Navigation Committee

03 September 2026
Agenda item number 11

Reedham Swing Bridge

Report by The Director of Delivery

Purpose

To update Members on the mechanical issues affecting Network Rail's (NR) Swing bridge at Reedham and inform them of the interaction between the Broads Authority and Network Rail and the timetable for repairs.

Broads Plan context

Theme C: Maintaining and Enhancing the Navigation, C2 Maintain low bridges, incl. Carrow Bridge, to allow opening/ closing for navigators, and provide clearance information to navigators.

1. Introduction

1.1. Network Rail (NR) maintains several bridges spanning the Norfolk and Suffolk Broads, Reedham, Somerleyton, Oulton Broad, Trowse and low bridges at Thorpe, Norwich. Of these bridges, three are swing bridges (Reedham, Somerleyton and Oulton Bridge); Trowse Rail Bridge also opens, but due to the overhead electricity, it uses a slightly different system.

1.2. Both Reedham and Somerleyton swing bridges operate using similar mechanics. When required to open to allow river traffic to pass (opened on demand when track use allows), the bridge structure is 'jacked up' using powerful hydraulic rams. This lifting action disengages the bridge from the tracks and allows the bridge to be supported on a central 'Pintle Bearing'[1]. Once the bridge is supported centrally, a pulley system using electric motors slews the bridge on its pintle to allow vessels to pass unabated.

1.3. The original single-track bridge at Reedham was commissioned by Sir Samuel Morton Peto in the 1840's to allow the passage of wherry boats, which were too tall to pass under conventional bridges. The current dual-track swing bridge was installed in 1902 and commissioned in 1903.

[1] A pintle bearing is a specialised pivot bearing that supports the vertical weight and rotational steering forces.

1.4. The River Yare (and the New Cut linking it to the Waveney at Reedham) was made a navigable route for shipping under the **Norwich and Lowestoft Navigation Act 1827;** this passed as the Norwich and Lowestoft Navigation Act 1827 on 28 May 1827, creating the Norwich and Lowestoft Navigation Company and authorising the works.

1.5. When the railway was later built across the Yare at Reedham, it needed its own Act of Parliament to cross a statutory navigation. The Reedham and Lowestoft Railway was sanctioned in 1845 as part of the Lowestoft Railway and Harbour promotion of 1844, opening in 1847; therefore, the enabling legislation for the opening of Reedham Swing Bridge would be the **Lowestoft Railway and Harbour Act 1845**

2. Current Mechanical Issues

2.1. During a routine opening of Reedham Swing Bridge in early June 2026, the bridge operator, who controls the jacking and slewing operation of the bridge from Reedham Signal Box, reported a loud '*shotgun*'-like sound as the bridge started its rotation. The bridge completed its opening and closing, but Network Rail bridge engineers attended the site to investigate.

2.2. Due to the Edwardian design of the bridge (original from the early 1900's), access to the mechanical elements means NR must follow current health and safety processes contained within the Confined Spaces Regulation 1997. This limits persons within the mechanical area and means additional, time-consuming procedures need to be adhered to, adding further complexity to working on a live rail system.

2.3. Upon inspection, NR Engineers found that the pintle bearing is cracked. The pintle sits within a cast iron housing, which contains lubricating oil and greases the pintle. The pintle, when fully loaded, needs to support the entire weight of Reedham Swing Bridge and withstand the rotational forces of the bridge's weight turning. The cracked bearing meant the lubricating oils had dispersed (the oil was contained within the housing sump, so no pollution to the river); the bearing was dry, and the 'shotgun' sound was the metal bearing grinding on itself.

2.4. NR engineers assessed the central bearing to be in full failure, and continued operations of the swing bridge were suspended immediately, for fear of failures within other critical lifting and slewing components. Any further degradation of mechanical parts could see the bridge out of commission for many months.

3. Broads Authority Actions

3.1. NR swing bridge mechanical failures are not a recent issue, and broads waterway users have been blighted by sporadic, inoperable swing bridges, due to mechanical or thermal expansion issues for many years.

3.2. In 2010, the then Director of Waterways presented a paper to the Broads Authority, addressing the issues with the swing bridges. This paper was accompanied by legal counsel (*legally privileged and still exempt from public disclosure),* which specifically

examined the legal options the Broads Authority has at its disposal to resolve these bridge issues.

3.3. The concluding legal advice was that the legislation to be relied upon in any action was dated. The Norfolk and Suffolk Broads Act 1988 section 2(7), does provide the powers common to those enjoyed by most statutory bodies, viz 'the power to do anything necessary and expedient for the purpose of carrying out its functions', but there is no express power to prosecute given to the Authority but, the residual power in section 2(7) would be adequate to mount a legal challenge.

3.4. Any such challenge would be a civil action; the penalties would be relatively light, and the costs of prosecuting would be substantial, with no assurances of a positive outcome for the Authority.

4. The 'Undertaking'

4.1. The conclusion of the 2010 paper to the Broads Authority, that was agreed and followed, was to establish an '*Undertaking*', to be drafted and submitted to Network Rail to agree to, essentially establishing that Network Rail is willing to use their "reasonable endeavours" to operate the bridges properly.

4.2. This 'Undertaking' also establishes agreements around communications, notifications about bridge works, publicising bridge closures, and improving the working relationship between Network Rail and The Broads Authority.

4.3. The Undertaking was agreed and signed by Network Rail in 2010.

4.4. Since 2010, the Broads Authority has maintained a close working relationship with Network Rail; the Director of Delivery has regular contact with a range of NR staff, is provided with status updates and attends joint meetings with the network managers and rail operators.

5. Network Rail's Bridge repair programme

5.1. The severe mechanical failure of the central bearing resulted in Network Rail stopping any opening of Reedham swing bridge in July. This complete halt to bridge operations meant many of the broads' larger vessels were effectively stranded and the Broads Authority made strong representations to Network Rail, resulting in two limited-time opening sessions in late July and early August, to allow some passage past the bridge.

5.2. Both time-limited openings were completed, and a total of 28 vessels transited Reedham. A Broads Authority Ranger was on station at both openings to ensure those vessels who needed the bridge to be open were given priority.

5.3. Using best endeavours, NR has prioritised the repairs at Reedham, undertaking preparatory works, including the erection of a temporary support frame to take the weight off the bearing while it is replaced. At the time of writing, the central bearing is

planned for removal on 8 & 9 August, and a replacement bearing is planned to be installed on 29 and 30 August.

5.4. Reedham swing bridge is expected to return to full operations by mid-September.

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Broads Plan strategic objectives: Theme C2 Maintain existing navigation water space and develop appropriate opportunities to extend access for various types of craft