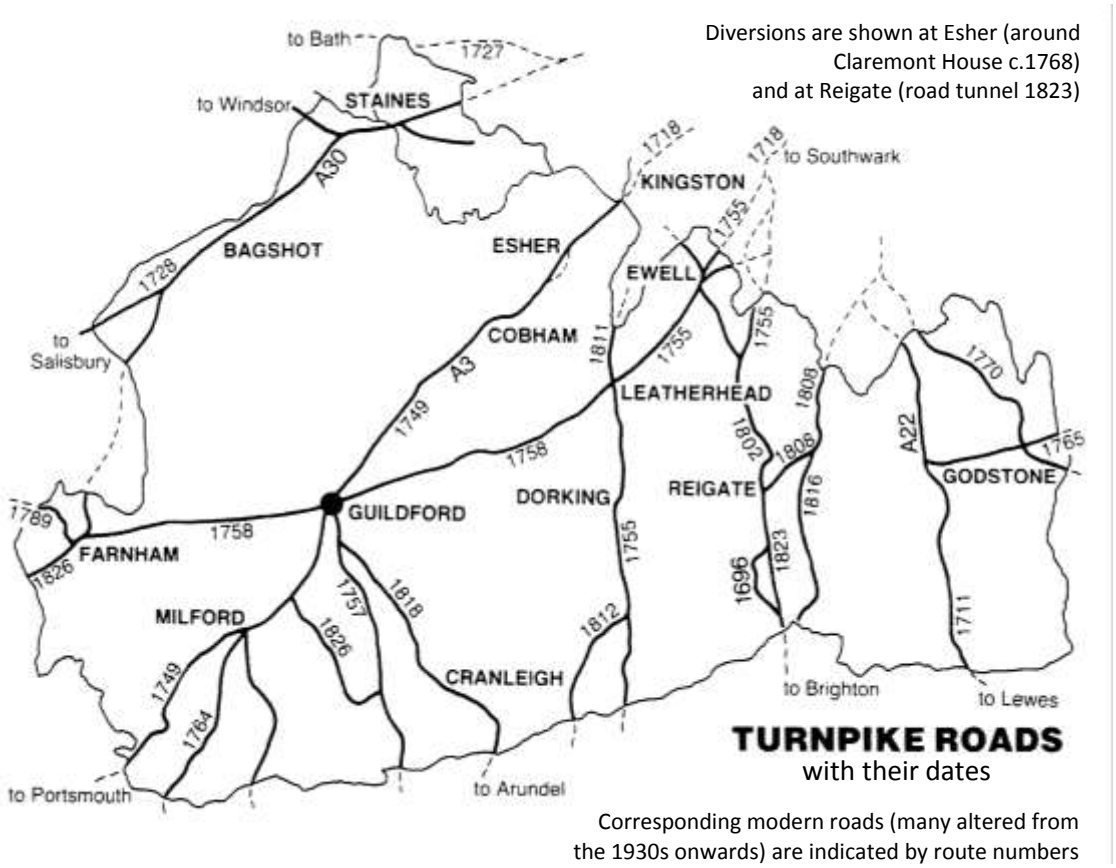
[Page 73]

Chapter 7

TRANSPORT



Diversions are shown at Esher (around Claremont House c.1768) and at Reigate (road tunnel 1823)

Corresponding modern roads (many altered from the 1930s onwards) are indicated by route numbers

The main historic roads, waterways and railways through Surrey are shown on the accompanying maps. The influence of London on transport in the county is clearly shown by the pattern of radiating routes.

Roads and Bridges

Early inhabitants moved about Surrey by using the river valleys but there was a need for a cross-country land route from east to west. Archaeological finds show that the Ho's Back ridge was in use in prehistoric times, but there is little evidence for a continuous early trackway on the North Downs east of Guildford. Here the early routes probably ran north-eastward along the gravel at the edge of the chalk, past what became the spring-line settlements of Leatherhead, Epsom and Croydon.

The Romans created a system of engineered roads with stone surfaces and side ditches for drainage. Four such roads radiated from London through Surrey, the most important being Stane Street, which ran to Chichester, the only Roman city in Sussex. The road can be followed today as a footpath from Epsom to Burford Bridge, in Redlands Wood beyond Dorking and as the A29 through Ockley.

After the break-up of the Roman empire, its road system collapsed. Attempts were made to keep the old major routes open by various means, from conscript labour to individual enterprise. In the thirteenth century, Thomas de Oxenford built a causeway between Staines Bridge and Egham Hill to keep his woolpacks dry. There is still a road sign at Runnymede saying

EGHAM 2½ except at high water STAINES

Small communities were unable to repair the damage caused by traffic passing through their area along major routes. The solution was toll roads called turnpikes. The first turnpikes were run by local justices of the peace, for example the 1696 Reigate to Crawley road, then intended for saddle horses only. But main routes were soon 'privatised' and run by trusts set up by local magnates, who used the toll income to repair and maintain the roads. In the nineteenth century, the turnpikes were ruined by competition from canals and railways, and responsibility for the upkeep of roads passed to local government.

[Page 74]

Winterton toll house survives on the Petworth turnpike (now the A283) just north of Chiddingfold. Its board, painted with a list of the tolls charged, is in the Haslemere Museum. At Egham and Colnbrook are two of the water pumps put up on the Bath road in 1837 to 'lay the dust' raised by wheels crushing the loose stone surface. Tarred surfaces came in with the twentieth century. The most enduring remains of the turnpikes are the milestones, of which long series can still be seen on the roads out of Godalming and along the old A3, the A30, the A246 and the A23. They show the mileage to the next town in each direction and also to the towns at the end of that turnpike. In 1823 the Brighton turnpike was straightened down Reigate Hill and the first road tunnel in Europe was cut. This now forms a pedestrian way in the town centre. At the entrance to Winkworth Arboretum on the B2130 is an elegant iron milepost, one of a set cast in Guildford and put up in 1826 on the last Surrey turnpike.

Private enterprise erected columns showing off-turnpike distances, like the 'White Lady' on the old A3 near Sandown Park, Esher, which dates from 1767.

Winterton toll house on the Petworth Road, Chiddingfold.

[Page 75]

Another, from about 1820, stands in the centre of Cranleigh[1] and a three-armed signpost in Albury was elaborately carved from a local oak in the nineteenth century. At several places in Surrey are large stone multiple water troughs set up by the Metropolitan Drinking Fountain and Cattle Trough Association, often sponsored by a local worthy.

The Mickleham bypass, begun in 1935, was one of the first to have dual carriageways with separated cycle tracks and footpaths. A stone cairn at the Leatherhead end of that road records the building, opening (and re-opening) of Young Street, constructed by Canadian sappers in 1941 to bypass the narrow crossroads in Leatherhead. The Wapses Lodge roundabout on the Caterham bypass, opened in 1939, was the first in Britain to have pedestrian subways leading to and from an open central space below road level.

Inscribed stones or iron posts mark some of the points where roads cross county or parish boundaries, like the London Stone and the Three Counties post south-west of Staines. An unusual large example is the Basing Stone at the junction of the A30 and the A325. There is a continuous series of boundary markers around the Metropolitan Police District, as it was in 1861. The City of London had been allowed to charge a tax on coal, and later wine, brought into the area, initially to pay for reconstruction after the Great Fire of 1666. The boundary was marked by cast-iron columns, carrying the City shield and the number of the Act, alongside every road, river, canal and path. There are several close together on Ashtead Common and at Mogador. In addition, there are taller obelisk markers on railway embankments, for example at Staines and Whyteleafe.[2]

[Page 76]

With the development of coach travel and communications, there was a demand for accommodation, refreshment and change of horses. This was met by public inns with an enclosed yard, entered through an arched doorway high enough to take a loaded coach and team. The Talbot at Ripley still has its enormous

yard door in position and the front of the Angel in Guildford High Street still boldly declares POSTING HOUSE LIVERY STABLES. In the centre of Dorking, several of the roads and paths have their pavements protected by cast-iron bollards, railings and lamp standards cast between 1882 and 1913. At the main road junction is a public pump with an iron fingerpost above it with hands pointing to Horsham and Guildford. Roads are also used as routes for piped public utilities like gas and water supply and disposal. Fifty years ago, main roads could be identified by telephone poles.

The Romans bridged the Thames at London and Staines. A stone bridge was completed at London in 1209 and by then there were bridges at Kingston and Staines, probably mainly of wood. The Wey was bridged at Farnham and Guildford before 1220, possibly in stone. Those bridges have been destroyed but similar, though smaller, ones remain on the Wey, for instance the two bridges at Eashing (see photo page 57). They were probably built to help Waverley Abbey's farming and trade in wool on both banks of the river. The River Mole was bridged at Cobham and Leatherhead in the early Middle Ages and the medieval stone bridge piers at Leatherhead still remain, incorporated into the rebuilding in brick in 1782.

[Page 77]

The brick approaches to the 1750 wooden bridge at Walton-on-Thames, which was painted by Canaletto and Turner, survive, but the replacement iron bridges of 1780 and 1863 have gone. Chertsey bridge was built by James Paine between 1780 and 1785, and Staines bridge was rebuilt by John and George Rennie in 1829-32. On Staines moor is a composite bridge allowing cattle to graze widely on the common. It comprises a brick bridge over the Wraysbury river, another brick bridge over the railway line to Windsor and a steel girder bridge over the Staines West railway line. At Gosden Common near Bramley is a road bridge across both a railway line and a canal, both now disused. Four bridges in Surrey were designed by the architect Sir Edwin Lutyens in the 1930s. One carries the old Guildford bypass over the romantically-named 'Pilgrims' Way' path near Compton; two, over the Thames and Ember, are at East Molesey; Runnymede bridge, carrying the A30, was not built until long after Lutyens' death, and his design had to be revised.

Roads and bridges are fundamental to the movement of people. Surrey was particularly in the forefront of road developments in the 1930s and more recently the London orbital motorway, the M25, has been built cutting through Surrey along the line of the North Downs. Perhaps the most striking thing is the survival of so much of the structures of previous centuries, despite the spread of towns, the extension of road-building and the enormous increase in traffic loads.

City of London coal tax post, Mogador.

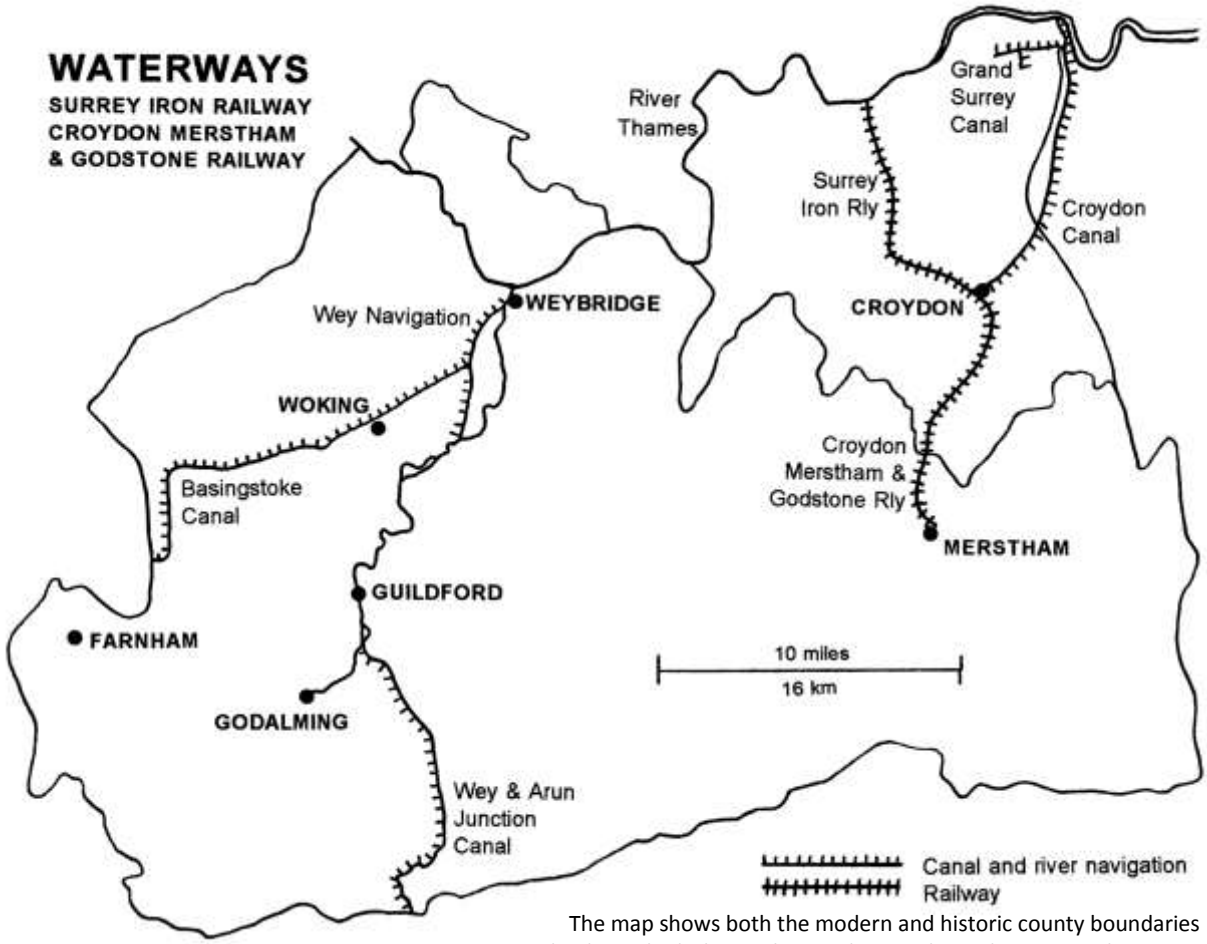
[Page 78]

Waterways

THE THAMES

The River Thames forms the northern boundary of the ancient county of Surrey and has probably been used for navigation continuously since prehistoric times. The City of London claimed a general jurisdiction over the whole river by virtue of a charter granted by Richard I in 1297. In fact, the charter merely states the importance of the river to the well-being of the city, that the king's keeper of the Tower of London should not exact tolls from river traffic and that various weirs for catching fish should be removed.

For reasons that are unclear, and have been much debated, the effective jurisdiction of the City of London extended to the boundary of the former county of Middlesex just above Staines, where a boundary stone remains. It therefore covered almost the whole of the Surrey section of the Thames. Until 1770, the City's control of the river was in practice minimal. There were no locks on its section and no tolls were charged for the use of the river, although riparian landowners charged for each horse using the tow-



The map shows both the modern and historic county boundaries and railways built during the canal era in the early nineteenth century

path, such as it was. Up to a dozen horses might be needed to haul one of the larger barges, of about 150 tonnes, against the current. To manage the river the City set up a navigation committee and then obtained parliamentary powers to enable it to purchase the various towpath toll gates and charge a tonnage toll in lieu. It also set out to remove the worst shoals. It was realised, however, that the formation of a reliable navigation would require the construction of weirs and locks. There was opposition to this but in 1810 the necessary powers were obtained. Between then and 1830 locks measuring 150 by 20 feet (45 x 6 metres) were built at the six places where they exist today: Bell Weir, Egham; Penton Hook, Laleham; Chertsey, Shepperton and Sunbury in Surrey; and at Teddington, now in Greater London.

[Page 79]

Despite the difficulties of navigation before the building of the locks, one cannot underestimate the importance of the river to the trade of the towns and villages on or near its banks. There are, however, few tangible remains of the commercial use of the non-tidal river. Traffic declined fairly rapidly after railways were built in the area and the Thames Conservancy, which became the navigation authority in 1857, soon found that pleasure traffic was of prime importance. The locks have been rebuilt at various times and, while they are quite usable by barges, their neat lawns and flower beds seem far removed from industrial history.

[Page 80]

THE WEY

The only navigation entirely in Surrey is that of the River Wey, comprising the Wey Navigation from the Thames to Guildford, opened in 1653, and its extension the Godalming Navigation, which was a separate enterprise and opened in 1763. In 1651 Sir Richard Weston of Sutton Place near Guildford, despite being a Roman Catholic and perhaps a Royalist, obtained with the aid of James Pitson, a major in Cromwell's army, what was later described as a 'pretended act of parliament passed during the late usurpation' to make the river navigable to Guildford. The navigation took the remarkably short time of two years to construct.

The Wey may be considered to be the second river in the country to have been successfully canalised, work on the Warwickshire Avon having probably been completed just before the Civil War. It presented particular difficulty as it was a fairly small winding stream. To deepen a river by hand digging is very difficult and

Hampton Court Bridge, architect Sir Edwin Lutyens, under construction by Surrey County Council. The bridge opened in 1933. *Surrey History Centre.*

was usually confined to the removal of local shoals, but the excavation of a trench on dry land is straightforward, provided there are sufficient labourers. Sir Richard Weston's unknown engineer therefore decided to avoid much of the shallow tortuous course so over half the navigation consists of artificial cuts. Sir Richard died before the work was completed and there were disputes between his heirs and those who had contributed to the cost and also, after the Restoration, between the proprietors and the riparian landowners who claimed that their land had been taken illegally. Much of the evidence in the resulting court cases has survived.

The line of the navigation is almost certainly the same today as it was when first built. Some features can be identified from evidence in the litigation records and there is also physical evidence, for example from bridges over the artificial cuts, which bear various dates in the eighteenth century. These bridges, consisting of brick abutments and timber beams (now replaced by steel) presumably replaced original bridges which had been built entirely of timber. If the cuts had been made as eighteenth century improvements, all the bridges on any one of them would be of the same date.

Ten locks were needed to overcome the 20 metres (70 foot) rise from the Thames to Guildford and there are also flood locks at the heads of the two longest cuts. The locks have been rebuilt, some in brick but most in concrete, but several survived until the 1960s in a form which was probably similar to the original. They were then turf-sided, but the irregular height of the timber and the fact that part of one wall of Trigg's Lock was made of timber to the full height suggest that the locks may have been built, or possibly rebuilt, as timber-sided rectangular chambers. As timber rots more rapidly if it is damp but exposed to the air than if it is permanently under water, the upper parts would tend to collapse, leaving sloping earth sides which would become covered with grass.

[Page 81]

The locks would take barges about 70 feet long by 14 feet wide (21.5 x,1.3 metres). The paddles for filling and emptying the locks were lifted directly without the usual rack-and-pinion gearing, or shifted with a hand spike. Such paddles remain in use at the two flood locks. The later Godalming Navigation had four locks with conventional brick chambers.

Eashing south bridge, over the millstream, one of a series of medieval bridges on the River Wey, c.1900. *Museum of Farnham, John Henry Knight Collection*.

[Page 82]

The principle of using extensive artificial cuts was adopted on many other navigations, sometimes, as on the Kennet, after an attempt to make the natural river navigable had failed, and elsewhere to improve an existing navigation. As the first navigation of its type in the country, the Wey Navigation is of national importance.

The Wey Navigation carried hardwood, gunpowder and agricultural produce downstream and coal, manure and domestic supplies up. Later it brought imported softwood upstream and imported grain for milling. Commercial traffic on the Godalming Navigation virtually ceased by 1930, apart from coal to the Vulcanised Fibre Works at Shalford and timber to Moon's timber yards just above Guildford Town Bridge. On the Wey Navigation, traffic declined in the late nineteenth century but revived somewhat from about 1910. Grain traffic on the lowest mile-and-a-half to Coxes Lock mill only finally ended in 1983 when the mill closed.

The Navigation was owned by the Portmore and Langton families for about 150 years. Latterly it belonged to the Stevens family who were associated with it for four generations and in 1969 gave it to the National Trust.

THE BASINGSTOKE CANAL

Two canals were constructed in what is now the county of Surrey, neither of which was intended primarily for the county's own trade. The Basingstoke Canal was the first canal, as distinct from river navigation, intended to serve a purely agricultural region and nobody knew whether it would be financially viable. The Act to authorise its construction was passed in 1778 but war with the American colonies made it impossible to raise the capital for some years and it was not until 1788 that work actually began. It was completed in 1794. It transpired that the traffic was quite insufficient to provide an adequate return on the investment. At best the net annual revenue was only about 12 per cent of the capital and, as the cost of construction had exceeded the estimate by 50 per cent, even this revenue could only service loans raised to complete the work. The shareholders never received a dividend.

The obvious route for a canal to Basingstoke is up the Loddon valley from the Thames and it was probably the poor state of the navigation of the river that led to the adoption of the more difficult route so as to reach the Thames farther downstream. Much of the line is on Bagshot Sands, an area of little use for agriculture which can have been expected to contribute very little trade. The only town near the line was Farnham, an agricultural centre not dissimilar to Basing-

The aqueduct carrying the Basingstoke Canal over the A331 Blackwater Valley road opened in the 1990s.

stoke. It is surprising that a branch to Farnham was not planned, although lack of money may well have prevented it from being built, even though it would have been on one level and cheap to construct. Farnham was thus served by a wharf some 4 miles (6 km) from the town on the Bagshot road, now the A325, and actually in Hampshire.

The canal enters Surrey in the middle of Ash embankment at the point where a large aqueduct was built in 1995 to allow the new Blackwater Valley road to pass underneath. The embankment is about 6 metres high and 1.5 km long. On leaving it, the canal turns northward to Frimley Green before resuming its easterly line to the Wey at New Haw. To leave the Blackwater valley it was necessary to dig a cutting almost 1 km long. While this is not as deep as is sometimes stated, being about 9 metres at the most, it was a considerable undertaking. It may have given the name to the district of Deepcut although, since this does not appear on the first edition Ordnance Survey map, it may come from the later and much deeper railway cutting. It is not clear why this route was chosen, as a line of similar length to the south of the high ground would have avoided a cutting and perhaps enabled the height of Ash embankment to be reduced. An unusual feature of the canal is that where it crosses minor side valleys it widens to form small lakes — as the land was of so little value it was not worth embanking the canal on the uphill side and providing a culvert to drain the hollow. Twentynine locks were required, of which 28 are in Surrey. These were designed to accommodate 70 foot Wey barges.

[Page 83]

The building of the London and Southampton Railway in 1838 required the construction of an aqueduct to carry the canal over the railway at Frimley Green. The present structure, however, dates from 1902 when the section of the railway was enlarged to four tracks. The Acts for the construction of the railway included various clauses to protect the canal. If the railway encroached on a pound between locks it had to enlarge the pound on the opposite side, as between locks 24 and 25, below Curzon Bridge. To avoid horses being frightened by the locomotives, the canal had to be screened from the railway by a hedge or bank and where the two were very close there had to be a wall at least 6 feet (1.8 metres) high. Part of this wall still stands by lock 25.

The opening of the railway reduced the already poor traffic on the canal. The construction of Aldershot Camp after the Crimean War boosted trade temporarily, as did military traffic during the First World War. After that, traffic was essentially confined to the section from the Wey to Woking and the final load of timber was delivered to Woking in 1949. The canal became steadily more derelict until it was bought by the two county councils and restored for pleasure traffic in the 1980s.

THE WEY AND ARUN CANAL

The other canal in Surrey was even less successful. The Wey and Arun Junction Canal ran from the Wey at Shalford to the Arun near Wisborough Green in Sussex. It was built between 1813 and 1816 as part of

Gosden Common aqueduct carrying the Wey and Arun Canal over the Bramley Brook.

an inland route from London to Portsmouth. Shipping from London to south coast ports was always liable to delays from unfavourable winds and was subject to loss from enemy action during the Napoleonic Wars. Peace and the development of the steamship meant that the canal failed to compete with the sea passage for through traffic and the only trade was that of the local agricultural area. As the cost of construction only slightly exceeded the estimate, the shareholders did receive a regular dividend for some years but this was only £1 for a share of £110. Over a quarter of the shares were held by the third Earl of Egremont, who was almost certainly more concerned with the improvement of agriculture in his part of Sussex than with a direct return on his capital. Traffic from Surrey must have been very light as there are no towns near the route but only the villages of Bramley, Cranleigh and Alfold. Even today, apart from Cranleigh, there is little development in the area. Construction of railways in the district, particularly that from Horsham to Guildford, reduced the already small trade and the canal was abandoned in 1871.

No substantial engineering works were required on the canal. There were 23 locks, of which 15 were in Surrey, and two small aqueducts. The locks in Surrey have almost entirely disappeared although Gosden aqueduct still stands. The locks were narrower than those on the Wey, being designed for Arun barges of about 11 foot (3.4 metre) beam. The summit was supplied with water from a reservoir, Vachery Pond, which still exists, but the water supply was inadequate in many summers, even for the limited trade which existed.

[Pages 84-85]

THE CROYDON CANAL

The Croydon Canal, built to link that town with the Thames, while not lying within the present county played a part in its trade. Opened in 1809, it competed with the Surrey Iron Railway, completed six years earlier. There was hardly enough traffic for one route to the Thames and the canal was closed in 1836 so that much of its line could be used for the construction of the London and Croydon Railway. It was the first complete public canal to be closed.

BOAT-BUILDING

Barges were built and repaired at a number of places on the various navigations. There were many boatyards on the Thames, such as Tom Taylor's, Biffen's, Tims, Harris's and Bates boatyards in the stretch of the river now in Runnymede. Away from the Thames, a yard that functioned until the Second World War was at Ash Vale on the Basingstoke Canal. The last barge to be built there was launched in 1939 and repairs were carried out until 1946. There was a dry dock beside Frimley top lock which was filled in during 1939 but has been rebuilt for use by pleasure craft. Nothing remains of the Ash Vale boatyard but

A William Stevens barge passing through Thames Lock, Weybridge.

that on the Wey at Dapdune Wharf, Guildford, is in use for pleasure craft. The National Trust has mounted an exhibition on the site to display and explain the historical features and this received the SIHG Conservation Award in 1998.

Railways

The story of railways in Surrey begins in the era of the Surrey Iron Railway and its extension, the Croydon, Merstham & Godstone Railway.[3] The Surrey Iron Railway, which operated from 1802 to 1846, was the world's first public railway and the first to be sanctioned by an Act of Parliament. It was horse-drawn and unlike previous lines in the north of England, which had been dedicated to single industrial use, the SIR was open to anyone for the carriage of goods. The line ran for 8¼ miles (13 km) along the Wandle valley from Wandsworth to West Croydon, with a 14 mile branch from Mitcham to Hackbridge. The CM & GR, which operated from 1803 to 1839, ran for ten miles from Croydon to the stone quarries at Merstham but plans to continue it further came to nothing.

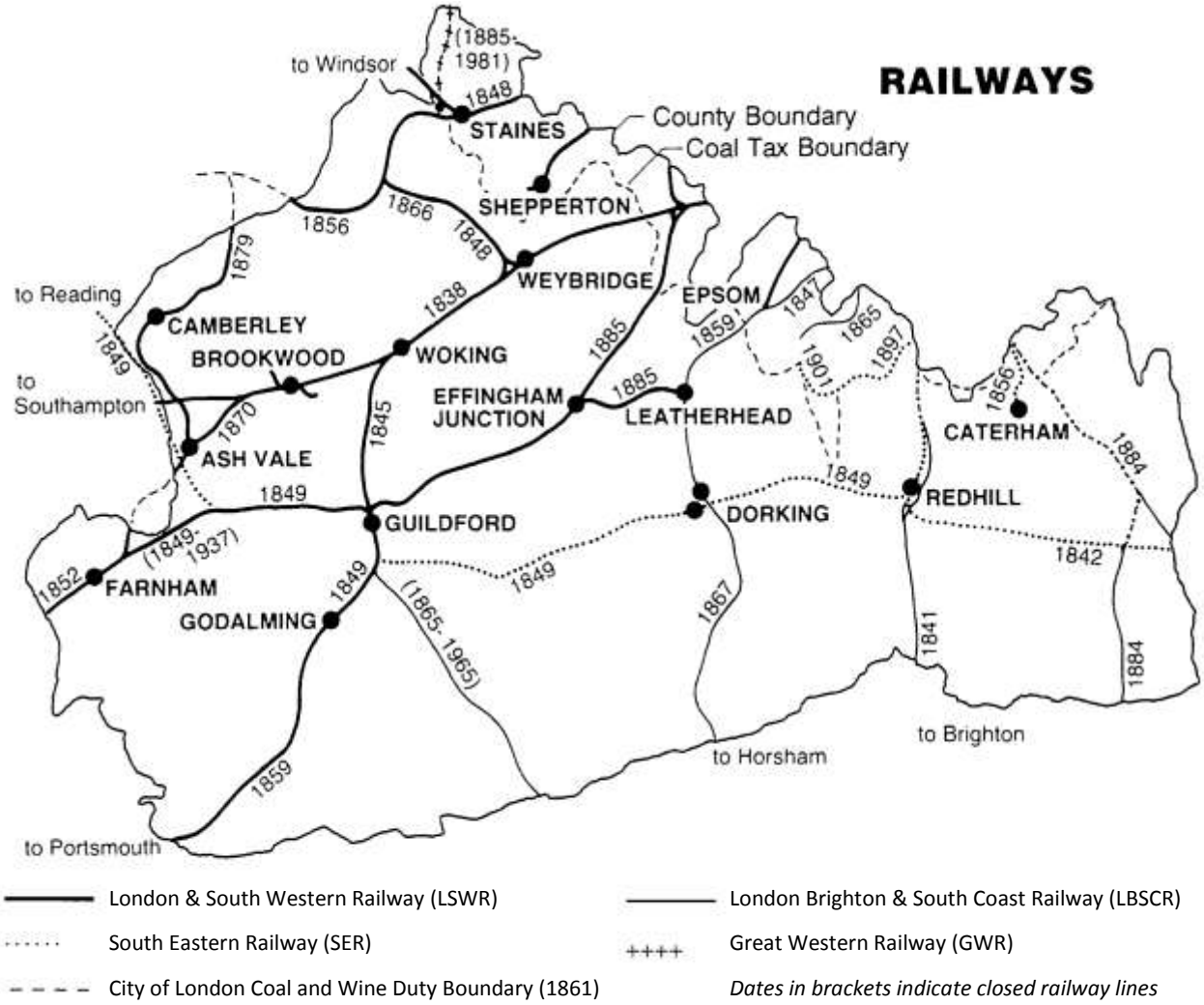
The gauge of the line was 4 feet 2 inches and the 3 foot (0.92 metres) long L-shaped rails were laid on stone sleeper blocks; examples of both rails and blocks are still to be found in the district. The main traffic was always stone going out from quarries, supplemented by general traffic for the industries along the River Wandle. The SIR and CM & GR each had a short life, overtaken by the introduction of steam haulage. Parts of the trackbed were incorporated into subsequent lines and the alignment by Mitcham station still forms the modern route into Waterloo.

[Page 86]

The next stage in Surrey's railway history was the building of the early formative lines and their amalgamation under larger companies, all part of the opening up of routes to the coast and the development of suburban lines.

The major railway companies operating in Surrey were:

- The London & South Western (L & SWR) — mainly in the north and west of the county;
- The London, Brighton & South Coast (LB & SCR) — running north-south in the centre and east;



◊ The South Eastern Railway (SER) — operating an east-west route. This eventually united with the London, Chatham & Dover Railway within a single management committee to become the South Eastern & Chatham (SE & CR). However, the two companies remained financially independent.

All these companies became part of the Southern Railway in 1923 and of British Railways following nationalisation in 1947.

In west Surrey, the first line was from London to Southampton, proposed in 1830, authorised by Parliament in 1834, opened to Woking Common in 1838 and to its terminus in 1840. By then the London & Southampton Railway Company had plans to extend its lines to Bath and Bristol and beyond and had become the LSWR in 1839.

[Page 87]

Early plans to link Woking Common with Guildford included the Guildford Junction Railway's scheme to use the 'Prosser Patent Principle', whereby the train would run on wooden flangeless wheels kept on the flat wooden rails by angular guide wheels. This idea was dropped and the LSWR completed the line in 1845 with iron rails and earthworks and bridges wide enough for doubling, which was done within two years. Woking Common was now a junction and the station was enlarged to handle the extra traffic.

The dash for Portsmouth was now on. The L & SWR served the city by a roundabout route across the harbour from Gosport but a more direct line was needed. By 1845 there were four lines heading towards Portsmouth: the Guildford branch from Woking, the existing Gosport branch, the Brighton & Chichester, linking up with the London & Brighton and the Croydon Railway extension from Epsom.

There were several schemes, using different routes, including one which never came to fruition for an atmospheric railway — trains sucked along by a vacuum created by a stationary steam engine — from Epsom. A Portsmouth Direct Bill was passed in 1846 but such was the rivalry, and the desire of the different companies to defend their preserves, that it was not until January 1859 that a direct route from London to Portsmouth was opened. This went through Godalming and covered a distance of 74 miles (118 km) from London instead of the 94 miles via Gosport or 95 miles via Brighton. After some early difficulties it became one of the L & SWR main lines.

The trackbed of the former Guildford to Horsham railway line running through the former Bramley and Wonersh station. The line forms part of the Downs Link long-distance footpath.

The 1840s saw the opening of L & SWR branch lines from Guildford to Farnham and from Weybridge to Chertsey and the building of a branch from Richmond to Windsor by the Windsor, Staines & South Western Railway. This company had been formed by the amalgamation of the Staines & Richmond Junction Railway with the Windsor, Slough & Staines Atmospheric Railway Company, which itself had failed in an attempt to get a Bill through Parliament in 1846. The Richmond to Windsor line was absorbed into the L & SWR in June 1850.

In 1849 an east-west route across the county was provided by the Reading, Guildford & Reigate Railway Company, incorporated in 1846. At Reigate Junction, as Redhill was then known, this connected with the LB & SCR line from London to Brighton and with the South East & Dover Railway line to Tonbridge and Ashford, The line was bought out in 1852 by the SER which thereby achieved its aim of linking the Channel ports with the Great Western Railway and with the industries of the Midlands and South Wales.

A network of branch lines continued to grow as suburban development spread. In north-west Surrey, lines opened to Hampton Court in 1849, Kingston and Hampton Wick in 1863, and from Ascot to Bagshot, Camberley, Frimley and Ash Vale in 1876. The Great Western Railway crept into what became part of modern Surrey with a line from West Drayton to Staines West, opened in 1884. Moving to the joint territory of the L & SWR and the London Brighton & South Coast Railway, lines reached Sutton and Epsom in 1847, Leatherhead in 1859, Dorking on the Horsham in 1867 and Effingham junction in 1885. As early as 1846 proposals were made for a line from Guildford to Horsham, but these were dropped and resurrected in the 1860s. The line was opened from Stammerham Junction to Peasmarsh Junction near Guildford in 1865 and closed to passengers after exactly one hundred years.

[Page 88]

There were two interesting developments on the L & SWR line west of Woking, one serving a cemetery and one a rifle range.

London's graveyards were full and further burials were banned in 1850. The London Necropolis and National Mausoleum Company was authorised in 1852 to buy a large area of Woking Common on which to develop a vast cemetery. In practice most of the land was later sold at great profit for the development of the modern town of Woking but 400 acres were used for the cemetery and in 1854 a regular train service began from a private terminus outside Waterloo Station in London.

In 1863 negotiations took place between the L & SWR and the Necropolis Company for the building of a main line station at 'Necropolis Junction'. The Necropolis Company provided the land and built the station

The 1937 signal box at Woking Station.

master's house and an approach road, and the L & SWR built the station, goods yard and siding (in fact a run-round loop) into the cemetery. Brookwood station was opened in June 1864, enlarged in 1890 and virtually rebuilt in 1903 when two extra tracks were laid.

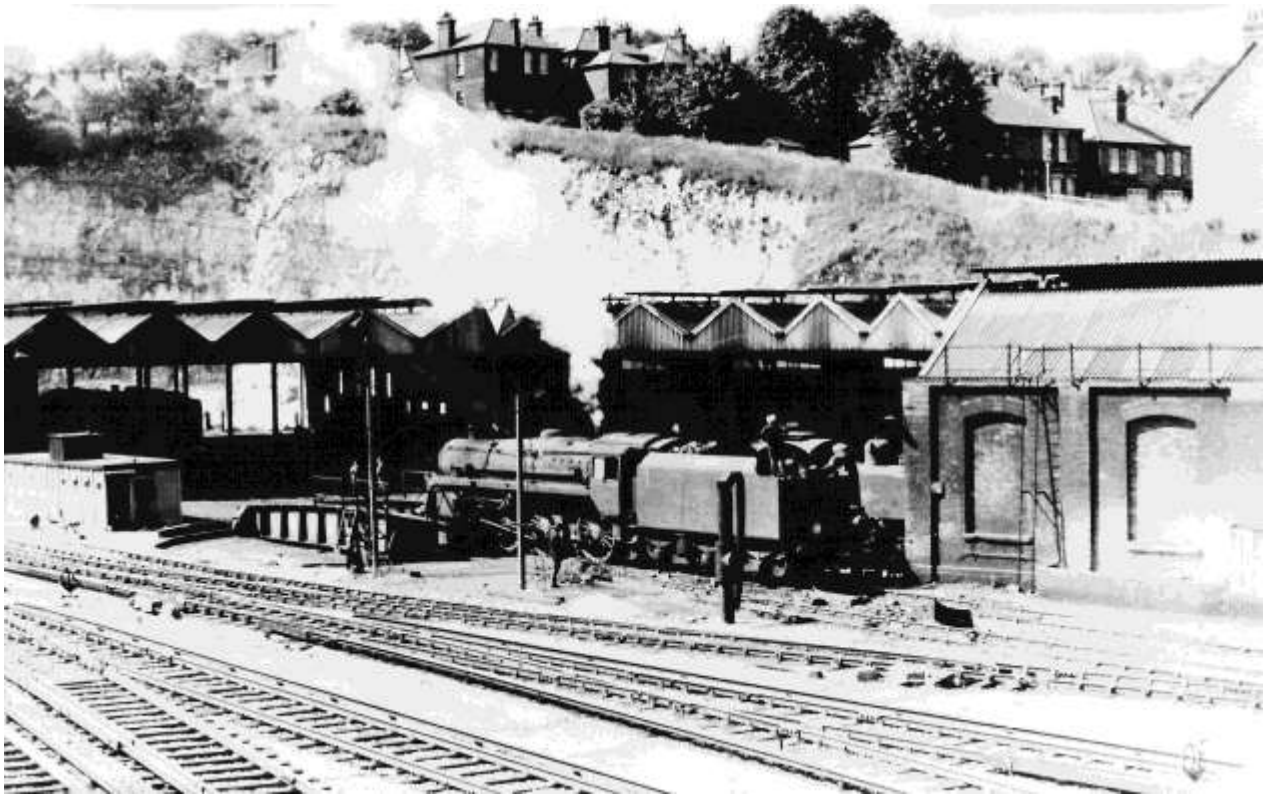
The fares, set by the Act authorising the building of the Necropolis, were unchanged for 87 years, being fixed at a maximum of 6s (30p) for mourners and attendants first class, 3s 6d (17½p) second class and is 6d third class. Coffins were charged single fares of 2s 6d for a pauper, 5s for an artisan and £1 for all others. Stories abound of non-funeral parties, golfers and others, travelling on the train suitably dressed in order to obtain the benefit of the specially reduced fares.

[Page 89]

The L & SWR line between Woking and Pirbright Junction also saw the building, in 1890, of a branch line to serve the National Rifle Association's ranges at Bisley Camp. The 1¼ miles long line was built in four months with the aid of the Royal Engineers from Aldershot and was only open for one month each year during the Bisley meeting in July. The branch left the main line at Brookwood station, ran parallel to the main line for a few hundred yards, and then crossed the Pirbright road and the Basingstoke Canal before continuing to Bisley Camp station. During the 1914-18 war, the line was temporarily extended to Pirbright, Deepcut and Blackdown camps. In 1941 it was again extended to Pirbright camp but removed in 1950. The Bisley branch was closed and the track lifted in 1952.

Another special development was in the Epsom area where, at the end of the nineteenth century, London County Council was building a range of hospitals for the mentally ill and handicapped. In 1905 Longrove hospital was under construction and the contractor built a light railway from exchange sidings at Ewell, which became Ewell West station, to carry materials to the site. The hospital was finished in 1907 and the LCC took over the railway, then constructed the Horton Light Railway and other branches expressly to serve the power house and pumping works. West Park hospital was built during the years 1915-24 and the railway was again used to carry construction materials. The railway, steam-hauled throughout its life, continued in operation, carrying materials and supplies until 1950, when the newly created Regional Hospital Board took over the site and closed the line down, scrapping track, locomotives and rolling stock.

As in west Surrey, with the building of the direct line to Portsmouth, company rivalry dogged developments in the east, where the LB & SCR and the SER were in constant dispute. One of the biggest battles was over the branch line to Caterham which opened in 1856, for although the line was in SER territory



Guildford Station roundhouse before its closure in 1967. *Tony Martin Collection.*

there was no right to stop at Godstone Road on the LB & SCR owned section, and in any case the station had been closed since 1847. Continuing disputes led to the financial breakdown of the small company in 1859. The SER took the line over but passengers had continued trouble which only ceased after letters and articles were printed in The Times. Later the quarrels abated and a joint line from South Croydon junction to East Grinstead was authorised in 1878, opened in 1884 and later extended south to Lewes.

[Page 90]

Besides the growing commuter suburbs, Epsom races created a large local demand for rail travel. These demands were served by the Banstead & Epsom Downs Company line, taken over before its completion in 1865 by the LB & SCR, and by the Chipstead Valley Railway line which ran from Caterham Junction (Purley), turned south-east, passed back under the main line and ran west towards Tadworth and Tattenham Corner, which it reached in 1901. In 1951 it was reported that over 40,000 racegoers travelled to the Derby by this line.

The major railway companies, into which many smaller ones had been absorbed, were themselves amalgamated to form the Southern Railway in the grouping which occurred in 1923. The Southern was the smallest of the groups formed in that year but in many ways it was one of the more efficient and successful ones. All the lines in Surrey were incorporated into the Southern and benefited from the electrification policy of the new company, the only one to opt for third rail in preference to overhead power lines. Both the LB & SCR and the L & SWR had electrified some of their suburban services earlier in the century and many of the remaining Surrey lines were electrified by the end of the 1920s. The line from Raynes Park to Epsom and Dorking was converted in 1925, Sutton to Epsom Downs in 1928 and Streatham to Mitcham, Sutton and Epsom in 1929. The major exception was the main line from Hampton Court Junction through Woking to Guildford and beyond, which was not converted until 1937. The Dorking to Horsham line was electrified in 1938 and that from Ash Vale to Guildford in 1939. The Second World War delayed the completion of electrification until 1956 when the Oxted line was converted.

[Page 91]

The only new line constructed in the county under the Southern was an incomplete commuter line on the Leatherhead and Dorking route from a point south of Motspur Park through Tolworth towards Leatherhead, which never got beyond Chessington South owing to the outbreak of war in 1939. The growth of passenger traffic had been colossal during the century, greatly increasing during the period of the Southern Railway. On the whole of the Southern in 1923 there were 198 million passenger journeys, 208 million in 1932 and 237 million by 1938.

The 1947 Transport Act was a watershed in railway operation. Much had to be done by the newly nation-

alised industry to repair the neglect of the war years and a major re-signalling programme was instigated in the Southern Region in 1965. For example, the Southampton main line was converted to multiple-aspect colour light signalling in 1966 and the Portsmouth Direct line in 1974. Now with a return to private ownership, what will this major change bring to Surrey railways?

[Page 92]

Aviation

Surrey was at the forefront of heavier-than-air flying in the early years of the twentieth century and in the middle years of the development of civil airports, and was prominent in aircraft manufacture throughout the period. But before this time, from as early as 1785, lighter-than-air craft, first balloons and then airships, had taken to the air above the county.

On 1 May 1785, only 18 months after the first manned balloon ascent in Paris, James Sadler, who had become the first British airman, made his third ascent in a hydrogen-filled balloon from Hurst Park. Other ballooning sites in historic Surrey from this period up to the 1920s included St George's Circus, Southwark, the Ranelagh Club at Barnes Common, Vauxhall Gardens, the Crystal Palace, Roehampton, Battersea Park and Wandsworth and Mitcham Gas Works.

The first successful cross-country flight by a powered lighter-than-air craft was on 22 October 1902 from the Crystal Palace to Eastcote in Middlesex. An historic flight by the airship 'Nulli Secundus' of the Military Balloon Section, from Aldershot over London to the Crystal Palace, took place on 5 October 1907. The craft was commanded by Colonel John E Capper and his crew was S F Cody, who was still an American citizen at that time. By the time the airship was forced to land by adverse headwinds, it had covered over fifty miles and had been in the air for 3 hours 20 minutes. This was an important event for it stimulated British efforts to catch up on the lead taken by France and Germany.

The first sustained flight in Britain in a heavier-than-air machine was made by Cody at Farnborough, just across the county boundary in Hampshire, on 16 October 1908. Cody flew some 1390 feet in a biplane of his own design and construction.

AIRFIELDS

Brooklands

In June 1908 A V Roe, experimenting within the motor-racing track built the year before at Brooklands, came off the banking, became airborne and flew along the finishing straight for some 100 yards, but there were no officials on hand to record the event and it was never recognised as a powered and controlled flight.

Brooklands became the Mecca for a new breed of fliers and up to the outbreak of war in 1914 saw the establishment of ten flying schools which between them trained over 300 pilots, more than any other field in the country. Famous names from the period include the Frenchmen, Blériot, Paulhan and Pègoud (the first to loop-the-loop in Britain, at Brooklands in 1913); Alliott Verdon Roe, Pixton, Grahame-White, Pemberton Billing, Tom Sopwith and the Australian Harry Hawker.

The next two decades saw the development of club flying and air races. The King's Cup was flown from Brooklands on several occasions and pilots like Tommy Rose and Chris Staniland thrilled the crowds with stunt flying. During the First World War the airfield had been taken over by the government, as it was again in 1939 when it was handed over to Vickers. This time at the end of hostilities in 1945, neither the race track nor the airfield was to return to civilian use.

[Page 93]

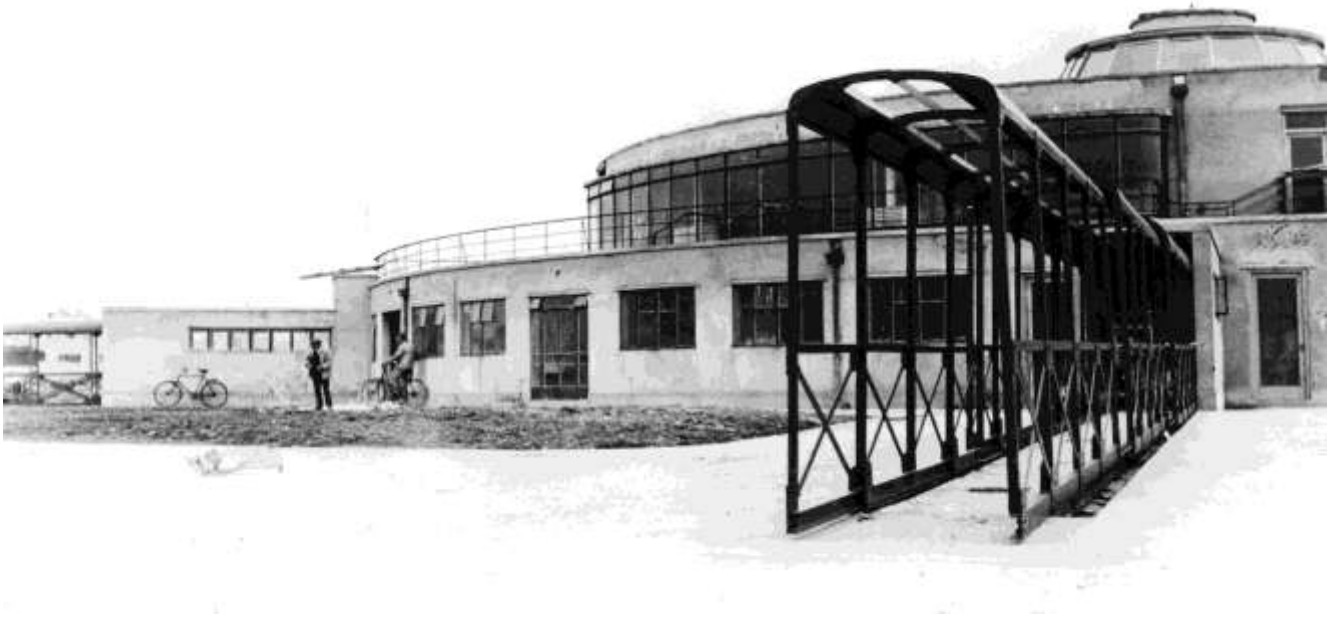
Croydon and Gatwick airports

Neither of these major sites is in modern Surrey but both were in the county during their formative years.

Croydon emerged out of the war-time flying fields at Beddington and Waddon. In March 1920 it was designated 'The Official Air Terminus and Customs Airport for London' and the first commercial flight, to Le Bourget, Paris, took place. The new airport buildings along Purley Way were opened in 1928 and a number survive, including hangars and Airport House and the control tower, which has been refurbished as offices and a restaurant with a small historical display. The Aerodrome hotel of the same period is a Post House hotel in the 1990s.

Long-range flights to the Empire by Imperial Airways and continually-growing services to Europe by British and continental airlines operated up to the outbreak of war in 1939. Croydon was also famous for many record-breaking flights in light aircraft by pilots who included Alan Cobham, Charles Lindbergh, Bert Hinkler, Charles Kingsford-Smith, Jim Mollison and two women, Amy Johnson and Jean Batten.

During the Second World War Croydon was a fighter base. It re-opened after the war but its grass runways were too short and could not cope with the weight of the new civil airliners. Traffic was transferred first to Northolt and then to the new airport at Heathrow; Croydon Airport closed, and much of the land was used for housing.



The `Beehive' terminal building at Gatwick Airport nearing completion in 1936. *John King Collection*.

Gatwick Airport was developed first by Morris Jackaman and then by Marcel Desouter from a flying club which operated in a field next to the racecourse in the early 1930s. Lack of finance, the boggy nature of the land and the intransigence of the Southern Railway, together with the demands of the Air Ministry, caused continual difficulties. The new terminal, south of the site of the modern one, was opened with much dash and ceremony in June 1936.

It was — and still is — famous for the innovative design of the building, the 'Beehive', connected by a tunnel to its own station on the Southern Railway main line from London to Brighton, and to the aircraft by means of telescopic covered walkways, the precursor of all modern airport design. The Beehive still stands and has been refurbished with many of its original features retained.

Like Croydon, Gatwick became an RAF station during the Second World War, with both fighter and army co-operation squadrons operating from the grass field. This still suffered intermittently from flooding from the River Mole, and the problem was not solved until the new post-war airport with concrete runways was built.

[Page 94]

Other early airfields

Other early flying fields in Surrey were at Beddington, Waddon, Addington south of Croydon, and at Fairoaks near Chobham, and there were short-lived sites at Hook, Chessington and Warlingham. Fairoaks survives for light civil flying.

Redhill was developed by the British Air Transport Company in 1934 as a Flying Training School, having moved from Addington. The company gained a contract to train Imperial Airways engineers and for basic flying training. Redhill Flying Club was formed in March 1937 and took part in the National Civil Air Guard scheme. In July 1937 the No 15 Elementary and Reserve Flying Training School of the RAF opened. In the 1990s Redhill is the base for Bristow Helicopters and several flying clubs for light aircraft.

Kenley was associated with air defence between the wars and became a major base for Fighter Command during the Battle of Britain.

Dunsfold was built in 1942 by the Canadians as an advanced landing base for Fighter Command. After the war, Skyways, which became the largest charter company in Europe, took over Dunsfold but ran into financial problems in 1950 and was wound up.

Wisley, across the A3 from Brooklands, was created in 1943 to increase test facilities for Vickers and was fully operational the next year, though the site was not fully developed with a 6700 feet (2 km) runway and night flying facilities until 1953. The airfield closed down in May 1972 and proposals to re-open it for light aircraft in the 1980s came to nothing.

Also in 1943 a small second-line advanced landing ground was set up at Horne, near Redhill. It did not survive after the war.

Notes

1. Budgen, C, 'The Bramley and Rudgwick Turnpike Trust', *Surrey Archaeological Collections*, 81 (1991-92), 97-102
2. The City of London coal and wine duty boundary is shown on the map of railways on page 61.
3. The SIR and CM&GR are shown on the map on page 55.