

ROADS & ROAD TRANSPORT HISTORY CONFERENCE

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Chairman	:	Professor John Hibbs, OBE, University of Central England in Birmingham, Perry Barr, Birmingham B42 2SU
Secretary	:	Gordon Knowles, 7 Squirrels Green, Great Bookham, Leatherhead, Surrey KT23 3LE
Treasurer	:	Roger Atkinson, 45 Dee Banks, Chester CH3 5UU
Research Coordinator	:	Ian Yearsley, 97 Putney Bridge Road, London SW15 2PA
Newsletter Editor	:	Grahame Boyes, 7 Onslow Road, Richmond, Surrey TW10 6QH

EDITORIAL COMMENT

This issue records the establishment of the Roads and Road Transport History Conference as a formal corporate entity. It also makes a start on disseminating information on the resources and expertise available both within the corporate members of the Conference and elsewhere, which I hope will help readers to make new contacts and extend their studies.

I am grateful to the contributors of six short articles - three in the form of questions - on some less hackneyed¹ aspects of transport history. They well illustrate the enormous scope for new lines of research, even for those whose family or professional commitments leave them little spare time. I hope that they will stimulate more such articles for the next issue. Those by Scowcroft and Jackson originally appeared as Occasional Papers distributed within the Road Transport Group of the Railway & Canal Historical Society.

- 1 From Old French *haguenée*, ambling horse - etymology dubious (O.E.D.)

FORMAL CONSTITUTION OF THE R&RTHC

The Roads and Road Transport History Conference was formally constituted on Saturday 14 March 1992, when the last meeting of the informal steering committee and the first business meeting of the R&RTHC were held at the Museum of British Road Transport, Coventry.

The following were recorded as founder members:

Kithead Trust
Museum of British Road Transport
North British Traction Group
PSV Circle
Tramway Museum Society

London Transport Museum
National Motor Museum
Omnibus Society
Railway & Canal Historical Society
Transport Ticket Society

Officers were elected as listed above, and the following Mission Statement adopted:

The prime objective of the Conference is to promote, encourage and coordinate the study of the history of roads, road passenger transport and the carriage of goods.

It does this by acting as a clearing house between societies, museums and individuals concerned with particular areas of this field, and by organising events to promote and enhance research and interchange of information among all who are interested.

In particular it organises national symposia to provide a meeting ground for amateur and professional transport historians, and it provides advice to undertakings seeking to dispose of archives so as to ensure their safe keeping and continued accessibility for research.

IAN A. YEARSLEY, THE RESEARCH COORDINATOR

Ian Yearsley has wide experience of public transport, both as an amateur and as a professional. He was a trainee with the North Western Road Car Company, moved to the travel industry with Thomas Cook, and then turned to journalism, working on the *Railway Gazette* and *Motor Transport*. He was editor of *City Transport* and *Urban Transport International* and now contributes to various trade and technical journals including the Brussels-based *UITP Revue*.

His amateur interest is primarily in tramways and he has been actively involved in the Tramway Museum at Crich since its earliest days. His historical researches include a study of John Raworth and his regenerative demi-cars in three issues of *Tramway Review* in 1973/4, a commentary on London tramway finance in the London University "Tramway London" extra-mural seminar in 1987, and his *magnum opus* on the Manchester tramways (with Philip Groves) published in 1988. However, he also takes a keen interest in other forms of transport. We are fortunate that Ian has agreed to give us the benefit of his encyclopaedic knowledge by taking on the role of Research Coordinator.

The purpose of creating the post is to provide a focus to whom enquiries about where to look for information can be addressed. Ian will not, of course, undertake research for enquirers. Rather he will try to direct them to records, published material or to other individuals working in the same field, where answers might be found. He will also be able to call on the resources of the corporate members. Where appropriate, queries will be published in this Newsletter.

He is also collecting information on research projects currently under way, so that workers in related fields can be put in touch with each other, and duplication of work avoided.

Queries should be addressed directly to Ian (address on page 1). It would be helpful if enquirers would indicate where they have already searched.

The following are two interesting queries already put to him, and one from Ian himself.

Queuing for Buses

There is a quaint old British custom, which still survives, whereby passengers waiting for a bus form a queue. I believe that this goes back to World War 2, and to a requirement then promulgated, that six or more persons waiting at a bus (or tram) stop must form a queue. My recollection is that this was introduced under Defence Regulations c.1941, but I have not been able to confirm this. Moreover, I could be wrong, and the requirement may not have been in Defence Regulations at all. Can you help me to find the origin of the bus queue? Is there still, in 1991, any legal requirement for six or more persons, waiting for a bus, to form a queue?

I have looked, in vain, at the following possible sources of information:

The History of British Bus Services, by John Hibbs
A History of London Transport, Vol.2, by Barker and Robbins
London Buses in Wartime, by J.H. Price
Bus Operation, by L.D. Kitchin (1949)

The Manchester Tram, by Ian Yearsley (1962) confirms (at page 101) that at least an invitation to queue (though not a requirement?) existed in certain places before the War; but it neither confirms nor disproves that the Regulation was a wartime one.

Coal Strike 1921: Stimulation of New Bus Services

The General Strike, in May 1926, is sometimes rather loosely referred to as having been a stimulus for bus services. The railways, municipal bus services and those run by major companies with unionised employees, were all affected by the strike; generally, the independents, with non-union labour, were not. Some took the opportunity to establish new services, which survived after the strike had ended. Actual firm instances of this having happened are few¹, but there was, with little doubt, some permanent loss of railway passengers to competing bus services².

However, there had been an earlier, less well-remembered, strike which had a surprisingly widespread effect on passenger transport. This was a strike by coal miners, which began in April 1921. Two forms of passenger transport were, at that time, heavily dependent upon coal: the railways and the electric trams.

I have been to the National Tramway Museum archive at Crich and found various references in *Tramway & Railway World* from 30 April 1921, through the issues in May, and into June, recording major reductions in services, eg Blackpool Corporation (Sunday services off altogether); Bradford and Derby Corporations (25% reductions in services); and other towns (between 20% and 50% reductions)³. The Board of Trade then announced further restrictions on the use of coal, gas and electricity⁴. By mid-May, a Halifax Corporation Emergency Committee had arranged for local charabancs to cover tram routes on Sundays⁵. On the other hand, before the end of May, it was reported that the Leeds Corporation trams had resumed Sunday services, but the Committee complained that charas were still working to Roundhay, in competition with the trams⁶.

My researches are not yet complete, and the foregoing is not intended as a polished, final article. I am looking also at non-urban areas, where, for example, there was commendatory reference in the *Whitby Gazette* on the usefulness, during the reductions in railway services, of a bus service established between Sleights and Whitby by the Lawsons⁸.

Can you guide me to contemporary literature or a properly documented history of the railway service cuts in (or about) May 1921, and to other authenticated instances of new rural bus services starting as a result of the railway service cuts?

- 1 O&C Holdsworth's *Hebble* Bus Services are on instance (*The Origins of Hebble* by Norman Dean (1959) p.4)
- 2 *The Hereford Bus* by J.E. Dunabin (1986) p.44
- 3 *Tramway & Railway World* 30 April 1921
- 4 *ibid* 7 May 1921
- 5 *ibid* 21 May 1921
- 6 *ibid* 28 May 1921
- 7 *Whitby Gazette* 3 June 1921
- 8 The Lawsons later formed the Pioneer 'Bus Service Co Ltd

Hand-Propelled Vehicles

Study of photographs of urban street traffic reveals the presence of significant numbers of hand-propelled vehicles. These range from open carts to milk delivery vehicles, some on two wheels, others on three or four. There are also highly specialised units such as treadle-operated workshops for knife grinders. Even today in London we still have visits from a jobbing gardener and handyman using a mobile workshop mounted on a trolley from a do-it-yourself warehouse; he pushes it from Streatham to Putney and back.

These vehicles, once numerous, seem to slip through the net of published statistics. One 1914 police report on traffic congestion, which includes many hand-propelled vehicles in its illustrations, makes no mention of them in its text. Does anyone know of any study which has been made or any sources of statistics about the use of hand propelled road vehicles?

MUSEUM OF BRITISH ROAD TRANSPORT, COVENTRY

Coventry was the centre of the West Midlands vehicle manufacturing industry. The museum was opened in 1980 to house the city's extensive collection of motor vehicles, cycles and motorcycles, which had been started in 1937 with the donation of a private collection of cycles. Acquisition of cars had begun in 1953. It now has more than 150 cars, 75 motorcycles and 200 cycles, together with a number of commercial vehicles.

The Museum has an extensive archive collection, much of it computer recorded. Access to it must be arranged in advance and is subject to the diary commitments of Steve Bagley, the sole member of staff involved in this aspect of the museum. Contact him at the Museum, St Agnes Lane, Hales Street, Coventry CV1 1PN (Tel: 0203-832425).

THE NATIONAL MOTOR MUSEUM, BEAULIEU

The museum was started in 1952 by Lord Montagu as a tribute to his father, John, who was an active motoring pioneer. The present Museum was opened in 1972. The National Motor Museum Trust was formed in 1970 "to safeguard the Museum and Library collections for the long-term benefit of the nation".

In November 1989 the Trust took possession of the new National Motor Museum Trust Centre. This new building houses the Trust's administrative centre and three Libraries: the BP Library of Motoring, the Kodak Motoring Picture Library, and the Film and Video Library. It also provides space for the educational departments related to the Museum. The Trust's aim is to collect, conserve and present to the public vehicles and other items relating to the story of motoring in Britain from 1895 to the present day. This aim is reflected in the Museums collection policy which allows not only British cars but significant imports into the Museum.

The library's collection embraces roads, road traffic and commercial vehicles, as well as cars and motor cycles, and includes bound sets of early journals. There is a reading room, but personal callers are asked to make an appointment in advance. Research can be undertaken by letter, phone or fax. Where a lot of work is involved, a fee is charged.

Contact: Lynda Springate, Head Librarian, National Motor Museum, Beaulieu, Brockenhurst, Hampshire SO42 7ZN (Tel: 0590-612345).

THE NORTH BRITISH TRACTION GROUP

The Group was formed in 1965 "to coordinate various tramway research and rebuilding projects in Scotland". Soon the founding members owned several tramway vehicles - 1905 Glasgow "Mains Dept No.1" (a specially built works car) now in store at the National Tramway Museum, after restoration; 1888 Dundee steam tram trailer car No.2 and similar 1894 car No.23. The latter are now awaiting full restoration in Birkenhead. Plans to acquire Wemyss tram body (No.14) were unfortunately frustrated.

As an adjunct to this main purpose, the Group undertook to foster research into the history of public road transport. This has resulted in the publication of a number of detailed histories of individual undertakings. Prime source material has been accumulated by acquisition of original archive and photographic material. Collections were acquired from several commercial photographers including Brown of Falkirk, Ramsay of Bridge of Allan, and Valentine of Dundee. The Group's members were the first to be allowed to investigate the G.W. Wilson photographic archive and produced a catalogue of transport related subjects.

Tramway and transport relics have been acquired to augment the collection, and the stock of original material has been expanded by the bequests of the collections of Harry Dibdin and Bill Williams.

Book sales have ensured the continued existence of the trams which were saved by the Group, and for this reason publishing is now the main *raison d'être* of the Group.

Access to the Group's collection and its knowledge of Scottish sources of information can be negotiated through Ian Yearsley.

THE TRAMWAY MUSEUM SOCIETY

A small group of well-wishers in 1948 considered that it would be a pity if the tramcar, having served its patrons well, should be allowed to disappear without trace from our streets, unknown to future generations. Since at that time no established body seemed prepared to assume the task for preserving suitable specimens, this group set about the project. In 1955 they formed themselves into the Tramway Museum Society and subsequently this body became incorporated and recognised by the State as a national educational charity. Members give their services free of charge, the museum being largely dependent on volunteer effort, for there is no tramcar manufacturing industry in this country to support the project financially.

In 1959, after a sustained search, the museum acquired the present premises at Crich, the site of a former George Stephenson mineral railway. Since the establishment of the museum over 50 tramcars have been acquired - horse, steam and electric. However, they are not merely static exhibits, trams operating whenever the museum is open along a period street, constructed specifically for the purpose. Horse operation began in 1963 and electric cars began running in 1964. In recent years the society has been concentrating on the development of its archival collection and a purpose-built library and archive centre has been constructed. The most recent major project is a large exhibition hall, which houses a comprehensive display to show the development of the British tramway industry. A number of paid staff have been appointed in recent years to ensure proper operation of the museum and to give practical assistance in specific areas.

The archive collection includes papers of tramway undertakings, manufacturers and the Municipal Tramways Association and its successors, trade journals, engineering drawings, and photographic and film material. There is also some material on trolley and motor buses. The archives are catalogued on computer, which is linked with the London Transport Museum computer catalogue.

Access to the library and archives is available Mondays to Fridays by prior arrangement with the full-time librarian, Mrs Rosemary Thacker, National Tramway Museum, Crich, Matlock, Derbyshire DE5 5DP (Tel: 0773-852565).

THE P.S.V. CIRCLE

The P.S.V. Circle was founded in 1943 by a small group of enthusiasts interested in the buses and coaches operated by London Transport. There was a gradual increase in the membership to about 70 by 1950 but currently the Circle enjoys a membership of approximately 2400, a figure which has remained more or less constant for the past five years or so.

Vehicle news was initially confined to London Transport but was subsequently expanded progressively to include the vehicles of all operators in the United Kingdom and Ireland and also Overseas Operators that have British built chassis and/or bodies in their fleets. Details such as registration, chassis and body numbers, chassis and body makes and models and/or types, dates new and withdrawn, sales and purchases,

allocations and transfers are recorded in monthly news sheets which now cover nine different areas to accord with the recent changes in the Traffic Area boundaries. Although considerable assistance is obtained from the operators themselves, the news is enhanced by the personal observations of members.

In addition to monthly news sheets, the Circle also produces Fleet Histories, current Fleet Lists, Chassis and Body Lists and the occasional miscellaneous publication.

The point of contact within the society for research enquiries on vehicle history is M.G. Doggett, 47 Purley Bury Avenue, Purley, Surrey CR8 1JF.

Anyone interested in joining the P.S.V. Circle should write for details to A.M. Wright, 10 May Close, Chessington, Surrey KT9 2AP.

BRITISH PETROLEUM COMPANY ARCHIVES MOVING TO WARWICK

A new archives building is under construction at the University of Warwick to re-house the University's Modern Records Centre and accommodate the British Petroleum Company Archives, which are to be opened for the first time to historians. It is hoped to open the new building early in 1993.

The BP archives cover every aspect of the history and operation of the company since its incorporation as the Anglo-Persian Oil Co.Ltd in 1909, together with some earlier oil exploration records and family papers of the company's founder, William Knox D'Arcy. Initially access will only be available to records up to the year 1954, the point at which the soon-to-be-published second volume of the official company history stops. Later archives will be released in due course.

BIBLIOGRAPHY OF BRITISH ROAD TRANSPORT SINCE 1900

Malcolm Wright is compiling a "critical, analytical and comparative" select bibliography of twentieth century British road transport as part of his M.Phil/Ph.D. programme under the direction of Professor John Hibbs. He hopes that it will be ready for publication in about three years time. He would welcome details of any books or articles which *Newsletter* readers think may merit inclusion.

Coupled with this is the aim of establishing a national bus research library within the Library of the University of Central England in Birmingham (the recently renamed City of Birmingham Polytechnic). Any books and articles donated by authors, publishers or others to aid Malcolm's project will be deposited in this collection.

He can be contacted at 1 Polhill Drive, Walderslade, Chatham, Kent ME5 9PN (Tel: 0634-862843).

HOW IT WAS: RUNNING A FORD "AA" LORRY IN THE 1930S

By Richard Storey

The Ford "A" and "AA" series were light (30 cwt.) trucks or lorries popular with small traders and haulage contractors in the late 1920s and early 30s, remaining in service into, and probably in some cases beyond, the Second World War. A small group of documents was purchased recently by the writer relating to a Ford "AA", 1923-35, operated on a B licence. It provides an indication of the small caches of vehicle operating documents likely to be lying forgotten in the back of desk drawers or cupboards, which can illuminate the reality of motor vehicle ownership and operation in a period gradually slipping into the unreachable past.

This particular group related to a Ford 'AA' truck, EU4429, owned and operated by Thomas Price, corn merchant of Hay, Brecon. The series starts with a quotation from Messrs. R.P. Ravenhill, Ford and Fordson tractor dealers of Hereford, of £228 4s. for "one of the new Ford 30 cwt trucks", but in fact Price did not purchase his vehicle until October 1930, under a hire purchase agreement with the United Motor Finance Corporation Ltd. (In March 1932 it appears that only the forbearance of Harold Elston & Co. of The Modern Garage, Brecon held off repossession on behalf of the finance company.)

Elstons carried out various servicing jobs on the lorry both before and after this date, as surviving documents show. So, too, did Messrs. Ravenhill, including a trip to replace two tyres and inner tubes, which had presumably failed whilst the lorry was out on a job. One receipted invoice indicates that the lorry was garaged at the Swan Hotel, Hay at 2s. per week; another, from a blacksmith and agricultural engineer, for "a pin to tailboard" suggests that the vehicle had a dropside body. One petrol account survives, for 190 gallons supplied by R.H. Bondy of Castle Works, Hay over 3½ months, 1932-3.

The last documents in this small group emanate from the secretary of the South Wales Area of the Road Haulage Association, which was at that time in process of forming a sub-area for Brecon and district to join in the fight "against unfair legislation and taxation". Two circular letters, June 1935, are accompanied by a leaflet *Unfair treatment of road transport* reprinted from *The Road Way*.

The file does not record whether Price joined the RHA, but it is interesting to find evidence of major transport policy issues cheek by jowl with the minutiae of keeping a small lorry and a small business going.

SEDAN CHAIRS IN DONCASTER: AN EARLY MUNICIPAL TRANSPORT VENTURE

By P.L. Scowcroft

The sedan chair, a portable enclosed chair mounted on poles and carried by men or animals, was used in the Orient in ancient times and became popular in Italy, France (hence, probably, the name Sedan) and England in the 17th and 18th centuries. The chairs were often highly luxurious with elaborate carvings and upholstery, and at times were painted with mythological scenes or heraldic devices. They became established in England by 1634, in which year Sir Sanders Duncombe was awarded a Royal Patent for the sole supply of 'hackney' sedans for fourteen years: apparently a reward for having imported the sedan chair from Italy.

On Wednesday 8 October 1800 the Doncaster Corporation resolved that:

Three Sedan-chairs shall be provided by the Mayor at the Corporation's expense for public use with great-coats and belts for six men to carry the same and that Mr Mayor, Mr Heaton, Mr Dancer, Mr Jackson, Mr Whitaker, Mr Rimmington and Mr Wright be, and they are hereby appointed, a committee for regulating the chair business and fixing the rates and fares to be paid to the chairmen for their attendance and labour.

Information about this venture is disappointingly scanty. Indeed, despite diligent search, I found no contemporary mention of it in the *Doncaster Gazette*, the only local newspaper in 1800; the above quotation from the Council's minutes being found in C.W. Hatfield, *Historical Notices of Doncaster: Third Series* (Doncaster, 1870), pp.24-5, an extended collection of essays first printed in the *Doncaster Gazette* during the 1860s and later published in book form. Hatfield does, however, note that a Mr George Moody was one of the last sedan chairmen in Doncaster. He died on Monday 27 December 1841 in the 45th year of his age, so even if he was made redundant in, say, his early twenties, the chair business must have lasted two decades.

This little footnote to English road transport history affords a fascinating paradox. In one way the venture was outdated, as the sedan chair was decidedly old-fashioned by 1800. Yet in another sense Doncaster was ahead of its time as (apart from the field of licensing hackney carriage vehicles, something which was very important in 19th century Doncaster, especially at the time of the September race meeting) municipal enterprise and involvement in transportation was not to emerge for many decades, until the formation of tramway networks after the Act of 1870. Doncaster's own municipal tramways appeared in 1902.

Editorial Note

Local government authorities had long been involved in maintaining and improving river navigations, roads and bridges. In the 16th century the cities of London and Chichester gained Parliamentary powers to construct canals (although they were not built). Municipal licensing of public transport goes back to 1555, when the City of London was made responsible for regulating the Thames Watermen; the principle was extended to hackney carriages and sedan chairs from the 17th century. But are there any earlier examples than that described in this paper of municipal involvement in public transport operation?

THE EMERGENCE OF THE MOTOR ROAD 1905 - 1930

By Alan Jackson

The development of road construction is surely fundamental to the study of road transport history since there is a clear relationship between road conditions and the progress of mechanical transport. This essay into the matter will however raise as many questions as it answers, since I am a relative tyro in this branch of transport history; but perhaps it will stimulate some discussion, which is after all what the Road Transport Group is about.

Let us consider what happened in Surrey, and in particular at Dorking, whose modern history I have been studying intermittently for some nine years. A market town, with some 8,000 inhabitants at the beginning of the 1910s, Dorking stood astride what we now call the A24 (London-Worthing) and the A25 (Guildford-Sevenoaks) trunk roads, which shared its High Street, and were to be obstructed by a weekly livestock and farmers' market until 1926. It was the press of motor traffic that moved the market to an off-road site and also led to the construction of an early by-pass road, but more of that perhaps another time.

The first motor car had passed through Dorking in November 1896 and three years later S.W. Fuller, a cycle shop owner in South Street, imported the town's first car. By mid-1904, an average of some 200 cars were using the High Street on fine summer Sundays¹. The invaders stirred up great clouds of dust from the roads, then composed of a gravel surface over waterbound macadam. To meet this nuisance, the Urban District Council (UDC) agreed² after some moral churning to bring the water cart on duty on the Sabbath³. It should be noted that the road surface described also produced problems in wet weather, when it was apt to convert to a muddy morass and, with this in mind, some years earlier stone and hardwood crossings had been provided to improve the lot of pedestrians in the High Street.

Even before the arrival of the motor vehicle, the macadam roads had been found wanting. As early as 1889, Army steam traction engines hauling heavy trailers along the A25 between Aldershot and Shorncliffe Camp (Folkestone) were reported as tearing the road to pieces⁴. These military road trains were seen again during the South African War (1899-1902) when some consisted of as many as ten heavy wagons. But not for long. When roads beyond Surrey "broke up altogether", presumably because the surfaces could not cope with the weight, the Army had to call a halt to this traffic⁵. Military historians can presumably explain why the Army authorities deployed road trains in Britain for journeys where rail transport was an easier option. Maybe it was regarded as suitable training for movement over railwayless battle zones.

From about 1909, with motor traffic continuing to increase, the Dorking UDC initiated an annual "tar spray and gritting" programme on the main roads of the town⁶. By 1910 more than half Surrey's busiest roads were tarred⁷. This measure eliminated dust and provided a surface relatively impervious to water, but as the resulting hard top was less than one inch deep, the roads remained vulnerable to rutting and pot-holing from the action of motor vehicles, virtually all of which were fitted with hard rubber tyres of narrow semi-circular profile (two sets on each rear wheel of heavy lorries and buses).

Surrey's motor traffic continued to grow inexorably in the years immediately before World War 1 and during that War: delivery vans proliferated, many of them coming down from the big London departmental stores to serve middle-class homes in the rural and semi-rural areas; regular motorbus services to and through Dorking began in 1914⁷, soon carrying heavy loads of London pleasure seekers in the holiday season; and of course there was the extra military traffic. Overloaded freight vehicles were common, as the Surrey County Council discovered after installing its first weighbridge on the Portsmouth road in 1914⁸.

Tar-spraying was no longer enough to sustain the pounding Surrey's roads were now receiving. The next advance was to resurface with tarmacadam, in some cases after complete replacement of the original macadam base. This involved laying on the base stones approximately two inches in diameter coated in tar or bitumen and then providing a top layer of three-quarter inch stones and grit, also bound in tar or bitumen. The first experiments with tarmacadam in Surrey were carried out in 1911 and very soon afterwards parts of the London-Portsmouth road were given the new surface. Surrey County Council acquired its own asphalt plant in the summer of 1914, the first County Council to possess such a facility⁹. Asphalt provided a further improvement in that the final surface had no interstices and was even harder wearing than tarmac. Under the direction of the Surrey County Council Surveyor where appropriate, all main and 'assisted' roads in the Dorking UDC area were tarmacadamed in 1917-23. After obtaining its own (horse-drawn) tarmacadam machine in February 1922, the Dorking UDC started to deal with the side roads¹⁰.

Now come the questions. To what extent was this chronological sequence typical of the country as a whole, or was Surrey a real pioneer? How long was it before all Britain's trunk roads were hard black-topped with tarmacadam or asphalt to provide a surface able to sustain all forms of motor transport without undue damage? Such evidence as I have found suggests that the process may have extended well into the 1920s. In 1921 there were reports of motor coaches raising clouds of dust and destroying road surfaces in many parts of the country and early in 1922 it was still being noted that the solid tyres of heavy motor vehicles were cutting up loose road surfaces¹¹.

To what extent did the condition of Britain's roads delay the introduction of sustained and regular year-round long-distance road passenger services? And did poor road surfaces significantly slow down the development of rural bus services? As regards the latter, there is evidence that at least one village's motorbus service in the Dorking area was withdrawn in 1914 owing to the unsuitability of the roads traversed¹². That road surface conditions were crucial in the timing of the appearance of the so-called "express" all-year round coach services may be indicated by the fact that although suitable vehicles for this purpose were available by 1914, if not earlier, such services did not start earlier than 1925-30¹³. Of course other factors may have operated to cause this curious hiatus although I cannot easily accept Bagwell's suggestion that it was due to an absence of suitable methods of heating road coaches¹⁴; it seems unlikely this would deter many of the cost-conscious patrons, used as they were at that time to Spartan conditions in home and workplace. They might well consider as a luxury the rugs which would be available.

References

- 1 Dorking Museum, newspaper cuttings collection
- 2 *ibid*
- 3 *ibid*
- 4 David Robinson, *Surrey through the Century 1889-1989* (1989)
- 5 Dorking Museum, newspaper cuttings collection
- 6 Robinson, *op cit*
- 7 'Bell Street', *East Surrey* (1974)
- 8 Robinson, *op cit*
- 9 *ibid*
- 10 Dorking Museum, newspaper cuttings collection
- 11 *Transport & Travel Monthly*, September 1921, April 1922
- 12 'Bell Street', *op cit*
- 13 John Hibbs, *A History of British Bus Services* (1989 - Chapter 7) and Humphrey Household, *With the LNER in the Twenties* (1985)
- 14 Philip Bagwell, *The Transport Revolution from 1770* (1974) p.228

Author's Note

I am indebted to my friend Jack Tiplady, MICE, FInstHE, formerly Director (Transport), Eastern Region, Department of Transport, who answered my questions on the methods of road construction referred to above. I trust I have not oversimplified his professional explanations; any errors will be my fault.

Editorial Note

Further information on the early history of road surfacing can be found in the following:

Bob Whitehead, "The Summer Fiend" (*Old Motor*, vol.6 (1971-2) pp.304-11). This describes various 19th century improvements on water spraying, including the use of tar as early as the 1840s, leading up to competitive trials of tar spraying machines, organised by the Road Improvement Association in 1907.

R.A. Whitehead, "The Roadmakers" (*Vintage Commercial Vehicle Magazine* vol.5 (1989-90) pp.130-3, 176-9, 224-7, vol.6 (1990-91) pp.65-7, 94-8, 164, vol.7 (1991-2) p.4). A series of articles on the history of road construction techniques from the mid-19th century to post-W.W.2.

T.C. Barker and C.I. Savage, *An Economic History of Transport in Britain* (3rd edn, 1974) pp.143-4. This mentions that Tarmac was patented in 1902 by the county surveyor of Nottinghamshire, and briefly discusses the relationship between road improvements and the introduction of taxation on vehicles and motor spirit. It also provides the following further references:

W. Rees Jeffreys, *The King's Highway* (1949)
William Plowden, *The Motor Car and Politics, 1896-1970* (1971)
J.B.F. Earle, *A Century of Road Materials* (Oxford, 1971)