A review of tramcar preservation

The preservation of individual tramcars has been one of the success stories of British transport heritage. In particular the efforts of enthusiasts have provided a remarkable collection of preserved vehicles nationally, developing from uncertain beginnings in the late 1940s and early 1950s to the foundation of the Tramway Museum Society in 1955 and the establishment of its museum high up in the Derbyshire hills at Crich in 1959.

Housing such large vehicles has always been a challenge for traditional museums, but individual museums secured the preservation of a small selection of trams, and a few others were kept by operators. The early 1960s saw the opening of the British Transport Museum at Clapham and the Belfast Transport Museum, both of which had significant (but static) collections of trams. At the time the closure of the last tram routes in Sheffield and Glasgow, and the rapid contraction of the Blackpool tramways, meant that it seemed likely that traditional tram operation in the UK would soon have vanished completely. In these circumstances the TMS deliberately concentrated on developing a demonstration line at Crich, in addition to the mammoth task of providing covered accommodation for the dozens of trams which had been acquired as the last large urban tramways closed.

Until the recent modernisation of the remaining Blackpool tramway the preservation of more trams had proceeded at a much more sedate pace than in the hectic days of the early 1960s, though it had included some important vehicles. In contrast the recent disposals from the old Blackpool fleet have been organised with the aim of seeing every vehicle kept, a praiseworthy objective but one which raises the possibility of resources being expended on duplicated vehicles to the detriment of more historic trams.

Horse trams

No description of horse tram preservation can ignore the efforts of Douglas Corporation in the Isle of Man and its continued operation of the double-track horse tramway along the promenades from Victoria Street to the Manx Electric Railway terminus at Derby Castle. The running costs of horse tramway

operation meant that the large urban systems such as Liverpool were electrified as fast as possible as soon as electric traction was a proven alternative. Douglas has for many decades been the last of a number of seaside tramways that kept horse traction. A shortage of horses when operation was resumed in 1946 after the Second World War meant that the intensive service of the time had to be run 50% by motor buses, and after the summer season the Borough Treasurer formally advised councillors of the significant financial savings apparent with bus operation. Happily the Council decided to persevere with the horse trams, and to this day there is a seasonal operation. The cars used in normal service are single-deckers, and almost all date from the 1890s. The roofed crossbench cars are used most frequently, with open toastracks for the sunniest days, and a unique trio of 1892 saloons brought into action when the weather turns wet.

Four decades of horse tram operation saw considerable refinement of the vehicles, to the extent that even the surviving Douglas cars are a second-generation fleet. Remarkably there still survive three cars from the earliest days of horse tramways in Britain: Oporto 9 and Birkenhead 7 represent a Starbuck single-decker and double-decker respectively, while the early preservation of the Ryde Pier Grapes Car reflects great credit on the City of Kingston-upon-Hull. The rapid development of horse tram design is then shown by Sheffield 15 of 1874, whilst Manchester L53 is a unique operating example of a reversible car. A number of horse cars have been restored over the years, whilst Glasgow 543 is noteworthy as a very early example of a car being set aside for posterity and actually surviving to the present day. The final flowering of horse car design in the late 1890s is represented by a single-decker in the form of Chesterfield 8, and by a double-decker in the form of Leeds 107.

Early mechanical traction

The steam tramway boom of the 1880s is an era of tramway history which almost vanished completely. Happily two of the 3-foot gauge Kitson locos from the Portstewart Tramway have survived from the closure of the tramway in 1926, but the only standard gauge example is at present dismantled: Manchester Bury Rochdale & Oldham 84 is a long-term project for the Crich workshop. There is a reasonably complete, typical steam tram trailer; Dundee 21 will be a fitting match for 84, but operation will involve much work to

provide both suitable braking and support infrastructure. The former Beyer Peacock works shunter at Crich has a place in British tramway history from its appearance on the streets of Blackpool during the Blackpool centenary celebrations in 1985: it has been more successful as a museum exhibit over the years than it was during its brief service in New South Wales.

The visual appearance of a cable street tramway can be glimpsed in the lower section of the Great Orme operation at Llandudno: strictly speaking this is a street funicular since the cars are permanently attached to the cable rather than being attached to, and detached from a permanently-moving cable so purists need to travel to San Francisco to see a true cable tramway. However the restored Douglas 72/73 is displayed as a static exhibit in the Isle of Man, after some years of battery operation along the Douglas horse tramway. Similarly one of the Neath gas trams is on static display locally, though without its gas engine.

The compressed–air trams once found in Paris and Nantes never went into service in Britain, whilst the repetition of Victorian experiments using ammonia would be a considerable challenge to the promoters in this more safety-conscious age.

Early electric

There are a number of amazing survivals from the earliest years of electric traction in the 1880s: the Bessbrook & Newry car at Cultra, the various Giant's Causeway cars, and Blackpool 4 at Crich, of which No. 4 has occasionally been demonstrated to a modern audience as astounded as Blackpool holidaymakers would have been in 1885.

The 1890s are represented en masse by the cars of the Manx Electric Railway and the associated Snaefell Mountain Railway, every one of which can be regarded as an important item of electric traction history in its own right. Another notable Manx survivor from the 1890s is Douglas Southern 1: notable for combining a body from the present Brush works at Loughborough with a truck and electrical equipment imported from the USA.

The spread of urban tramways in Britain in the 1890s was characterised by the operation of uncanopied, open-top four-wheel double-deckers. Newcastle 114 (actually dating from 1901) is the only typical example of these to survive; it has been restored for operation at Beamish Museum.

An unwillingness to put double-deckers on steep hills, and the obvious problem of low bridges, meant that single-deckers were used on a number of routes. Sheffield 46 survives in the TMS store at Clay Cross from this period: it was considerably modified for use as a snowplough but would be a unique exhibit if restored to original condition.

Edwardian developments

The uncanopied double-decker was soon developed into what was widely known as the Liverpool type of open-topper, with extra seats provided on canopies extended over the driving platform. A number of these survive, in various states of preservation, a good example (which also shows the equipment necessary for the operation of the LCC conduit tramways) being London County Council 106.

Uncanopied open-toppers had a bogie version, sometimes regarded as a high-capacity car for carrying workmen, though in the case of London United 159 the furnishings make it clear that this was not its primary purpose. This tram also displays the feature of maximum-traction bogies, in which a single motor on each bogie drives just one pair of wheels, which a smaller pair of wheels (carrying much less weight, but more prone to derailment) helps to steer round curved track.

Some uncanopied double-deckers were given top covers without the canopies being extended, a type represented uniquely by Sheffield 74 at Crich. However it was more common for them to be more extensively rebuilt to a canopied open-balcony form (as displayed by Glasgow 779), or even to become totally-enclosed in the fullness of time, as with Glasgow 812.

Other trams were built new with open-balcony top-covers, though normally superseded for all-day service by more modern trams they were regarded with fondness by the enthusiasts of the 1940s. A four-

wheel example from the 1920s was adopted as the emblem of the Tramway Museum Society, whilst Blackpool 40 has long been demonstrating the better riding characteristics of the bogie equivalent at Crich.

A Liverpool General Manager gave his name to the Bellamy car, an open-balcony double-decker with no roof over the top-deck balconies. A Liverpool example was sadly lost in the early years of preservation, but Wallasey 78 has subsequently been restored to working order.

Low bridges would sometimes necessitate the operation of single-deckers, perhaps most famously in the case of Gateshead. The remains of a four-wheeler and two complete bogie cars survive, with Gateshead 10 still demonstrating the passenger-flow principles of rear-entrance and front-exit in operation at Beamish.

Another solution to the problem of low bridges was the California car, a single-decker with both a saloon and open crossbench seats – these were said to be for smokers but gave small boys like my father in the 1920s an excellent view of the bogie wheels swinging out on curves. Manchester 765 survives as a unique example.

The ultimate seaside tram was perhaps the open toastrack. The Douglas horse cars have already been mentioned; Blackpool introduced an electrified equivalent in 1911, and a number of other towns followed suit. Just one of the last Blackpool batch survives, car 166 from 1927.

Modernisation

In many ways the London County Council E1 class, introduced as early as 1908, set a standard for other operators to aspire to over the years as comfortable bogie cars later fitted with upholstered seats. No.1025 was restored for preservation at the end of the London tramways in 1952

The adoption of enclosed end balconies took the traditional British tram to its ultimate conclusion, a significant number of both four-wheel and bogie examples survive in preservation. Technical advances in the 1930s brought developments such as electro-pneumatic control, combined with considerable passenger comfort in Liverpool 869, and the hornless truck, as fitted to Liverpool 245. The fashion for

centre-entrance is demonstrated by the many Blackpool trams recently preserved; sadly all except Blackpool 298 have lost most of their contemporary decoration, but the 1930s style is displayed on Glasgow 1282.

The most important post-War development was arguably Vambac control, fitted new to Blackpool 304, with Leeds 602 as a smaller standee car which gained the accolade of Britain's first all-electric tram by the dint of not having an air brake or a hand brake even for emergency use. The last fling of double-deckers after the War is represented by four preserved examples from Glasgow and Sheffield.

Subsequent developments of traditional tramcar designs are fully represented in the host of Blackpool trams preserved after the recent modernisation of the tramway to Fleetwood, whilst the most recently modified double-deckers (with their plug doors) are still available for traffic to supplement the new Flexity cars.

A number of works cars have also survived; they still tend to receive less tender loving care than the passenger cars, with the exception of the recent thorough restoration of Cardiff 131, the last purpose-built water car to be found in Britain.

Narrow gauge

This review has concentrated on standard gauge examples, except that the Manx treasures already mentioned are generally 3ft gauge. The West Midlands was a stronghold of 3ft 6in gauge tramways and a number of cars survive, but they may all be regarded as duplicates of others in every respect except gauge, as may the 4ft gauge Bradford 104. The 4ft 7¾in gauge of the surviving Portsmouth and some Glasgow cars should be mentioned for thoroughness, but for many purposes (though not operationally) it can be regarded as an approximation to standard gauge.

Conservation and restoration

The regular operation of any vehicle requires periodic maintenance, and there are also likely to be occasions when running repairs are needed. The overhaul of a tired exhibit to a standard appropriate for

conservation is likely to be not that much less expensive than restoration to full working order – a condition in which the purpose and function of the vehicle can be fully appreciated. Naturally this is a subject which gives rise to much angst, and a need to address the concerns of curators who may not realise how little of the original structure has survived after decades in traffic (a thought at the end of the Glasgow tramways in the 1960s to return one of the Standards to its original 1900 condition was not taken any further because it was realised how little of the original 1900 structure was likely to be left after 60 years in traffic). Another circumstance to be considered in this context is that working exhibits that have actually been in preservation longer than they were in normal service may well have had major overhauls and significant replacement of components since they were preserved.

Some museums have deliberately refrained from any repainting of some exhibits which retain their as-preserved paintwork from the original operator. Sadly the passage of time has shown that such original paintwork does not age so well on trams as it has done on steam locomotives in the same position, to the extent that some such exhibits are now in an external condition that would not have been acceptable to their original operator.

Recent restorations have produced exhibits that are historically interesting but which incorporate very little original material, to the extent that they are replicas incorporating genuine fittings. Few explicit replicas have been produced, partly because so many different types of trams have already been preserved; perhaps the biggest gap (apart from the want of an operating steam tram and trailer previously mentioned) is a demi-car. Any other replica would arguably represent a tram of a particular operator rather then a general type not already preserved.

The future

As the first of the new generation of tramways replace their fleets the problem of how to house such large and long vehicles in preservation will loom large. Operating them is going to be complicated by the need for platforms of various heights. Transport for Greater Manchester has arranged for Metrolink car 1007 of its original fleet to be kept as a historic relic, but it looks as though the original West Midlands T69 cars

may all be swept away or greatly modified without one being kept in its operational condition as an example.

Conclusion

It is remarkable how many different types of tram are represented by preserved examples. A significant number of them are actually duplicated, a cause of concern to the rationaliser but a useful safeguard should fire or other disaster overwhelm any of the major museum collections. However it is possible to identify a number of trams whose loss would remove a significant element from the treasure trove that has been built up by much hard work. In certain cases whether a particular vehicle is unique or not does depend on the classification criteria used, but the following can be regarded as irreplaceable:

The Giant's Causeway cars

Bessbrook & Newry 2

Birkenhead 7

Blackpool 4

Blackpool 166

Blackpool 298

Blackpool 304

Cardiff 131

Chesterfield 8

Douglas 72/73

Douglas Southern 1

Dundee 21

Liverpool 245

Liverpool 869

Manchester L53

Manchester 765

MBRO 84

Neath 1

Newcastle 114

Oporto 9

Sheffield 15

Sheffield 46

Sheffield 74

Leeds 107

Leeds 602

Wallasey 78

The following cars illustrate important features of tramway history, though in many cases not uniquely:

Blackpool 40

Gateshead 10

Glasgow 779

Glasgow 812

Glasgow 1282

LCC 106

London Transport 1025

London United 159

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