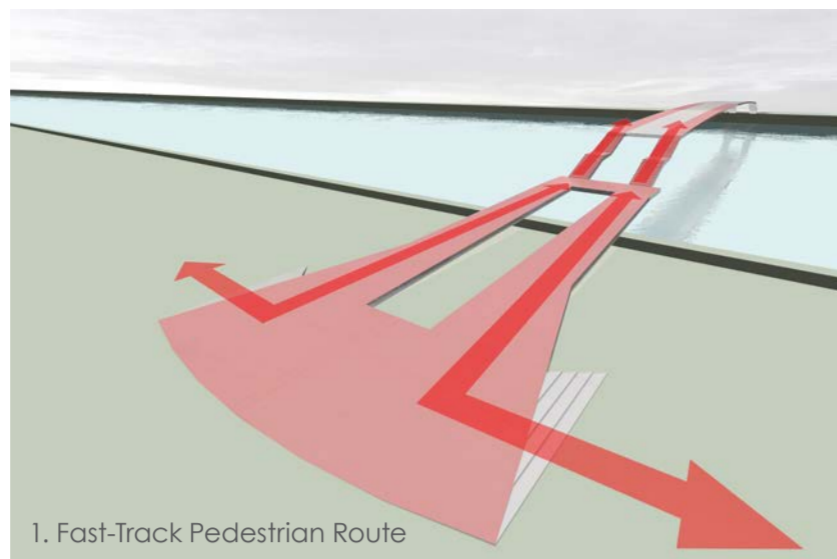


CHALLENGE 1:
CYCLE AND PEDESTRIAN TRAFFIC

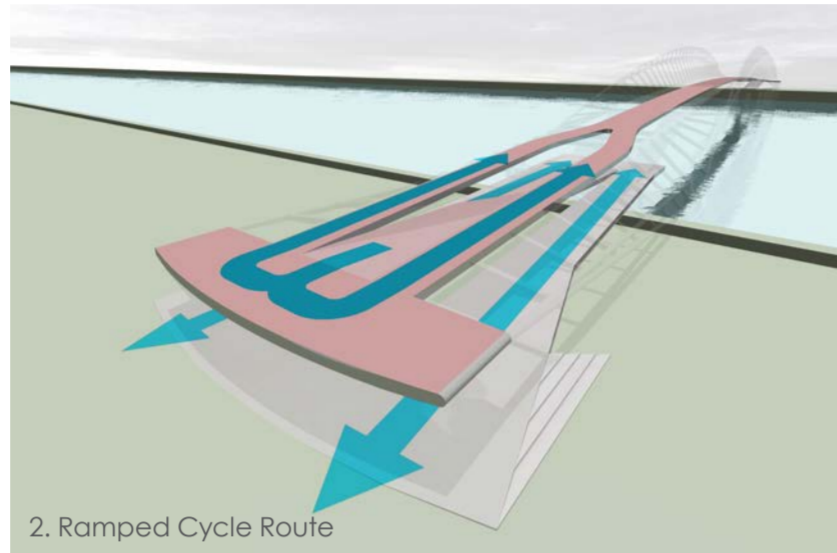
The bridge deck is configured as a shared use path (SUP) with priority user lanes. A central 4m wide cycle way is flanked by pedestrian walkways of approximately 2.5m width on each edge.

The zones are separated by 0.5m wide strips of delineated deck which feature a suite of intermittent linear street furniture including bench seating and cycle stands. Pedestrians can cross from side to side across the central cycle way, and cyclists can 'park' on the bridge to enjoy the qualities of the pedestrian decks.

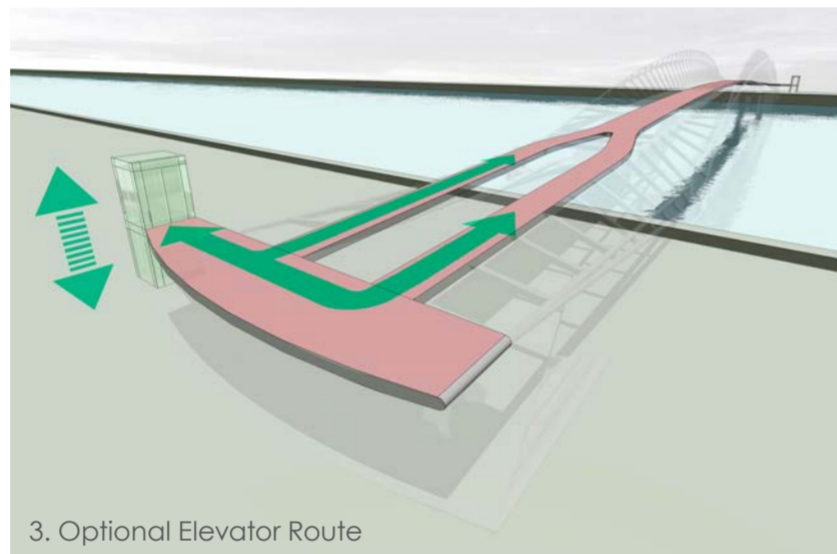
The cycleway is divided into two single direction lanes. At the ends of the bridge the two lanes shift to the deck edges, returning back to the central configuration in a switch-back ramp configuration and then again to two separate ramps that connect to quayside level. It is intended that the degree of modal segregation increases in stages from riverbank to deck such that the main bridge span is fully delineated to flow easily at peak times.



1. Fast-Track Pedestrian Route



2. Ramped Cycle Route



3. Optional Elevator Route



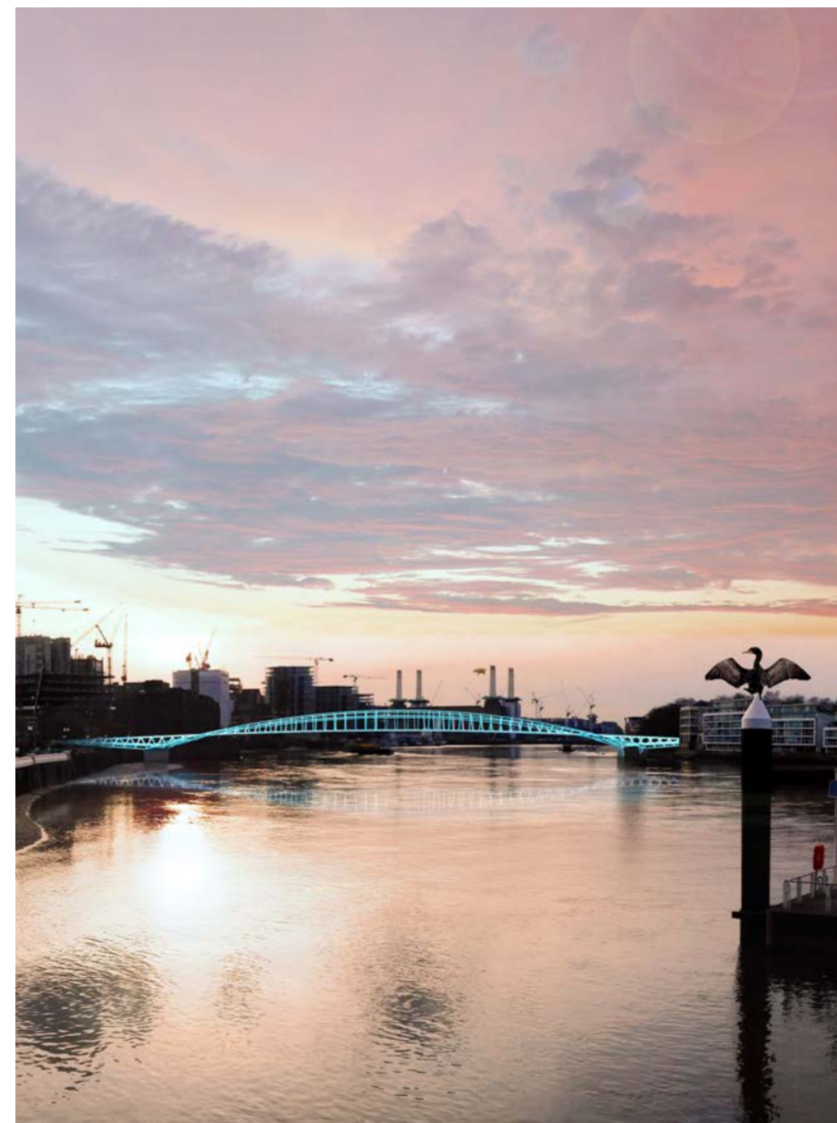
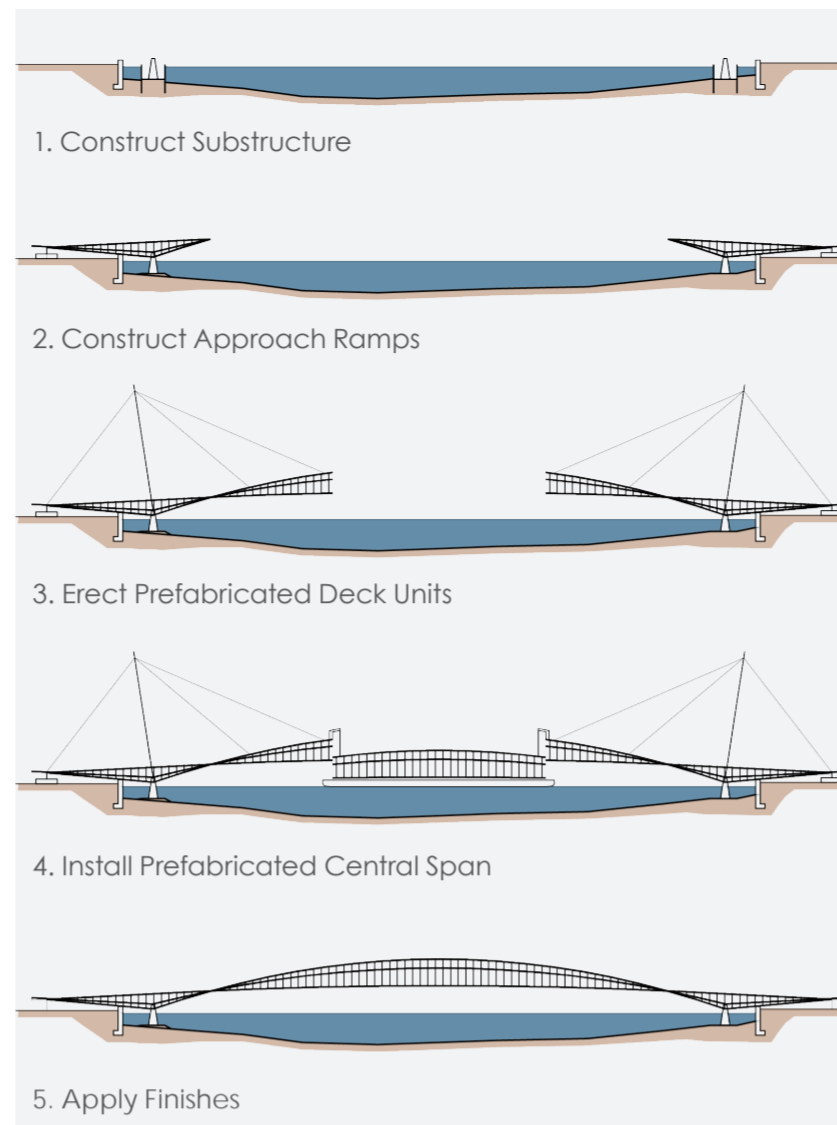
4. Combined Solution

CHALLENGE 2:
NAVIGATION CLEARANCE AND ACCESS ISSUES

The bridge is designed to eradicate reliance on elevators by providing a simple and legible walk-up solution whilst fully complying with the navigation clearance requirements. The north-south journey is resolved in a linear design which provides fully accessible alternative routes for different user groups:

1. A **fast-track pedestrian route** using in-line stairs for the shortest bank-to-bank journey.
2. A fluid **ramped cycle route**, also for use by perambulators and promenaders (via switchback ramps).
3. An end-to-end route featuring **optional elevators**.
4. **Combined Solution**, mixing routes 1-3 in a permeable & cohesive design.

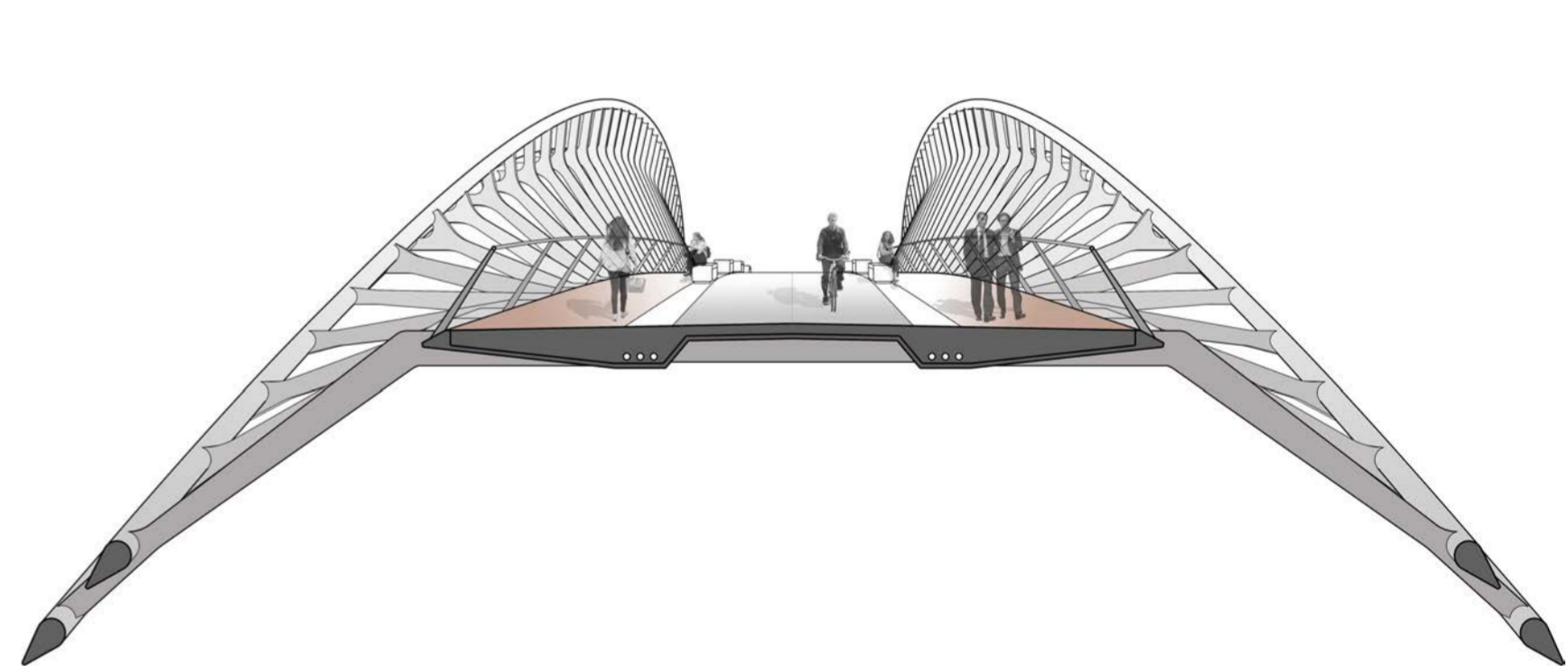
Local ground levels are raised slightly as part of integrated landscape revisions to the quaysides. The design places the first landing over the water which significantly increases ramp lengths to achieve the required clearances within acceptable gradients. The route up to the lower landing is envisioned as a fluid extension of the landscape for use by all bridge-goers. The landing acts a springing point for alternative pedestrian and cycle routes, which are bounded by structure in a neatly co-ordinated composition that informs easy navigation.



CHALLENGE 3:
CONSTRUCTION METHODOLOGY

This reach of the Thames handles a relatively high frequency of river traffic, with regular barge activity as well as other commercial and leisure traffic. The scheme has been designed cognisant of the need to maintain navigation without significant closures. The construction sequence (top) is as follows.

1. Construct piles and foundations within cofferdams. Piling plant and material supply can utilise jack-up barge and piled platforms adjacent to riversides. Limited navigation restriction.
2. Construct land-side supports and approach structures. Materials delivery via craneage on land or on the jack-up barge. Limited navigation restriction.
3. Deploy temporary king-post, stays and tie down anchor to support phased erection of arch and deck units using crane on jack up barge. Deck sections supplied by barge. Limited navigation restriction.
4. Erect closure segment of arch and deck from barge using strand jack techniques. This will require short term closure of navigation channel and can be completed within agreed single off-peak night closure.
5. Once final segment is jacked into position, final welding and finishes can continue within protective shrouds with limited interference to navigation.



CHALLENGE 4:
PLACE-MAKING

The illustrated scheme is based on location option 01 which we strongly favour for its uncrowded landing positions and the open aspect views it provides in both directions. The alignment provides enough public space on each side to configure in-line ramped approaches and maintain east-west riverside access. A small covered space under the return ramps provides potential for kiosk retail on each riverbank.

Wide platform landings on the approaches provide orientation and meeting spaces configured to control and separate different user types (modes). The lower landing provides a new public space over the water which engages the user in a much more direct relationship with the river than is experienced from the quayside or the high level bridge deck.

The main bridge deck is flanked by a dynamic fanned array of structure which creates an extraordinary spatial experience over the river. Lines of seating and other street furniture separate deck edge pedestrian zones from the central cycle way.

This is not a garden bridge, it is a street bridge with the same vibrant mix of kinetic and static activity as might be found on a typical London Street.

CHALLENGE 5:
CONTEXTUAL LANDMARK DESIGN

The design references historic and contemporary Thames bridges to create a familiar yet forward-looking contextual response. It recognises the multi-span arches of adjacent 19th century bridges and reflects the London Millennium Bridge by mirroring the catenary form to create a shallow thrust arch with incrementally variable armatures.

The design combines the visual comfort of organic geometry with a dynamic and contemporary structural configuration. A twisting, trussed arch with two independent chords forms the backbone of a fine skeletal aesthetic.

The bridge presents an extremely shallow elevation to the Thames and creates a graceful and distinctive silhouette against the evolving riverside skyline. The design provides an excellent opportunity for lighting of the structure and the creation of an exciting feature in the nighttime riverscape.

