



## LOCAL STUDIES LIBRARY FACT SHEET NUMBER 1 RIVER TYNE CROSSINGS AND NEWCASTLE BRIDGES

### PART ONE RIVER TYNE CROSSINGS

#### 1. HIGH LEVEL BRIDGE

**Traffic:** rail (upper deck) road (lower deck)

**Designer/Engineer:** Robert Stephenson and T.E. Harrison

**Contractor/Builder:** Hawks, Crawshay (ironwork)

**Construction:** Began 1 Oct 1846, completed June 1849

**Length:** 1337ft (407.8m) total 512ft (156.2m)

over water. 6 x 125ft (38.1 m) main spans

**Width:** c. 40ft (12.2m)

**Headroom:** 85ft (25.92m) above high water level

**Opened:** 28 Sep 1849 by Queen Victoria.

Trains first crossed 15 Aug 1849 - no ceremony. Road traffic first crossed 4 Feb 1850. Road deck strengthened 1922 to take trams.

#### 2. SCOTSWOOD RAILWAY BRIDGE

**Traffic:** rail

**Designer/engineer:** TE. Harrison.

**Opened:** 1871. Strengthened in 1943

**Closed:** Nov 1982

This was a rebuild of a bridge erected in 1839 burned down 1860

**Length:** 697ft (212.6m) total, 1 x 75ft 6in

(23m) span 5 x 124ft 4in (37.9m) spans

**Width:** 25ft 4in (7.7m)

**Headroom:** (rail to water) 22ft 11in (7m)

#### 3. SWING BRIDGE

**Traffic:** road

**Designer/Engineer/Builder:** Sir W.G. Armstrong & Co, under Tyne Improvement Commission supervision.

**Construction:** Began 23 Sep. 1868, completed 1876

**Opened:** 15 June 1876 (no ceremony).

**Length:** 560ft (170.8m) total

281ft (85.7m) swing span

**Width:** 47ft 6in (14.48m)

**Headroom:** 14ft 6in (4.42m) above high water level

#### 4. NEWBURN BRIDGE

**Traffic:** road

**Designer/Engineer:** Sandeman and Moncrieff

**Contractor/Builder:** Head, Wrightson & Co.

**Construction:** Completed May 1893

**Opened:** 21 May 1893 (no ceremony).

**Length:** 475ft (144.8m) total.

4x103ft 6in (31.6m) span

**Width:** 28ft (8.54m) roadway

**Headroom:** 21ft (6.4m) above high water level

## 5. REDHEUGH BRIDGE (OLD)

**Traffic:** road

**Designer/Engineer:** J.W Sandeman and Moncrieff for Redheugh Bridge Co.

**Contractor/Builder:** Sir William Arrol & Co.

**Construction:** began 1897, completed 13 Aug 1901

**Opened:** 13 Aug. 1901 by Mr. R. Cail

**Demolished:** late 1984

This was rebuild of a bridge erected 1868/70

**Length:** 1192ft. (363.6m) total

2 x 248ft (75.6m) spans, 2x 168ft. (51.2m) spans

**Width:** c.40ft. (12.2m)

**Headroom:** 87ft. (26.5m) above high water level

## 6. KING EDWARD VII BRIDGE

**Traffic:** rail

**Designer/Engineer:** Charles Harrison

**Contractor/Builder:** Cleveland Bridge & Engineering Co.

**Construction:** Began July 1902 completed July 1906

**Opened:** 10 July 1906 by King Edward VII

**Length:** 1150ft (350.75m)

**Width:** 50ft (15.25m)

**Headroom:** 83ft (25.3m) above high water level

## 7. NEW TYNE BRIDGE

**Traffic:** road

**Designer/Engineer:** Mott, Hav & Anderson

**Contractor/Builder:** Dorman, Long & Co.

**Construction:** Began July 1925, completed 1929

**Opened:** 10 Oct 1928 by King George V

**Length:** 1304ft (397.72m) total

531ft (161.95m) main span

**Width:** 56ft (17.08m)

**Headroom:** 84ft (25.62m) above high water level

## TYNE BRIDGE v SYDNEY HARBOUR BRIDGE - WHICH CAME FIRST?

The myth that the Tyne Bridge was the model for the Sydney Harbour Bridge has been perpetuated for many years. **IT IS NOT TRUE!**

Dr. J.C. Bradfield, an Australian engineer submitted full particulars of the quantities and prices of the materials to be used for the Sydney Harbour Bridge before tenders were opened. His design was modified by Dorman, Long and Co. the winning tenderers, but their changes must have provided a design at least as good as the original, otherwise it would not have been accepted by Bradfield.

Although the Tyne Bridge was completed and in use before the Sydney Harbour Bridge, the following chronology will show that the works for Sydney came first.

### SYDNEY

- **28th July 1923** Turning of the first sod.
- **24th March 1924** Tender accepted and contract signed.
- **5th January 1925** Excavations for foundations commenced.
- **19th March 1932** Bridge opened for traffic.

### TYNE

- No similar ceremony
- **December 1924** Tender accepted and contract signed
- **August 1925** Site work commenced
- **10<sup>th</sup> October 1928** Bridge officially opened.

## 8. TYNE PEDESTRIAN TUNNEL

**Traffic:** Cycle, foot

**Designer/Engineer:** Mott Hay & Anderson

**Contractor/Builder:** Charles Brand & Son

**Construction:** Began 4 June 1947 completed 24 July 1951

**Opened:** 24 July 1951, by Alfred Barnes MP, Minister of Transport

**Length:** 900ft (274.5m)

**Diameter:** 10ft (3.05m) pedestrian  
12ft (3.66m) cycle

**Depth:** crown of tunnel 16ft (4.83m) below river bed.

Escalator rise 85ft (25.8m), escalator tunnel 200ft (61m) deep

## 9. SCOTSWOOD BRIDGE

**Traffic:** road

**Designer/Engineer:** Mott, Hay & Anderson

**Contractor/Builder:** Mitchell, Costain, Kinnear, Moddies Group Ltd.

**Construction:** Began 18 Sep. 1964, completed 20 Mar. 1967

**Opened:** 20 Mar 1967 by Alderman Peter Renwick

**Length:** 455ft 7in (138.9m) total main

**Width:** 66ft (20.13m)

**Headroom:** 25ft (7.6m) above high water level

## 10. TYNE VEHICULAR TUNNEL

**Traffic:** road

**Designer/Engineer:** Mott, Hay & Anderson

**Contractor/Builder:** Edmund Nuttall Sons & Co. London

**Construction:** Began 1961, completed Oct 1967

**Opened:** 19 Oct 1967 by Queen Elizabeth II Opened for traffic 20 Oct 1967

**Length:** 5500ft (167.75m)

**Diameter:** 31ft 3 in (9.53m)

**Depth:** crown of tunnel 50ft (15.25m) below river bed, 90ft (27.45m) below high water level

## 11. QUEEN ELIZABETH II BRIDGE

**Traffic:** rail (metro rapid transit)

**Designer/Engineer:** WA. Fairhurst & Ptns (Northern)

**Contractor/Builder:** Cleveland Bridge & Engineering Co.

**Construction:** Began 1976, completed 1 Aug 1978

**Opened:** 6 Nov 1981 by Queen Elizabeth II

**Length:** 115ft 6in (352.7m) total

540ft (164.7m) main span

**Width:** 33ft 6in (10.2m)

**Headroom:** 82ft (25.01m) above high water level

## 12. REDHEUGH BRIDGE (NEW)

**Traffic:** road

**Designer/Engineer:** Mott, Hay & Anderson

**Contractor/Builder:** Nuttall / HBM

**Construction:** Began 24 April 1980 completed Sep 1983

**Opened:** 18 May 1983 by the Princess of Wales

**Length:**, 525 ft (160m) main span, 2210ft (674m) between North and South abutments, 2942ft (897m) total length between Scotswood Rd. and Askew Rd. flyover

**Width:** 52ft (15.8m)

**Headroom:** 85ft (26.06m) above high water level

## 13. BLAYDON BRIDGE

**Traffic:** road  
**Designer/Engineer:** Bullen & Partners  
**Contractor/Builder:** Edmund Nuttall Ltd.  
**Construction:** Began 16 Nov 1987 completed 30 Nov 1990  
**Opened:** 3 Dec 1990 by Queen Elizabeth II

**Length:** 1089ft (332m) total  
354ft 3in (108m) main span  
2 x 216ft 6in (66m) side spans  
144ft 4in (44m) and 157ft 5in (48m) end spans  
**Headroom:** Mid span 42ft 4in (12.9m) above high water level

#### **14. BLAYDON HAUGHS VIADUCT (Southern approach to Blaydon Bridge)**

**Traffic:** road  
**Designer/Engineer:** Bullen & Partners  
**Contractor/Builder:** Edmund Nuttall Ltd.  
**Construction:** Began 16 Nov 1987, completed 30 Nov 1990  
**Opened:** 3 Dec 1990 by Queen Elizabeth II

**Length:** 1738ft 3in (30m) total  
spans vary but an average 10ft 8in (31 m)

#### **15. GATESHEAD MILLENNIUM BRIDGE**

**Traffic:** Pedestrian & cycle  
**Designer:** Wilkinson Eyre  
**Contractor/Builder:** Harbour and General  
**Construction:** Built by Watson Steel in Bolton, Lancashire and assembled at AMEC yard, Wallsend. Transported and lowered into position by giant crane Hercules II on Monday 20<sup>th</sup> November 2000  
**Opened:** Monday 17<sup>th</sup> September 2001. Official opening by Queen Elizabeth II on Tuesday 7<sup>th</sup> May 2002.

**Length:** 413ft (126m)  
**Width:** Pedestrian deck – 4.5m at ends  
narrowing to 3.2m in centre  
Cycle deck – 2.5m  
**Headroom:** Rises 164ft (50m) above river

The 600 tonne structure operates like a giant eyelid slowly opening, turning on a pivot on either side of the river, to form an arch allowing ships to pass.

### **PART TWO: OTHER NEWCASTLE BRIDGES**

#### **16. ARMSTRONG BRIDGE**

**Traffic:** Formerly road, closed to road traffic 17 July 1963  
**Designer/Engineer:** Sir W.G. Armstrong/Newcastle Town Improvement Committee  
**Contractor/Builder:** W. E. and C. Jackson  
**Opened:** 30 April 1878 by Sir W. C. Armstrong

**Length:** 552 ft (168.7m)  
**Width:** 25ft (7.62m)  
**Headroom:** 30-65ft (9.15m-19.82m)

## 17. BYKER BRIDGE

**Traffic:** road

**Opened:** By the Vice-Chairman of Byker Bridge Company

to pedestrians on 19th October 1878 and to carts and carriages on 27th January 1879 (I/2d toll - withdrawn on 12 April 1895) Deck rebuilt May 1985-March 1986

**Length:** c. 1130ft (344.65m)

**Width:** originally 30ft (9.15m), widened to 50ft (15.25m) in 1899

## 18. BYKER METRO VIADUCT

**Traffic:** rail (metro rapid transit)

**Designer/Engineer:** Ove Arup and Partners

**Contractor/Builder:** John Mowlem

**Construction:** Began June 1976, completed July 1979

**Opened:** 11 Nov. 1982 as part of official opening of St. James to Tynemouth section of the Metro

**Length:** 2674ft (815m)

**Width:** c. 27ft (8.2m)

**Headroom:** 98ft (30m) at highest point

## 19. DEAN STREET VIADUCT

**Traffic:** rail

**Contractor/Engineer:** Rush and Lawton

**Construction:** Completed August 1848

**Opened:** 29th August 1848

Originally double-tracked, line was four-tracked in 1893 and the viaduct doubled in width to the north of the original.

**Length:** 80ft (24.4m)

**Width:** c.50ft (15.25m)

**Headroom:** 80ft (24.4m)

## 20. GLASSHOUSE BRIDGE

**Traffic:** road

**Designer/Engineer:** Mr Forbes

**Contractor/builder:** Walter Scott

**Construction:** Began 1874, completed May 1878

**Opened:** 21 May 1878 by Thomas Robinson (Mayor)

**length** 336ft (102.5m)

**width** 40ft (12.2m)

**Headroom;** 56ft (17.08m) 37ft 6in (11.4m) above high water mark

## 21. OUSEBURN VIADUCT

**Traffic:** rail

**Designer/Engineer:** John and Benjamin Green

**Construction:** Started: 13 Jan 1837

**Opened:** 18 June 1839 (opening of Newcastle and North Shields Railway)

Arches rebuilt in iron 1867-9. Originally two-tracked line was four-tracked in 1887 with the addition of a new viaduct alongside and to the north of the original.

**Length:** 918ft (280m)

**Width:** 50ft (15.25m)

**Headroom:** 108ft (32.94m)

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