

photograph.) lift shaft is catching the sunlight in this Sheffield, in 1894, to have a lift. (The ni trif eht evere the first in 32. The Foster's Buildings on the south

TOYECOUPT. Street to reach the Cathedral Continue up High Street and Church

hidden on or in roofs in the city centre. A mobile phone transmitter is visible at street level here, most are

"Tram-trains" were introduces in 2018, nerwork opening in October 1995. 1994 and the last part of the three-line the first section being opened in March began on the Supertram in 1991 with years and finally closing in 1960. Work in 1872, growing over the following 40 31. Sheffield's first tram network began



Continue up Haymarket to Commercial Street and turn right up

to redevelop the site and uncover parts of the Sheffield Castle and Victorian and 20. century market buildings. Exciting plans are in place after the post civil war clearance of the mediaeval castle before the centuries old association with this area. The site had various uses replaced with a state-of-the-art building at Moorfoot, ending a

market buildings. In 2013, these were Opposite is the site of the former



links to the police station by 1897. became entirely a court with tunnellec of the functions of a local council. It court. The trustees carried out many 1807-8 for the Town Trustees and The Old Town Hall. It was built in 30. On the corner with Castle Street is

Now walk up Waingate.

take a double decker bus). of hguone egyel (large enough to near Meadowhall. Parts of the tunnel are Treatment Works at Blackburn Meadows tunnelled from Shalesmoor to the Sewage 29. Below here a sewer has been Cross Castlegate/Bridge Street.







cast iron beams and lattice girders on cast gnizu ,nisge benebiw zew ti e0el nl .ebiz repaired and widened on its downstream Dam on the moors above Sheffield, it was resulted from the failure of the Dale Dyke After the Sheffield flood in 1864, which

.f-0051 ni əbis meətream side in 1760-1. Work. This 5-span ribbed arch bridge was built in 1486. It was 28. Lady's Bridge is also Grade II listed and an Historical Engineering

Cross Derek Dooley Way and continue along Wicker.

and canal bridges and 15m high retaining walls. include a 40m span railway bridge, a 35m and two 39m span river linked Sheffield Parkway and the Shalesmoor area of the city. They 27. The Sheffield Inner Relief Road extensions of 2001 and 2009

Walk away from the viaduct towards the city centre.

listed structure and Historical Engineering Europe when it was built. It is a grade II was the largest masonry viaduct in 1848. At 603 m long with 42 arches, this



onto Wicker in front of the Wicker Arches. Turn left into the passageway by the Cobweb Bridge and emerge



suspended from the Wicker Arches pedestrian route over the River Don. It is Weirs Walk, a 3 m wide cycle and 25. The Cobweb Bridge carries the Five

river and bridges as you pass.

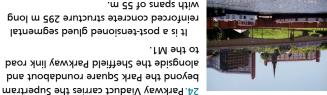
right and proceed ahead to reach (28) Lady's Bridge. Look at the re-cross the bridge to reach the newly landscaped Castlegate. Turn preserved crucible furnace stack in the building lobby. Turn left and Otherwise, cross the road at the pedestrian crossing. Note the path for approximately 270 m for items 25, 26 and 27.

If desired turn right at the end of the bridge onto the river side Blonk Street to the bridge over the river. Return to the Quays' entrance, cross Furnival Road and walk up

with spans of 55 m. reinforced concrete structure 295 m long

Is a post-tensioned glued segmental

alongside the Sheffield Parkway link road beyond the Park Square roundabout and



Warehouse being notable.

around the canal basin are mid to late 19th century, the Straddle remains and has been sympathetically restored. The other buildings The original Terminal Warehouse

.6181 hegun until 1815 and was completed in Canal by William Chapman, was not extension to the town, the Sheffield made navigable to Tinsley by 1751, the



we will leave under the archway. Merchants Crescent, ahead, note the sign to Furnival Road where Quays in front of the Terminal Warehouse. At the end of From the bottom of the steps, cross Wharf Street and enter Victoria

... continued from overleaf.

Surrey Street, 51 2LH. or call in to Sheffields central library on ICE Yorkshire and Humber at iceyandh@ice.org.uk For additional copies of this leaflet please contact

initiatives visit: www.sheffield.gov.uk/walking

For information and leaflets on walking in Sheffield and local walking

call 0800 952 0002 or visit: www.travelsouthyorkshire.com

For public transport information including park and ride,

Alternatively: https://en.parkopedia.co.uk/ for more options. pavements There are many route restrictions in the city centre. visit: www.sheffield.gov.uk/parking and www.sheffield.gov.uk/roads

For council parking and bus gate information, call 0114 273 4567 or some sections of the route.

and there are bus and tram stops along The whole of the route is suitable for both push-chairs and wheelchairs,

NOITAMROANI ROTIZIV

Sheffield: A Civilised Place



Discover what makes Sheffield civilised.

We all need to be protected from the elements, to have a safe water supply and effective sanitation. A civilised society needs more than this - transport, power, buildings and disposal of waste.

Civil engineering is the name we give to this infrastructure; dams, reservoirs and other aspects of water supply; drainage and sewerage; transport by road, rail, water and air; bridges for vehicles, trains and pedestrians; seaports, docks, airports, canals and aqueducts; power stations, renewable energy, pipelines and the structures that support towers and

Originally, any engineering that was not military was civil, but now there are many specialised professional engineers who work together, and with scientists and other professions, to create, improve and protect the environment in which we live. Engineers provide the facilities for everyday life in a civilised society by designing, constructing, maintaining and, eventually, removing them.

Sheffield is a civilised city and this walk shows something of how this has been achieved. You will see buildings and structures, various forms of transport (road, rail, tram and water) and the bridges they need. You will not see hidden essentials like water supply and drainage but you will learn something about where they are. You will see different materials being used in different forms - all designed and constructed by engineers applying science and using engineering principles.

The Institution of Civil Engineers (ICE) is the oldest of the world's engineering institutions with origins going back to 1771.

Established in 1818, and granted a Royal Charter in 1828, the ICE was founded to ensure professionalism in civil engineering. It is now composed of some 97,000 individual members around the world.

Further Information

Information on Historical Engineering Works including basic leaflets of this and other trails available as a pdf to download can be found at:

https://myice.ice.org.uk/knowledge-andresources/historical-engineering-works

There are also audio guides featuring the author and Paulette Edwards of BBC Radio Sheffield including an audio described version with guest appearances by Lord

Listen online or download at: https://audio.com/ice-

For more information on this discovery trail or any civil engineering enquiry, please contact the Institution of Civil Engineers in Yorkshire and Humber:

t: 0191 261 1850 e: iceyandh@ice.org.uk w: www.ice.org.uk

 ${\bf Photographs} \ {\bf \hbox{\mathbb{G}} \ Angela \ Harpham \ www.angelaharphamphotoart.me.uk, ,} \\$ Duncan Froggatt, Sheffield City Council, Sheffield Cathedral, and Yorkshire

Cover image: Butterfly Bridge, Cutlers Bridge to Wicker viaduct over

Compiled by Duncan Froggatt BSc (Hons) CEng MICE MIStructE.

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Sheffield - A Civilised Place, a history and gazetteer of the making of the city by Duncan Froggatt explores these and many more places of interest across the city. It also provides a thematic history of the development of Sheffield from pre-history to the present day. Isbn 978-1-5272-3241-9



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Sheffield: A Civilised Place

City centre circular walk

Distance: up to 2.75 miles Duration: up to 2 hours

Discover how engineering has developed the city of Sheffield

ice.org.uk/yorkshireandhumber

The circular walk can be started at any point - we suggest the Cathedral forecourt, with item 1 and 2.

1. Part of the Cathedral is recorded as being built in 1101, making it, arguably, the oldest building still in use in Sheffield, although possibly only fragments of the 1280 rebuild survive. It was also the first building to use electricity for powering a motor in the city, in 1892.





2. The Cutlers' Hall has been on this site since 1638, 14 years after the foundation of the company. The present building dates from 1832. The Company of Cutlers in Hallamshire promotes and supports manufacturing industry in South Yorkshire as well as Sheffield cutlers and silversmiths.

From the forecourt turn right up Church Street, cross Church Street and turn left into Leopold Street, cross the road.

3. Originally built as a school and education offices, the listed buildings have been cleverly refurbished while retaining as much as possible of the original buildings to create the Leopold Hotel and Leopold Square.

turn right into Barker's Pool.



Key:

Continue along Leopold Street towards the Town Hall and

4. The Barker's Pool, after which the area is named, was a large cistern holding rain and spring water for use by the



people of the 16th century town.

The water supply of the pool had been enhanced in the late 17th and early 18th centuries. However, it was demolished in or around 1796 as supplies improved.

The City Hall was built in
 1932 and employed some of
the longest span reinforced
 concrete
 beams in Europe to support the

beams in Europe to support the roof. It was extensively refurbished in 2003.



Continue past the City Hall to the start of Division Street.



6. The Palazzo style building of 1867 to the west of the City Hall is the former offices of the Sheffield Waterworks Co. The building is representative of a continuation of this area as the focus of water supply for the

Go back down Barker's Pool, cross Pinstone Street and turn right. Turn left at Cheney Row to the side of the Town Hall. If you wish turn right into the Peace Gardens.

7. The present Town Hall was completed in 1897. Built to house the increasing number of staff needed to cope with the new duties the council had taken on over the previous decade or so, including roads and water supply.

An extension was planned in the 1930s, but war preparations intervened and the site became the Peace Gardens. Their landscaping in 1998 as part of the Heart of the City project was widely acclaimed. The walls used the same stone as the Town Hall. There is a set of standard measures set into the side of Cheney Row adjoining the Town Hall.



At the pedestrianised section of Norfolk Street, turn left past the rear of the Town Hall and cross Surrey Street and continue along Norfolk Street.



8. The **Upper Chapel** was originally built in 1700 and is the earliest surviving building to be built substantially of brick as opposed to timber or stone.

Continue down Norfolk Street and turn right into Tudor Square.

9. The Crucible Theatre (1971) was designed for theatre in-the-round, and is constructed mainly of reinforced concrete and concrete block masonry. It received a makeover in 2008/9 with new spaces within the old, a small extension and new more efficient heating, ventilation and lighting.



If open, enter the Winter Garden (point 11) and turn left into the

Millennium Galleries emerging onto Arundel Gate. If closed, turn

left along Surrey Street, pass the central library and follow the

ramp down to Arundel Gate to the front of the galleries.

under and around the old to vastly improved conditions for all users. Both theatres are listed buildings.

11. The Winter Garden (2002) has an inverted catenary form to the arches. This is very efficient. It is heated, as are many city centre buildings, by the Sheffield District

Heating scheme.



16. From the bottom of Howard Street there is a good view across to the internationally famous Park Hill Flats. Completed in 1961, these now-listed buildings provided "streets in the sky" for the people of Sheffield. Park Hill Flats recently underwent a major facelift while retaining the original structure.



At the bottom of Howard Street, go straight across to Sheaf Square. Follow 'The Cutting Edge' stainless steel water sculpture to the station.



17. The Midland Railway was extended to Sheffield in 1868-70 by Benton & Woodiwiss to designs by John Crossley of Derby. Much of the station front you see today is the 1905 extension with further alterations in 1991 and 2003. The footbridge across the station, which gives access to all platforms and the Supertram, was

renewed in 2003 to improve the quality of access.

Use the crossing near the bottom of the steel sculpture to cross Sheaf Street and walk along the covered walkway into Sheffield interchange.

18. Sheffield Passenger Transport Interchange serves mainly longer distance bus routes and coaches.

Go all the way through the interchange to Pond Hill and turn sharp right.

19. Adjacent to the modern buildings, on Pond Hill, is the Old Queen's Head, a 15th century timber-framed hall. It was carefully restored in 1992.

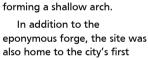


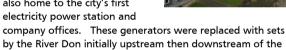


20. The culverts carrying the River Sheaf are visible here. It was culverted in the 1860s as the city expanded into the river valley with the development of the railway and market area.

At the bottom of Pond Hill, turn left on to Sheaf Street.

21. Ponds Forge International Leisure Centre provides Olympic standard swimming and diving facilities. The main roof consists of exposed tubular steel trusses forming a shallow arch.





city Centre. Later the national grid replaced all local generators.

21a The footbridge into Ponds

21a The footbridge into Ponds Forge Swimming Pool building was required by the client to be "interesting and imaginative". Tensioned cabling is used to stiffen the slender structure.



40-



Opposite, on the corner of Commercial Street and Shude Hill are the former offices of The Sheffield United Gas Light Company of 1874, described as one of the finest 19th century building in the city. The first gas works was nearby on Shude Hill. It was later replaced as demand grew with works in The Don Valley and the subsequent establishment

of the national grid.

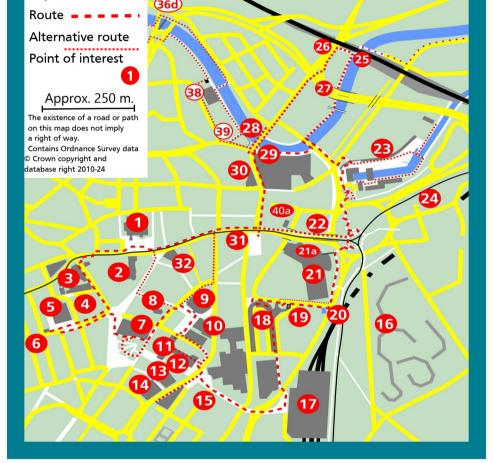
Go up the ramp, bearing right, and follow it all the way to the seating area at the top.

22. Commercial Street Bridge spans one of the busiest traffic roundabouts in Sheffield and carries two tracks of

in Sheffield and carries two tracks of the Supertram and a pedestrian walkway. The bridge consists of a tied arch span of 74 m and two simple side spans of 12.5 m and 18 m.

Turn left at the top of the ramp and cross the tram tracks. To cut short your walk you can return to the city centre by turning left and crossing the bridge. Otherwise follow the signs for Victoria Quays - follow the ramp to the bottom of the steps.

continued overleaf ...



12. Millennium Galleries are integrated with the Winter Garden. They won a national award for the extensive use of high quality reinforced concrete.

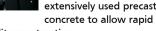
Cross Arundel Gate and turn right. At

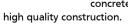
Arundel Gate to view items 13 and 14.

13. St Paul's Tower, since 2010 the tallest building in Sheffield, is 32 storeys and 101 m high plus the basement levels. In-situ reinforced concrete was used for the frame of the building providing a robust core, to which modular cladding was

14. The Charles Street
"Cheese Grater" Car Park
extensively used precast

the top of the ramp to Howard Street stop and look right along





Now proceed down Howard Street.

15. This area was laid out by the Duke of Norfolk's agent in the late 18th century. It came to provide the workspaces for the burgeoning steel and cutlery trades. It is now designated as Sheffield's cultural

City centre circular walk