



The Fridays

Fridays DIY Sunday London Ride

Inventive Vents

A 20 mile route starting and ending at Liverpool Street Station.

This is short tour of some of the more curious vents, shafts and funnels scattered across the city, servicing the capital's underground workings in all manner of unlikely disguises. Some of these will be obvious, some you may have seen but never realised.

Jubilee Line Extension ventilation shaft

Culling Road, mile 2.7

Built in 1992, Ian Ritchie Architects designed the architecture for six shafts between London Bridge and Canary Wharf for the Jubilee line extension. To welcome the new tube line and celebrate its regenerative effect on the areas it serves each underground shaft and shaft top was unique, and precisely designed to perform its particular function set in its own specific urban context.

The intention was to create a family of sculptural objects which articulate the functional and 'flow' character of the shafts (air movement, plant, escape and access).

Although largely unrecognised, because they are not encountered by Underground passengers in the same way as the stations, the ventilation shafts (which

sometimes also double as emergency exits) were treated as architectural opportunities in their own right.

The ventilation shafts were designed in the last century, at a time when making such buildings eye-catching was considered worthwhile as part of the Jubilee line extension overall architectural effort. Today, however, Transport for London is rather less keen to draw attention to its ventilation shafts. The July 2005 bombings on London Underground trains and a London bus have made TfL very wary about security on its network, and ventilation/escape shafts (while essential for, well, ventilation and escape) might also represent an opportunity for unauthorised access the Underground network.

In 2011 one correspondent requested a list of London Underground's ventilation shafts from TfL through the Freedom of Information Act, and they were turned down.

Camberwell Submarine

Akerman Road, Camberwell, mile 7.5

Built in 1970 this is part of an underground boiler room and heating system for Myatt's Field housing estates. It is regarded as one of a kind due to its dimensions and design.

Some people thought it was a ventilation shaft for the tube (even though the nearest line is a mile and a half away), while others suspected it could be some forgotten defence relic from the Cold War era.

In recent years it has been the subject of a dispute between residents and Lambeth Council, who have tried to replace the boiler system that serves Myatt's Field South, and Myatt's Field North estate, which has since been redeveloped as Oval Quarter.

The south-siders accuse Lambeth of pushing tenants on low and unstable incomes into fuel poverty. At the time of writing around a third of the 393 households on Myatt's Field South are resisting having individual boilers installed, after they were disconnected from the energy centre and denied access to the refitted submarine.

Oval Station Vent Shaft

Opposite Oval Station, Brixton Road, mile 8.5

An octagonal brick built vent shaft, approximately 2.8 metres high dating from 1944. The shaft is used to ventilate the tube station below.

It was originally planned as access to a deep level shelter below, however, when work was started ground conditions were discovered to be too difficult to continue.

Lambeth Road Vent

Lambeth Road, mile 10.1

This is the Metropolitan Police's Lambeth Central Communications Command Centre, dating from 1990. It also houses the Metropolitan Police Forensic Science Laboratory.

As well as advertising the Metropolitan Police HQ's address this air shaft is providing ventilation for one of the four electrical substations created to allow the building to be completely operational 24/7 and not be affected in case of a power outage.

Made of concrete, stone and metal this structure has a grill on each side almost like a "double chimney" and a big bold "109" on the front.

Paolozzi Vent

Pimlico tube, Bessborough Street, mile 11.8

Sir Eduardo Paolozzi designed this metal clad shaft in 1982. It is a listed landmark in Pimlico ventilating the car park below.

Paolozzi also created the statue of Newton outside the British Library and the beautiful coloured mosaics at Tottenham Court Road Tube station.

The shaft is very sculptural and features very mechanistic detailing - often described by the children who see it as looking like a 'robot'.

It was positioned between the buildings at Drummond Gate and was intended to form a marker between Pimlico underground station and the Tate.

There was a chance to integrate the accidental visual qualities of miscellaneous engineering components into a single significant form making a powerful sculptural contribution to the urban scene' ('Eduardo Paolozzi)

The cooling tower consists of a concrete enclosure with a stainless steel tubular frame carrying the ejector coolers. The doors and cladding to the concrete are made of high-relief cast iron panels painted in aluminium and cast in sections.

Wellington Arch

Hyde Park Corner, mile 14.0

Built between 1826 and 1830, Wellington Arch was moved here in 1882.

In 1846 a huge equine statue of the Duke of Wellington was added to the top of the arch, giving it its current name. The statue was taken down when the arch was moved, and the arch had nothing on its top for several decades.

In 1911, after much public debate, a large sculpture of a four-horse chariot by Adrian Jones was erected on the arch's top. It is called "Peace Descending on the Quadriga of War" and features a female figure alighting on a chariot with four horses, driven by a small boy who is oblivious to her presence. She holds aloft a laurel wreath and the horses rear in the air.

The northern pier of the archway served as the smallest police station in London until the 1950s.

Running under Hyde Park Corner is a road tunnel built in the 1960s to relieve congestion on the roundabout above, and a ventilation shaft was needed to extract car pollution from below.

Police Memorial by Foster and Partners

The Mall/Horse Guards Road, mile 14.4

The National Police Memorial takes the form of a black granite clad tablet with a glass chamber set into its face containing a book listing the names of every British policeman and policewoman killed in the course of duty. The book starts with an unknown constable killed in 1680.

There are nearly 1,600 names recorded, taken from the 4,000 names on the National Police Officers Roll Of Honour listing officers who have died in the line of duty.

The pages of the are turned every two weeks. A tall slender pillar of glass emerges from a reflecting pool, glowing to echo the blue lamp that once burned outside every police station.

The memorial conceals a large concrete London Underground vent shaft.

Theatre Ticket Office

Leicester Square, mile 15.5

In 1989 an electricity sub-station was built beneath the garden, and Leicester Square itself was reopened by the Queen in 1992. The theatre ticket office cleverly disguises a vent for the machinery below.

The square was originally a gentrified residential area, Frederick Prince of Wales lived, and died, in Leicester House. He was the oldest son of King George II and Queen Caroline. It became more down-market in the late 18th century as

Leicester House was demolished and retail developments took place, becoming a centre for entertainment.

The square was extensively refurbished and remodelled for the 2012 London Olympics, at a cost of more than £15m and taking over 17 months to complete.

Sewer Gas Destructor Lamp

Carting Lane, mile 16.3

Dating from 1895 this is the last working sewer gas destructor lamp in London.

The street used to be nicknamed Farting Lane, because of what was powering the streetlamp: noxious gases emanating from the sewer system down below

Invented by Birmingham engineer Joseph Webb in 1895, it still serves the same purpose today, and burns off residual bio-gas from Joseph Bazalgette's great Victorian sewer, which runs beneath the Victoria Embankment at the bottom of the lane.

When the first of the modern sewer systems were being laid beneath the streets of London in the late 19th century, they brought with them a major and dangerous problem in that methane gas could build up in them, with possibility of the subterranean sewers exploding. This problem was particularly prevalent on hills, such as Carting Lane.

One solution was to drill holes into the sewers and then to construct free-standing vent pipes at such a height as to allow the stagnant gases to disperse in the air above the heads of pedestrians.

But in 1895, Webb came up with a new lamp, the flame of which was powered by town gas, just like the majority of gas lamps, thus allowing a continuous flame to burn 24/7. The heat from the flame creates an up draft which then draws the gas from the sewer below allowing it to be burnt along with the town gas, thus not only lighting the streets and ridding London of the danger from exploding sewer gas, but also destroying potentially hazardous microbes that might be present in the sewer gas.

Paternoster Vents

Paternoster Square, mile 17.5

Dating from 2002, the Paternoster Vents are also known as Angel's Wings.

It's a stainless steel sculpture by Thomas Heatherwick and provides cooling for an underground electricity substation next to St. Paul's Cathedral.

The original design was much bigger and would have completely dominated the public space, so the studio shrunk the visible mass by setting part of the structure below ground. They also split the outlet vent in half, creating two slim objects rather than a single squat object.

These design decisions creating a compelling composition often mistaken for sculpture rather than infrastructure. The project's form came from folding paper into identical isosceles triangles.

The Paternoster Column

Paternoster Square, mile 17.5

This column is a functional side air ventilation for the car park underneath and it's a memorial for the fires during the Blitz and the Great Fire of London.

At the top of the column is a flaming copper urn covered with gold leaf and illuminated by fibre-optic lighting at night. It is made in the Corinthian style from Portland stone.

It has a seat going all the way round but is divided into 8 'private' benches which each have a small water fountain. It was built in 2008.

Ornate stone vent

Queen Victoria Street, mile 18.0

The stone rectangular column is surmounted by what looks like vents, and then a dome. Dating from 1987 and Victorian in style it's not as old as it looks. It's a functioning ventilation shaft for the Dockland Light Railway.

Except that the DLR is nowhere near this site, being under another road around the corner.

When the DLR was extended to Bank station in 1987, another additional tunnel was dug underground linking the new DLR tunnels to the Waterloo & City line. In order to dig those tunnels, a shaft was needed near the Waterloo & City line platforms. You're looking at the top of that shaft.

It was intended to be just a temporary shaft, but at some point in the construction, they decided that it would also make for a very convenient ventilation shaft to help with the ticket barrier area of the Waterloo & City line. So it was kept.

James Henry Greathead

Royal Exchange, mile 18.2

Visible between the statue and the base are the metal grilles of a vent shaft. This vent was added to the plinth in 1987, on of a range of measures introduce after the King's Cross fire.

Greathead was a South African civil engineer best known for his work on the railway lines now incorporated into the London Underground.

The base bears a bronze plaque on one side depicting a tunnelling shield with an inscription that credits Greathead as being the "inventor of the travelling shield that made possible the cutting of the tunnels of London's deep level tube system"

A tunnelling shield is a protective structure used during the excavation of large, man-made tunnels. When excavating through ground that is soft, liquid, or otherwise unstable, there is a potential hazard to workers and the project itself from falling materials or a cave-in. A tunnelling shield can be used as a temporary support structure. It is usually in place for the short-term from when the tunnel section is excavated until it can be lined with a permanent support structure.

Wellington statue

Royal Exchange, mile 18.2

The cast iron equestrian statue dates from 1844 and shows the City's gratitude for Wellington's help in assisting the passage of the London Bridge Approaches Act 1827. This related to the rebuilding of London Bridge, and for improving and making suitable the various approaches. King William Street was created as part of this project.

Built in 1844, the memorial is older than Bank station which opened in 1900, and the vents were retrofitted.

Fibonacci Spiral Vent

Silk Street, Barbican, mile 19.1

Shaped like a Fibonacci spiral and made entirely out of tooled concrete, this vent is three metres high where the air funnel is and then gradually gets lower as it unwinds and turns into a straight wall along Silk Street. It was built in 1970 as part of the construction of the Barbican.

The spiral encloses a fire exit stairwell from a lower level which wraps around the vent for use in an emergency.

Also known as the Golden Spiral, this is a form of a graph that is used to calculate and convey the patterns of the Fibonacci numbers.

Nature uses this number sequence for everything that we know. From the blooming and structure of something as simple as a flower, to the galaxy and stars in the sky.

Fibonacci numbers form a sequence, called the Fibonacci sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1.

Dance's Obelisk

Circus Place, mile 19.7

This is another vent put in place after the King's Cross fire. It's a tribute to the famous designer George Dance the Younger who planned Finsbury Circus as a residential suburb in the late 18th century. He was the first to introduce formal, planned crescents and circuses to London.

Finsbury Circus Gardens dates to 1606 and is the oldest public park in London.

Although it looks to be built of solid Portland stone, it is in fact one of several hollow ventilation shafts erected in the aftermath of the Kings Cross Tube Station Fire disaster of 1987. This one carries potentially flammable fumes away from an underground gas storage facility under it. The gas storage tank dates from 1982 and occupies space that had previously been a public toilet.

Ride ends at Liverpool Street station.