Tunnels under Manchester: Mapping the cold war 'Guardian' underground telephone exchange

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Sources: sorting fact from fiction

Cold-War History in Manchester
The Guardian Underground Telephone Exchange

Ever since I moved to Manchester in 1986 I’ve heard rumours about secret underground installations under the city centre. I particularly remember being told on several occasions about a secret nuclear bunker under Piccadilly Gardens. I have since found out that there is some truth behind these rumours. This web site reports my findings.

Warning

The Guardian Underground Telephone Exchange is NOT open to the public. Attempting to gain unauthorised access is trespass. Often it is very dangerous too: on more than one occasion people have died in the process of trying to gain access to such sites.

If you attempt to enter a defence related site, even an apparently unused one, you should expect an unpleasant encounter with military police.

Please do not pester site owners to gain access, this causes irritation to many of them.

Instead, please join one of the specialist societies that can organise visits properly.

Most of what I found out came from the excellent and highly recommended book:

**War Plan UK: The Secret Truth about Britain’s “Civil Defence”**
by Duncan Campbell
Published by Paladin Books in 1983
(Unfortunately it is now out of print)

This book includes a map and description of the Guardian Underground Telephone Exchange and deep level tunnel system in Manchester. Duncan Campbell has kindly given me permission to reproduce this information here:
COLD WAR CONTEXT

- Post-war, atomic age Britain
- 1949: Soviet atom bomb
- 'civil defence was about the preservation of Government (the State) and not about protecting the general populous'
- Urban planning, architecture
- Essential national infrastructure
The imperative of survivable communication

Why did they build deep bunkers for telephone exchanges under city centres in 1950s?

Hugely expensive, at a time of austerity

Reference frame was WW2 blitz and recovery

The inertia of installed infrastructure. Vital cables converged on the city centres
Scheme 526, 'Anchor'

Scheme 2147, 'Kingsway'
Scheme 567 - 'Guardian'
Professor C.H. Reilly (Manchester Guardian, 21st Aug. 1928):
"naked flanks" of rough concrete and higgledy-piggledy glass

"why a telephone exchange should have a colonnaded top portion like the [Ship] Canal Offices is not clear."
Central tunnel sections
Construction – a lot of effort expended
SECRET ATOM SHELF UNDER LONDON

For defence chiefs & 'high-ups' only

SOME 2,000 building workers are engaged on
building an extensive network of atom-bomb
proof tunnels under London. Government depart-
ments are refusing to give any details of the project.
Stretching from Holborn to Westminster a
mile away, these secret tunnels are designed not for
London's population but for Cabinet Ministers, top
Civil servants and 'Defence Chiefs'.

Whitehall

In Holborn a huge, hand-hewn tunnel 60 yards
from offices and shops of the Cabinet Office is
being built. The main shaft is to be sunk 80 feet
wide and 20 yards deep in a dozen workmen.

The tunnels are being secreted in the "shelter"
underground, about three-quarters of a mile
from the Centre of London.

Secret tunnels

dug for London

Express Staff Reporter

A SECRET network

of tunnels is being built near

London's High Hol-

born as a defence project.

The tunnelling started in March. Four 160 feet
shafts have been sunk. And tunnels are being
driven to connect the shafts. The work is on
a three-year plan.

Workers on the job have been asked not to reveal
the purpose of the tunnels, and loud pipes have
been put up to prevent the sites.

Shaft No. 1 has been sunk in Farnival Street, a
few yards from High Holborn. And 90 men are
working underground at this point, with trains running overhead.

An underground reservoir, used to carry on water as a safe for

Official secrecy - local knowledge
It was agreed that a further investigation of these two leakages would be unprofitable and that attention should be directed to preventing future such leakages.

The question was raised whether, in fact, these or future leakages mattered. It was generally agreed that they did. It would be embarrassing to the Government if the public got the impression that deep shelters were being constructed. Either the public would think that the Government were out to protect their own skins and those of their immediate servants; or the public would assume that the shelters were intended for public use in time of war and would be disappointed when they found they were not. The Home Office in particular would be embarrassed, because Government policy generally was that no significant shelter construction would be undertaken at present because of lack of resources. Apart from this, although a potential enemy might assume that in common prudence the British Government was constructing underground accommodation, it would be of help to him to know the truth accurately where that accommodation was and, given the depth, he could set his scientists on to constructing bombs specially designed to penetrate so far.

Discussion then turned to the question of preventing future such leakages and, more immediately, to limiting the harm done by the two present leakages. Possible measures to this end were considered as follows:

(a) The issue of a 'D' Notice: This would take time to negotiate with the Press, and would be accepted by them only if they were assured that it related to equipment and installations for a Service Department.

(b) The issue of a 'Confidential' memorandum to editors: Much the same objections applied as to a 'D' Notice, and both had the further objection of showing that the Government were really worried by the publicity so far given.

(c) The issue of a general statement giving such explanation as seemed fit of the projects so far reported, and attempting, by denial or correction, to minimise the effect of the mis-statements already made: this was open to the same general objection as were (a) and (b) and, moreover, would be likely to attract attention which had so far shown no interest, besides standing no chance of publication in the Daily Express itself.

The general conclusion was, therefore, that the best course was to attempt to satisfy the curiosity so far aroused, and prevent its being aggravated, by giving to such further questions as might come from the Press an answer which appeared to contain the fact that the work at High Holborn and Whitehall Gardens was for Post Office purposes; the Post Office would, in any
In the mid 1950s, the tunnel schemes are 'D' Noticed.
What did they know?
CHAPTER 43

An Act to vest in the Postmaster General certain underground works constructed in London, Manchester and Birmingham in the exercise of emergency powers; and for purposes connected therewith. [9th July, 1959]

WHEREAS during the recent war there were constructed by the London Passenger Transport Board, on behalf of the Crown in the exercise of emergency powers, certain underground works situated partly in the metropolitan borough of Holborn and partly in the City of London and connected with the underground railway station at Chancery Lane:

And whereas the Postmaster General entered into occupation of those works and, in exercise of emergency powers, extended them, and the works as extended (in this Act referred to as "the London works") consist of a system of tunnels, together with shafts and other means of access thereto from the surface and ancillary works:

And whereas in the exercise of emergency powers the Postmaster General has constructed works in the City of Manchester and works in the City of Birmingham (in this Act referred to respectively as "the Manchester works" and "the Birmingham works"), each consisting of a system of tunnels, together with shafts and other means of access thereto from the surface and ancillary works:

And whereas the Postmaster General has before the passing of this Act acquired an estate or interest in lands which include parts of the London works, the Manchester works and the Birmingham works and, in particular, in each case the sites of all shafts from the surface and of so much of the works affording access and of the ancillary works as lies on the surface:
North-Western Region

MANCHESTER TRUNK MECHANIZATION

A further step was taken in the mechanization of the trunk network in the North-Western Region when the Manchester Guardian trunk non-director exchange was opened for traffic at 8.0 a.m. on 7 December 1958.

The M.D.F. comprises 45 verticals, and an unusual feature of the frame is the use of connexion strips in place of Protectors H.C, and Test where the circuits are wholly underground; this should reduce fault liability. The switching equipment, consisting of some 219 racks, is arranged symmetrically around an I.D.F. of 67 verticals, reducing cable runs to a minimum. All cable and wire is p.v.c. insulated.

The trunking scheme employs first, second and third selector switching stages, all selectors being of the motor-uniselector group-selector type. The trunk and junction relay-sets provide for a.c. and d.c. signalling, pulse regeneration, and dialling-out facilities to distant manual exchanges. Space has been left for incoming registers to be provided later to cater for S.T.D. traffic.

Adequate testing facilities are provided by six trunk-test racks and two fault-record racks together with 10 automatic routiners of various types. These will be controlled by the new fault-recorder equipment—which can be arranged to operate any routiner, at any time, and make a printed record on a docket of any faults found. Statistical details of the quality of the service provided by the unit will be given by the new centralized-service-observation equipment which has been installed.
Thermonuclear: megaton, city killers
1952: USA, Ivy Mike (hydrogen bomb)
1954: USA, Castle Bravo shot [March]
1955: Soviet, RDS 37 [Nov.]
The Strath Report (1955), impact of radioactive fallout
Technical obscurity

Not only did equipment become rapidly out-dated, but the site wasn’t actually protective in terms of radioactivity. The standard air filtration system was thought to be sufficient.
1968 Guardian revealed; end of 'D' notice; off official secrets list
City kept ten-year telephone ‘secret’

By MICHAEL MORRIS

For 10 years, an emergency trunk telephone exchange has been secretly operating beneath the centre of Manchester. It has cost between £5 millions and £4 millions.

The announcement yesterday of the existence of an elaborate system dispelled rumours, which had persisted for years, that visible deep pile driving had been part of the building of an atomic shelter.

Mr Stonehouse, Postmaster-General, said in Manchester that it had been one of the city’s best kept secrets. Silence had been necessary for defence reasons. He was opening a surface trunk exchange which will relieve the underground installation of some duties.

Service protected

Later, a GPO spokesman said the exchange, known as “Guardian,” was built 150 feet underground, near Piccadilly, so that the trunk service would be protected in an emergency. It could be sealed off, and had living accommodation for the staff, and food and water supplies.

The exchange, on which construction began in 1954, was carrying trunk traffic at the end of 1958. It is reached by walking 50 steps into the basement of the new Rutherford surface exchange, and taking a 30-second lift ride.

A main tunnel 1,000 feet long and 25 feet wide, stretches from below Piccadilly Plaza towards Oxford Road. This contains the equipment, providing 2,000 trunk circuits. Cables from the

Mr. Frank Allaun asked the Postmaster-General on what date authorisation was given to build the £4 million deep level telephone exchange with entrances in Manchester and Salford; and by whom.

Mr. Stonehouse Construction of the deep-level "Guardian" exchange at Manchester was authorised in 1958 by the Government of the day. The total cost was £2,086,000, of which £1.6 million was spent on the tunnel itself.

Mr. Frank Allaun asked the Postmaster-General why the existence of the four underground telephone exchanges was not revealed to the public from approximately 1954 to 7th October 1968; if "D" notices were issued to the Press about them; and why the news has now been released.

Mr. Stonehouse The exchanges were provided as part of national civil defence planning and were consequently subject to a Defence Notice. Since the London "Kingsway", Birmingham "Anchor" and Manchester "Guardian" exchanges have now lost their defence significance, there is no longer any reason why knowledge of their existence should be withheld and this has now been released to the public.
Off Official Secret list, but still ‘hush-hush’
1970s Picc-Vic personnel had to sign confidentiality clauses.
The Exchange was operational, but not ‘secure’
Decline in significance; Documented by others

1990s period of decline. Several known tours and semi-official visits. English Heritage appraisal, Hogshawrabbits video documentation, Civic Society,
Bunkers for sale

Unwanted asset. Videos online and estate agents promoting their re-use.
Underground becomes a threat space,
Deterioration of physical fabric, Urbex infiltrations,
March 2004 fire - new level of physical security of entrances
Security stepped up
Elevated to Holy Grail status for urban explorers.

39 Guardian Telephone Exchange

LOCATION Subterranean Manchester, Lancashire, England
NEAREST POPULATION HUB Manchester
SECRECY OVERVIEW Access restricted: a long-secret communications network beneath the city streets.

Originally constructed in the 1950s during the Cold War, this complex of underground tunnels was designed with a view to safeguarding communications in the event of a nuclear strike. It mirrored similar enterprises undertaken in other major British cities such as London and Birmingham. Today the tunnels house a vast network of telephone cabling, though rumours about the Exchange’s exact status continue.

The tunnels that housed the Exchange are thought to cover around 3 kilometres (1.8 miles), stretching from Manchester’s city centre to the Ardwick and Salford areas. The complex was built in 1954 by a
Date: Mon, 15 Sep 2014 15:19:21 +0100
From: archives@bt.com
To: m.dodge@manchester.ac.uk
Subject: RE: photographs on BT Digital Archives

Martin,

I am sorry that these images made it to the online catalogue and caused confusion. We are unable to make them available due to government restrictions still applying to these images.

Regards,

BSc MIET

BT Archives
Technical heritage manager
Phone: 020 7440 4226
Email: [REDACTED]@bt.com

This email contains BT information, which may be privileged or confidential. It's meant only for the individual(s) or entity named above. If you're not the intended recipient, note that disclosing, copying, distributing or using this information is prohibited. If you've received this email in error, please let me know immediately on the email address above. Thank you.
Polite enquires to BT and others have been ignored.
Low profile but the George St. compound still holds secrets?
The expenditure on the project was huge and seemingly not justified by the ends...
Post Office and telecoms in the ‘Warfare State’...
If you want to know more:
• Atomica, http://www.atomica.co.uk/guardian/
• Read the Guardian chapter in the Infra_MANC exhibition catalogue, http://issuu.com/cyberbadger/docs/infra_manc_catalogue
• Our article in forthcoming issue of the Transactions of the Lancashire and Cheshire Antiquarian Society, http://www.landcas.org.uk/
Image references:

- **Slide 1**: Blast door at the entrance to main operational area of the Guardian underground telephone exchange in Manchester. Source: photograph by Tony Perry, English Heritage, 1988 ref. AA98/02423.

- **Slide 2**: Aerial view of the St Peter’s Square area of Manchester indicating the distance from the Central Reference Library to the Guardian shaft entrance building at 55 George Street, shown on inset photograph. Aerial image from Google Earth, inset photography by ‘Pit-yacker’, 2006, from https://en.wikipedia.org/wiki/File:Guardian_Exchange.jpg


- **Slide 4**: Photograph of the Trinity atomic test, 16 July 1945. Source: http://www.atomicarchive.com/Photos/Trinity/image7.shtml

- **Slide 5**: View of racks of telecommunications equipment being installed in the top half of the main apparatus tunnel of the Guardian underground telephone exchange in Manchester, April 1958. Source: tunnel engineer Patrick Gough, courtesy of George Coney.

• **Slide 7**: The extents of the Guardian tunnel network under Manchester city centre. Source: author compilation and map drawn by Graham Bowden, Cartography Unit, University of Manchester.

• **Slide 8**: Main photograph showing Dial House, a large 1920s era telephone exchange in Salford, 1939. Source: BT Archive, ref. TCB 473 /P1053. Inset perspective sketch of Dial House from *Manchester Guardian*, 13 December 1929, p.3. Inset plan from Ordnance Survey Mastermap showing the relation between Dial House and the newer Irwell House exchange building.


• **Slide 10**: Main street plan showing apparatus tunnels of the Guardian exchange from HM Land Registry title plan records, ref. GM728631, courtesy of Ben Jenkinson. Annotated aerial photograph taken from Manchester Evening News, 7 October 1968, p.5.
• **Slide 11:** Photographs documenting tunnel construction for the Guardian underground telephone exchange (Scheme 567) in Manchester, January and February 1955. Source: BT Archive, ref. TCB 417/E19882; E19982.

• **Slide 12:** Tunnel construction for the Guardian underground telephone exchange (Scheme 567) in Manchester, 1954. Source: BT Archive, ref. TCB 417/E19633.

• **Slide 13:** Photographs documenting tunnel sealing and waterproofing in the Guardian underground telephone exchange (Scheme 567) in Manchester, 1956. Source: BT Archive, ref. TCB 417/E21572; E20466.

• **Slide 14:** The shuttering for concrete lining of main equipment tunnel for the Guardian underground telephone exchange (Scheme 567) in Manchester, 1955. Source: BT Archive, ref. TCB 417/E20315.

• **Slide 15:** The main equipment tunnel being divided to create two working levels, March 1956. Source: tunnel engineer Patrick Gough, courtesy of George Coney.

• **Slide 16:** View along the main apparatus tunnel prior to equipment installation in the Guardian underground telephone exchange (Scheme 567) in Manchester, 1956. Source: BT Archive, ref. TCB 417/E21572.

• **Slide 17:** View of backup electrical generation equipment installed in the Guardian underground telephone exchange (Scheme 567) in Manchester, 1959. Source: BT Archive, ref. TCB 417/E24044.

• **Slide 18:** Backup battery room in the Guardian underground telephone exchange (Scheme 567) in Manchester, 1959. Source: BT Archive, ref. TCB 417/E24227.
Slide 19: Staff rest room in the Guardian underground telephone exchange (Scheme 567) in Manchester, 1959. Source: BT Archive, ref. TCB 417 /E24232.

Slide 20: Construction work at 55 George Street on the head of access shaft to Guardian underground telephone exchange, 1960. Source: BT Archive, ref. TCB 417 /E24701.

Slide 21: Two views of construction work at 55 George Street on the head of access shaft to Guardian underground telephone exchange, 1960. Source: BT Archive, ref. TCB 417/E24702, /E24703.


Slide 23: Author photographs of newspaper clippings from September 1951 included in Cabinet files discussing the secrecy of the construction of the Post Office tunnels. Source: The National Archives, ref. CAB 21/3999.


• **Slide 26**: View of the prominent headgear located at Piccadilly needed to winch men and materials to the GUTE tunnel workings. The façade of the exchange at York House, York Street, is to the left of the image. Source: Photograph by A. Dawson, 1955. Courtesy of Manchester Archives and Local Studies, ref. m56369.

• **Slide 27**: Act of Parliament in 1959 that retrospectively legalised the construction of the Guardian exchange. Author photograph of extract of the Book of Reference and plan of Guardian exchange from official documents supporting the 1958 Post Office Works Bill. Source: courtesy of Manchester Archives and Local Studies, Muniments Room Archives, ref. M797, Box 124, Parcel no. 27.


• **Slide 29**: Castle Bravo test of hydrogen bomb on 1st March 1954. Image source not recorded.


• Slide 34: (left) Guardian newspaper, 8 October 1968, p. 4. (right) Manchester Evening News and Chronicle, 7 October 1967, p. 5.


• Slide 37: Cover of a promotional booklet for the Picc-Vic Project, an unrealised train tunnel under Manchester city from the early 1970s. (Greater Manchester Council and Greater Manchester Transport, 1975).

• Slide 38: Covers of two influential 1970s and early 1980s book that began to expose the physical infrastructure of secret nuclear state and the deceptive nature of civil defence planning in the UK; Peter Laurie’s Beneath the City Street; Duncan Campbell’s War Plan UK. Photograph of Duncan Campbell exploring cable tunnels under Whitehall, source http://www.duncancampbell.org/content/tunnels.
• Slide 39: bottom left) an urban explorer in Guardian exchange, photograph courtesy of George Coney. (right) book cover of Cold War: Building for Nuclear Confrontation 1946-1989, which features some details on the Guardian exchange from English Heritage’s appraisal of the site.
• Slide 40: Author screenshot from the YouTube page showing the unofficial video tour of the Guardian exchange by ‘Hogshawrabbits’. Available at https://www.youtube.com/watch?v=t8DsOUtpzTI
• Slide 41: ‘Going Underground’ local newspaper story from Metro News, 1 February 2002. Scan image courtesy of George Coney.
• Slide 42: ‘Phone Crisis’ local newspaper story from Manchester Metro News, 2 April 2004. Scan image courtesy of George Coney.
• Slide 43: (block of four photographs, left) The small surface buildings at the top of cable tunnel as originally constructed, at Lockton Close, Ardwick, Manchester and Islington Street, Salford. Courtesy of George Coney. The same locations after being rebuilt and secured in 2005-7. Courtesy of Richard Brook. (top right) Details from the planning application for Lockton Close access shaft from April 2006, ref. 079156/FO/2006/N2, Manchester Public Access System, <http://pa.manchester.gov.uk>. (bottom right) The reconstruction of Lockton Close access shaft to the cable tunnel, photograph by Rob Greaves, courtesy of George Coney.
• Slide 44: Book cover of 100 Places You Will Never Visit. Google Books showing the page from this book featuring the Guardian telephone exchange.
- **Slide 45**: Email from BT Archives to the author regarding access to some further 1950s era construction photographs of the Guardian exchange.

- **Slide 46**: View along the main pedestrian tunnel into the Guardian exchange. Source: Photograph by Tony Perry, English Heritage, 1988, ref. AA98/02422.

- **Slide 47**: View down lift shaft into the Guardian exchange. Source: Photograph by Tony Perry, English Heritage, 1988, ref. AA98/02424.