

1959 EDITION

**FACTS AND FIGURES**

**ABOUT BRITISH RAILWAYS**

*Reading  
L  
Worship*



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*Any of the information in this booklet  
may be quoted  
with or without acknowledgement.*

## Foreword

Modernisation of British Railways made remarkable strides in 1958 and many new, improved and faster services were introduced both for passengers and for freight. As the different parts of the Modernisation Plan become more and more rapidly realised, the outline of the Plan as a whole, though much remains still to do, is becoming apparent. This is because what has now been achieved is concrete and visible – in the widespread diesel services now fast replacing steam and extending to whole lines and areas; in the progress made with schemes for electrification; in massive engineering constructions; in the growing numbers of fast freight trains moving goods overnight; in new and improved stations, catering establishments and the like. It is significant that in a year when more and more motor cars, motor cycles and scooters were on the roads, British Railways were able virtually to hold their own on the passenger-carrying side of their business.

This is one side of the picture. The other is the realisation of a more compact railway network, smaller in area, but more athletic in operation, as it were – faster and more flexible in meeting the needs of traders and travellers alike. This objective is being met on the one hand by making possible, through reorganisation, quicker decisions at every operating and commercial level, and on the other by a slimming process which aims at cutting out little-used and uneconomic services.

Thus the twin processes of modernisation and rationalisation are creating a railway system attuned to the needs of tomorrow as well as those of today.

Unfortunately, the great advances made in 1958 were

marred by losses in revenue following the decline in coal and heavy industrial carryings. Of the total deficit for the year of £89 million covering all British Transport activities, something like £35 million can be attributed to this cause, and to the London bus strike. To meet the situation, the Government, confident in the ultimate ability of the railways to pay their way, agreed to increase the limit of deficit borrowing from £250 million to £400 million, as well as increasing the general borrowing powers. This policy of deficit financing was introduced to help the railways until such time as the Modernisation Plan on which they are engaged begins to pay off.

The railways themselves acted in three main directions to meet this situation; they launched an intensive drive to reduce working expenses, to utilise all their manifold resources to the full, and to accelerate the process of rationalisation by pruning under-used or uneconomic services. In addition, elements of the Modernisation Plan likely to bring immediate benefits are being given high priority.

The evidence is that, despite handicaps and years of under-investment, the railways are making progress far quicker than was thought possible. Improvements, started as a trickle are now flowing more freely; soon they will constitute a flood.

# Financial Results

## *British Railways*

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### Working Results

	1958
GROSS RECEIPTS	£m.
Passenger	138.0
Parcels, etc. by Passenger Train	51.9
Merchandise and Livestock	92.0
Minerals	44.9
Coal and Coke	122.2
Collection and Delivery and other Road Freight Services	12.4
Letting of Sites and Premises on Properties in	
Operational Use (net)	1.3
Commercial Advertising (net)	0.5
Miscellaneous	8.4
	<b>Total £471.6 m.</b>
WORKING EXPENSES	
Train and Vehicle Operating Expenses	186.7
Maintenance of Rolling Stock	107.3
Other Traffic Expenses	82.5
Signalling Expenses	35.2
Maintenance of Way and Structures	80.3
General	19.4
Collection and Delivery Services, Transhipment by	
Road Vehicles and other Railway Road Freight	
Services	19.3
Deduct: Internal Charges raised for Transport	
Services	—11.0
	<b>Total £519.7 m.</b>

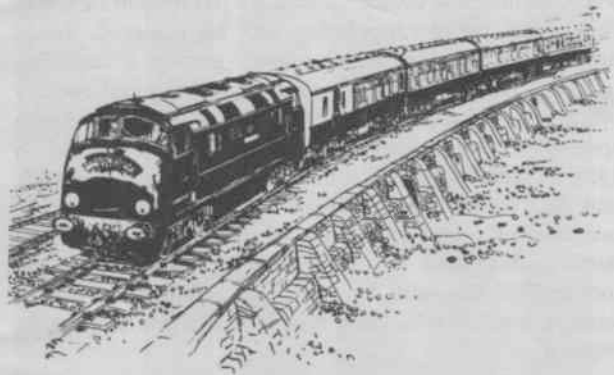
## *Shipping Services*

The main shipping services of British Transport are administered as an integral part of the British Railways organisation. In 1958 their gross receipts amounted to £16,639,000 against working expenses of £14,294,000.

Surplus of gross receipts over working expenses has been achieved each year since 1948.

## **Passenger Services**

British Railways run some 23,000 passenger trains each weekday, and carry over 1,000 million passengers a year – more than double the number carried on the Class I railroads of the USA.



## *Passenger Trains*

Work on modernisation on some routes affected services in the 1959 summer timetable, bringing the total number of expresses making start-to-stop runs of 60 mph or more down from 119 in 1958 to 90. But over all, 72 trains are

faster in 1959 by from 10 to 86 minutes. Fastest of all is the diesel-hauled *Bristolian* with a 100-minute schedule between Paddington and Bristol giving an average speed of 70·9 mph in the down direction and 70·5 mph in the up direction. Accelerated services, from 10 to 40 minutes, resulted from new electric services introduced between London and the Kent Coast on the completion of the first phase of the East Kent lines electrification scheme.

### *Station Improvements*

Over 50 passenger and parcel stations, other than the London termini, are scheduled for modernisation. Major station rebuilding, with its very high cost, is only justified where commercial considerations are paramount or where better and cheaper operating can be achieved. Large numbers of stations are, however, getting a face-lift – painting, better lighting, up-to-date booking and enquiry offices, improved buffets, and brighter waiting rooms with specially designed furniture. New stations completed in 1958 include those at Banbury, Hadley Wood, Gatwick and Barrow-in-Furness. Work of modernisation is in progress at Coventry, Chatham, Manchester (both London Road and Oxford Road), Plymouth, Chichester, Weymouth, Swindon and Huddersfield. Schemes have been worked out for rebuilding King's Cross and Leeds City stations.

### *Passenger Charges*

The full ordinary fare as at 1 January 1959 is 2d. a mile, second class. Compared with pre-war, this charge represents an increase of 27 per cent and is less than double the reduced-rate monthly return fare then in operation. The average charge per passenger mile for all categories of

# British Railways Receipts and Expenses 1948 and 1954-58

£ Millions



Gross Receipts
  Working Expenses
  Net Receipts

From 1956 Gross Receipts and Working Expenses reflect changes caused by the revised Accountancy Classification introduced from 1 January 1957

travel is slightly more than double that of pre-war. This increase has been made necessary by the much higher relative costs of materials which the railways have to purchase, and by higher labour costs. Moreover, a reference to the diagram on page 11 and the table on page 12 will show that the majority of people using British Railways trains do so at less than ordinary fares.

### *Passengers' Luggage*

For passengers holding ordinary, circular-tour or season tickets the free baggage allowance is 150 lb first class, 100 lb second class (for children half these allowances). Passengers travelling by rail can avoid the trouble and inconvenience of taking their luggage with them. For a small fee, irrespective of distance, luggage can be collected, railed and delivered in advance. Alternatively, luggage can be either collected and railed or railed and delivered.



## Safety

Records for the period 1943–57 show that passengers travelled 689,000,000 miles for each fatality in train accidents. The risk of fatality to passengers in given years was:

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1952	1 in	184,000,000	passenger-miles		
1953	1 in	2,058,000,000		“	“
1954	Nil in	20,712,000,000		“	“
1955	1 in	508,000,000		“	“
1956	Nil in	21,133,000,000		“	“
1957	1 in	246,000,000		“	“

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## Parcels

British Railways operate a nationwide service for the conveyance of parcels by passenger train. Parcels for despatch can be collected from the sender or handed in at any station; they are carried and delivered. Last year nearly 83 million consignments were handled.

## Passenger Carriages

In 1958 a total of 1,863 passenger carriages were produced, including 286 electric multiple-unit vehicles and 1,070 for multiple-unit diesel trains. The electric vehicles included 84, the first deliveries of 340 for the first phase of the Kent Coast electrification, and also 29 from 448 which are ultimately intended for the London, Tilbury & Southend line but which will first be used to operate the Liverpool Street – Chelmsford – Southend services while the existing stock is converted for use with alternating current.

Also constructed in 1958 were 695 non passenger-carrying vehicles, including 431 utility vans to meet the demand for carrying private cars by rail on car-sleeper and other

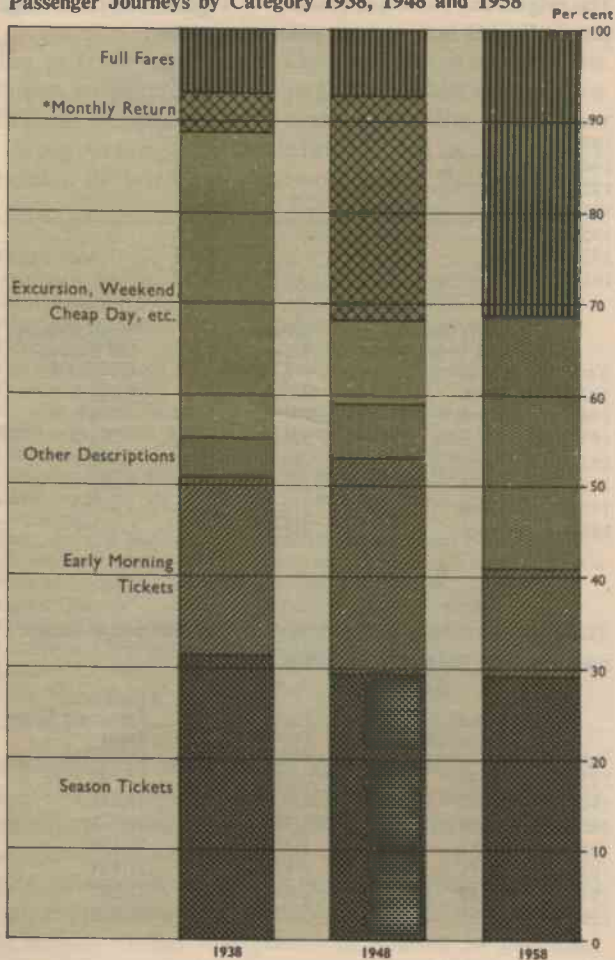
similar services. They are equipped with end doors so that cars can be driven in from a ramp and down the length of a train of such vehicles.

In 1959 improvements to be made to locomotive-hauled carriages include double glazing in first-class compartments, better insulation and lighting.

At the end of 1958 the total number of passenger-carrying vehicles – locomotive-hauled, multiple-units and railcars – was 42,003. The stock of sleeping cars was 537 (an increase over 1957 of 70) providing 9,865 berths. The total number of seats and berths available was 2,446,252.



# Passenger Journeys by Category 1938, 1948 and 1958



\*The issue of Monthly Return Tickets ceased in 1952

In 1958 the percentages in respect of Excursion, Weekend, Cheap Day, etc., and Other Description journeys were combined

The originating passenger journeys in 1958 and in preceding years, divided into various categories, were:

Year	Full Fares (Millions)	*Other Descriptions (Millions)
1938	79.8	511.4
1948	69.3	401.2
1954	253.4	290.5
1955	265.9	289.6
1956	285.5	293.1
1957	299.5	325.4
1958	332.7	297.2

Year	Early Morning and Workmen's (Millions)	Season Tickets (Millions)	Total Journeys (all classes) (Millions)
1938	236.6	377.8	1,205.6
1948	229.8	295.7	996.0
1954	175.8	271.5	991.2
1955	150.4	261.0	966.9
1956	137.3	289.4	1,005.3
1957	139.0	312.2	1,076.1
1958	124.1	311.4	1,065.4

The average receipts per passenger journey and per passenger-mile and the total passenger-miles were:

Year	† Pence per Passenger Journey	† Pence per Passenger Mile	† Estimated Passenger Miles Total (Millions)
1938	11.38	0.71	19,702
1948	28.72	1.40	21,022
1954	27.44	1.35	20,712
1955	28.53	1.40	20,308
1956	29.75	1.45	21,133
1957	30.27	1.48	22,591
1958	30.38	1.52	21,725

\*At less than full fares.

† The figures for the years 1948 and onwards are based on the number of passenger journeys on British Railways.

## Hotels & Catering

British Transport Hotels & Catering Services comprise the largest concern of the kind in Europe. Their turnover for the year 1958 amounted to nearly £22 million.

They operate the 36 hotels listed below; the first railway hotel in the world was the one opened at Euston in 1839.

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### Hotels owned

Aberdeen, Station	London, Great Eastern
Birmingham, Queen's	(Liverpool Street)
Bradford, Midland	London, Great Northern
Derby, Midland	(King's Cross)
Dornoch, Dornoch	London, Great Western Royal
Dumfries, Station	(Paddington)
Edinburgh, Caledonian	Manchester, Midland
Edinburgh, North British	Newcastle upon Tyne, Royal Station
Glasgow, Central	North Bovey, Manor House
Glasgow, North British	Parkeston Quay (Harwich),
Glasgow, St Enoch	Great Eastern
Gleneagles	Perth, Station
Hull, Royal Station	Peterborough, Great Northern
Inverness, Station	St. Ives (Cornwall), Tregenna Castle
Kyle of Lochalsh, Lochalsh	Saltburn-by-the-Sea, Zetland
Leeds, Queen's	Sheffield, Royal Victoria
Liverpool, Adelphi	Stratford-upon-Avon, Welcombe
Liverpool, Exchange	Turnberry
London, Charing Cross	West Hartlepool, Grand
London, Euston	York, Royal Station

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Refreshment services are operated at 358 stations. Restaurant car services which are operated daily on regular trains in the summer total 794. In addition many thousands of special trains are provided each year with restaurant cars, cafeteria cars or compartment service. Set meals served last year in railway catering vehicles totalled approximately 11 million. Orders were placed in 1958 for 23 restaurant cars, 38 restaurant-buffet cars, 27 kitchen-buffet cars and 12 kitchen cars.

Part of the modernisation programme for St Pancras station was completed with the opening of the 'Shires' – a modern bar and restaurant. Major alterations and improvements have been carried out to the refreshment room premises at Cardiff (General). Other schemes completed during 1958 included the modernisation of refreshment rooms at Ballater, Banbury, Barrow Central, Eastleigh, Euston (Tea Gardens), Gourock (after a fire), Hitchin, Portsmouth & Southsea, Sheffield (Victoria) and Slough.

Laundries operated by British Transport Hotels & Catering Services handle nearly 38 million pieces of linen a year.

## **Pullman Car Services**

Pullman Cars were first brought to this country from America in 1874 and the Pullman Car Company Limited was registered in 1882. British Transport acquired a controlling interest in the company in 1954, but it remains a public company responsible to preference shareholders.

The Company owns and operates 199 Pullman cars on British Railways, 38 of which are all-steel electric cars operating in the Southern Region, and 161 steam-hauled cars operating in the Eastern, North Eastern, Scottish, Western and Southern Regions. The Company also operates 46 non-supplement buffet cars in the Southern Region.

In addition to the composite trains there are twelve all-Pullman car trains in regular operation.

In the course of 1958 over 1½ million passengers travelled in Pullman accommodation and nearly four million meals and light refreshments were served.

Thirty-six new cars are being built for use in five diesel-electric trains which will serve London and Bristol, Manchester, Birmingham and Wolverhampton. The first of these will be going into service this year. In addition, 44

new Pullman cars are being provided to replace cars used in steam-hauled services in the Eastern, North Eastern and Scottish Regions.

## **Freight Services**

During 1958 British Railways carried 243 million tons of revenue-earning freight-train traffic. Well over half this tonnage is coal traffic, upon which the main sources of power for industry and the home depend; over 75 per cent of the total deep-mined coal needing transport is carried by the railways.

Quantities of some of the principal commodities carried in bulk in 1958 include over 15 million tons of iron ore, 18 million tons of iron and steel and scrap, nearly 2 million tons of bricks, 2½ million tons of fertilisers and manure, 7 million tons of lime and limestone and over 2½ million tons of pig iron. Carryings were seriously affected by less coal being available and by the steep decline in iron and steel production.

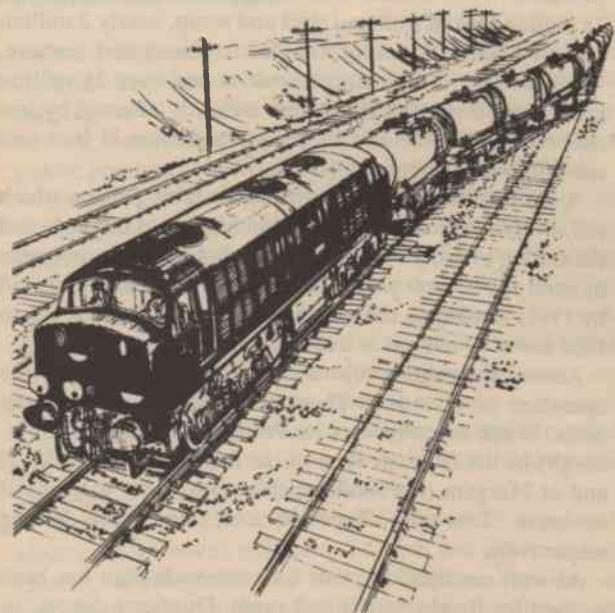
A national marshalling yard plan is taking shape which will involve the construction or remodelling of 60 yards and the closing of many others. By the end of 1958 schemes were in hand for 27 new yards (seven of them to be completed by 1961) leading to the closing of 159 older yards. Up to 1958 some 40 old yards had been closed.

Among the major projects completed and brought into operation were yards at Thornton (Scotland) and Temple Mills. Work was advanced at Perth and Millerhill (Edinburgh) in the Scottish Region, at Ripple Lane (Barking) and at Margam (Port Talbot). New yards are to be built to serve Tees-side, Tyneside and the West Riding respectively.

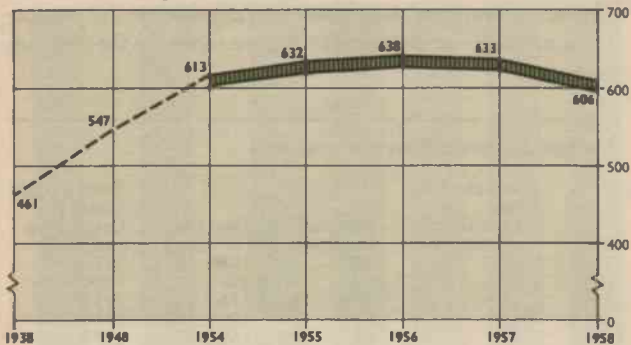
As with marshalling yards a nation-wide plan has been evolved for freight depots and yards. Duplicate depots, or

those surplus to requirements, are being eliminated and the depots which are being retained are being entirely rebuilt or brought thoroughly up to date. Up to the end of 1958 some 270 depots and yards had been closed. The London Midland Region provides a good example of what is being done. Sundries traffic, previously handled at 170 depots, is being concentrated on 48 depots. Parcels traffic is similarly being concentrated on six main centres.

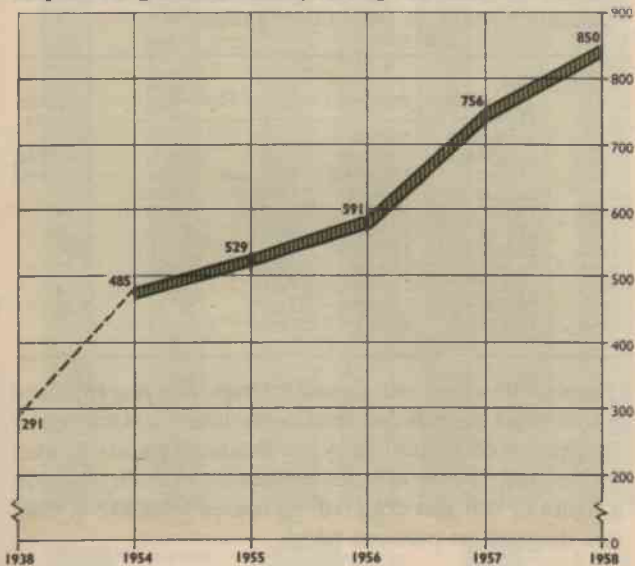
Depots where modernisation or reconstruction is proceeding include Sighthill (Glasgow), Crawley, Peterborough, Chester, Stockton, English Street (Hull), Ancoats (Manchester) and Oldham Road (Manchester).



### Net Ton-Miles per Total Engine-Hour



### Express Freight Trains – Daily Average Number



*Includes trains wholly or partially fitted with continuous brakes*

Details of the revenue tonnages carried in 1958 and in preceding years are shown below. Variations in the proportions of the three classes of traffic are shown in the diagram opposite.

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**Freight Services: Revenue tonnages**

Year	Merchandise and Livestock (Millions)	Minerals (Millions)	Coal Class (Millions)	Total Freight Tonnage Originating (Millions)
1938	47.5	47.3	168.9	263.7
1948	55.6	59.1	158.5	273.2
1954	47.5	62.5	173.5	283.5
1955	44.0	64.0	166.2	274.2
1956	43.1	65.7	168.2	277.0
1957	42.2	65.4	166.7	274.3
1958	36.8	52.9	153.2	242.9

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Annual ton-mileages and the average distances freight was carried are shown in the following table.

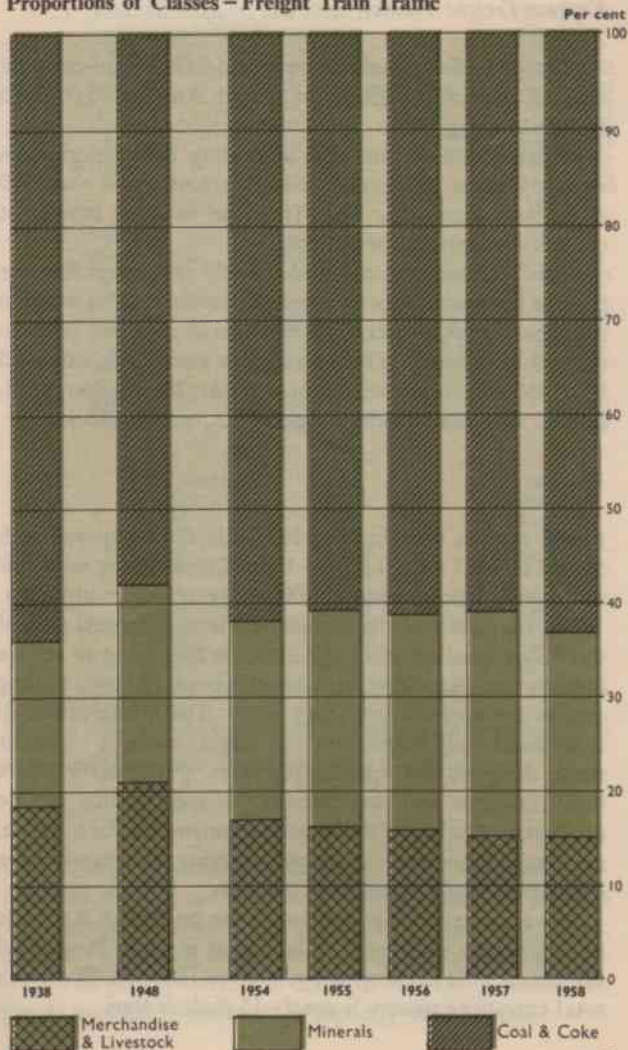
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Year	Net Ton-miles (Tonnage multiplied by distance carried) (Millions)	Average Length of Haul			Average receipts per ton-mile, all traffic (d.)
		Merchandise and Livestock (Miles)	Minerals (Miles)	Coal Class (Miles)	
1938	16,672	106.57	63.73	44.70	1.34
1948	21,662	123.27	80.48	55.97	2.00
1954	22,089	130.39	75.97	56.31	2.96
1955	21,353	130.58	74.64	57.05	3.08
1956	21,473	130.29	74.38	56.81	3.18
1957	20,880	130.60	72.07	55.33	3.32
1958	18,426	131.69	73.94	54.55	3.37

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The statistic which best illustrates freight carrying efficiency is that of net ton-miles per total engine-hour (total tonnage of freight carried, multiplied by the distance it travels, divided by the total number of hours engines are in traffic). In 1958 a figure of 606 was achieved, compared with 547 in 1948 (see diagram on previous page).

# Proportions of Classes - Freight Train Traffic



## *Express Freight Trains*

At the end of 1958 there were 265,237 freight-carrying wagons fitted with continuous brakes. Another 35,000 will be fitted during 1959.

British Railways are now operating on average each weekday some 850 express freight trains – well over 500 more than before the war. They run between important centres throughout the country.

British Railways introduced in 1956 an Export Express Service between important manufacturing centres and the principal London docks, giving assured next-day delivery for full-load traffic. This service has since been extended from 250 selected centres to Merseyside, Manchester, Hull, Goole, Glasgow, Grimsby and Grangemouth docks.

## *Wagons*

Fewer wagons were built in 1958 – 36,284 compared with 59,687 in 1957 and 61,474 in 1956. Concurrently with this new construction, some 121,000 wagons were withdrawn.

The reduction of the wagon fleet is an intended part of the Modernisation Plan, the ultimate aim being to reduce it from over a million vehicles to about 750,000. Falling traffics are accentuating the process. The future intention is to build only wagons of the larger, modern types, or those designed for specific purposes, particularly where bulk transport and easy handling of merchandise can be facilitated. The last of the 16-ton wagon orders, for instance, are almost complete; future coal-carrying wagons will have capacities of something over 20 tons.

The existing stock of wagons in use on British Railways is just over a million. The largest is a giant 56-wheeled vehicle capable of carrying loads up to 150 tons. The fleet's total carrying capacity is nearly 15 million tons.

Year	Total Merchandise and Mineral Vehicles including Brake Vans (No.)			Total Capacity (Tons)
1938	1,243,944	including	583,789 privately-owned	14,350,683
1948 <sup>1</sup>	1,179,404	"	489,810 ex-privately-owned	14,560,402
1954 <sup>2</sup>	1,124,710	"	280,011	15,264,316
1955 <sup>2</sup>	1,124,812	"	239,579	15,555,896
1956 <sup>2</sup>	1,117,464	"	190,345	15,731,251
1957 <sup>2</sup>	1,104,891	"	138,123	15,846,352
1958 <sup>2</sup>	1,020,197	"	103,526	14,981,743

Year	Open Merchandise Wagons (No.)	Covered Merchandise Wagons (No.)	Mineral Wagons (No.)	Cattle Trucks (No.)
1938	365,749	122,398	686,475	16,150
1948	320,737	142,682	647,550	11,089
1954	311,183	142,965	594,652 <sup>2</sup>	12,946
1955	309,502	143,628	595,264 <sup>2</sup>	12,542
1956	304,973	146,611	587,274 <sup>2</sup>	11,519
1957	301,901	149,799	571,553 <sup>2</sup>	9,960
1958	260,363	141,934	542,241 <sup>2</sup>	6,680

Year	Rail, Timber and Special Trucks (No.)	Brake Vans (No.)	*Service Vehicles (No.)
1938	39,578	13,594	37,670
1948	43,108	14,238	37,291
1954	47,944	15,020	21,485 <sup>2</sup>
1955	48,999	14,877	22,093 <sup>2</sup>
1956	52,230	14,857	23,157 <sup>2</sup>
1957	56,901	14,777	25,174 <sup>2</sup>
1958	54,308	14,671	25,779 <sup>2</sup>

<sup>1</sup> The majority of privately-owned wagons were taken over by British Railways in 1948.

<sup>2</sup> Includes locomotive coal wagons transferred from service to traffic stock in 1952.

\* Excludes wagons referred to in note 2. \* Not included in total.

### *Wagon Capacity*

Bigger wagons are being built today. So far, the small, low-capacity mineral wagons have been replaced by all-steel 16-ton wagons with oil-lubricated axleboxes. Now, generally speaking, the trend is towards the use of wagons of still larger capacity. The diagram on page 23 shows the yearly increase in the average capacity (all wagons).

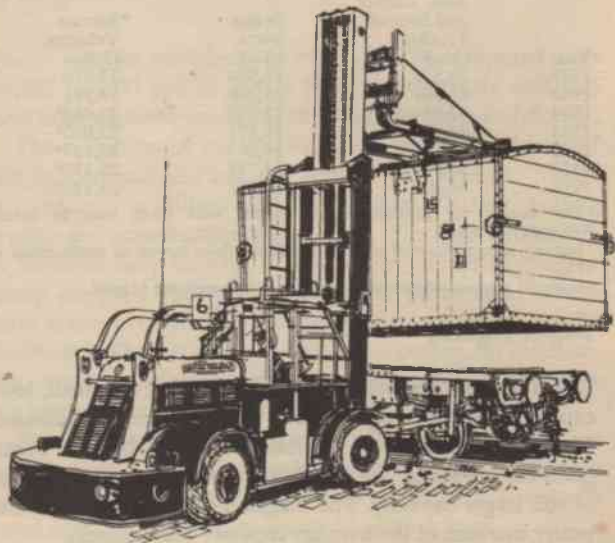
The larger capacity of wagons is of no benefit unless it is used effectively. Over the years the average load at starting point has been steadily rising. In 1958 it was over three tons greater than in 1938, as will be seen from the diagram on page 23.

### *Wagon Repair*

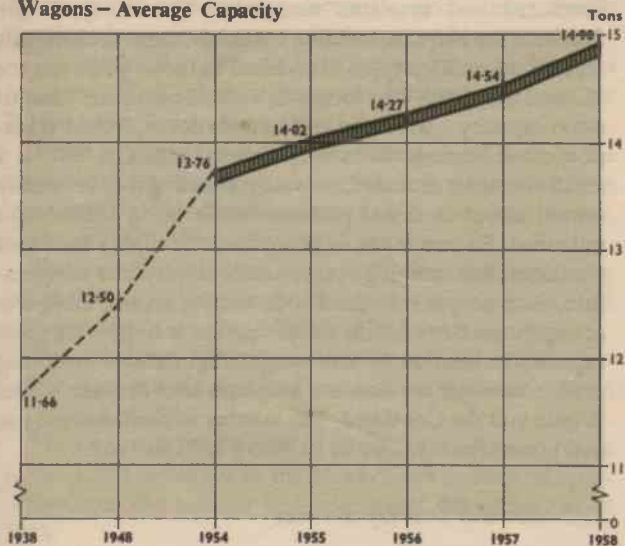
It is, of course, essential that the greatest possible proportion of the total stock of wagons should be available for use. In 1948 over 115,000 wagons were under or awaiting repair; by 1958 the figure had been reduced to 51,484.

### *Container Service*

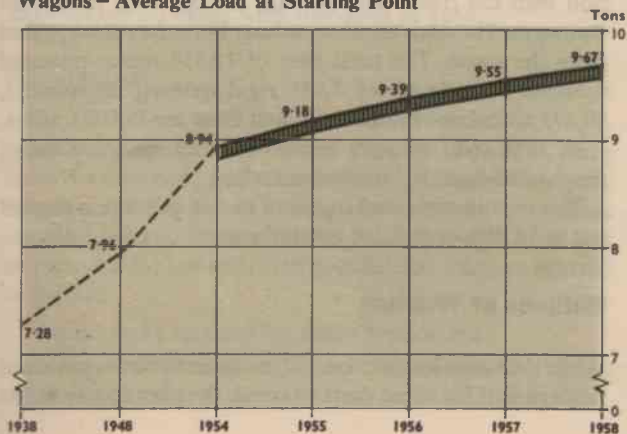
Open and covered containers, providing door-to-door service, are used for a variety of traffics, and there are both



## Wagons - Average Capacity



## Wagons - Average Load at Starting Point



ventilated and insulated containers. Special types are available for bicycles, building materials, cement, chemicals and furniture. Two types introduced in recent years are the 'L' and the 'SW'. The former is a small container – but of 4-ton capacity – with a lid and bottom doors, for the transport of such commodities as cement in bulk. The 'SW' is a small container mounted on wheels enabling it to be readily moved about in firms' premises while being loaded and unloaded. Extensive use is being made of highly-insulated containers for carrying commodities at very low temperature, such as quick-frozen foods and ice cream. Objective of experiments in container construction is to provide good capacity in relation to tare weight; light alloys are being used. Container services are also operated between Great Britain and the Continent. The number of containers in use had grown from 15,511 in 1938 to 47,421 in 1958.

### *Collection and Delivery Services*

Extensive road collection and delivery services, in conjunction with the trunk haul by rail, are operated by British Railways. The once-familiar railway horse has disappeared from the scene. The total fleet of 15,358 motor-powered vehicles is made up of 4,831 rigid motors, 52 tractors, 10,475 articulated motor units, and there are 29,800 trailers.

In 1958 road vehicles carried over 23 million tons of freight and over 167 million parcels.

The maintenance and repair of motor vehicles is carried out at 18 depots and 210 outstations.

### **Methods of Traction**

While the steam locomotive will continue to be the principal haulage unit for some years to come, the plan to rely in the

future mainly on diesel and electric traction is being rapidly developed.

The stock of 16,103 standard gauge steam locomotives includes 748 of standard design in various types and 258 2-10-0 heavy freight locomotives.

There is already extensive electrification of lines in the area covered by the Southern Region, and of suburban lines elsewhere in the London area and round Manchester, Liverpool and Newcastle-upon-Tyne.

The first electrification of a main line carrying heavy freight as well as passenger traffic was completed in 1954 between Manchester and Sheffield and Wath.

The extension of the Liverpool Street - Shenfield electrified system to Chelmsford and Southend was completed at the end of 1956.

The expansion of the fleet of diesel shunting locomotives to the 1,200 called for in the Modernisation Plan has continued, and the number in service was 1,091 at the end of 1958.

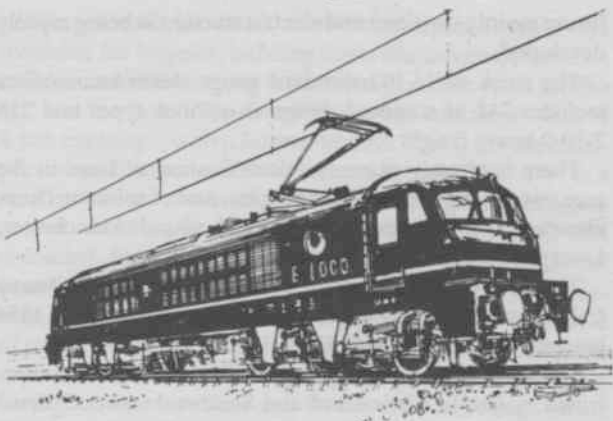
Over 100 main-line diesel-electric locomotives are now in service; the first seven main-line diesel-hydraulic locomotives on order were delivered in 1958.

### *Electrification*

Good progress has been made with electrification plans already announced and additional projects have been examined on which work could start over the next three decades. Electric locomotives and multiple-unit stock will be provided for use with the electrification schemes referred to below.

Trunk routes selected for electrification are:

Euston to Birmingham, Crewe, Liverpool and Manchester.



King's Cross to Doncaster, Leeds, and York. Also coming within the main-line category is the extension of the Liverpool Street - Southend and Chelmsford electrified system to Ipswich, including the Clacton, Harwich and Felixstowe branches.

The new high-voltage 50-cycle a.c. system, which has been adopted for future schemes, has first been used on the busy Crewe - Manchester main-line section and on the Colchester to Clacton and Walton line. Running trials are taking place on a section of the former line and a public service is in operation on the latter. These are regarded as pilot schemes for use as proving grounds for power supply equipment and rolling stock and for training staff.

Work has been completed on the first phase of the extension of the Southern Region third-rail electrified system to all main routes east of a line from Reading to Portsmouth. Margate, Ramsgate and Dover now have an electric service. Diesel trains will serve the secondary lines. The next phase is being accelerated with the object of completing it ahead of schedule.

Work is going ahead on the start of the electrification of the Glasgow suburban lines. Trial running started in July 1959 on the Milngavie branch – the first electric train of standard gauge to run in Scotland.

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### Statistics Relating to Existing Electrified Lines

Year	Single Electrified Track (including Sidings) (Miles)	Electric Train-Miles		Electricity used for Traction (Units) (000's)
		Coaching (000's)	Freight (000's)	
1938	2,056	47,000	3	722,256
1948	2,235	43,884	143	728,447
1954	2,608	49,895	930	891,056
1955	2,606	48,276	1,690	909,836
1956	2,675	50,595	1,686	964,525
1957	2,671	52,472	1,695	1,003,690
1958	2,689	52,625	1,642	1,022,414

Year	Electric Locomotives (No.)	Passenger Carriages for Electric Traction		Seats in Electric Traction Vehicles (No.)
		Power Cars (No.)	Trailers (No.)	
1938	13	1,935	2,114	287,036
1948	17	2,020	2,210	323,176
1954	71	2,145	2,487	358,245
1955	71	2,171	2,504	365,285
1956	71	2,257	2,682	389,260
1957	71	2,285	2,719	396,863
1958	72	2,400	2,861	414,822

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Manufacture and site work is proceeding on the following schemes:

London, Tilbury & Southend line

Liverpool Street to Enfield and Chingford

Liverpool Street to Hertford and Bishop's Stortford

Conversion of Liverpool Street – Chelmsford – Southend lines to a.c. working.

Another scheme proposed is:

King's Cross and Moorgate to Hitchin and Letchworth, including the Hertford loop.

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### Total Tractive Stock

		Standard-Gauge Steam Locomotives			Diesel, and Gas- turbine Locos. (No.)
Year	(No.)	Total Weight (Empty) (Tons)	Average Per Loco. (Tons)	Electric Locos. (No.)	
1938	19,587	980,133	50.04	13	37
1948	20,211	1,071,859	53.03	17	69
1954	18,420	1,271,985 <sup>1</sup>	69.05	71	320
1955	17,955	1,251,928 <sup>1</sup>	69.73	71	456
1956	17,522	1,231,643 <sup>1</sup>	70.29	71	609
1957	16,954	1,201,952 <sup>1</sup>	70.89	71	803
1958	16,103	1,154,473 <sup>1</sup>	71.69	72	1,201

Year	(No.)	Non-Standard Gauge - Steam Locos.	Total Locos. (Excluding Service) (No.)	Power Cars (No.)	Miles Run by All Types of Traction (000's)	Service Locos. (No.)
1938	7		19,644	2,060	584,461	57
1948	5		20,302	2,065	537,460	51
1954	5		18,816	2,212	535,649	51
1955	5		18,487	2,293	511,856	53
1956	5		18,207	2,533	527,547	52
1957	5		17,833	3,081	532,156	52
1958	5		17,381	3,821	518,772	55

<sup>1</sup>The weight quoted for the years 1954-58 includes tenders.

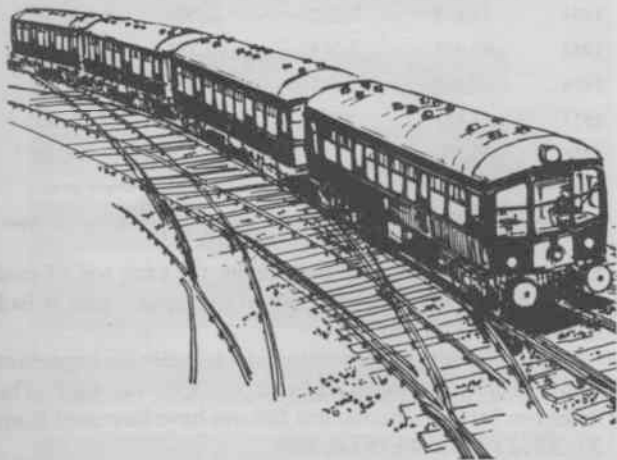
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### Diesel Traction

A new era is about to emerge in the field of railway traction. In the very near future whole operating areas and lines will be going over completely to diesel traction. These include the main-line routes between King's Cross, Leeds, Newcastle and Edinburgh and between Edinburgh and Aberdeen. On order for the former services are 22 3,300 h.p. 'Deltic' diesel-electric locomotives - the most powerful in

Britain. Many of the principal passenger and freight services between London, Bristol and the West of England will be diesel-hauled; west of Newton Abbot will be a 'diesel only' area. In all, 129 diesels will replace over 200 steam locomotives. Diesels will also take over long-distance passenger and freight services north of St Pancras on the Midland line and on the whole of the former Great North of Scotland and Highland Railway lines north of Perth and Aberdeen. East Anglian services will be all-diesel.

By the end of 1958 109 main-line diesel locomotives were in service; another 388 are promised for 1959. There were also 2,422 diesel multiple-unit vehicles in use, 1,073 of them having been built during the year. From 1,500 to 2,000 more will be added to the fleet in the next three years. All local services will be operated by diesel multiple-unit trains in the Eastern Region in 1959 and in the North Eastern and Western Regions by the end of 1960. Multiple-unit diesel trains are proving themselves to be popular with the travelling public and are good revenue earners.



By the end of the year eighteen of twenty-two lightweight diesel railbuses ordered had been received and these have been allocated to rural services in England and Scotland. The remaining four were delivered early in 1959.

### *The Work Done*

British Railways are doing more work than before the war. While the total stock of tractive units shows a decrease, both the net ton-miles and the passenger-miles hauled show a substantial increase over the pre-war figure. The following figures illustrate the trend :

Year	Total Locomotives (No.)	Power Cars (No.)	Net Ton-miles (Millions)	*Passenger-miles (Millions)
1938	19,644	2,060	16,672	19,702
1948	20,302	2,065	21,662	21,022
1954	18,816	2,212	22,089	20,712
1955	18,487	2,293	21,353	20,308
1956	18,207	2,533	21,473	21,133
1957	17,833	3,081	20,880	22,591
1958	17,381	3,821	18,426	21,725

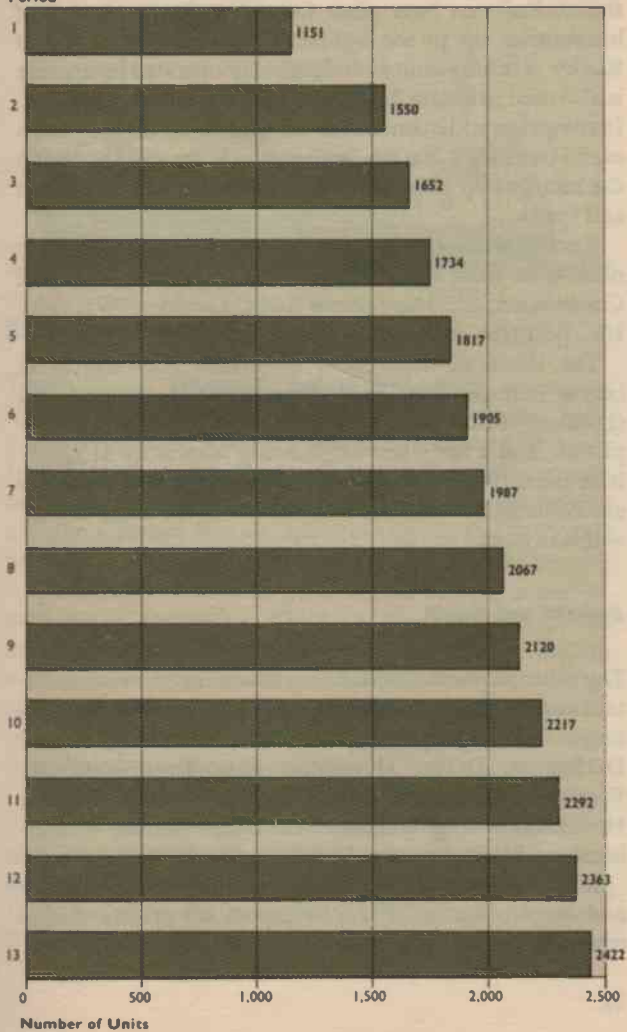
\*Includes passenger-miles worked by all locomotives and multiple-units.

Locomotives are running more miles for each ton of coal used. In 1948 the figure was 35.26 miles; last year it had increased to 37.91 miles.

The availability of locomotive stock is also an important factor. The percentage available in 1958 was 82.7. The miles run between mechanical failures have increased from 30,187 in 1952 to 46,290 in 1958.

# Number of Multiple-Unit Diesel Vehicles at end of each four-weekly period, 1958

Period



## *Research and Testing*

British Railways have plant for the stationary testing of locomotives up to the highest speeds at Swindon and at Rugby. A testing train with electrically-operated equipment is also used to obtain data under actual running conditions. It comprises a dynamometer car and three braking units each absorbing 1,500 hp. Both methods are used to obtain the relationship between fuel consumption, power output and speed.

Results of important tests are published in book form obtainable from the Publicity Officer, British Transport Commission, 222 Marylebone Road, London NW1, price 10s., post free, for each volume.

The Research department of British Railways is in course of expansion. New laboratories at Muswell Hill (London) for chemical and allied work are nearing completion, and a large new engineering laboratory at Derby is in the active planning stage. When these new buildings are available a considerable expansion in the research staff will take place.

## *Building and Repair*

The principal workshop centres, where the railways maintain and in many cases build their own locomotives, carriages and wagons, are at Ashford, Caerphilly, Crewe, Darlington, Derby, Doncaster, Earlestown, Eastleigh, Faverdale, Glasgow (Cowlairs and St Rollox), Gorton, Horwich, Lancing, Shildon, Stratford, Swindon, Wolverhampton, Wolverton and York.

In addition there are 120 subsidiary depots for carriage and wagon repairs, and 280 depots of private wagon repairers.

A staff of 121,000 in more than 200 different grades is employed at railway workshops and lineside depots.



## **Ships and Ferries**

Those British Transport sea services which operate in connection with the railways are based on Dover, Fishguard, Folkestone, Goole, Harwich, Heysham, Holyhead, Hull, Newhaven, Southampton, Stranraer and Weymouth, and form the principal links with the Continent, Ireland and the Channel Islands. In 1958 they carried 4,622,000 passengers, 308,000 head of livestock, 203,000 vehicles and 1,673,000 tons of other cargo. Estuarial services to the Isle of Wight, in the Firth of Clyde and elsewhere also carried an important traffic which aggregated over fourteen million passengers in 1958, as well as vehicles and cargo.

Schemes under the Modernisation Plan for the improvement of the various cross-Channel ports and associated inland depots, are going ahead.

The total number of passenger and/or cargo ships owned is 111, with a net registered tonnage of 68,700. There are also seven ships jointly owned and three operated but not owned. Six new vessels were brought into operation during 1958, including the m.v. *Isle of Ely* on the Harwich-Rotterdam service, the m.v.s *Container Enterprise* and

*Container Venturer* on the Heysham-Belfast service; all these ships are for the carriage of cargo and containers. The three other vessels were the m.v. *Bolton Abbey*, m.v. *Darlington* and m.v. *Wakefield* for the Humber-Continental services of the Associated Humber Lines.

At the end of 1958 fourteen vessels were under construction or on order.

## **Permanent Way**

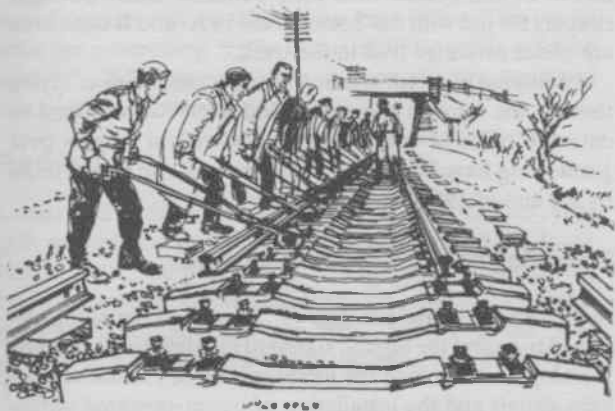
Increases in train speeds and more intensive track occupation envisaged under the Modernisation Plan necessitate improvements to the track, station layouts and structures. Much work of this kind is in progress.

The work of driving three new tunnels between New Barnet and Potter's Bar has been completed. The two additional tracks which have been laid have removed a long-standing bottleneck on the East Coast route to Scotland. Two additional running lines are being provided on other short sections of the main-line from King's Cross.

The effect which the elimination of bottlenecks can have on permitted train speeds is shown by the following examples. Speeds between Potter's Bar and Hatfield have been raised from 60 to 70 mph, at Banbury from 60 to 75 mph, at Shaftholme Junction on the East Coast main line from 70 to 80 mph with a potential up to 100 mph, at Ashendon Junction on the Paddington - Birmingham line from 50 to 90 mph and at Wilmslow from 60 to 90 mph.

British Railways standard gauge track (4 ft. 8½ in.) extends for 18,848 route miles. There are 50,914 miles of track, including sidings. In 1958 2,017 miles of track were completely or partially renewed. About this length of track has been renewed each year since 1948. Materials used in a year include 2,337,000 cubic yards of ballast, 272,000 tons of rails and over four million sleepers.

In maintaining and renewing the track, increasing use is being made of mechanical equipment such as mechanical ballast cleaners and tampers.



Since early 1949, when flat-bottom track was adopted as standard, over 8,500 miles have been laid with it. British Railways tracks are classified A and B, for heavy fast traffics, in which flat-bottom rails weighing 109 lb per yard are replacing the old-fashioned 95 lb 'bullhead' rails. C-class lines are those carrying lighter traffic, where flat-bottom rails weighing 98 lb per yard are replacing 85 lb 'bullhead' rails. D-class lines, mainly freight, are renewed with serviceable 'bullhead' rails.

Much relaying is now done with pre-assembled 60-foot lengths of track, complete with rails, sleepers and fastenings, which are craned into position. Over 4,800 miles of track have been relaid by this method.

There are between 2,112 and 2,288 sleepers to the single-track mile on British Railways; they are 8 ft 6 in. long, 10 in. wide and 5 in. thick. To each yard of line there are

9 cubic feet of top ballast. The maximum permitted weight per axle on main lines is  $22\frac{1}{2}$  tons.

Over 2,800,000 pre-stressed concrete sleepers have been laid in C- and D-class lines with 'bullhead' track. Stronger sleepers for use with flat-bottom rails in A- and B-class lines are under extensive trial in the track.

Additional plant for welding together rails prior to laying them in the track is being provided in all Regions, and to date 120 miles of continuous welded rail in lengths over  $\frac{1}{4}$ -mile long have been laid. The figure will rise to 560 miles by the end of 1961.

## **Signalling and Telecommunications**

British Railways provide their own system of signalling, designed to ensure the highest standard of safety to passengers. Developments include the increased use of electric colour-light signals and the installation of power-operated signal-boxes. A modern signalbox of this type at York, for instance, has the largest route relay interlocking scheme in the world. Power-operated signal-boxes enable a better job to be done more cheaply. One will often do the work of several older type boxes. They make for safer working and enable the signalman to have a clear picture of movements within the area under his control.

Large numbers of semaphore signals are being replaced by colourlight signals which give greater penetrating powers in bad weather, and which permit of greater traffic density. Colourlight signals in use totalled 3,000 in 1938, 5,000 in 1948 and 9,600 in 1958.

Automatic warning control is installed on 1,356 route miles of the former GWR system, on 37 route miles of the London, Tilbury & Southend line. A new system of automatic warning control has been developed and has now been installed on 188 route miles between London and

York, 63 between London and Blisworth and 47 between Glasgow and Edinburgh. A further 270 route miles will be equipped in 1959.

The British Railways telephone and telegraph system is second in size only to that of the Post Office. The use of radio for controlling traffic in marshalling yards is being extended, and most important stations are now equipped with public address systems.

## **The Staff**

A total staff of 550,123, excluding docks, marine and canal staff, is employed by British Railways. This is 98,617 fewer than in 1948. The principal groups are guards, signalmen, shunters, porters, ticket collectors, etc., 105,212; drivers, firemen, motormen and cleaners, 79,520; goods and cartage, 46,841; permanent way, 46,965; and workshops, 121,286.

With the growing momentum of the Modernisation Plan the continued co-operation of the staff is called for in handling the modern equipment coming into use and in the introduction of new skills and techniques. The need for skilled technical staff continues and, where necessary, training is provided for both recruits and junior staff who plan to make a career in the railway service.

### *Negotiating Machinery*

Wages, salaries and conditions of service of employees of British Railways are regulated through long-established negotiating machinery with the Trade Unions.

### *Consultation*

Machinery for consultation between management and staff is well established at various levels in the industry. At

national level there is the British Transport Joint Consultative Council, comprising representatives of the Commission and of the principal Trade Unions.

A British Railways Productivity Council, constituted in 1955, comprises representatives of the Commission and of the three railway trade unions and the Confederation of Shipbuilding and Engineering Unions. Amongst its principal objects are the initiation of proposals for increasing efficiency, including the best use of manpower, and matters concerning the Modernisation Plan.

The staff are encouraged to submit through suggestions schemes their ideas for better working; in 1958 over 6,900 suggestions were put forward, of which nearly 700 were approved, and about £2,600 was paid in awards. In addition, substantial prizes were awarded for the best suggestions of the year.

### *Training and Education*

In addition to a great deal of practical training on the ground, facilities for training and education, which are being extended, are available to the staff, through residential colleges, trade apprentice and other vocational schools, day and evening classes, and mobile instructional film theatres.

Evening classes, covering a variety of subjects, are available to members of the staff. British Railways also refund (subject to satisfactory attendance) fees paid for evening classes of Local Education Authorities where these are appropriate to the railway job the individual is doing. For staff unable to attend evening classes, there are correspondence courses in commercial and operating subjects, and, in approved cases, fees may be reclaimed for other approved correspondence courses.

There are several pre-apprentice training schools associated with large locomotive, carriage or wagon works.

Such schools have the assistance in theoretical instruction of local education authorities' teachers, and boys are helped, among other things, to select the trade for which they are likely to be suitable.

There are student and graduate training schemes in all the Engineering and Technical departments and these, together with Accountancy and Traffic Apprenticeships, are also open to members of the staff.

### *Work Study*

The application of Work Study to an increasing number of railway jobs is going ahead. There are now over 21,000 staff working on schemes which have been the subject of study, and many of these incorporate bonus incentives which have enabled the actual hours of work to be shortened. The greatest progress has been made in the departments of the Chief Civil Engineers, although considerable development is now taking place in the Signal Engineering departments. Almost all other departments are now making use of Work Study and have pilot schemes in operation.

### *Staff Welfare*

Welfare officers for both men and women are employed, and during 1958 British Railways continued to improve staff amenities involving considerable expenditure. British Railways medical officers deal with examinations of the staff, hygiene, first-aid and advice on welfare. A Staff Association, providing facilities for leisure-time social, recreational and cultural activities, is open to all grades of staff, to their wives and children, and to widows of former staff.

Canteens are provided for the staff at many of the principal centres of employment, and there are also a

number of hostels where accommodation is available at reasonable prices for transferred staff.

Railwaymen and women are encouraged to learn first-aid; the number passing examinations in 1958 was over 21,500. First-aid appliances are carried on passenger trains, and facilities for giving treatment are provided at depots, offices, stations and workshops.

### *BTC Police*

The Police requirements of British Railways are covered by the British Transport Police Force, which is controlled centrally from London. It has a strength of nearly 2,900. Male and female officers, both uniformed and CID, are stationed at all the principal railway and dock centres.

## Summary of Facts and Records 1958

<b>Passenger</b>	
Originating journeys made in the year	1,065,382,000
Number of trains run each weekday	23,000
Stations	5,264
<b>Freight</b>	
Tons carried in the year	242,873,000
Stations	5,982
<b>Locomotives</b>	
Total (excluding service)	17,381
Steam (including narrow gauge)	16,108
Electric	72
Diesel and gas-turbine	1,201
<b>Passenger Carriages</b>	
Total	42,003
Seating and berth capacity: locomotive-hauled stock	1,881,252
Seating capacity: diesel and electric multiple-unit stock	565,000
Total seating and berth capacity	2,446,252
Restaurant and buffet cars (included above)	832
Seats (included above)	27,126
Sleeping cars (included above)	537
Berths (included above)	9,865
<b>Wagons</b>	
Total, including brake vans but excluding service vehicles	1,020,197
Road-rail containers	47,421
Road motor vehicles	15,358
<b>Track and Structures</b>	
Total track miles (standard gauge)	50,914
Route miles, standard gauge (including 1,008 miles electrified)	18,846
Bridges	63,100
Tunnels	1,049
Level Crossings	24,368
Water Troughs (No. of Sites)	59
<b>Signalling and Telecommunications</b>	
Signalboxes	9,600
Colourlight signals	9,740
Track circuits	41,300
Telephone instruments	118,000
Telephone exchanges	500
Telegraph and telephone wires	miles 270,000

Telegraph poles	532,000
Public-address installations at stations and yards	500

<b>Total Staff</b>	<b>550,123</b>
Female staff (included in above)	32,145

### Stores

Coal used (all purposes)	tons nearly 12,400,000
Coal for locomotives	tons 10,745,000
Diesel fuel oil	gallons 24,732,000
Steel rails used	tons 272,000
Sleepers used (number)	(timber and concrete) 4,126,000
Iron and steel scrap salvaged	tons 582,785

## Miscellaneous Facts and Records

### Passenger

Largest station area	Clapham Junction	27½ acres
Largest number of platforms	Waterloo	21
Longest platform	Manchester (Victoria & Exchange)	2,194 feet

### Freight

Largest station	Bristol (Temple Meads)	15 acres under cover
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### Tracks and Structures

Busiest railway junction	Clapham Junction	2,500 trains each 24 hours
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### Steep Main-Line Gradients

Lickey Incline	1 in 37·7 (nearly 2 miles)
Exeter (between St. David's and Central stations)	1 in 31·3 (7½ chains)
Dainton Bank (near summit)	1 in 37 (12 chains)

### Track

Highest altitude	Druimuachdar	1,484 feet above sea level
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### Longest Stretch of Line between two stations open for passenger traffic

York-Malton	21 miles
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### Longest Bridge

Tay Bridge	2 miles 364 yards
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### Longest Tunnel

Severn Tunnel	4 miles 628 yards
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## Principal Offices in the United Kingdom

<b>British Transport Commission</b>	222 Marylebone Road London NW1	Ambassador 7711
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### *Regions of British Railways*

<b>Eastern</b>	Liverpool Street Station London EC2	Bishopsgate 7600
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<b>London Midland</b>	Euston Station London NW1 (Timetable enquiries only: Euston 7070)	Euston 1234
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<b>North Eastern</b>	York	York 53022
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<b>Scottish</b>	302 Buchanan Street Glasgow C2	Douglas 2900
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<b>Southern</b>	Waterloo Station London SE1 (Passenger Enquiries) (All other Departments)	Waterloo 5100 Waterloo 5151
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<b>Western</b>	Paddington Station London W2	Paddington 7000
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<b>British Railways Travel Centre</b>	Lower Regent Street London SW1	Trafalgar 4343
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<b>British Transport Hotels &amp; Catering Services</b>	St Pancras Chambers Euston Road London NW1	Terminus 8822
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## Overseas Offices

In Europe, the United States and Canada, British Railways maintain a chain of traffic and tourist offices staffed by experts. Through these offices a year-round 'Come to Britain' campaign is conducted in conjunction with the foremost Travel Agents in each country. Many thousands of copies of booklets, folders and posters, in the languages of the countries served, are distributed, and all-in tours in Britain by rail, road and sea arranged.

<b>Paris, 9e</b>	12 Boulevard de la Madeleine	<i>Area Served France</i>
<b>Basle</b>	Centralbahnplatz 9	<i>Switzerland</i>
<b>Brussels</b>	41 Boulevard Adolphe Max	<i>Belgium</i>
<b>Cologne</b>	Am Hof. 28	<i>Western Germany</i>
<b>Stockholm</b>	Norrmalmstorg 1	<i>Scandinavia</i>
<b>Rome</b>	Via Torino 40	<i>Italy</i>
<b>New York, 20</b>	630 Fifth Avenue	<i>Atlantic Coast and Eastern States</i>
<b>Chicago, 3</b>	39 South La Salle Street	<i>Middle Western States</i>
<b>Los Angeles, 14</b>	Associated Realty Building, 510 West Sixth Street	<i>Pacific Coast and Western States</i>
<b>Toronto, 1</b>	69 Yonge Street	<i>Canada</i>



1959 EDITION

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**FACTS AND FIGURES**

**ABOUT BRITISH RAILWAYS**