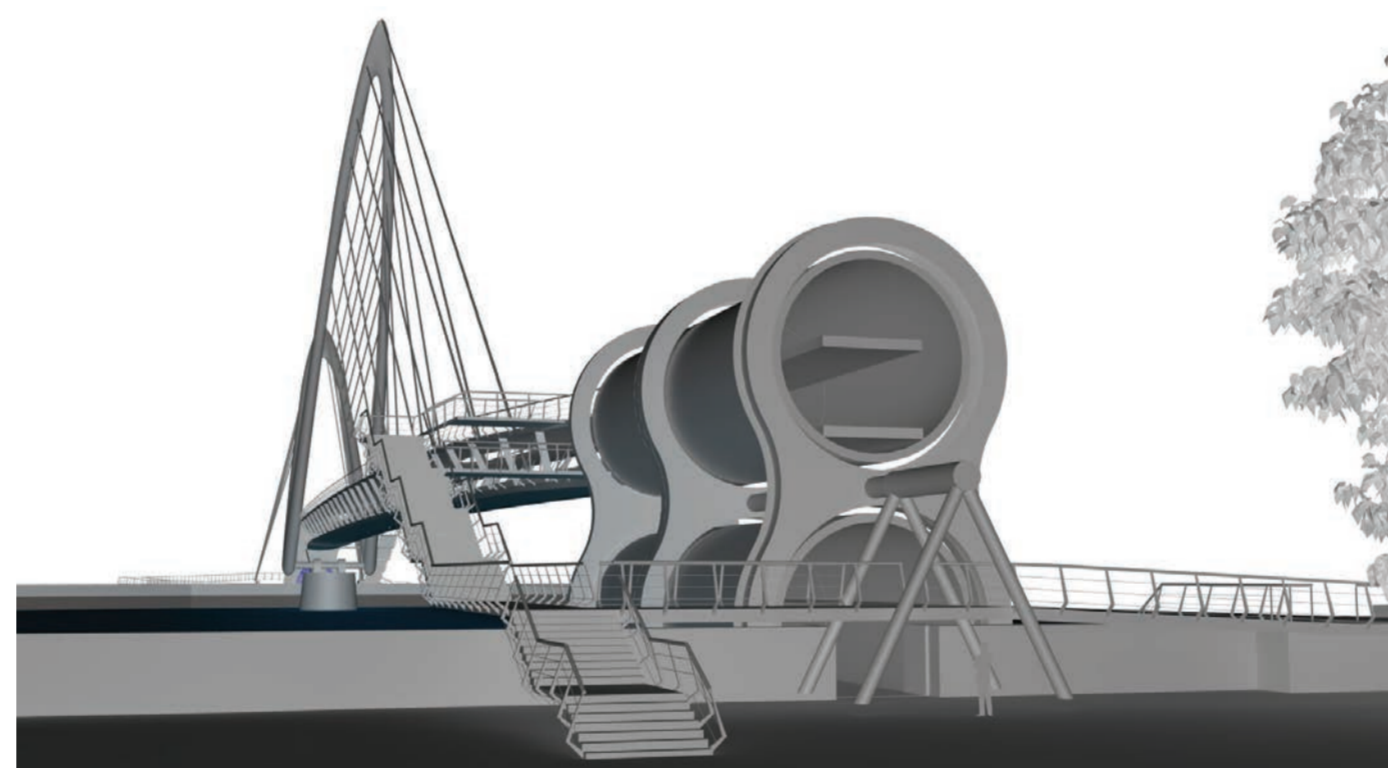
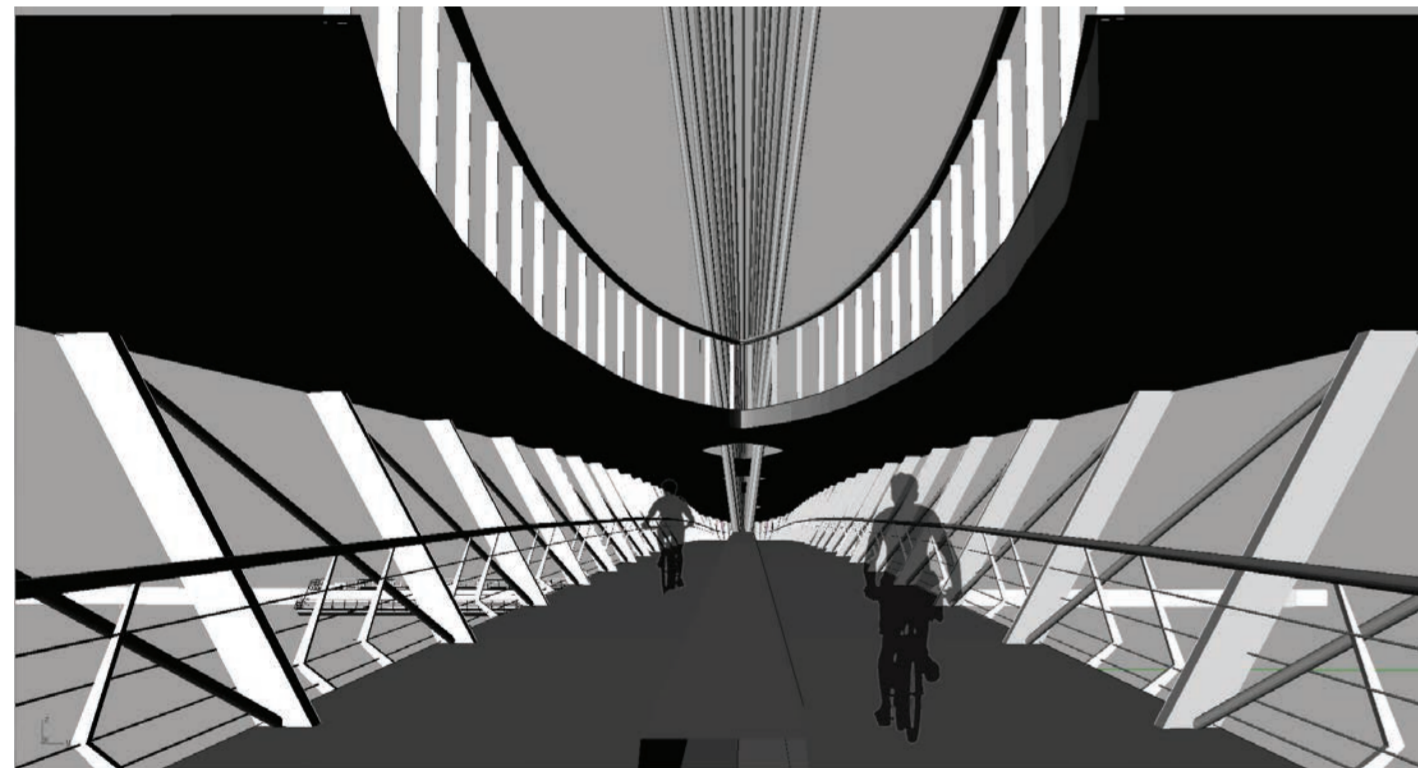


## 1. INTEGRATING CYCLE AND PEDESTRIAN TRAFFIC

The differing requirements of pedestrian and cycle traffic have led to a double deck solution which provides a number of advantages. Firstly the vertical arrangement allows for fast and slow cycleways on the bottom deck with pedestrians on the deck above. The vertical space between the two decks is then used structurally by trussing between them. This makes a lower mast with less cables possible. Furthermore, additional visual interest is added to the bridge from afar and apertures in the top deck provide unexpected views and light not possible with a single level deck.

## 2. HEIGHT ACROSS THE THAMES

The great height required in this portion of the river has been used as an opportunity to create an event at both ends in the form of rotating gondolas. These provide an innovative and joyful means of traversing the height at each bank for both cyclists and pedestrians with their size calculated to accommodate over 2000 crossings per hour during peak demand. Handrails will be provided inside the gondolas and it is envisaged that cyclists will not need to dismount. Both pedestrians and cyclists will also have the option of using the stairs which will have an integrated bike track to allow cyclists to roll their bike up or down.



## 3. PHASED CONSTRUCTION

### Substructure

Piling is undertaken from a barge for the main pier and gondola piers. Caissons provide for dry-dock conditions. Base of main pier and gondola piers are formed.

### Mast Construction

Install lower third of south facing leaning mast and prop in place. Install lower third of main mast and temporarily tie to south mast. Install middle third of south leaning mast and connect to ancor points. And so on until the mast is complete.

### Deck Construction

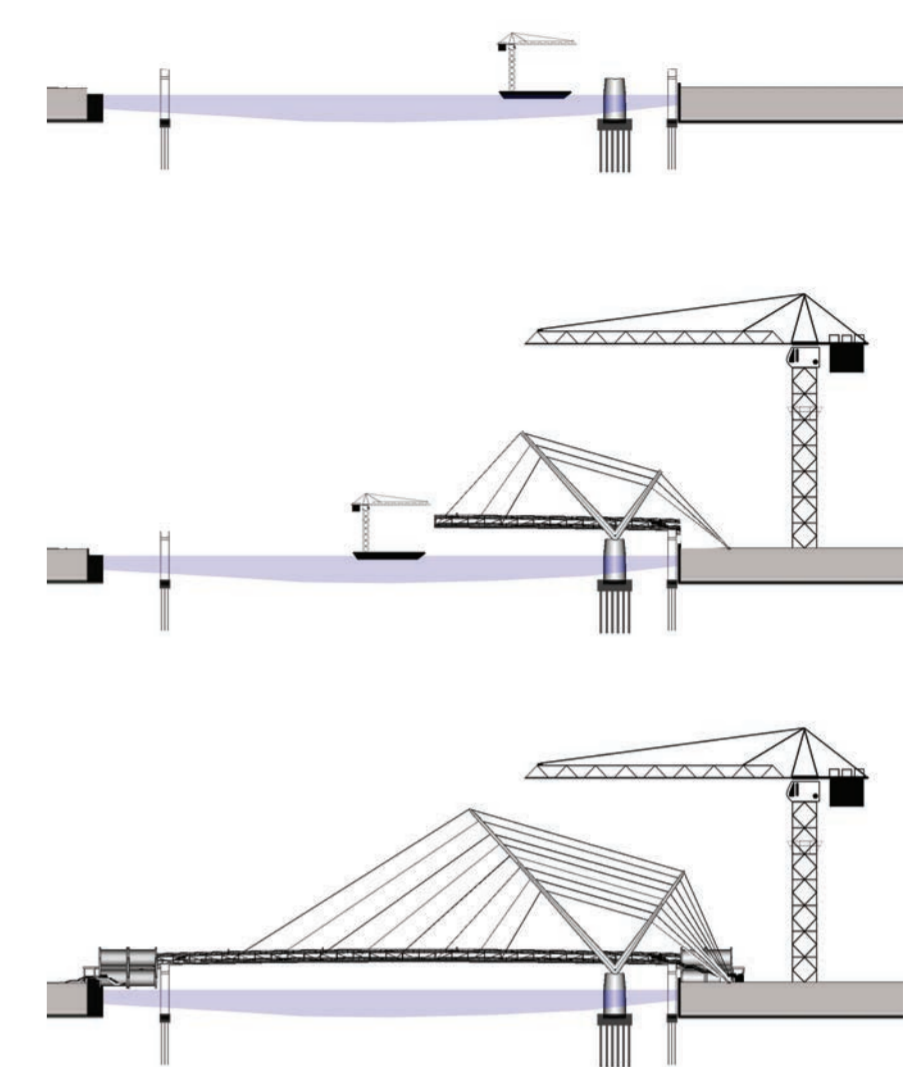
In parallel the deck construction can begin. The first section of the bridge deck can be brought by road and launched from the south side over the top of the pier with support and bearings. This can then be jacked out to the first cable hanger. The remaining bridge deck can be installed by floating barge crane.

### Remaining Superstructure

Construct superstructure for gondolas and stairs. Install spindle and clutch mechanism. Fit gondola capsules.

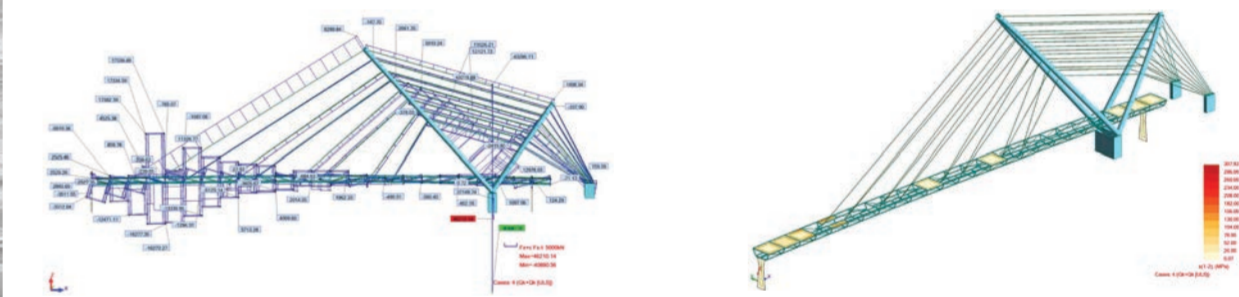
### Commissioning

Commission mechanical and electrical equipment and undertake rigorous checking of superstructure before opening to the public.



## STRUCTURAL ANALYSIS

Stress Map and Axial Force Diagram (preliminary design values shown are for the Ultimate Limit State).



## 4. PLACE MAKING

The design responds to both banks of the river differently.

The North Bank is addressed sensitively by hanging the rotating gondolas over the water. The walkway up to the gondolas is confined to the river edge and includes a new hanging plaza over the water.

On the South Bank the iconic mast creates an identity for the bridge and a new landmark appropriate to the scale of the new development.

