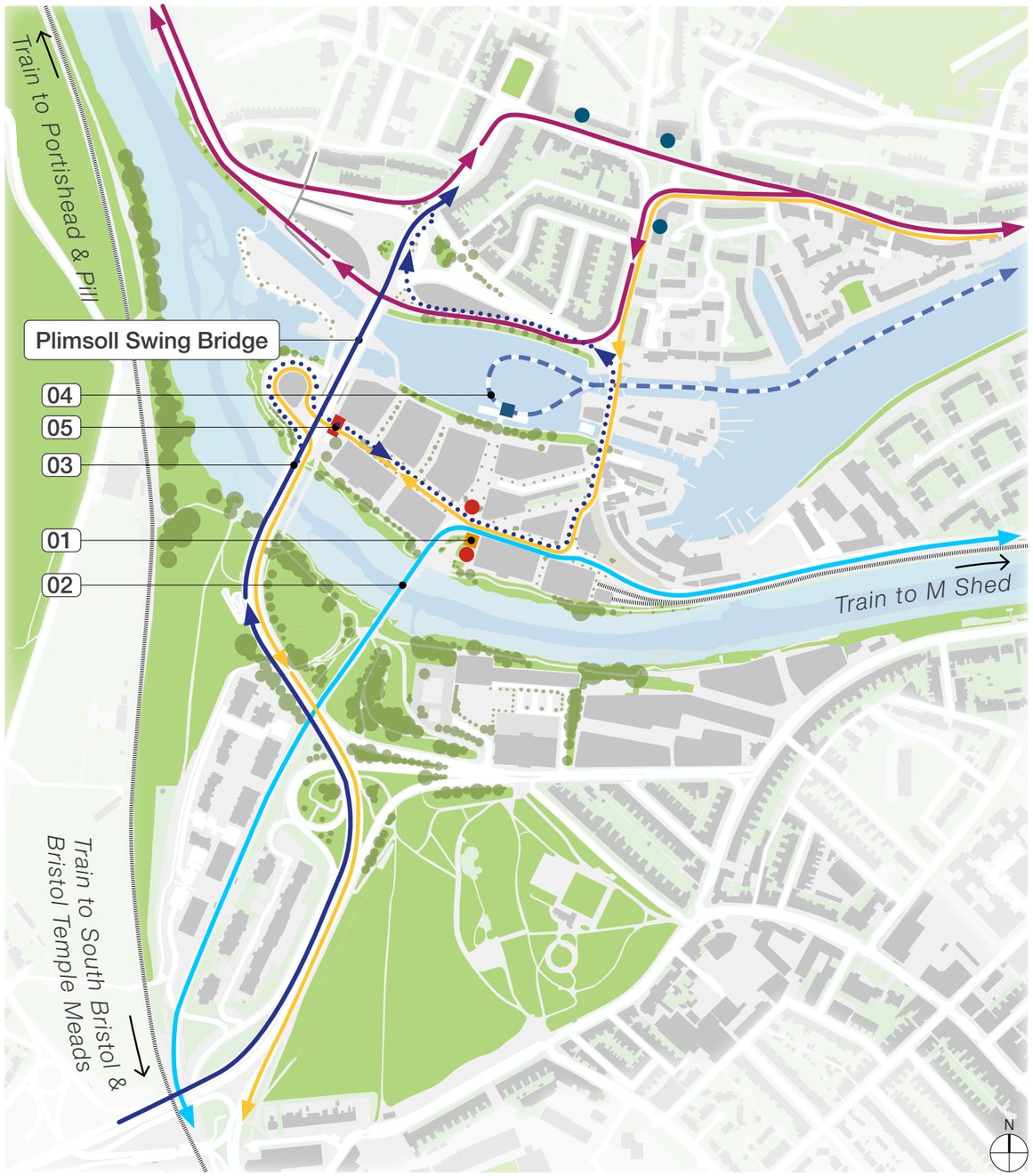


Figure 129: *Plan showing public transport movement through Western Harbour*

Transportation & movement

05.04 Pedestrian routes

Existing pedestrian routes

Western Harbour has immense potential to re-establish itself as a key gateway into the city by evolving into an accessible, legible, and welcoming urban environment. It can become a vital link not only between South and North Bristol, but also between the city and surrounding countryside.

Currently, however, the area functions more as a movement corridor than a connected neighbourhood. The existing highway infrastructure creates physical barriers that constrain the quality and continuity of pedestrian routes.

Key findings:

01) Missed potential to extend the Harbourside Loop along Cumberland Basin's edge.

02) The Lookout viewpoint towards Clifton Suspension Bridge is neglected.

03) Ashton Avenue Bridge and historic railway path is a key City Centre connection.

04) Elevated walkways are rarely used and perceived as unsafe.

05) Road infrastructure creates physical barriers that sever pedestrian movement.

06) Poor pedestrian connectivity limits links to the waterfront.

80% of people asked supported extending the Harbourside Loop along the new flood protection

We need to build a city that is walkable, facilitates active transport and provides smooth car-free movement...



Figure 130: *Existing pedestrian routes through the Site*

Key

Primary pedestrian routes

Secondary pedestrian routes

Elevated walkway

Note: *Tertiary routes not shown*

Transportation & movement

05.04 Pedestrian routes

Key principles:

Proposed pedestrian routes

Our vision is to transform redundant road space into a permeable and people-centred gateway, where active travel routes will be prioritised.

Reclaiming redundant road space will remove the physical barriers created by the existing highways making walking and wheeling the most appealing way to explore the neighbourhood and reach the wider city.

Key outcomes:

01) Fully accessible routes across the Entrance Lock Gates and Brunel Bridge & Sluice Gate, subject to AR2100 design.

02) Better pedestrian routes between Hotwells and Cumberland Piazza that allow residents to easily access the waterfront.

03) Introduction of ground-level routes that allow people to avoid using the elevated paths across Brunel Way.

04) Completion of the Harbourside Loop around Cumberland Basin's southern edge.

05) A new walkway along the southern bank of Avon New Cut.

06) A hierarchy of continuous routes that connect into the surrounding area and strengthen north-south neighbourhood connections.

07) Improved public realm that creates a more welcoming and accessible environment for people of all abilities.

08) Street design following best practice guidance, including Manual for Streets, Streets for a Healthy Life, and Local Transport Note 1/20.

71% of people asked were satisfied that The Draft Masterplan supported active travel

73% of people asked supported the addition of a new pedestrian/cycle route next to Avon Fixed Bridge

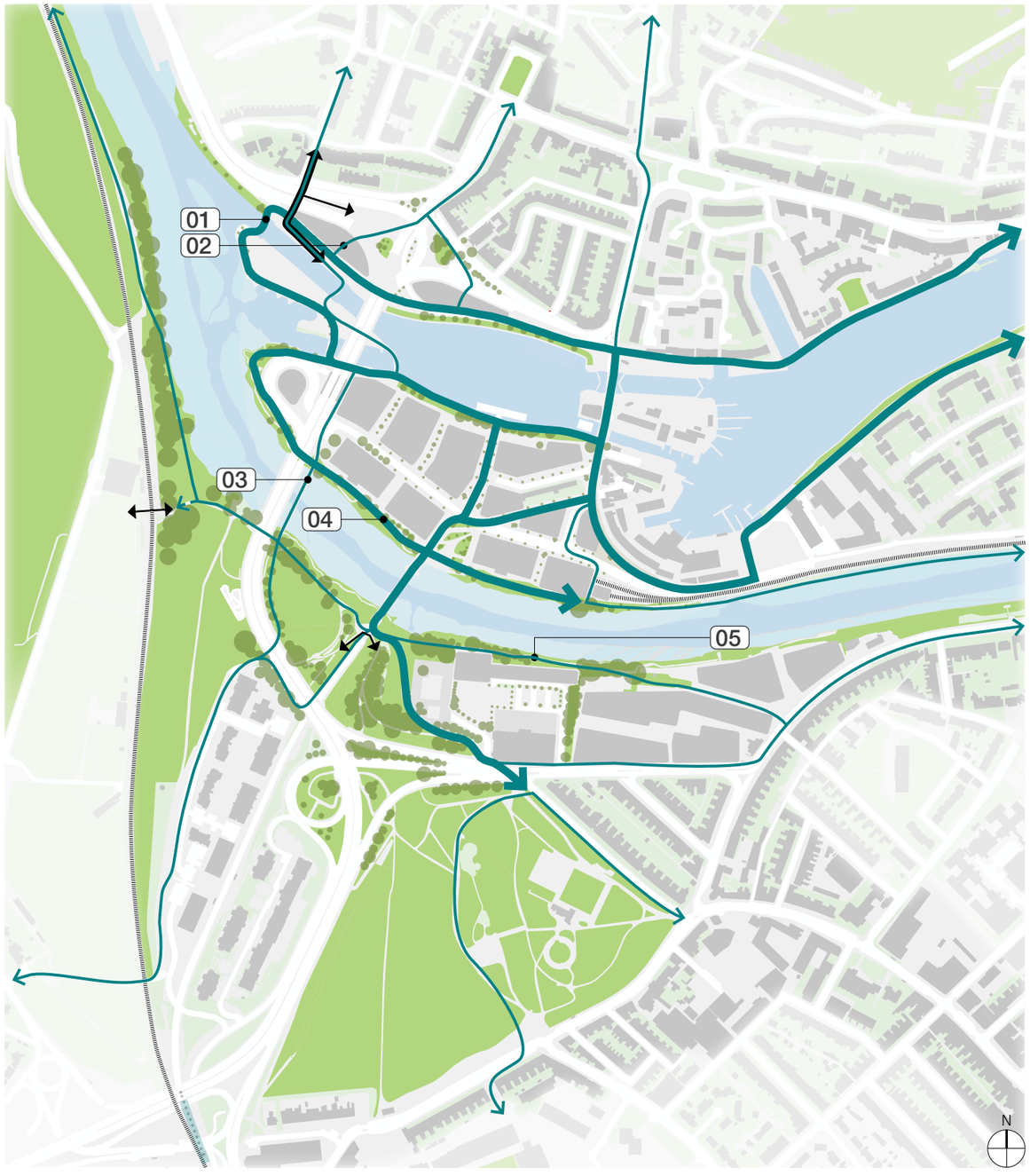


Figure 131: *Proposed pedestrian routes through the Site*

Key

- Primary pedestrian routes
- Secondary pedestrian routes
- Elevated footbridge

Note: *Tertiary routes not shown*

05.05 Cycle routes

Key principles:

Existing and proposed cycle routes

Western Harbour will become a premier active travel hub, empowering cyclists with smooth, continuous connections across the city and beyond.

By transforming redundant highway infrastructure into a permeable, bike-friendly network, we can eliminate fractured and impeded routes. Prioritising safe, direct cycleways ensures active travel is the natural, effortless choice for everyday journeys.

Key findings:

A Missed potential to extend the Harbourside Loop.

B Cycle routes are discontinuous and often not on desire lines

C Poor cyclist connectivity limits links to the waterfront.

Key outcomes:

01) Improving access for walking, wheeling and cycling over Junction Lock Swing Bridge.

02) Maintain the active travel route along the historic railway line.

03) Provide a continuous cycle network that aligns with key routes.

04) Active travel routes enhanced and extended.

05) Street design following best practice guidance, including Manual for Streets, Streets for a Healthy Life, and Local Transport Note 1/20.

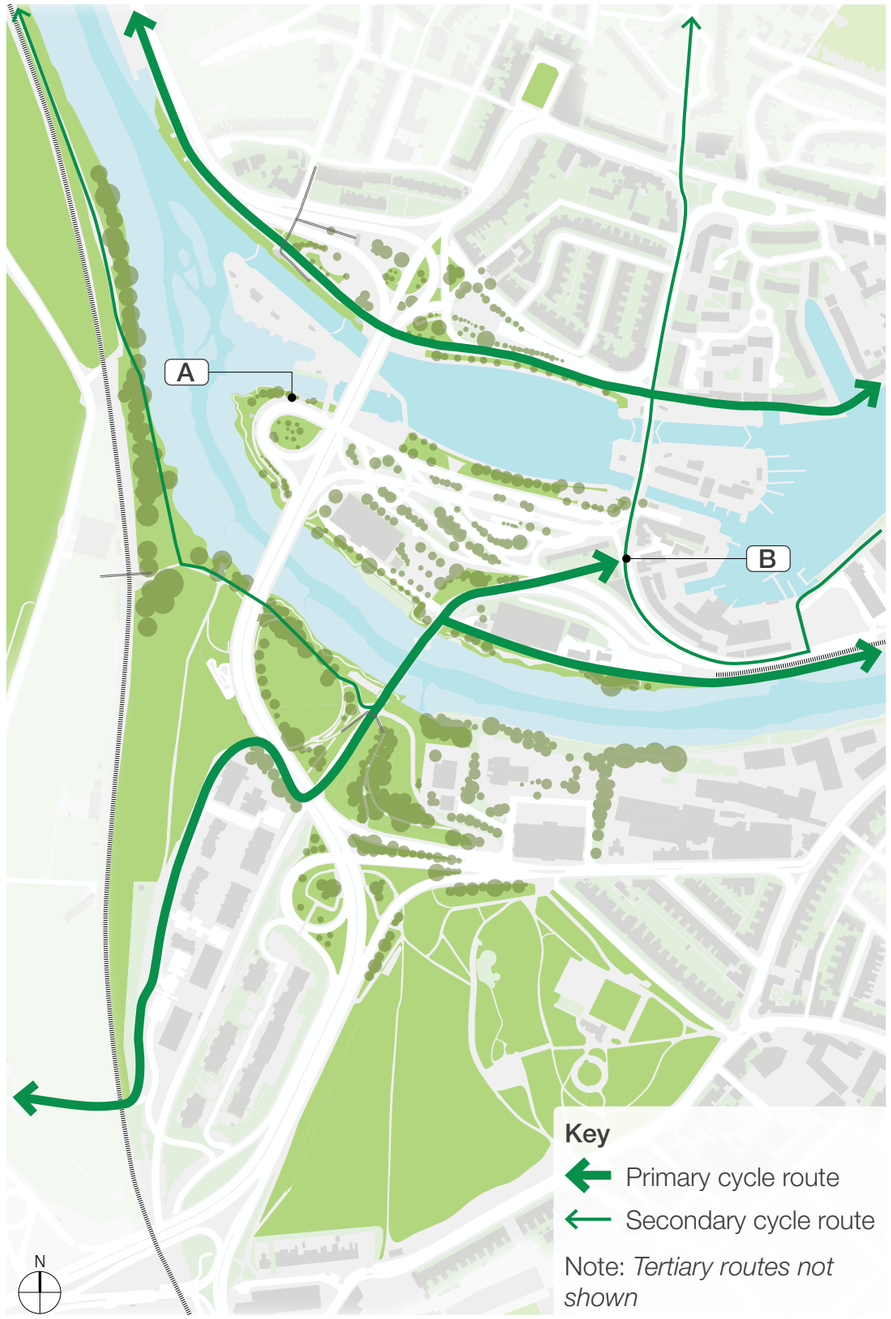


Figure 132: *Existing cycle routes through the Site*

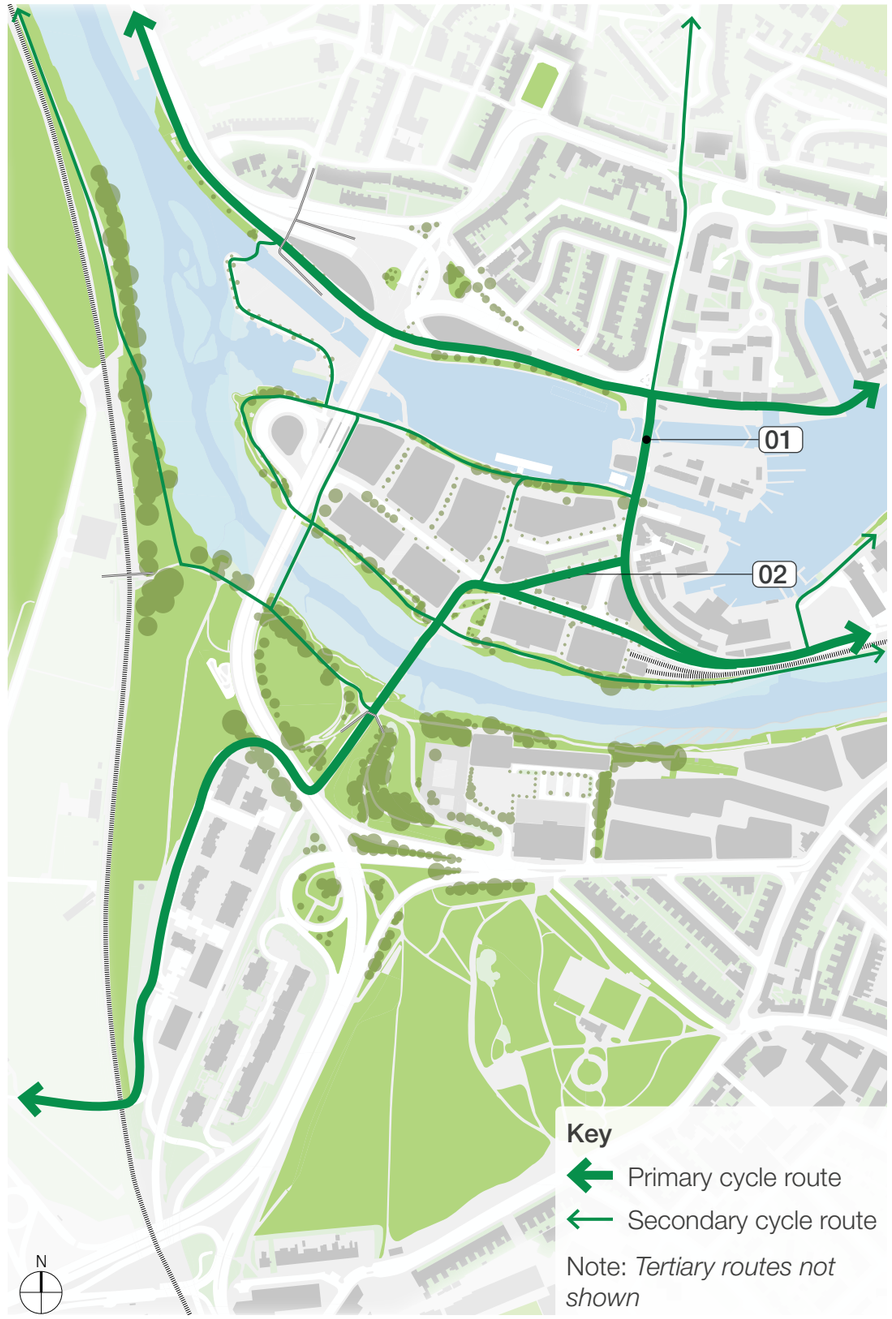


Figure 133: *Proposed cycle routes through the Site*



Figure 134: *Waterfront toward Wapping Wharf during the Harbour Festival*