

The Beauty of Transport

Chapter details – in no particular order

The Beauty of Transport: introduction, and the importance of transport in the way the world looks.

Tall Tiles. Ceramic tiles and transport. From the wipe clean surfaces of early Underground stations to the mosaic tile finishes of North Greenwich, ceramic tiles have provided some of the most attractive pieces of transport design. From Sao Bento station in Portugal, via magnificent tiled railway maps to the present day stations using tiled finishes.

Words and Pictures. The famous logos and typefaces that started off in, or were made popular in, transport contexts, but escaped into the wider world. British Rail's typeface became the default for hospitals, British road signage type has spread round the world, and American road signage type was used by Sainsbury's. Gill Sans was made famous by the railways. London Underground spends a lot of its time trying to prevent unauthorised use of its red and blue roundel.

How We Forgot How to Fly: sample chapter below

Roadside Oddities: Cabmen's shelters, AA Boxes, Patcham Pylons and Fittleworth Arch. Little Chef at Markham Moor and Wansford (and now a Ducati motorbike showroom). Motorway Service stations old and new

Little Objects: Cats' eyes, railway insulators, Bundy clocks, Swiss Railway clock, rail clips. Small but beautifully detailed pieces of attractive equipment designed for the needs of transport.

The Fabric of Space and Time: In which one of the country's biggest upholstery companies has been your companion for years, and created the palette for your memories of travel by designing the seat covers on most buses and trains. Now, even flooring companies are getting in on the act with artistic flooring designs for buses and trains.

Art Goes Underground: In which London, Hollywood, Paris, Stockholm and Geneva have more in common than you might expect with art programmes on Metros which range from the hosting of art displays to the creation of entire stations as works of art

A sheltered life: Many bus shelters are basic, barely up to their suggested job of sheltering passengers, and have little respect for their surroundings. But there are some shelters around the world which have bucked the trend. Some of them are more practical than others, but all of them suggest that bus shelters don't have to be boring.

Ventilation and Power: In which underground transport refuses to stay underground where it belongs, and what to do about the bits which break the surface. There are many attractive ventilation shafts keeping the air fresh on transport systems below our feet. And sometimes, no-one even realises that's what these strange surface buildings are.

Art for Transport's Sake: In which transport influences the arts: paintings, literature, the stage, the screen...

4

How We Forgot How to Fly

In which glamorous early airport terminals make way for larger ones which lose their glamour, then regain it, and some of them try their best to lose it again

[Illustration – map showing the locations mentioned in this chapter]

I'm standing on Buckingham Palace Road in London, with my back to one of the capital's more famous transport landmarks, Victoria Coach Station. Not that there's anything wrong with Victoria Coach Station. It's a particularly fine example of Streamline Moderne by Wallis, Gilbert and Partners, and recently listed by Historic England. But I'm here for a different building altogether, and one which has an often overlooked place in a nearly forgotten chapter of transport history. Opposite Victoria Coach station is... the National Audit Office.

At least, that's what it is now. As the forensic auditors – who have, coincidentally, skewered many a mismanaged government transport project – scurry in and out, you (and perhaps they) would be hard pressed to guess the National Audit Office building's original purpose at first glance. It's certainly not quite an ordinary office block. Though later extended on both sides, the central part of the building is clearly the older, original part. It has four-storey curved wings flanking an extraordinarily tall central clock tower, which looms imperiously over Victoria railway station, which is located just behind it, not coincidentally. The clock tower is a giveaway that this was a transport building once. If it's not a memorial, or a town hall, then if a building has a tall clock tower the odds are that it's something to do with transport. And what's that topping off the canopy which protects the main entrance? A huge sculpture called "Speed Wings Across the World", in which two winged figures cradle a huge stone globe. Now it's becoming clearer, even if it seems quite impossible. This is an airport terminal, right here in the middle of London, miles from the nearest runway. Once upon a time, it was called the Empire Terminal.

When the Empire Terminal (the name itself conjuring up a whole now-vanished world) opened with impeccably bad timing in 1939, it was the latest in a distinguished set of fabulous-looking airport terminals; a lineage which began just a few miles down the road, in Croydon.

Croydon is more famous in transport terms these days for its light rail system, but sitting towards one end of an industrial estate a little to the south of the town centre is the first purpose-built airport terminal not only in Britain, but in the world. The runway it served has long since gone, turned into parkland, but the terminal building lives on.

Before the terminal at Croydon was built in 1928 there had of course been buildings at other airports. But airport functions – arrivals, departures, customs, air traffic control and so on – were divided into separate buildings, and those buildings often had a distinctly temporary look about them. Croydon Airport Terminal was the first airport building to bring all these functions together into a single structure, setting a template for subsequent airports to follow.

In the 1920s the British government was deeply involved in the nascent civil aviation sector, not least through the creation of state-owned Imperial Airways, and it was the Air Ministry's Directorate of Works and Buildings which designed the terminal. With no previous examples of such a building to give any clues as to what an airport terminal should look like, and with civil servants in charge, it is perhaps unsurprising that Croydon Airport Terminal emerged looking rather like a well-appointed municipal town hall. Its neo-Classical features include arched windows, large keystones, and rustication on its entrance block, which also sports a clock above the main doors. Inside, pilasters and panels decorate the lobby, which is double height and lit by a domed skylight above.

Inexplicably unknown by most people today, Croydon was an airport of firsts. As well as having the first recognisably modern terminal building, it also carried out early experiments in air traffic control and the tracking of aircraft by radio signals. Its control tower, designed to allow the functioning of the air traffic control systems being developed at Croydon, set the template for those to follow.

Croydon Airport closed soon after the Second World War, its grass runways unable to cope with the rapidly increasing size of passenger aircraft. The terminal building now hosts a visitor centre and museum dedicated to telling the scandalously overlooked story of Croydon Airport's early achievements.

It's not the only survivor of Britain's early airport terminals. Those which followed swiftly abandoned the neo-Classicism of Croydon for much more suitable styles of architecture, Modernism and Streamline Moderne, which often drew inspiration from the streamlined shapes of early passenger aircraft.

Shoreham Airport Terminal in West Sussex, built in 1936, continues to serve an active airfield. This Streamline Moderne terminal is a beautifully proportioned curvilinear building with a tall central block flanked by lower wings on either side, a common pattern for Streamline Moderne buildings both within and without the transport sector. Above the entrance doors is a 1930s-style clock looking considerably more futuristic than Croydon Airport's town hall-style clock with its Roman numerals. Running vertically up from the clock at Shoreham is a tall window with a chevron pattern metal grille, and topping all that off is an Art Deco relief sunburst.

Like Croydon, the main entrance leads into a tall lobby. Decorated by wave-pattern plaster moulding, fluting on the parapet of a balcony which runs right round at first floor level, it is lit by a pair of skylights on either side of a central dome. The dome is decorated by two moulded 1930s aircraft.

Although no longer hosting scheduled passenger flights, the terminal building remains open to the public. Food or drink taken in the restaurant gives the opportunity to watch activity on the airfield and experience something of the early days of air travel.

The airport terminal at Speke, near Liverpool, completed in 1939, is even grander. "The most ambitious municipal airport project of the inter-War period," is how Historic England describes it. Finished in red brick rather than the Shoreham's white render (the latter a more typical finish for Streamline Moderne buildings), Speke's lofty octagonal control tower dominates its surroundings, looking like a Modernist take on a lighthouse. On either side, long curved wings step down from three storeys in height where they meet the central tower and main entrance building, to a single storey at their extreme ends. The balconies on top, a call-back to those on the marine terminals serving ocean liners, were well used in the 1960s by fans of The Beatles, hoping to catch a glimpse of their idols as they returned to Liverpool.

Speke's terminal was completed just in time to be requisitioned by the Royal Air Force, but served Liverpool until the opening of a new terminal at what is now Liverpool John Lennon Airport in 1986. The old terminal building remains in use, with the addition of two extra accommodation blocks, as a very stylish hotel.

If the terminals at Shoreham and Speke are amongst the most stylish of the early airport terminals, Elmdon Airport Terminal was (and probably still is) the most dramatic. Another white-rendered Streamline Moderne building, completed like Speke in 1939, it does away with the wings often seen at early terminals in favour of two enormous actual wings. These striking canopies cantilever out at second floor level on either side of the terminal. They were intended to shelter passengers leaving the terminal building and walking to their aircraft, which drew up under the canopies. Flat fronted on the land side, and finished with two very dramatic needle-like towers flanking the obligatory clock, it is the air side of the building which is the more startling. When built, it was an unusual curved shape, like the decks at the front of an ocean liner, with balconies decreasing in size towards the top. Though modified since and extended, losing some of its maritime glamour in the process, it is still a remarkable structure.

There are other survivors too. Cambridge Airport's terminal sports attractive corner windows and a semi-circular two storey bay on the air side. Sywell Aerodrome, near Northampton, retains a sensitively restored early terminal too.

What all these early airport terminals have in common is a direct and comprehensible relationship between arrival at the airport on the land side and departure from the air side. A passenger arriving at Shoreham Airport, for instance, would have entered through the main doors and walked straight into the lobby. Through the windows on the other side the airfield and the waiting aircraft would have been easily visible. As airports grew larger in the second half of the twentieth century, this ease of use, this simple comprehension of the way the terminal building worked, would be comprehensively lost.

But back to London and the Empire Terminal, where for different reasons altogether, passengers would have been unable to see the aircraft they were planning to fly on. It opened in 1939 and was designed by Albert Lakeman for Imperial Airways, which was about to become BOAC (British Overseas Airways Corporation). Imperial Airways/BOAC operated not only from Croydon Airport, but also from Southampton Docks, home of one of the most stylish forms of transport ever designed, the flying boats.

Imperial Airways' flying boats connected Britain with the rest of the British Empire, including countries as far away as South Africa and Australia. Even the most advanced passenger aircraft at that time had quite limited ranges before they needed to stop for refuelling. Before the war, there was a lack of land-based airports en-route, so the option of flying boats using the sea for take-off and landing, docking at existing shipping ports, was an attractive proposition.

London, naturally, was Imperial Airways' key market. Croydon Airport was conveniently close by for land planes, but the flying boat terminal at Southampton was around 80 miles away by road. While today's air travellers are expected to find their own way to and from airports, Imperial Airways was the creation of a different time altogether. It took the opposite approach, and brought the airport to London.

Passengers checked their luggage and themselves in at the Empire Terminal on Buckingham Palace Road rather than at the actual airports. And they did so in sumptuous Art Deco surroundings, with the terminal's architect Lakeman ensuring that its interior was finished in the latest fashion.

Passengers were transported by road to Croydon Airport, but passengers bound for Southampton's flying boats caught the train. The Empire Air Terminal had an exit at the back which led directly onto one of the platforms at Victoria station. Passengers simply boarded a special 'boat' train, which took them all the way to Southampton Docks and the dedicated flying boat terminal station there. Luggage went in the baggage car and all a passenger needed to do was sit back, relax, and alight from the train at Southampton Docks.

The Empire Air Terminal was no one-off, either. There were other air terminals in London, for instance at Waterloo and Kensington, all allowing luggage to be checked in conveniently in the city, rather than having to drag it all the way to the airport. It's a concept that is so obviously attractive that it's been tried again since then. In the late 1990s, luggage check-in facilities were introduced at both Paddington and Victoria stations for passengers catching airport express train services to Heathrow and Gatwick airports respectively. The terrorist attacks of 9/11 put paid to the idea, and meant that for many years, Gatwick Express's fleet of trains ran with one of the carriages – a windowless baggage car that was impossible to easily convert to extra passenger accommodation – empty.

The flying boats were air travel almost unrecognisable from the experience it has become. Journeys took a lot longer, not least because of the refuelling stops needed, and flights carried many fewer passengers. To take the flying boat was to announce that you were amongst the elite. To compensate for the long journeys, the accommodation was luxurious with cooked meals served from an on-board kitchen into a dining room, and cabins had seats that converted into proper beds at night. Then, of course, there was the excitement of taking off from, or landing on, the water; as though hitching a ride with a flying fish.

Southampton was served not just by Imperial Airways/BOAC's greatest flying boats, those of the Empire class, but also by Pan Am's flagships, the Boeing 314 'Clippers'. Pan Am operated the long trans-Atlantic route from Southampton to La Guardia in New York, with stop-offs in Ireland and Canada along the way. At La Guardia, conveniently right by the waters of the East River, the Clippers used the Marine Air Terminal, designed by Delano and Aldrich and opened in 1940, every bit the quality of the Empire Air Terminal with which it bookended the journey.

A daring circular building, the exterior of which is decorated with an Art Deco frieze of repeated flying fish (naturally), its best feature is a vast circular lobby with walls of dark marble. Running right around the upper level is a huge frieze called "Flight", by artist James Brooks. Nearly four meters tall and 72 metres long (acknowledging that its circular nature strictly means it has no beginning and no end), it depicts the human obsession with flight. Unfortunately, its suggestion that flight could – and perhaps should? – be the preserve of the ordinary man or woman was seen as dangerously socialist in 1950s America and it was swiftly painted over. It was restored the late 1980s with the involvement of Brooks himself. In some ways, "Flight" mirrors the experience of the Marine Air Terminal itself, which fell into decline soon after the Second World War.

The golden age of the big flying boats was over almost as soon as it had begun. There was less passenger travel during the Second World War, and the flying boats, designed before the war, were obsolete technology by the time it ended. The actual flying boat terminal at Southampton relocated several times before the war, but eventually an up-to-date facility at

Berth 50 opened at in 1948. While the luggage handling facilities there took care of cases and trunks, and there were offices for customs and immigrations officials, passengers could relax in the bar and restaurant until it was time to board their flying boat. It was a project which was already out of date when it opened. BOAC continued to operate its flying boats only until 1950, when they were sold to a smaller company which operated them for just another eight years.

The Second World War had, almost by accident, ushered in the technology and the infrastructure needed for the modern age of aviation, and which rendered the flying boat concept redundant. Jet engines had first appeared on military aircraft during the war, and would make their debut on a passenger jetliner in 1949, with the unveiling of the de Havilland Comet. The long, hard runways that jetliners needed for take-off and landing were suddenly much more numerous thanks to the military airfields which had been constructed around the world.

In one way, however, 1950s jet travel was still like its flying boat predecessor. The jetliners still did not quite have the capability to carry enough fuel for a non-stop flight on key corridors like London to New York. Refuelling stops were still needed; which is how an isolated ex-military airfield in the middle of the endless pine forests and deep winter snow of Newfoundland came to be – for a time – one of the most important airports in the world.

It was woefully unequipped to do so. All its military use had bequeathed it was a collection of huts and converted hangars, quite unsuitable for handling the number of passengers moving through the airport while they waited for their jetliners to be refuelled. By the 1950s there were 250,000 such passengers each year, carried on some 13,000 flights.

National pride dictated something better, and in 1959 Gander got it, in the shape of perhaps the last great integrated airport building. Though in the squared off post war-modern style, its design lineage is still traceable directly to the tradition of airport buildings like Croydon, Shoreham and Speke, retaining its control tower as part of the structure.

It was inside that Gander was special, however. With a bespoke interior commissioned largely from Canadian designers, it was every inch the cutting edge modern airport terminal, anticipating the design trends which would prevail during the early 1960s. Canadian artist Kenneth Lochhead provided a large mural, “Flight and its Allegories”. Seating was designed by top furniture designers Charles and Ray Eames, Arne Jacobson (when he wasn’t busy designing one of the world’s most attractive petrol stations), and Canadian designer Robin Bush. The terrazzo flooring was inspired by the work of Piet Mondrian, and there were floating staircases and are hardwood fittings all over the place.

It is the epitome of the style recently re-popularised by TV series like “Mad Men”. Gander International Airport Terminal is Don Draper, in transport form. Best of all, thanks to some very bad timing, it’s still there.

Gander International’s new terminal opened just in time for the second generation of jetliners to enter service, aircraft with longer ranges and the ability to fly schedules like London to New York non-stop. The new Gander International became a white elephant almost as soon as it

opened. Its previously rock-solid business case had, virtually overnight, been completely eviscerated by advances in technology, and from then on, hardly a passenger was to be seen.

However, the sudden and dramatic downturn in its fortunes meant that its achingly stylish interior was almost perfectly preserved; a time capsule of early 1960s air travel. Having agonised for years over the costs of maintaining this expensive facility against the number of passengers using it, the airport's management finally announced in summer 2017 that it would retain and refurbish the historic terminal.

A similar debate has raged over what to do with one of the airport terminals that served those new non-stop London to New York flights. The TWA Flight Center at John F. Kennedy International Airport opened in 1962. Its startling, War of the Worlds Martian Fighting Machine design was the work of Eero Saarinen (son of Eliel, who before emigrating to America had won acclaim for the forward-looking architecture of Helsinki's main railway station).

It's a curvaceous bombshell of a building, the Marilyn Monroe of airport terminals, and all but the end of its line. With its huge windows, it was one of the last big air terminals that allowed a passenger to understand the relationship between their land side arrival, their air side departure, and the terminal in-between. Inside are mind boggling vistas of sweeping white curves as floors morph into stairs, which morph into mezzanines, which sweep up to balconies, organically and with few clear transitions between the various elements.

With the increasing popularity of air travel, the TWA Flight Center eventually proved too small. TWA itself went bust in 2001 and the Flight Center closed shortly afterwards. A new terminal was built behind it and although the original plan was to use the Flight Center as the entrance to the new terminal, its design proved too difficult to adapt to the passenger flows and security requirements of a modern terminal. It remained mothballed for years but is now being turned into a hotel; shades of Speke.

Notably, the Flight Center is a terminal building only, rather than a complete airport building like those of the early airports. There are several other terminals and administration buildings at John F. Kennedy and the control tower is elsewhere, a separate facility in its own right. Indeed, airport control tower architecture has become a specialised field, with many very attractive towers built at airports around the world. Unfortunately, the quality of airport terminal design didn't keep up.

Just as the quality of the jet travel experience declined over the decades following the Flight Center's construction, from a glamorous world of cocktails at 30,000 feet for the select few, to the humdrum mundanity of mass air travel and the grinding joylessness of today's no-frills airlines, so did the quality of airport buildings that passengers encountered. Humans have dreamed for centuries of taking to the wing with the birds, and almost as soon as we were able to fulfil that dream, we built Gatwick Airport's terminals to serve it (although it is perhaps unfair to single out Gatwick given the many other similar terminal buildings at airports around the world).

Although smaller regional airports managed to hold on to terminal buildings which were to some extent instinctively navigable, hub airports saw the construction of massive, lumpen

terminal buildings into which daylight rarely made its way. There is no way of instinctively understanding the maze-like route along which passengers are driven through these complicated buildings. Design is subservient to the need to make passengers walk past endless retail units, rather than the needs of passengers themselves. Seating areas, soulless and with distant and obstructed views out of the windows, seem intended to drive waiting passengers back into the shops for distraction.

Part of the reason such terminals feel so heavy and lumpen is that they *are* heavy and lumpen. Much of the 'plant', the air conditioning, heating, electrical supplies and so on, are above the ceiling. There's a certain logic in it, because air conditioning machinery can vent straight upwards into the open air. But all that weight above means massive walls, and that means fewer windows and a disconnect from the environs of the building. Passengers have no idea where they came in, or where the aircraft that they are heading to actually are.

It took until the 1980s for Norman Foster to put the glamour of flying back into airport terminals, and he did it by turning conventional thinking quite literally on its head.

The development of Stansted as London's third airport saw the need for a brand new passenger terminal of considerable size. What Foster did at Stansted would set the template for new airport terminals all the way around the world, to the mega-airports being built today in money-no-object modern China. To look forwards, first he looked back to those early airport terminals where it was possible to arrive and remain aware of the waiting aircraft on the other side of the building. With the buildings small, the route through them was obvious and instinctive to passengers, and the connection to the outside world was retained. It was this experience that Foster sought to replicate, though within a much larger building, at Stansted.

The new terminal would need glass curtain walls so that passengers could make sense of their local environment, and understand instinctively which way to head to reach their aircraft. To take the weight off the walls would mean moving the plant, services and utilities from above the ceiling to under the floor. With the roof no longer supporting heavy equipment, it could be made much lighter and include skylights to admit daylight.

It seems incredible that no-one had thought of it earlier, but Stansted's new terminal, which opened in 1991, was revolutionary. The lightweight roof was supported on a grid pattern of steel 'trees', while the skylights in the roof, and glass walls around the edges of the terminal meant that the overall ambience was immeasurably better than other large airport terminals of the time. It also slashed energy bills because the sun did a lot of the hard work of illuminating the inside of the building. The 'trees' have another purpose, bring up utilities from below. They are equipped with uplighters for illumination, and the vents for air conditioning, an elegant solution to the problem of lighting and air management once the cable runs and vents are no longer conveniently in the ceiling.

The concept behind Stansted has become the standard for new airport terminals around the world, a building type which has suddenly got its groove back. Low cost air travel might still be something to endure rather than enjoy, but at least the chances are that if your flight leaves from a modern airport terminal, the wait will be in rather more pleasant circumstances.

One of the best is Richard Rogers' Terminal 4 at Madrid Barajas Airport, of 2006. This huge terminal is nevertheless logically laid out, navigable, and despite its huge size still keeps passengers in touch with the outside world. Glass walls run all the way round, and an open plan approach means long sight lines. Large circular skylights let light all the way down to the lower levels of the building. The roof undulates attractively and is clad with bamboo strips. It is supported by metal 'trees' along its centre line, and propped at the edges, which helps avoid obstructions to the view outwards. The trees themselves are painted, and along the length of the terminal they gradate through the colours of the rainbow, attractive and also useful for orientation purposes.

In terms of scale, however big Barajas Terminal 4 might seem to its users, it is dwarfed by the latest airport terminals in – of course – China. Beijing International Terminal 3 is a shade over two miles long; long enough, reputedly, that in some conditions it is impossible to see from one end of the building to the far side. The largest building in the entire world when built, it took just four years to design and build, driven by the deadline of the 2008 Olympic Games. That's the sort of speed that can only be achieved in a command and control economy like China's. In Britain, it is not unknown for bus shelters to take longer than four years to agree and construct. Beijing International Terminal 3 is another of Foster's designs, building on the concept he pioneered at Stansted and then refined at Chek Lap Kok, Hong Kong's new airport. Terminal 3 repeatedly references Chinese design elements. There is liberal use of the colour red, the gold roof references the Forbidden City, views of repeating red columns receding into the distance are intended to evoke traditional Chinese temples and the overall shape of the terminal is based on the form of a dragon. Even the triangular skylights, oriented south-east to catch the heat of the early morning sun and therefore reduce energy use, look like a dragon's scales.

Mega airport terminals like those at Madrid, Hong Kong and Beijing are playgrounds for architects, able to realise their biggest dreams at airports with huge passenger volumes. That doesn't mean that smaller, regional airports have been left behind. At Bilbao's Sondica Airport (2000), Santiago Calatrava took the canopy roof concept and twisted it into a birdlike structure, with beaked head straining over the airside. Without any intermediate columns to support it, the roof instead relies on organic-looking ribs for support. With its large arched windows at the land side entrance, and on each side, there's also something of the TWA Flight Centre about it too. The buildings even include a car park hidden, hobbit-like, in an artificial hill opposite the terminal. It provides an interesting contrast with the much more expensive Terminal 5 at Heathrow Airport, London, where a traveller's first sight of Britain, on leaving the terminal, is a massive and ungainly multi-storey car park.

Britain, unfortunately, still doesn't do airports very well. Terminal 5 is rather an anonymous piece of architecture; hard to believe it was designed by Richard Rogers at almost the same time as Barajas Terminal 4. And at Stansted, where modern airport terminal design began, we've rather failed to celebrate that great step forward. Stansted Airport was supposed to put the intelligibility back into flying, restoring the sense of adventure that came from entering an airport terminal and being able to see the aircraft on the far side, like the very first airport terminals allowed. Stansted's uncluttered, open plan design meant clear sightlines across the terminal despite its size.

Today, however, retail and refreshment units have been allowed to proliferate all over Stansted Airport terminal's interior. Much of the initial raison d'être for Stansted's design has been sacrificed to the traditional airport terminal practice of pursuing every opportunity to part passengers from their money. At times, Stansted is nearly as confusing and complicated to navigate through as the blocky and murky terminals it was intended to do away with.

Much as you do at the National Audit Office building in the centre of London, you have to really work hard these days to see what Stansted was originally. But it's worth the effort to understand how it is that we keep forgetting how to fly.