London Buses in WWII

Browsing through some scrapbooks recently I couldn't help but notice how many pictures there were of London, double-decker buses, in various stages of destruction having suffered the effects of bombing raids during the 'Blitz'. These buses seemed to stand out from the rest of the carnage, perhaps because even now, they are such a familiar sight, carrying out their job, almost as part of the landscape in their benign and stately fashion. To see one laying crumpled against the side of a building or half buried in a bomb crater, it makes one feel quite sad that this harmless beast has been felled. Like the body of a proud bull elephant, brought down in its prime and left for dead.

Cutting dated September 10th 1940 showing a bus in North London, blown up shortly after the driver had evacuated his passengers to safety.

I realise I'm being more than a little sentimental here, but it got me thinking about the buses and London Transport's contribution to the war; and led me to yet another look into a lesser-known aspect of WWII.

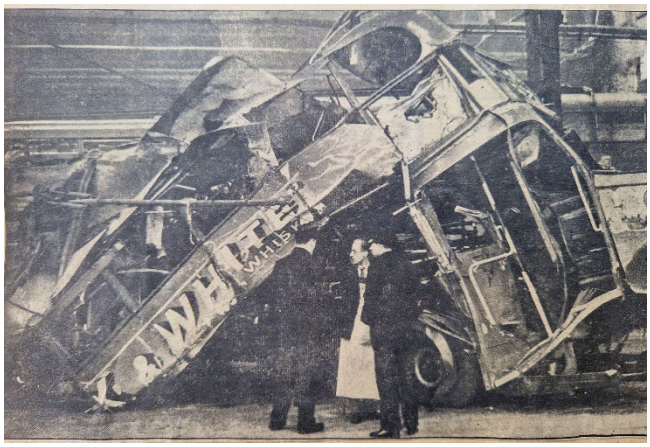
I will use some of the cuttings that prompted this research to illustrate this first part of the story.

The following information comes from a Transport for London Research Guide, No 28: London Buses in World War II, one of the TfL Corporate Archives Research Guides.

When Britain declared war on Germany on 3 September 1939, the London Passenger Transport Board (LPTB) was well-prepared for the looming conflict. Much work had already been done on air-raid precautions, first-aid, fire-fighting, decontamination and suchlike.

LPTB at that time operated the Underground, motor-buses in the Central and Country areas, Green Line coaches, trolleybuses, and tramways - which were in the course of replacement, principally by trolleybuses, when war broke out. In fact, the war gave the trams a stay of execution and they were to carry on for a further thirteen years. By the same token and due to the war, the trolleybus system did not develop south of the river as planned and, in time, was itself to succumb to the motor-bus.

Two days before the declaration of war, all Green Line coaches were withdrawn and over 400 of the fleet were converted into ambulances within five hours. All were transferred to the London area from their country garages. This had been planned since as early as July 1938. Buses and trolleybuses had their headlamps masked and interior lamps fitted with cowls. Other lamps – sidelights, destination blind lights etc – were removed completely. Conductors found it difficult to punch tickets correctly in the blackout and to distinguish between copper and silver coins when collecting fares.



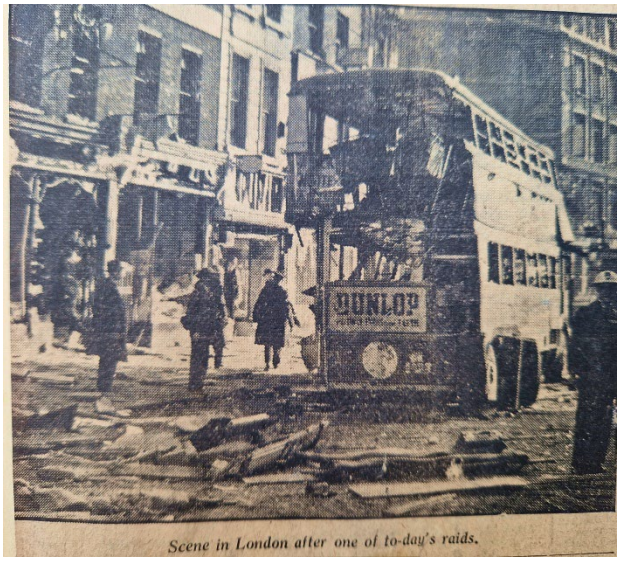
Cutting showing London bus almost completely destroyed.

Other precautions taken in due course included the covering of bus windows with protective netting to prevent injuries from splintering glass, with just a small diamond aperture in order to see out; the painting of bus mudguards white, where appropriate, and for the painting of a white circle at the rear to indicate primarily to trolleybus drivers that a motorbus was in front and it would be safe to overtake without risk of dewirement.

Immediately prior to the declaration a massive four-day evacuation of over half-a-million people – mostly children – was carried out, initially using buses for transporting them to railheads although in some cases buses were sent further afield. Expectant mothers, blind persons, disabled children and hospital patients were dispersed to various locations and other hospitals well out of the danger area.

Trolleybus (and tram) overhead wires were particularly prone to damage from bombing and, in fact, the first bomb to have any effect on services fell in New Malden in August 1940, damaging the trolleybus wires. An unexploded bomb also disrupted the local service.

A limited number of Green Line coach services were reinstated from November 1939, followed by a number of others as vehicles were released. All of these terminated at three central London locations. A new numbering system was introduced for them using numbers between 2 and 59 that would not clash with existing Central Area bus routes. These services were withdrawn completely in September 1942 for the duration of the hostilities in order to conserve supplies of fuel etc. With so many male staff away in the Armed Forces, LPTB began to recruit women as conductors on the buses and, for the first time, on Green Line coaches. They also worked on day-to-day bus maintenance at garages, did sundry other tasks and on occasions helped to shunt buses into position but were not permitted to drive in service. Many were from a number of different backgrounds.



Scene in London after one of to-day's raids.

Cutting showing London after the raid.

Much effort was made in salvaging and re-using materials as shortages became more acute. Broken bus windows were replaced with wood, seat moquette was replaced with wooden slats, bus tickets were reduced in size, and paper pulp salvaged from used tickets and waste paper. Drivers were

instructed to reduce wear and tear on their vehicles and to reduce speed over any section of damaged road to prevent vehicle damage. Between the peaks, permission was granted for buses to park up in Regent's Park and on Victoria Embankment and other central London locations instead of returning empty to their garages, in order to save fuel.

A short-lived bus service of sorts was introduced, at the request of the Government, between Westminster and North Woolwich in late 1940, using river boats serving the various factories and wharves in between. Fifteen boats and tugs were used, the Port of London Authority supplying the vessels, crews and stores whilst the LPTB supplied conductors and inspectors. The running time was over two hours, much slower than existing services, and being twice interrupted by mines in the Thames was withdrawn after six weeks.


Bomb-shattered bus in London to-day.

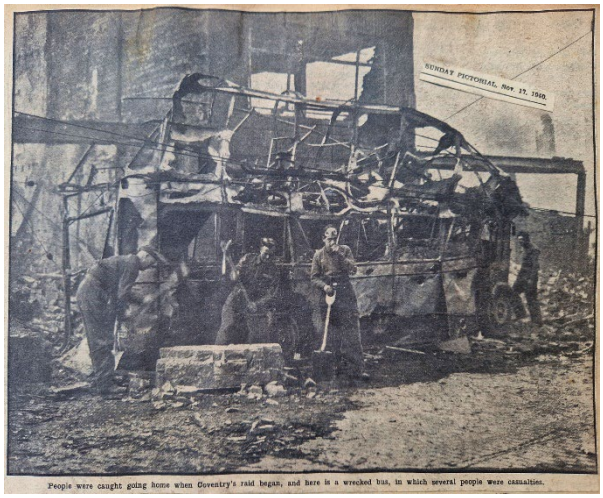
Cutting showing a Bomb shattered London bus.

From late 1940, there had been so many buses damaged that a request was passed to the Ministry of War Transport for buses to be hired in from provincial operators. Some 470 vehicles, both double and single deck, were received of many different makes and liveries from places as far afield as Exeter, Plymouth, Coventry, Leeds, Glasgow and Inverness. Bournemouth supplied a number of trolleybuses. Home losses from provincial towns and cities meant that many had to be returned within a year or so but later in the war LPTB were able to return the compliment by lending some 330 vehicles to various operators including some in Scotland.

Full introduction of the new 'RT' type buses from 1940 was delayed due to the fact that certain parts had to be obtained from German suppliers, resulting in many of these buses being stored at various outer-London locations during 1940/41. Some were used as guardrooms whilst in store.

There are some well-known incidents of buses being involved in major enemy action, including one at Balham, *left*, in 1940 whereby a bomb penetrated the Underground station causing a crater into which a no. 88 bus fell (a 6-wheel LT type). Another bus ended up propped against the side of a house near Mornington Crescent whilst another was severely damaged in Portman Square, near Oxford Street. Several bus garages and some trolleybus depots were badly damaged by enemy action, the most serious being Croydon and Bull Yard, Peckham which involved many buses and coaches being damaged or destroyed. Bexleyheath trolleybus depot was hit in 1940 and Elmers End garage suffered a direct hit from a V1 'flying bomb' in 1944, involving several fatalities. Athol Street (Poplar) garage was hit several times. Even the Country Area was affected, with Hatfield garage being damaged, which involved some buses

having to be kept in a yard at the de Havilland aircraft factory nearby (which may well have been the Luftwaffe's initial target). Uniquely, as a result of enemy action, ordinary road traffic was diverted on one occasion through a bus garage (Alperton), which occupies a corner site, while still in day-to-day use. From 1944, certain garages were damaged in rocket (V2) attacks.



People were caught going home when Coventry's raid began, and here is a wrecked bus, in which several people were casualties.

Coventry also lost buses.

A total of 181 buses, coaches and trolleybuses were totally destroyed by the bombing although a number were repaired, with chassis being fitted with new or spare bodies. In an attempt to save fuel with the remaining petrol-engined buses, which were particularly fuel-thirsty, a number of ST and (single-deck) T-types were converted to operate on producer-gas. Each bus towed a small trailer containing a gas tank. The gas was produced by drawing air through hot anthracite coal or coke which was then piped through to the engine, which had to be specially modified. Performance was poor and the buses were generally restricted to the flatter routes, mostly in the Country area. Each required re-fuelling at the garage every 80 miles or so. The buses were converted back to conventional operation in the autumn of 1944.

A number of buses were repainted grey in an attempt at camouflaging them where they operated past sensitive locations, such as the aircraft factory at Brooklands, near Weybridge. Country route 410, which passed Biggin Hill airfield, was affected by the hostilities and for a time these buses carried an armed guard.

On the outbreak of war, the Ministry of Supply had halted bus production, as equipment and materials were better directed for war work, but in 1942 permission was given for chassis to be completed that had been started before the war. When completed, these buses, of various types, were known as "Unfrozen Buses". With the need for more buses due to passenger demand and severe wartime losses, the Ministry had to agree to the construction of new vehicles but placed severe restrictions on their design, which affected provincial operators as well. No refinements whatsoever were permitted to these new 'Austerity' buses, such as aluminium or other metal of use to the war effort. Buses of Bristol, Guy and Daimler manufacture appeared on the London streets, in addition to batches within existing classes, many being fitted with un-upholstered leather-cloth or even wooden seats, with wartime exterior markings and masked headlamps etc. Many of these vehicles lasted well into the 1950s before being sold off and often re-bodied or scrapped. Just one (a Guy) has survived into preservation. The war meant that many buses nearing the end of their serviceable life and dating from the late1920s/early 30s had to be kept going long past their time for withdrawal.

A Victory Parade was held in The Mall in June 1946, attended by King George VI, Queen Elizabeth and other dignitaries and involved a ceremonial drive-past of two 'RT'-type buses dressed in wartime garb and at least one of those lent by one of the provincial operators, almost certainly Leeds.

The following information comes from various pages of the London Transport Museum website.

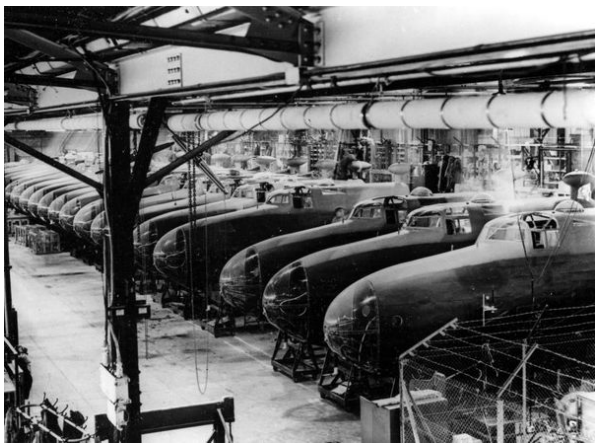
LT type buses were in common use during the Second World War and the LT165 in the Museum's collection has been restored to its wartime appearance (*see picture at end of this article*). To reduce visibility from above, lights were shaded, the roof painted black and white stripes on the mudguards aided visibility for pedestrians. Passengers would be protected from shattered glass from a bomb blast by 'anti-splinter' netting on windows.

Left, This T219, a T-type AEC single deck motor coach, is an early model of Green Line coach. Green Line was set up in 1930 and used for long-distance express services from central London to local towns and villages. During the Second World War, this vehicle was converted to an ambulance, replacing seats with supports for stretchers brought in via a wider rear door, for use in the Golders Green and Hendon area. Many were used by the American armed forces, being converted into mobile canteens known as 'clubmobiles'.

London Transport vehicles proved equally adaptable during the Second World War. T-type coaches, typically used on Green Line services to the suburbs and surrounding countryside, made ideal converted ambulances and mobile canteens. They were used for evacuating expectant mothers and vulnerable civilians away from London and for keeping American troops fed and watered.

Left, Side view of rear section of a converted T-type Green Line coach in use as a Clubmobile canteen for American forces during WW2. American army personnel can be seen in front of the vehicle's serving hatches, whilst others stand to the left of the Clubmobile, cups of coffee in their hands, talking to a young woman in uniform, who is carrying a tray. An aircraft, with two men apparently working on one of the engines, can be seen, background left. This image is reproduced on a postcard to be posted by US forces during WW2.

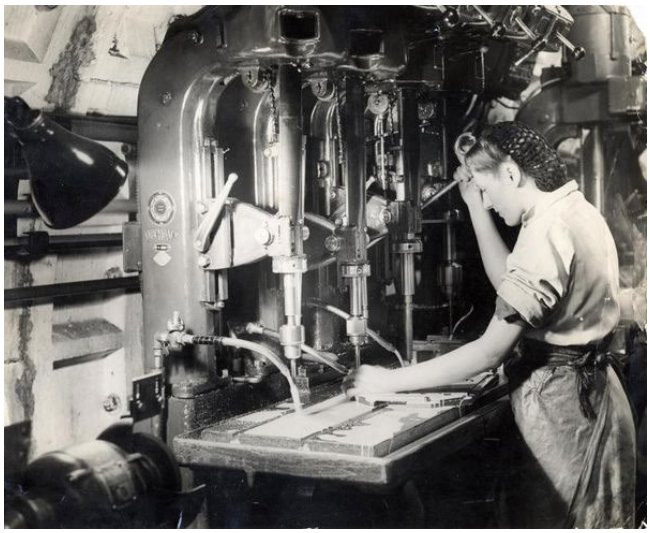
Perhaps one of the lesser-known contributions of London Transport in the Second World War was its role in manufacturing aircraft. From 1941 the company repurposed many of its facilities and staff to making Halifax bombers. London Transport combined with four other companies to form the London Aircraft Production Group, using its works at White City, Chiswick and Aldenham. Components were assembled at Leavesden airfield. By 1945 over 700 aircraft had been completed.



Left, High angled view showing twenty-two front fuselage sections of Handley-Page Halifax bombers, at Aldenham Works. The fuselage

sections were manufactured at Duple-Motors, Hendon, and delivered to Aldenham for electrical installation. LT joined forces with four motor companies (The London Aircraft Production Group) to manufacture the aircraft. 1941-45

By contrast, the use of Underground stations to shelter civilians from air raids in the Second World War is perhaps London Transport's most famous wartime contribution. The Tube network had also been used for this purpose during the First World War, when London experienced air raids for the first time. During the Blitz between September 1940 and May 1941, the Underground's deepest stations were used every night by shelterers. London Transport was also tasked with constructing eight deep-level shelters, which were used from 1944 when London came under renewed attack. Shelter Aldwych Station 1940, *above*.



The Underground network was also used to provide shelter for vital secretive activities. The tunnels of the unfinished and paused eastern extension of the Central line between Leytonstone and Gants Hill were used to house the factory of the Plessey defence electronics company, *left*. The disused Down Street station was repurposed as a bomb-proof headquarters for the Railway Executive Committee, the body that ran Britain's mainline railways in wartime. Down Street was even temporarily used to protect Prime Minister Winston Churchill during the Blitz.

In the days leading up to Britain's entry into the Second World War, London Transport played a vital role. With destructive air raids widely anticipated, the British government arranged for children, expectant mothers and vulnerable people to be evacuated from major cities. In August and September 1939 around 1.25 million people left London. Most were moved by London Transport vehicles to mainline railway stations.

Left, Children being taken to Waterloo Station for Evacuation in 1939.

Above all the wartime contributions of London's transport services, perhaps the most essential was their ability to keep the

RT-Type Buses take part in the Victory Procession in The Mall, June 1946.

capital moving in the most challenging of circumstances. While doing their jobs in the Second World War, 426 staff were killed and nearly 3,000 injured. Yet despite air raids, an altered workforce, requisitioned vehicles and a lack of resources, the Tube trains, buses and trams still ran, and Londoners were still carried from A to B.

Home Guard

During the Second World War in 1940, Britain was threatened with the prospect of invasion. In response, Britain formed the Home Guard, a secondary defence force in support of the Army. It was made up of men in reserved occupations or those too young or old for the regular forces. Around 1.5 million men volunteered to serve part-time, often alongside their civilian role. The Home Guard's composition, and its famous depiction in a 1970s BBC sitcom, led to it being dubbed 'Dad's Army'.

The Home Guard was organised by local area, with many units formed in London. London Transport (LT) played a significant role, forming a total of seven battalions, which at their height consisted of nearly 30,000 men.

While some members of the Home Guard had military experience, all its volunteers required training. This photo shows a trolleybus at Wembley Park in 1940, riddled with bullet holes. London Transport Home Guard units used many of its large sites around the capital for training purposes. There was even a rifle range at Baker Street. However, it was some time before the Home Guard had a reliable supply of weapons and equipment.

After training, one of the main roles of London Transport's Home Guard was to provide security to LT stations, power stations, depots and works against potential attack or infiltration by the enemy. In this photo, four members of LT's Home Guard patrol Chiswick Works in 1941, the year in which the Home Guard were armed and given Army uniform. The corporal (*on left*) and three private soldiers are possibly on their way to commence sentry duty. Two STL-type

buses and some private cars can be seen in the background. The roof of the low building, background right, appears to be covered in camouflage paint.

A regular feature of home front life were war weapons weeks *left*, when British and captured enemy weaponry were displayed to the public to boost morale and raise money for National Savings. Here members of the LT Home Guard display a stall at Parsons Green Works in 1941, including a sub-machine gun on the left, field telephones in the centre and a Vickers machine gun on the right.

Finally, below, a preserved LT-type AEC double-deck motor bus. Workhorse (or elephant!) of the London Transport fleet.