

## Queens Road Bridge Deck Replacement

### Report of the Director of Place Management

#### 1. INFORMATION

- 1.1 As a result of the Greater Manchester Combined Authority successful business case submission. Stockport MBC received a City Region Sustainable Transport Settlement (CRSTS) for a period of five years, 2022-2027.
- 1.2 In 2023-2024 Stockport was allocated £994K of which £20k was allocated to Queens Road Bridge for preparatory work and business case for restrengthening subject to the submission of an appropriate business case.

Queens Road Bridge (structure number is 08/094) is a single span reinforced concrete structure built in 1959, which carries Queens Road over Micker Brook in the Cheadle Hulme area of Stockport. Queens Road / Demmings Road runs broadly south-north between the A5149 Cheadle Road and Councillor Road and carries an average of 725 vehicles per day.

It is one of a limited number of road crossings over Micker Brook (which runs broadly east-west before joining the River Mersey north of the M60), and is an important route for local residents south of the bridge to access Cheadle (including Meadowbank Primary School, Cheadle Town Football Club and Cheadle High Street), the A560 Stockport Road (Key Route Network – KRN) and M60 motorway (Strategic Road Network – SRN) via M60 J2 Roscoe's Roundabout and Roscoe's spur road.

Immediately north of Queens Road Bridge are a number of important local business / industrial estate sites including Brookfield Business Park, Bulkeley Business Centre, Demmings Road Industrial Estate and Acru Works Industrial Estate.



Fig 1 – Location Plan  
Queens Road Bridge  
Queens Road 16.5m south of its  
junction with Demmings Road  
and Old Wool Lane. Cheadle  
East & Cheadle Hulme North,

- 1.3 The structure consists of 17No. precast pre-stressed concrete beams with an in-situ infill concrete deck and has a span of approximately 8.15m. The abutments and wing walls are constructed of mass concrete.

The precast beams are manufactured from high alumina cement (HAC) concrete and due to a failure in the waterproofing layer, the beams have lost strength. Further to a structural assessment in 2007, Queens Road Bridge was classified a weak bridge protected by a structural weight limit of 7.5t mgw (maximum gross weight) to prevent avoidable damage.

High Alumina Cement (HAC) differs from Portland cement, being composed of calcium aluminates rather than calcium silicates. Its rapid strength development made HAC popular from 1950 to 1970. However, mineralogical 'conversion' (where the high alumina cement undergoes changes in its crystalline structure) can cause reductions in concrete strength and increased vulnerability to chemical attack. This is particularly prevalent in the presence of water.

Queens Road Bridge is currently a bus route, the 328 Stockport - Adswold -Cheadle - Edgeley 20 minute frequency circular bus service (see Appendix C). Only one type of bus vehicle has been assessed as suitable to cross the bridge, however, this vehicle type has or will soon be phased out and no other public service vehicle is currently approved for crossing the structure.

The Council has received notifications from members of the public that heavy goods vehicles have been witnessed contravening the weight limit signage and crossing the structure, either to access the local business / industrial estate sites from the south, or simply using the road as the most direct route between Cheadle Hulme and Councillor Lane / A560 / M60 motorway.

- 1.4 Principal Inspection carried out in 2019 found the deck and beams to be showing further deterioration and increased water penetration. Whilst other options have been considered including re-waterproofing the deck, the report did conclude *'the structure should be considered as life expired in relation to any further major refurbishment proposals of the existing structure'*.
- 1.5 A deck replacement scheme will maintain an important connection between Cheadle Hulme and Cheadle and support onward connections to/from the A560 KRN and M60 SRN via Junction 2. The Scheme will remove an existing weight restriction and improve access for HGV traffic to important local business / industrial estate sites (including Brookfield Business Park, Bulkeley Business Centre, Demmings Road Industrial Estate and Acru Works Industrial Estate) to/from Cheadle Hulme and further south.

The main benefits of the Scheme can be summarised as:

- Retaining Queens Road as a local strategic transport route, including access for bus services;
- Facilitate improved flexibility for bus network planners, with unrestricted access to the route. Currently only one vehicle type is permitted to cross the bridge due to its restrictions. As this type of vehicle will shortly be phased out,

it will soon be the case that no public service vehicles will be permitted to cross the structure;

- Avoiding diversionary route for existing users of the bridge, across all modes, that are currently permitted to use the bridge including pedestrians & cyclists;
- Enhance walking and cycling connectivity across the bridge to the wider highway network;
- Reintroducing bridge access to vehicles over 7.5 tonnes who are currently not permitted to use the bridge;
- Avoiding increased congestion (and journey times) for non-bridge users in the area, that would otherwise be impacted if the current bridge ceases operation, by seeking alternative routeing patterns.

## **2. RECOMMENDATION**

2.1 Only a scheme involving full deck replacement can provide the necessary surety of safety and capacity.

2.2 The Director of Place Management requests that Cheadle Area Committee comment and recommends the Cabinet Member for Parks, Highway and Transport Services, puts the replacement of Queens Road Bridge Deck on the capital programme 2024-2025 and the appropriate business case is developed and submitted for funding approval. Once the business case is approved and funding released then the bridge replacement can be progressed.

### **BACKGROUND PAPERS**

<https://democracy.stockport.gov.uk/documents/s219667/TRANSPORTATION%20CAPITAL%20PROGRAMME%202023-24%20UPDATE%20REPORT.pdf>

Anyone wishing to inspect the above background papers or requiring further information should contact Sue Stevenson on telephone number Tel: 0161-474-4351 or alternatively email [sue.stevenson@stockport.gov.uk](mailto:sue.stevenson@stockport.gov.uk)