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by

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There are several ways of approaching the rôle of transport in a developing economy. Thus the internal problems of the industry may be concentrated on, or the more external role of transport in relation to the development of the rest of the economy may be emphasised. Alternatively, in relation to the rest of the economy transport may be regarded as a dynamic factor, leading general development, or as a more passive factor merely keeping pace with, or even retarding, economic development.

Although it is hoped to cover these aspects of Irish inland transport later, the intention of this paper is to present initially only the broad factual data on inland transport, leaving more detailed analysis and conclusions to further studies. Canal traffic which is now of negligible importance will be excluded, as also will be bicycle traffic.

ROAD TRANSPORT

Road transport divides fairly obviously into two parts, the road system and the vehicles that operate upon it. These parts are preferably considered separately.

The Road System

Ireland has a public road system of some 51,000 miles for a land area of about 27,000 square miles[1] or two miles of road for about 1 square mile of land area, so that Ireland is relatively well provided with roads as compared with most of Western Europe and with Britain which also has about 2 miles of public road for every square mile of land area.

In detail the mileages of road[1] in the various categories in 1950 and 1960 were as follows :—

	1950	1960
	Miles	
Main (trunk and link) roads	9,422	9,857
County roads	39,003	40,489
County Borough roads ...	497	644
Urban roads	420	474
Total ...	49,342	51,463

It may be seen that there has been little change in the size and classification of the road system in recent years and that all but about 2% of road length is predominantly rural in character. Concerning the quality of the road system, it is interesting to note that about 97% of the main road system and of County Borough roads consists of surfaces with better riding qualities (surface dressed or grouted macadam, asphalt, and concrete) whereas only 30% of county roads fall into this category, a large part of road mileage in this category (58%) being of unrolled and untreated waterbound macadam. Expenditure on the road system for upkeep (maintenance) and improvement falls generally on local authorities assisted by State grants from the Road Fund which is raised from motor taxation, i.e., vehicle licence duties. The distribution of expenditure over the road system and the sources of that expenditure[1] are given in Table 1 for 1960 and past expenditures are given in the Statistical Appendix (Table A).

TABLE 1: EXPENDITURE ON THE UPKEEP AND IMPROVEMENT OF ROADS YEAR ENDED MARCH 1960

Type of road	Expenditure			Source of finance	
	Upkeep	Improvement	Total	Local funds	State grants
	£000				
Main (trunk and link)	2,370	1,781	4,151	1,500	2,651
County ..	2,968	2,492	5,460	2,991	2,469
County Borough	183	208	391	206	185
Urban ..	73	56	130	86	44
All roads	5,594	4,537	10,132	4,782	5,349

From 1954–60 road expenditure has stayed fairly constant at about £10 million per annum divided about equally between upkeep and improvement.

The average cost of upkeep is about £110 per mile of road ranging from about £240 per mile for main roads and urban and county borough roads to about £75 per mile for county roads. These figures are very low compared with, say, the expenditure on maintenance in Britain, with an average maintenance cost of £430 per mile of road

in 1959–60, although how far the Irish figure is due to less heavily trafficked roads, lower standards of maintenance or cheaper and more efficient maintenance it is as yet impossible to say.*

Broadly speaking slightly more than half (52%) of road expenditure falls on to state funds and slightly less than half (48%) on to local funds, although divided between maintenance and improvement, about 80% of State grants, accounting for virtually all improvement expenditure go towards improvement, whereas virtually all local funds go towards upkeep, accounting for 86% of total upkeep expenditure. Broadly speaking therefore road improvement falls on to State funds and road upkeep falls on to local authorities' budgets.

The Road Vehicle

The numbers of the main classes of road vehicles with licences current in August for the 10 years 1951 to 1961,[1] together with annual rates of increase or decrease, are given in Table 2.

It may be seen from Table 2 that the numbers of mechanically propelled vehicles have increased by about 110% in the 10 year period, an annual rate of increase of about 7·7% per annum. The greatest rates of increase have been experienced in motor-cycles, tractors, private cars and goods vehicles in that order, although some of these rates of increase have tended to fall in recent years, e.g., between 1957 up to 1961 the numbers of goods vehicles barely increased at all** and for motor-cycles and tractors the latest rates of increase are only about half the average for the period. The rate of increase in private cars has tended to increase in recent years however, the annual rate of increase between 1959 and 1961 being 10%. There has been a fairly steady decline in the number of public service vehicles during the period due entirely to a considerable decrease in the number of taxis, i.e., public service vehicles with 6 seats or less, from 6,885 in 1951 to 3,868 in 1961, large public service vehicles having increased from 1,229 to 1,466 in the same period.

Analysis of the geographical distribution of road vehicles shows considerable concentrations at the main centres of population; in Dublin County and County Borough (29% of the total) and in Cork County and County Borough (13% of the total.) Related to the distribution of population, however, the pattern of vehicle ownership is more complex as may be seen from Table 3, in which the numbers of private cars and the total number of vehicles per 1,000 population are given for geographical counties, together with percentage increases between 1951 and 1961.

It can be seen from Table 3 that in comparison with average rates of ownership for Ireland of 66 private cars and 50 other motor vehicles (116 total*) per 1,000 population; the highest rates of vehicle ownership generally occur in rural counties in the eastern half of Ireland, and in Cork, and the lowest rates of vehicle ownership generally occur in the western half of the country at the greatest distance from the larger cities, although these counties tend to have the highest rates of *increase* in vehicle ownership, principally because of higher rates of increase in car ownership.

*One possible explanation of some of the differences between Irish and British maintenance costs, is that British costs include expenditure on minor improvement i.e., improvements not involving additional land, whereas to some extent these may be excluded from Irish upkeep figures.

**Recent changes in the average weight of goods vehicles are analysed in Appendix I.

*As compared with about 250 vehicles per 1,000 in France and about 160 per 1,000 in Britain and West Germany in 1960[2]. Related to national income however Ireland compares more closely with other countries with 157 vehicles per $ million gross national product, France having 206, West Germany 163 and Britain 121 in 1960.

TABLE 2: MECHANICALLY PROPELLED ROAD VEHICLES LICENSED IN AUGUST, 1951 TO 1961

Year	Private cars	Public service vehicles	Goods vehicles	Tractors, etc.	Motor-cycles	Miscellaneous	Total
	Number						
1951 ..	96,714	8,114	26,721	14,689	6,405	3,339	155,982
1952 ..	104,900	7,949	27,254	17,272	7,980	2,198	167,798
1953 ..	108,805	6,104	33,196	18,921	11,317	3,882	183,153
1954 ..	117,460	5,747	37,090	23,409	15,052	4,284	204,032
1955 ..	127,511	5,037	40,175	27,079	21,436	4,282	226,998
1956 ..	135,961	4,844	41,880	28,540	26,539	4,062	243,044
1957 ..	135,013	5,565	43,233	34,869	28,571	4,438	253,078
1958 ..	143,368	6,229	43,433	33,933	30,568	4,721	262,675
1959 ..	154,054	5,793	43,634	35,581	34,059	4,642	278,469
1960 ..	169,681	5,532	43,530	37,490	41,467	5,067	302,767
1961 ..	186,302	5,334	43,838	40,305	45,594	5,268	326,641
	Percentage change, 1951–1961						
Total	+92	−35	+64	+174	+618	+58	+109
Per year	+ 6·7	− 4·2	+ 5·1	+ 10·6	+ 21·8	+ 4·6	+ 7·7

TABLE 3: PRIVATE CARS AND TOTAL NUMBER OF VEHICLES PER 1,000 POPULATION 1961

County	Private cars	% increase 1951–1961	Other* vehicles	% increase 1951–1961	Total no. of vehicles	% increase 1951–1961
Carlow	75	95	76	175	151	129
Wexford	66	88	78	162	144	122
Laoighis	78	116	65	160	143	134
Meath	78	72	62	133	140	94
Kilkenny	72	90	65	144	137	112
Kildare	77	100	58	97	135	100
Tipperary N. Riding	83	105	51	141	134	120
Cork (incl. Co. Borough)	72	100	60	192	132	130
Wicklow	70	77	61	111	131	94
Dublin (incl. Co. Borough)	77	65	54	123	131	88
Waterford (incl. Co. Borough)	71	84	56	192	127	96
Louth	67	84	59	128	126	104
Tipperary S. Riding	78	88	46	156	124	104
Offaly	65	116	57	172	122	140
Monaghan	58	70	60	118	118	91
Westmeath	70	95	41	165	111	118
Longford	64	102	39	193	103	130
Cavan	56	111	47	152	103	128
Limerick (incl. Co. Borough)	64	106	36	120	100	111
Leitrim	60	159	39	147	99	156
Donegal	47	142	50	105	97	121
Kerry	52	169	48	152	90	160
Sligo	50	93	37	123	87	105
Clare	50	137	33	146	83	141
Galway	48	123	29	126	77	124
Roscommon	48	112	27	100	75	107
Mayo	39	121	29	101	68	112
Ireland	66	92	50	137	116	109

*Commercial vehicles, tractors, motor-cycles and miscellaneous vehicles.

The range of vehicle ownership is much smaller for private cars which (excluding Mayo) extends from 48 cars per 1,000 in Galway and Roscommon to 83 cars per 1,000 in Tipperary (N. Riding), whereas the ownership of other vehicles ranges from 27 per 1,000 in Roscommon to 78 per 1,000 in Wexford. The high rates of ownership of vehicles other than private cars seem to be accounted for by high registrations of tractors for road use, whereas the lower rates of ownership of other vehicles seem to be attributable to a general dearth of tractors, commercial vehicles and motor-cycles.

Altogether the low ownership of vehicles per head in Ireland as compared with other Western European countries, the comparatively small population, and the comparatively large road system make for one of the least densely populated road systems in the world, in terms of vehicles. Thus on an international comparison in 1959[3] there were only about 5 motor vehicles per mile of road in Ireland compared with about 33 vehicles per mile of road in Britain, 27 in West Germany and 13 in France. Among all the countries of Europe and of the English-speaking world (U.S.A., Australia, etc.) only Spain, Greece and Turkey had lower vehicle populations per mile of road, but these countries had much less developed road systems.

The Taxation of Road Vehicles and of their Use

The taxation of road vehicles and of their use is carried out in three main ways, by custom duties on their importation, either as components or as complete vehicles, by customs and excise duties on fuel; and by the licensing of vehicles for use on the road.

The customs duties on the importation of completed vehicles and of their components are given in Table B of the Statistical Appendix.

Effectively the element of taxation in the price of road vehicles (other than agricultural tractors) may be assumed to be about 25-35% of wholesale prices, for the importation of vehicle parts for assembly in Ireland at a duty of 20% (by means of which the Irish market for vehicles is largely supplied) involves additional assembly costs and other margins.

In the year ended March, 1961, the revenue from customs duties on road motor vehicles and components was £3,105,000.

In addition there is a customs duty of 37½% on imported tyres and tubes and an excise duty of 7½% on tyres and tubes produced in Ireland, the excise duty being the more effective rate since virtually the whole of the Irish market is supplied from home sources. The yields from these duties

on tyres and tubes was some £422,000 in the year 1960/61, so that total taxation of motor vehicles and their components was some £3,527,000 in that year.

Taxation of fuel for vehicles is carried out by the customs and excise duties given in Table C of the Statistical Appendix, the duties having been adjusted for the various rebates given to particular classes of vehicles.

In addition to these a small customs duty of 1d. per gallon is levied on lubricating oils, and it should be noted that tractor vaporising oil is completely exempt from duty.

An indication of the general incidence of fuel duties is given by the fact that customs duties represented 80% of the c.i.f. value of imports in 1959/60, although with the opening of the Whitegate refinery and the supply of the Irish market for refined products from home rather than from overseas sources, this rate of incidence is likely to fall somewhat.

The total net revenue from customs and excise duties on oil fuels in 1960/61 was some £13,476,000,

The vehicle licence duties for the main classes of vehicle licensed for road use are as given in Table D of the Statistical Appendix.

Most of these licence duties are self-explanatory and call for little comment, although the duty levied on goods vehicles is interesting and significant in that the incremental rate starts at £1 per additional cwt. of unladen weight for vehicles of 1 ton or less unladen weight, rising to an additional £10 per additional cwt. at unladen weights of over 9 tons.

Receipts from motor vehicle licence duties in the year ended 31st March, 1961, were some £6,341,000 (or about £19 per motor vehicle licensed) to which might be added excise receipts of about £340,000 for driving licences. Altogether, therefore, the taxation levied on motor vehicles and their use in the year ending March, 1961, was some £23,680,000 as compared with road expenditure in 1959/60 of £10,132,000 (from Table 1). This comparison between road taxation and road expenditure has a certain interest and significance in considering the balance between road and rail transport and the conditions under which they operate (since rail must bear its own track costs) but beyond this there is no necessary significance in the comparison, since the "correct" contribution to road costs by road vehicles is difficult to determine, and in any case much wider considerations must enter into the taxation of road vehicles and of their use.

The Activities of the Road Vehicle

Vehicle Mileage Per Annum

Evidence and data are insufficient to build up an estimate of the total vehicle mileage on Irish roads, and the most satisfactory method of estimating vehicle mileage is via data on fuel consumption. The method to be followed in these estimates is to answer the question :—given the fuel consumed for road use in Ireland and given the number of the different classes of road vehicles and their estimated fuel consumptions per mile, what vehicle mileage would account for the fuel consumed in Ireland ? Here one is up against an immediate problem because even though the actual numbers registered of each class of vehicle are known, the total quantity of fuel may be accounted for by relatively high utilisation of vehicles with high consumptions per mile (giving a low final figure for total vehicle mileage) or by relatively high utilisation of vehicles with low consumptions per mile giving a high final figure for total vehicle mileage. To cope with this problem it is necessary to know or to estimate the *relative* average mileage for each class of vehicle and to do this it is proposed to proceed as follows. It will be assumed initially that the annual average vehicle mileages for each class of vehicle are as recorded in Britain,[4] with a general correction factor for Irish conditions which will arise as a result of the equation between total fuel consumption and the contribution of the individual classes of vehicle. In other words it is proposed to solve the equation :—

$$x\Sigma qmc = \mathrm{F}$$

to derive a value for x, where

q=number of vehicles in each class or group,

m=average annual vehicle mileage recorded in Britain for each class of vehicle,

c=estimated fuel consumption (galls. per mile) of each vehicle group,

x=general Irish correction factor, correcting British vehicle mileages to conform with Irish conditions. This is the only unknown quantity in the set of equations,

F=gallons of petrol consumed in Ireland.

Having derived a value for the Irish correction factor x it is possible to build up estimates of total vehicle mileage in Ireland, although it must again be noted that these estimates will be based on the assumption that the *relative* annual mileages for the different classes of vehicle are the same in Ireland as they are in Britain. This equation is solved in Appendix 2 only for the petrol consumed in Ireland, since vehicle mileage by diesel engined vehicles can be estimated more directly. The final estimates of vehicle mileages in Ireland which result are given in Table 4.

TABLE 4: ESTIMATED MILEAGE FOR EACH CLASS OF ROAD VEHICLE (EXCLUDING TRACTORS AND ELECTRICALLY PROPELLED VEHICLES) IRELAND 1960

Class of vehicle	Annual vehicle mileage
	Millions
Cars and taxis	2,000
Motor-cycles	200
Goods vehicles	675
Public service vehicles (buses)	50
Total	2,925

These estimates are subject to a considerable margin of error, particularly the estimates for the individual classes of vehicle, although with the method of estimation used some of the errors are likely to be compensating and it seems unlikely that the error in estimated total vehicle mileage is greater than ±10%. Within the above broad estimates more precise information is available on vehicle mileage by licensed hauliers[5] and is given in Table 5.

TABLE 5: VEHICLE MILEAGE BY LICENSED HAULIERS 1960

Category of operator	No. of vehicles	Vehicle miles run	Mileage per vehicle
		000's	
Rail companies i.e. C.I.E. (including railhead collection and delivery)	879	15,163	17,200
Other large operators*	89	1,722	19,300
Small operators ..	1,001	19,258	19,200
Total ..	1,969	36,143	18,300

*Those deemed large enough to fill in a more complete return.

It is interesting to note that the mileage per vehicle experienced by licensed hauliers in 1960, namely 18,300, is above the general average for goods vehicles derived from Tables 2 and 4, namely 15,400, as would be expected since the heavier vehicles tend to be more heavily utilised.

It thus appears that licensed hauliers, with about 4½% of goods vehicles and very roughly 5½% of of goods vehicle mileage, only account for a small proportion of goods vehicles and their activity, but it must be remembered that a considerable mileage by the lighter goods vehicles is probably for private passenger transport rather than for goods transport. It is not possible to estimate at all accurately the rate of increase in total vehicle mileage because the increasing fuel economy of vehicles (including changes from petrol to diesel commercial vehicles) makes changes in total fuel consumption a misleading guide to *changes* in vehicle mileage. As may be seen from Table E of the Statistical Appendix, giving total fuel consumed between 1951 and 1961, although the number of vehicles licensed had increased by 94% between 1950/51 and 1960/61, with increasing taxation the total motor fuel consumed had only increased by 31%. This disparity suggests not only that vehicles were becoming more economical in use of fuel, but that vehicle mileage was increasing at a slower rate than the total number of vehicles.

The Transport Activities of Road Vehicles

When considering such activities as the passenger mileage and ton-mileage for road vehicles there is a fairly clear division between those activities for which precise data are available, e.g., passenger mileage by bus, and those activities which can only be roughly estimated, e.g., passenger mileage by private car. On the whole therefore it is only possible to establish orders of magnitude for the transport activities of road vehicles.

Passenger Mileage

Dealing with road passenger mileage first, assuming an average occupancy of 2 persons per private car and 1·1 persons per motor-cycle, road passenger mileage may be estimated as follows:—

TABLE 6: ESTIMATED PASSENGER MILEAGE BY ROAD VEHICLES 1960

Type of vehicle	Annual passenger mileage
	Millions
Private cars and taxis ..	4,000
Motor-cycles	220
Public service vehicles (buses but excluding coaches) ..	780
Total	5,000

On the assumptions and estimates made, it appears from Table 6 that 80% of road passenger mileage is accounted for by private car and about 15% by bus, although it must be borne in mind that a considerable amount of passenger transport is carried out in commercial vehicles and this cannot be estimated.

A more detailed analysis of the operations of public service vehicles[6] is of some significance and is given in Table 7 for the year ending March, 1962.

The difference between city bus services which account for about 80% of total receipts and passenger mileage, and provincial services is rather striking in that average receipts (or charges) per passenger mile for provincial buses are some 50% higher than those in cities, with average occupancies only about half as great. Although these lower occupancies tend to be offset to some extent by the lower seating capacity of buses in rural areas, the difficulties in running rural buses at reasonable occupancies and fares, yet at reasonable frequencies, are obvious.

TABLE 7: OPERATIONS OF PUBLIC SERVICE VEHICLES 1961–62 (EXCLUDING MOTOR COACHES)

Service	Total receipts	Passenger mileage	Average receipts per passenger mile	Average length of journey	Average occupancy passengers
	£000	millions	pence	miles	No.
Dublin City services ..	4,614	591·4	1·87	2·4	18·7
Other City services	611	66·1	2·22	1·7	16·1
Provincial services	1,503	126·5	2·85	7·2	9·4
Total ..	6,728	784·0	2·06	2·60	16·0

Because of the difficulties outlined above it is not possible to establish recent trends in passenger mileage by private car, but changes in passenger mileage by bus are given in Table 8 for 1951 onwards.

TABLE 8: PASSENGER MILEAGE BY BUS 1951–1960 (EXCLUDING COACHES AND CROSS-BORDER SERVICES)

Year	Passenger mileage	Average receipts per passenger mile
	Millions	pence
1951	764	1·34
1952	640	1·73
1953	660	1·77
1954	674	1·77
1955	696	1·80
1956	700	1·87
1957	712	1·86
1958	770	1·80
1959	773	1·88
1960	785	1·97
1961 (est.)	800	2·06

Sources: C.I.E. Annual Reports 1951/2 to 1961/2; Statistical Abstracts of Ireland 1952–61.

The data in Table 8 must be interpreted with considerable caution because direct data for passenger mileage in the whole State is not available for all these years, and because of the substitution of bus services for rail services withdrawn, they can hardly be said to represent the response to a spontaneous change in demand. However, the trends which seem to emerge from Table 8, which are by no means clear, suggest that from 1952 to 1961 there was an increase in passenger mileage of about 25% (about 2½% per annum) with a levelling off in the years 1958 to 1960. Average receipts per passenger mile seem to have increased by about 20% between 1952 and 1961, whilst consumer prices generally seem to have risen by a similar percentage.[1]

Altogether therefore the trend seems to be towards a moderately increasing bus passenger mileage at an increasing level of charges, and in view of this and of the increase in private cars over the same period, there seems little doubt that passenger mileage by private car is expanding at a greater rate than travel by bus.

Ton-Mileage by Road Goods Transport

In estimating the transport activities of goods vehicles one must be content with establishing broad orders of magnitude, since the basic data for making precise estimates is not available.

To estimate the ton mileage carried out in Ireland it appears that the best, indeed the only possible, procedure is to apply recent British data[7] to the Irish population of vehicles. This procedure would take account of the particular weight distribution of Irish vehicles and the types of licence held, but cannot take full account of inherent differences between British and Irish conditions. However, because of the smaller total tonnages, differences in goods carried, limitations in radii of operation, etc., Irish goods vehicles are probably less fully utilised in terms of mileage and weight carried than British vehicles, at least the vehicles licensed for carriage for reward, i.e., the licensed haulier and hauliers operating within exempted areas. Three-quarters of British ton-mileage per vehicle for these vehicles, therefore, might be considered as reasonably representative of Irish conditions, although one cannot of course be sure of this.

Starting with the lighter commercial vehicles of less than 2 tons unladen weight, the majority of these vehicles are small with a carrying capacity of about 5 cwt., since the mean unladen weight of this group of vehicles was only 17 cwt. in 1960. It seems unlikely, therefore, that the average ton-mileage of this class of vehicles will be greater than 50 ton-miles per week or 2,500 ton-miles per year, i.e., 10,000 miles with an average load of 5 cwt. With about 32,000 vehicles in the less than 2 tons unladen weight class, this suggests an annual ton-mileage of up to about 80 million, of which only about 2½ million ton-miles can be attributed to vehicles operated for hire or reward. For the larger and more important goods vehicles engaged on trunk haulage rather than on collection and delivery work, the British data will be used to build up total ton-mileages as in Table 9. It is assumed that three quarters of the ton-mileage carried by the British public carrier (A licence) is representative of haulage for reward in Ireland and that the

TABLE 9: ESTIMATED WEEKLY TON-MILEAGE OF VEHICLES OVER 2 TONS UNLADEN WEIGHT, 1960

Unladen weight	No. licensed for hire or reward	Three-quarters British weekly ton-mileage 1958 (A licence)	Weekly ton-mileage for hire or reward	No. carrying own goods	British weekly ton-mileage 1958 (C licence)	Weekly ton-mileage on carriage of own goods
			000's			000's
2–2½ tons	538	304	164	1,361	239	325
2½–3 tons	963	1,007	970	2,216	637	1,411
3–5 tons	1,223	1,942	2,375	4,177	1,212	5,063
More than 5 tons ..	484	4,731	2,290	562	3,037	1,707
Total ..	3,208	—	5,799	8,316	—	8,506

British vehicles of firms carrying their own goods only (C licence) are representative of the Irish vehicles used by persons or firms to carry their own goods.

Converting these estimated ton-mileages to an annual basis and adding in the figures for vehicles under 2 tons unladen weight, we have the following picture for total ton-mileage by road in Ireland in 1960.

TABLE 10: ESTIMATED TOTAL TON-MILEAGE BY ROAD IN IRELAND 1960 (TRACTORS AND ELECTRICALLY PROPELLED VEHICLES EXCLUDED)

Unladen weight of vehicle	Ton-mileage for hire or reward	Ton-mileage on carriage of own goods	Total Ton-mileage
	Millions		
Less than 2 tons	3	77	80
Over 2 tons ..	290	425	715
Total	293	502	795

It is estimated, therefore, that about 800 million ton-miles of road goods transport were carried out in Ireland in 1960, of which about 90% was attributable to the heavier vehicles over 2 tons unladen weight, and of which about 35% was carried for hire or reward and 65% by persons carrying their own goods. A global estimate of this kind using British data can only give an approximate indication of Irish road ton-mileage, and suggestions for obtaining more accurate information are made in Appendix 3.

RAIL TRANSPORT

Rail transport may be conveniently considered again under two separate headings, the rail track and other installations and equipment, and the operations and activities of railway vehicles and of rolling stock.

The Railway System

In 1962 there were 1,655 route miles of railway operated in Ireland, with a further 334 miles of track accounted for by the duplication of lines on some routes, and a further 298 miles of track accounted for by sidings.[6]

In recent years, as may be seen from Table F of the Statistical Appendix, there have been closures, amalgamation and decline in the route mileage operated in the State from about 2,440 miles in 1951 operated by several railway companies to the 1,655 miles operated by C.I.E. in 1962, a decline in route mileage of about one-third.

In 1962 the maintenance of this rail network accounted for some £1,440,000 or about £870 per route mile of railway; because of changes both in price levels and the size of the rail system there is little to be learnt by considering changes in the level of this expenditure. The number of stations and halts on the railway system as at the end of 1961 was about 290, or an average of one station or halt to every 6 miles of route, or one station or halt to every 90 square miles of land area. The number of stations has declined considerably in recent years, from over 500 in the 1930's, to about 370 in 1956, to the 290 in 1961 and can be expected to fall still further.

In 1962 the motive power of Irish railways consisted of 286 locomotives of which 54% were diesel, and 86 diesel cars (with a seating capacity of about 4,500), diesel locomotives, however, accounting for 68% of engine mileage and diesel rail cars a further 18%. This represents a considerable change from the 1951 situation (for C.I.E.) when there were some 450 locomotives of which all but 6 were steam,[8] with an engine mileage of about 9·7 million, similar to that in 1961/2. Clearly, therefore, motive power utilisation has increased considerably over the period.

Rolling stock on the railways in 1961, excluding specialist stock, consisted of 492 coaching vehicles with a seating capacity of about 32,000 and 11,450 wagons and trucks with a total tonnage capacity of 128,000 tons, an average of 11·1 tons per wagon. Allowing for the numbers and seating capacity of the diesel rail cars this represents little change from the numbers and capacity of rolling stock in 1951.[8]

The Operations and Activities of the Railway System

The operations and activities of a railway system may be analysed in many different ways and into many different derivatives which may be more or less meaningful. Here it is proposed merely to set out the main activites of the railways, e.g., passenger mileage, tonnage carried, ton-mileage, etc., together with the most important and immediate derivatives, e.g., average length of journey, average length of haul, with comments on changes and trends in these statistics.

Passenger Traffic

In 1961/62 the passenger traffic conveyed by the railways was as follows :—

Passengers carried	10,156,500
Receipts	£2,677,000
Passenger-mileage	344,348,000
Average length of journey ...	33·7 miles
Average receipts per passenger-mile	1·87 pence

In more detail, passenger journeys may be sharply differentiated into those made at season ticket rates (about 0·8d. per mile accounting for about 31 million passenger miles with an average length of journey of about 10 miles) and those made at more normal rates (about 2·0d. per passenger mile, accounting for about 313 million passenger miles with an average length of journey of about 45 miles). By far the greater part of passenger mileage therefore is over relatively long distances at normal fares and a comparison with Table 7 shows that rail passenger transport is used mainly for journeys of much greater length than those made by bus.

In order to establish trends in rail passenger mileage over the past 10 years, data on total passenger mileage is given in Table 11 for C.I.E.[1,9] corrected for absorption of G.N.R. lines from 1958 onwards as far as possible.

On the roughly comparable basis of Table 11 it may be seen that there has been a considerable decline in the number of passenger journeys made between 1952 and 1962, particularly between 1960 and 1962, but a considerable increase in passenger mileage due apparently to a large increase in the average length of journey which seems to have increased by more than 50% over the period, most of the increase occurring between 1960 and 1962. However, this increase in the average length of journey cannot be attributable solely to changes in demand for there has been a considerable withdrawal of rail services carrying short-distance travellers over the period. An interesting statistic of passenger train operation is the figure for average receipts per train mile, which was 10s. 11d. in 1961/62. With an average fare of 1·87d. per passenger mile this suggests an average train occupancy of 70 passengers as compared with 58 in 1951/52, although this comparison is not fully significant because of changes in motive power and rolling stock over the period, e.g., the introduction of diesel rail-cars.

Rail Freight Transport

Details of receipts, tonnage and ton-mileage of the principal classes of goods carried on the railways in 1961/62 are as given in Table 12.

These freight operations give average receipts of £1 13s. 7d. per loaded train-mile, some three times those for passenger train operation. Because of considerable handling, shunting, and other terminal costs for freight traffic, it does not necessarily follow, however, that freight operation is more profitable than passenger operation.

It appears from Table 12 that Irish rail freight has an almost complete absence of the bulk freights, minerals and coal, for which, because of their bulk, regularity, and comparative ease of handling, rail has special advantages and can offer comparatively low rates per ton-mile ; these are some of the profitable mainstays of many other railway systems such as that in Britain. No doubt because of this dependence on merchandise the average wagon load in 1961/62 was rather low at 3·89 tons,[6] giving an average load factor of only about 35%, the load

TABLE 11 : RAIL PASSENGER TRAVEL, 1952–61 ON C.I.E. LINES (DEDUCTING FOR ABSORPTION OF PART OF GREAT NORTHERN RAILWAY FROM 1958 ONWARDS)

Year ending 31st March	Passengers carried	Receipts	Passenger mileage	Average length of journey	Average receipts per passenger mile
	000's	£000	000's	(miles)	
1952	8,291	1,378	222,142	27·0	1·49
1953	8,229	1,539	217,588	26·4	1·70
1954	8,104	1,666	231,074	28·5	1·73
1955	8,188	1,803	263,627	32·2	1·65
1956	8,920	1,887	274,394	30·7	1·65
1957	8,272	1,993	266,163	32·2	1·80
1958	8,387	1,996	261,046	31·1	1·84
1959	8,462	2,118	268,973	32·0	1·88
1960	9,024	2,211	287,085	31·8	1·85
1961	7,801	2,374	295,142	37·8	1·93
1962	6,995	2,320	285,348	41·3	1·95

TABLE 12: RAIL FREIGHT AND LIVESTOCK YEAR ENDING MARCH 1962

Class of goods	Receipts	Tons carried	Ton-mileage	Average length of haul	Receipts per ton-mile
	£000		000's	(miles)	(pence)
Merchandise ..	3,829	1,868	167,481	89·6	5·49
Minerals ..	451	463	33,041	71·3	3·28
Coal and Coke ..	27	40	1,947	48·2	3·38
Total ..	4,307	2,372	202,469	85·3	5·11
		Number			
Livestock ..	343	541,992	—	93·2	—

factor on Irish railways being the lowest in Europe in 1960[2].

The principal commodities carried by the railways in 1961/62 are given in more detail in Table 13.

TABLE 13: PRINCIPAL COMMODITIES TRANSPORTED BY RAIL 1961/62

Commodity	Tonnage transported
	000's
Beet and beet pulp	418
Cement	365
Fertilisers	204
Ale and porter	201
Grain	142
Sugar	125
Groceries, bacon, butter etc.	115
Tar and bitumen	79
Cattle foods etc.	69
Other commodities	170
Total	1,888

Table 13 suggests that in fact a considerable volume of bulk commodities are carried on the railways, e.g., beet, cement, fertilisers, sugar and grain, although, since the carriage of some of these commodities is highly seasonal, they are not necessarily ideally suited to rail or indeed to any other means of transport.

To estimate trends in rail freight, data for merchandise, minerals and coal are given separately in Tables G, H and I of the Statistical Appendix and are summarised in Table 14.

Table 14 indicates that since 1953 when charges rose sharply, the tonnage carried by rail has tended to decline but has been offset by an increasing average length of haul to give little obvious change in total freight ton-mileage over the period. The tonnage and ton-mileage of coal has declined, whilst the tonnage and ton-mileage of minerals have increased and the decline in the tonnage of merchandise has been offset by an increased average length of haul. However, there has been considerable decline in carryings of cattle between 1952 and 1961 as may be seen from Table J in the Statistical Appendix. Surprisingly there has been an apparent decline in the average wagon load over the period from 4·02 tons in 1952 to the 3·89 tons in 1962, although this decline has tended to be reversed since 1957, when the average wagon load was as low as 3·22 tons.[9] Concerning changes in tonnage of commodities carried, there have been considerable increases in the transport of the bulkier cargoes, cement, beet, fertilisers and sugar between 1952 and 1962, with a fall in the tonnages of grain and groceries, ham, butter, etc.

The General Rail Picture

In total, the Irish rail system is only lightly utilised with 200,000 passenger miles and 120,000 ton-miles of freight per mile of track in 1960, the lowest utilisation then in Europe.[2]

The current working accounts for the railway system in 1961/62 were as given in Table 15.[6]

TABLE 14: RAIL FREIGHT: ACTUAL TRAFFIC 1951/2 to 1961/2 C.I.E. (DEDUCTING FOR ABSORPTION OF GREAT NORTHERN RAILWAY IN 1958) TOTAL

Year ending March 31st	Receipts	Tonnage carried	Ton-mileage	Average length of haul miles	Receipts per ton-mile pence
	£000's	000's	000's		
1952	3,294	2,536	205,580	81·1	3·85
1953	3,318	2,226	179,289	80·5	4·44
1954	3,753	2,470	197,234	79·9	4·57
1955	3,653	2,324	189,771	81·7	4·62
1956	3,694	2,317	196,170	84·7	4·52
1957	3,466	2,047	166,053	81·1	5·01
1958	3,346	1,960	162,640	83·0	4·94
1959	3,373	1,899	165,100	85·8	4·90
1960	3,505	2,016	172,647	85·5	4·86
1961	3,811	2,165	185,411	85·6	4·94
1962	3,845	2,025	181,140	89·4	5·10

TABLE 15 : WORKING ACCOUNTS OF THE RAILWAYS 1961/62

Expenditure	£000	Receipts	£000
Maintenance of lines and works ..	1,440	Passenger receipts	2,677
Maintenance of rolling stock	1,981	Mail and parcels by passenger train	1,010
Traffic expenses : Fuel	550	Goods train traffic ..	4,651
Operating and other expenses ..	4,942	Miscellaneous receipts ..	86
Provision for renewal of lines and works	396		
Depreciation ..	708		
Totals ..	10,017		8,424

On the conventions and procedures used in compiling these accounts, the railways seem to have incurred a deficit on their current working of £1,593,000 or about 16% of current working expenditure, this deficit having risen sharply from £477,000 in 1960/61. If the longer term future of the railways is concerned, however, it is necessary for the railways to be capable of earning interest on the *reproducible* capital (locomotives, rolling stock, etc.) invested in them if they are to justify their continuation at their present size and form in the future. Since interest on transport stocks totalled some £647,000 in 1961/62, and since railway rolling stock accounted for about 70% of the book value of C.I.E. assets in 1960/61, this indicates an interest charge of about £450,000 as attributable to reproducible railway assets. Thus an overall deficit of some £2,043,000 is suggested, equal to about 20% of total expenditure (including interest) although it must be stressed that these estimates are very much subject to the assumptions and conventions used in railway accounting. In comparison with 1951/2 when a current deficit of some £1,687,000 was incurred on working expenses of about £7½ million[8] (a current deficit of more than 20%) these deficits had been greatly reduced by 1960/61, but since then both current and overall deficits have increased considerably.

THE GENERAL TRANSPORT PICTURE

From the above it is possible to build up a general picture of inland transport in Ireland, together with a statement of the characteristics and trends for each transport sector.

The passenger transport sector is set out in detail in Table 16.

On these estimates, therefore, road transport accounts for some 93% of total passenger mileage, of which travel by private car and taxi accounts for about 75%, with rail transport accounting for only about 7% of total passenger mileage. Private transport as opposed to public, i.e., publicly owned and operated for reward, accounts for some 80% of total passenger mileage.

Turning to goods transport the overall situation is set down in Table 17.

It appears from Table 17 that road accounts for about 80% of total ton-mileage, of which 72% is attributable to the heavier longer distance lorries over 2 tons, whilst rail accounts for about 20% of the total. Private transport as opposed to public, i.e. transport operated for reward, seems to account for some 37% of total ton-mileage. Although the railways are of much greater relative importance in freight than in passenger transport, it is clear that in quantitative terms the railways are of minor importance in inland transport. Depending on the relative weights given to a passenger mile and a ton-mile, they could be said to account for some 10 to 20% of the nation's inland transport only.

TABLE 16 : PASSENGER TRANSPORT IN IRELAND 1960

Means of transport	Passenger mileage	% of grand total	Characteristics	Trend
ROAD	Millions			
Private car or taxi ..	4,000	74	All distances with short-distance journeys probably predominating.	Increasing fairly rapidly.
Public service vehicles	780	15	Predominantly short-distance	Increasing slightly
Motor-cycles	220	4	All distances with short-distance journeys probably predominating.	Increasing fairly rapidly
TOTAL ..	5,000	93		
Rail	350	7	Long-distance journeys predominating.	Fewer passengers making longer journeys with a net increase in passenger mileage.
GRAND TOTAL ..	5,350	100		

TABLE 17: ESTIMATED TOTAL TON-MILEAGE IN IRELAND 1960

Means of transport	Ton-mileage	% of grand total	Characteristics	Trend
ROAD				
Light commerical vehicles (less than 2 tons) ..	80	8	Pre-dominantly short journeys	Probably increasing.
Heavier commercial vehicles (over 2 tons)			All length of journeys with short journeys probably pre-dominating.	Probably increasing.
Hire or reward ..	290	29		
Own goods	425	42		
TOTAL	795	79		
RAIL	210	21	Pre-dominantly long journeys.	Fairly constant but increasing in recent years.
GRAND TOTAL ..	1,005	100		

SUMMARY

The main points and factors emerging from this survey are as follows :—

(i) The Irish road system and the low density of vehicles upon it ; which make it one of the least densely populated, developed road systems in the world.

(ii) The rapid increase in road vehicles over the past 10 years which has been at a rate of 7 to 8% per annum.

(iii) The comparatively small number of road vehicles per head of the population as compared with other Western European countries, vehicles per head of population being highest in the counties to the east and the south and least in the western half of the country. Here, however, rates of increase in vehicle ownership (particularly cars) have been highest.

(iv) The considerable taxation of road vehicles and their use as compared for example with expenditure on the road system.

(v) It is estimated from data on fuel consumption that road vehicle mileage in Ireland in 1960 was as follows :—

	Million vehicle miles
Cars and taxis	2,000
Goods vehicles	675
Motor-cycles	200
Buses	50
Total ...	2,925

(vi) Passenger mileage by road in 1960 was estimated to be as follows :—

	Million passenger miles
Private cars and taxis	4,000
Buses	780
Motor-cycles	220
Total ...	5,000

(vii) The ton-mileage by road in 1960 was estimated to be :—

	Million ton-miles		
	For hire or reward	For carriage of own goods	Total
Light commercial vehicles less than 2 tons	3	77	80
Heavier commercial vehicles over 2 tons	290	425	715
TOTALS ...	293	502	795

(viii) The difficulties of the railways and their response to these difficulties in the concentration of the railway system, the modernisation of its equipment, and its better utilisation, with specialisation on longer-distance transport and the haulage of bulkier freights.

(ix) The recent reduction in the railway deficits both on current working and overall, with allowance made for interest payable on reproducible capital equipment such as rolling stock, but with a considerable increase in these deficits between 1960/61 and 1961/62.

(x) It is estimated that in 1960 road supplied 93% of the State's requirements for inland passenger transport and rail 7%, whilst road supplied 80% of the State's requirements for inland freight transport and rail the remaining 20%.

Appendix I

COMMERCIAL GOODS VEHICLES LICENSED IN AUGUST, 1956 AND 1961
(ELECTRICALLY PROPELLED VEHICLES EXCLUDED)

Unladen weight	August 1956	% of total		August 1961	% of total	
		No.	Weight		No.	Weight
Less than 12 cwts. ..	7,373	17·7	6·1	1,369	3·1	0·9
12–16 cwts.	4,516	10·9	5·3	11,531	26·5	11·1
16–20 cwts.	14,520	34·9	21·8	12,333	28·4	13·6
1–2 tons	3,437	8·3	8·6	5,750	13·2	12·0
Total not exceeding 2 tons	29,846	71·8	41·8	30,983	71·2	37·6
2–3 tons	8,293	19·9	34·4	4,472	10·4	15·4
3–4 tons	2,364	5·7	13·8	4,958	11·4	24·3
4–5 tons	602	1·4	4·5	1,729	4·0	10·7
5–6 tons	239	0·6	2·2	654	1·5	5·0
6–7 tons	69	0·2	0·7	197	0·5	1·8
7–8 tons	65	0·2	0·8	158	0·4	1·6
8–9 tons	91	0·2	1·3	140	0·3	1·6
Over 9 tons	28	0·1	0·5	143	0·3	2·0
Total over 2 tons ..	11,751	28·2	58·2	12,451	28·8	62·4
GRAND TOTALS ..	41,597	100·0	100·0	43,434	100·0	100·0

Source : Department of Local Government.

It can be seen from this table that although there has been little change in the numbers, importance, and average weight of the group under 2 tons, there has been a significant increase in the average weight of the heavier group of vehicles over 2 tons. Thus there was an increase in the average unladen weight of this group of vehicles from about 3·0 tons in 1956 to about 3·63 tons in 1961, and in view of the relationship between unladen weight and carrying capacity (see Table 9 of text), an even greater proportionate increase in their carrying capacity both in tons and in ton-mileage.

Appendix II

ESTIMATED VEHICLE MILEAGE BY PETROL BURNING ROAD VEHICLES IN IRELAND
1960

Vehicle group	Numbers registered Aug. 1960 (q)	Estimated fuel consumption gals. per mile (c)
PRIVATE CARS		
9 h.p. or less	71,942	0·025
10 but less than 12 h.p. ..	72,128	0·033
12 h.p. or more	25,611	0·040
MOTOR-CYCLES	41,467	0·010
GOODS VEHICLES		
Not exceeding 16 cwt. ..	13,574	0·025
16 cwt. to 1 ton	14,037	0·033
1 ton to 2 tons	4,016	0·050
Over 2 tons	1,364*	0·100
PUBLIC SERVICE VEHICLES ..		
Taxis	4,367	0·050

*Residual after estimating number of diesel vehicles.

British vehicle mileages per annum 1956 (*m*)

Cars and taxis	... ...	7,800
Motor-cycles	... ...	3,400
Goods vehicles	... ...	11,000

Working out the equation $\Sigma qmc(x)=F$ in order to discover the general Irish correction factor x, with petrol consumed in Ireland in 1960 (F) being given as 84·5 million gallons, x may be calculated as 1·51 implying that vehicles in Ireland carried out 50% more vehicle mileage in 1959 than their equivalents in Britain in 1956. A higher ratio in Ireland would be expected because there is considerable evidence that the lower the density of population, the longer the journeys that must be carried out and the greater the utilisation of vehicles. Reconstituting and calculating Σqmx for each group of vehicles total vehicle mileage by petrol burning vehicles is estimated at 2,750 millions made up as follows :—

	Vehicle miles Millions
Cars and taxis ...	2,000
Motor-cycles ...	200
Goods vehicles ...	550
	2,750

The vehicle mileage of vehicles burning diesel fuel may be estimated more directly because vehicle

miles in omnibus passenger service were some 50 million in 1960 at an estimated fuel consumption of 0·10 gallons per mile (10 m.p.g.) consuming 5 million gallons of diesel fuel. Since 17·5 million gallons of diesel fuel were consumed in Ireland in 1960, the remaining 12·5 million gallons can be allocated to diesel goods vehicles, which, with an estimated consumption of 0·100 gallons per mile (10 m.p.g.) would account for 125 million vehicle miles. Total vehicle mileage in Ireland in 1960 therefore is estimated as follows :—

	Vehicle miles Millions
Cars and taxis ...	2,000
Motor-cycles ...	200
Goods vehicles ...	675
Public service vehicles (i.e. buses) ...	50
TOTAL ...	2,925

Appendix III

Suggestions for Obtaining More Accurate and Detailed Information on Annual Ton-Mileage by Road

The exact size and scope of a sample survey designed to estimate Irish annual ton-mileage carried by commercial vehicles will obviously depend on many factors, the purposes for which the information is being collected, the amount of knowledge and work involved on the part of the individual vehicle operator supplying the information, the accuracy required of the estimates, and the amount of work required centrally in organising the collection of information and in analysing it.

Basically if it is desired to estimate total ton-mileage, the information required from a representative sample of Irish goods vehicles, stratified as required according to type of licence, weight of vehicle, etc., is an estimate of the tonnage carried and the distance that tonnage is carried, over a representative period or periods e.g. to allow for seasonal variation.

The strata into which Irish commercial vehicles may be divided were as follows in August 1961, electrically propelled delivery vehicles being excluded.

Type of vehicle	No. registered			Characteristics of operation
	For reward	For own goods	Total	
Light commercial vehicles (under 2 tons unladen weight).	1,109	29,874	30,983	Local delivery of small quantities of own goods.
Heavy commercial vehicles (over 2 tons unladen weight).	3,660	8,791	12,451	Longer distance haulage of goods in bulk for reward or of own goods.

Now since the loads of the lighter vehicles are light and variable, making it difficult for operators to estimate ton-mileage, and since these vehicles are very numerous and yet seem to carry out only a small proportion of total ton-mileage (see Table 10) it is very questionable whether it would be worthwhile including these vehicles in a survey. In this case their contribution to total ton-mileage could probably be estimated with little error in total ton-mileage.

There remains the population of about 12,500 commercial vehicles of over 2 tons unladen weight of which 3,660 are licensed for haulage for reward and about 8,790 for haulage of own goods.

Vehicles licensed for haulage for reward may be stratified according to vehicle weight as follows :—

Table A

Unladen weight	No. of vehicles
2—3 tons ..	1,313
3—4 tons ..	1,211
4—5 tons ..	525
5—6 tons ..	334
6—7 tons ..	109
7—8 tons ..	74
Over 8 tons ..	94
	3,660

In addition the total number of vehicles licensed for haulage for reward may be divided (for 1960) into the following :—

Table B

Class of operation	No. of vehicles
Licensed hauliers { Railway companies C.I.E.	879
Licensed hauliers { Other licensed hauliers	1,090
Vehicles operated in exempted areas (Radius 15 miles from Dublin and Cork, 10 miles Limerick, Waterford, Galway)	2,191
	4,160

Turning to private vehicles of over 2 tons unladen weight these may be stratified according to vehicle weight as follows :—

Table C

Unladen weight	No. of vehicles
2—3 tons	3,159
3—4 tons	3,737
4—5 tons	1,204
5—6 tons	320
6—7 tons	88
7—8 tons	84
Over 8 tons ..	189
	8,791

To estimate total ton-mileage it is suggested that a stratified random sample of the weight groups in Tables A and C would need to be carried out, vehicles used for haulage or reward to be further stratified according to the class of operation shown in Table B, and sampling ratios to vary inversely with the population of vehicles in each cell.

Until a pilot survey is carried out and the variance of the vehicle population is estimated it is not possible to estimate the total size of sample required to estimate total ton-mileage with a given degree of accuracy.

However, it must be emphasised that both in the design and analysis of a possible survey, and in the work and knowledge required on the part of the vehicle operator, such a survey is likely to be laborious and costly and the possible value and usefulness of such a survey would need to be carefully weighed against these factors. What might emerge from an inquiry of the kind contemplated here would be estimates in the two broad classes (1) licensed hauliers (2) the rest (haulage other than by transport enterprises, overwhelmingly the greater part) in not more than say ten classes of merchandise so divided as to enable comparisons to be made with the corresponding railway statistics. Experience in other countries which have used the usual "log-book" procedure is that scrutiny, querying and compilation requires a large staff and even so the random sampling errors of estimate are formidable : they certainly preclude any such details as are required for transport administration. All that may be hoped for from such an inquiry is a general guide to policy.

Statistical Appendix

TABLE A : EXPENDITURE ON UPKEEP AND IMPROVEMENT OF THE ROAD SYSTEM. 1950–1960

Year ending 31st March	Expenditure on upkeep	Expenditure on improvement	Total
	£000's		
1950	3,356	2,674*	6,030*
1951	3,406	2,767*	6,173*
1952	4,003	3,056*	7,059*
1953	4,646	3,802*	8,448*
1954	4,907	5,126	10,033
1955	5,119	4,993	10,112
1956	5,347	5,037	10,384
1957	5,620	4,458	10,078
1958	5,447	4,070	9,517
1959	5,491	4,365	9,856
1960	5,594	4,537	10,131

*Data from Returns of Local Taxation 1950–1953.

Source: Statistical Abstracts of Ireland, 1951–1961.

TABLE B : CUSTOMS DUTIES ON THE IMPORT OF VEHICLES AND OF THEIR COMPONENTS

Description	Duty as percentage of wholesale price
Engine parts (imported separately)	37½
Motor cars*	37½
Commercial vehicles	37½
Motor vehicles body and chassis aggregate (including engine parts for assembly)	20
Non-agricultural tractor chassis ..	37½
Non-agricultural tractor bodies ..	50
Agricultural tractors	0

*A preferential rate of 22⅜ per cent is imposed on certain relatively expensive cars from the United Kingdom.

Source : Custom and Excise Tariff as amended to June 1961

TABLE C: CUSTOMS AND EXCISE DUTIES ON ROAD VEHICLE FUELS 1959/60

Type of fuel	General duties per gallon		Preferential duties per gallon*		
	Customs	Excise	Customs	Excise	
	s. d.	s. d.	s. d.	s. d.	
Light mineral hydrocarbon oil, i.e. petrol	2 10¼	2 9¼	1 8½	1 7½	Applicable to agricultural tractors
Other hydrocarbon oils, i.e. diesel fuel	2 3	2 2	1 9	1 8	Applicable to public passenger transport

*Allowance being made for rebates.
Source : Customs and Excise Tariff as amended to June 1961.

TABLE D: VEHICLE LICENCE DUTIES PAYABLE ON MAIN CLASSES OF ROAD VEHICLES 1962

Class of vehicle	Size Interval	Annual Tax Payable
		£ s.
Motor-cycles	Less than 75 c.c.	1 0
	75–150 c.c.	2 0
	150–200 c.c.	3 0
	200–250 c.c.	4 10
	More than 250 c.c.	6 0
Public service vehicles	Seating 6–14 persons	56 0
	„ 14–20 „	80 0
	„ 20–26 „	104 0
	„ 26–32 „	128 0
	„ 33 „ or more	4 0 (per person)
Tractors hauling farm machinery incidentally	N.A.	5
Tractors used for agricultural haulage only	N.A.	2 10
Other tractors i.e. used for public and private haulage for all types of goods	Less than 7¼ tons unladen weight	31 10
	7¼–8 unladen weight	37 10
	8–12 „ „	42 0
	More than 12 tons unladen weight	45 0
Goods vehicles	Less than 12 cwt. unladen weight	15 0
	12–16 unladen weight	20 0
	16 cwt.–1 ton	24 0
	1–2 tons unladen weight	30 0 + £4 per quarter ton
	2–3 „ „ „	46 0 + £6 per quarter ton
	3–4 „ „ „	70 0 + £8 per quarter ton
	4–5 „ „ „	102 0 + £10 per quarter ton
	5–6 „ „ „	145 0 + £15 per quarter ton
	6–7 „ „ „	205 0 + £20 per quarter ton
	7–8 „ „ „	285 0 + £25 per quarter ton
	8–9 „ „ „	385 0 + £30 per quarter ton
	More than 9 tons „ „	505 0 + £50 per quarter ton
Private cars	Less than 8 h.p.	13 0
	8–9 h.p.	14 10
	9–10 h.p.	16 10
	10–11 h.p.	19 10
	11–12 h.p.	22 0
	More than 12 h.p.	22 0 + £2 per additional h.p.

Source : Finance Act, 1952 as subsequently amended.

TABLE E: MOTOR FUEL CONSUMPTION IN IRELAND 1951/2–1960/1

Year	Petrol million galls.	Customs Duty s. d.	Diesel Fuel million galls.	Customs Duty s. d.	Total Consumption million galls.	Index 1951/2 = 100	Index of No. of motor vehicles 1951-2 = 100
1951–2	71·4	1 4	6·3	1 4	77·7	100	100
1952–3	73·4	1 9½	6·6	1 8	80·0	103	107
1953–4	76·7	1 9½	7·0	1 8	83·7	108	117
1954–5	80·0	1 9½	8·0	1 8	88·0	113	131
1955–6	84·8	1 9½	9·1	1 8	93·9	120	145
1956–7	80·6	2 3¼	10·9	1 8	91·5	117	155
1957–8	75·0	2 9¼	11·0	2 2	86·0	110	162
1958–9	78·0	2 9¼	13·0	2 2	91·0	117	168
1959–60	82·4	2 9¼	15·0	2 2	97·4	125	180
1960–1	84·5	2 10¼	17·5	2 3	102·0	131	194

Source : Annual Reports of the Revenue Commissioners, 1952–1961.

TABLE F: ROUTE MILEAGE OF RAILWAYS WITHIN THE STATE 1951–61

Year	Route Mileage in the State			
	C.I.E.	Great Northern Railway	Other railways	Total
1951	2,027	225	188	2,440
1952	2,008	225	144	2,377
1953	2,008	225	116	2,349
1954	1,918	225	116	2,259
1955	1,918	225	116	2,259
1956	1,915	225	116	2,256
1957	1,915	217	86	2,218
1958	2,111*	—*	86	2,197
1959	2,107	—	86	2,193
1960	1,809	—	—	1,809
1961	1,747	—	—	1,747
1962	1,655	—	—	1,655

*200 route miles of Great Northern Railway absorbed into C.I.E. 1/10/58.

Sources : Statistical Abstracts of Ireland 1952–1961.
C.I.E. Annual Report. Year ending 31st March, 1962.

TABLE G: RAIL FREIGHT: ACTUAL TRAFFIC 1951/2 TO 1960/1 C.I.E. (DEDUCTING FOR ABSORPTION OF PART OF GREAT NORTHERN RAILWAY AFTER 1958)

MERCHANDISE

Year ending 31st March	Receipts £000's	Tons carried 000's	Ton-miles 000's	Average length of haul (miles)	Receipts per ton-mile pence
1952	2,875	1,904	163,946	86·1	4·21
1953	2,943	1,707	146,159	85·6	4·83
1954	3,208	1,760	152,117	86·4	5·06
1955	3,188	1,711	152,007	88·5	5·03
1956	3,263	1,793	160,529	89·5	4·88
1957	3,012	1,506	131,396	87·3	5·50
1958	2,840	1,400	124,025	88·6	5·50
1959	2,884	1,355	127,776	94·3	5·41
1960	3,013	1,437	136,436	94·7	5·32
1961	3,281	1,561	146,097	93·7	5·40
1962	3,393	1,557	148,122	95·1	5·50

Sources : C.I.E. Annual Reports, 1951–1962.
Statistical Abstracts of Ireland 1952–61.

TABLE H: RAIL FREIGHT: ACTUAL TRAFFIC 1951/2 TO 1960/1 C.I.E. (DEDUCTING FOR ABSORPTION OF PART OF GREAT NORTHERN RAILWAY AFTER 1958)

MINERALS

Year ending 31st March	Receipts £000's	Tons carried 000's	Ton-miles 000's	Average length of haul (miles)	Receipts per ton-mile pence
1952	304	475	31,050	65·4	2·35
1953	285	406	25,419	62·6	2·69
1954	452	604	37,869	62·7	2·86
1955	376	515	30,632	59·5	2·94
1956	338	430	27,663	64·4	2·93
1957	391	461	29,476	64·0	3·19
1958	411	482	31,221	64·8	3·16
1959	437	500	32,779	65·5	3·20
1960	484	561	35,846	64·0	3·25
1961	510	570	37,947	66·6	3·23
1962	437	443	32,005	72·2	3·28

Sources : C.I.E. Annual Reports, 1951–62.
Statistical Abstracts of Ireland, 1952–61.

TABLE I: RAIL FREIGHT: ACTUAL TRAFFIC 1951/2 TO 1960/1 C.I.E. (DEDUCTING FOR ABSORPTION OF PART OF GREAT NORTHERN RAILWAY AFTER 1958)

COAL, COKE AND PATENT FUEL

Year ending 31st March	Receipts £000's	Tons carried 000's	Ton-miles 000's	Average length of haul (miles)	Receipts per ton-mile pence
1952	115	158	10,584	67·2	2·61
1953	90	113	7,711	68·0	2·79
1954	94	106	7,248	68·5	3·10
1955	90	98	7,131	73·0	3·01
1956	93	94	7,977	84·8	2·79
1957	63	81	5,181	63·8	2·92
1958	95	78	7,394	94·2	3·07
1959	52	44	4,545	103·3	2·75
1960	8	18	365	20·3	5·26
1961	20	34	1,373	68·7	3·50
1962	15	25	1,013	40·5	3·60

NOTE:—Owing to small volume of coal carried, adjustments for absorption of Great Northern Railway are likely to lead to error in years after 1958.

Sources: C.I.E. Annual Reports, 1951–62.
Statistical Abstracts of Ireland 1952–1961.

TABLE J: RAIL CARRYINGS OF LIVESTOCK 1951/2 TO 1960/1 C.I.E. (DEDUCTING FOR ABSORPTION OF PART OF GREAT NORTHERN RAILWAY AFTER 1958)

Year ending 31st March	Receipts £000's	No. carried 000's	Average length of haul (miles)	No. of cattle miles 000's	Average receipts per cattle mile pence
1952	423	912	74·3	67,727	1·5
1953	406	843	72·2	60,864	1·6
1954	387	742	73·5	54,537	1·7
1955	461	861	77·8	66,986	1·7
1956	358	661	79·3	52,417	1·6
1957	449	734	81·7	59,968	1·8
1958	393	666	82·5	54,945	1·7
1959	294	493	81·7	36,278	1·9
1960	287	436	86·9	37,889	1·8
1961	304	477	90·6	43,216	1·8
1962	329	491	93·2	45,761	1·8

Sources: C.I.E. Annual Reports, 1951–1962.
Statistical Abstracts of Ireland, 1952–1961.

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