

Dublin City Passenger Transport Services

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Introduction.

I am not aware that any paper has before been submitted to this Society on the subject of Dublin's City Transport Services, and I have, therefore, accepted the invitation to remedy that position with no little diffidence and a very real doubt as to my ability to interest and inform the Society on the subject.

The genesis of Dublin's public transport system is to be found in the Tramways (Ireland) Act, 1860, wherein regulations were laid down to enable any person to apply for authority to make and maintain a tramway.

Following the passing of the Tramways (Ireland) Act, 1860, the following companies were incorporated :—

The Dublin Tramways Company, 1871.

The North Dublin Street Tramways Company, 1875.

The Dublin Central Tramways Company, 1878.

The Dublin Southern Districts Tramways Company, 1878.

The Dublin United Tramways Company, Limited, 1881.

The Blackrock and Kingstown Tramway Company, 1883.

Each of the foregoing companies obtained statutory powers to lay tramways which, as the various Acts say, were "to be worked by animal power only and constructed so as not to impede or injure the ordinary traffic on the roads."

It was not until 1893 that the Dublin Southern Districts Tramways Company was authorised to use mechanical power, and the Dublin United Tramways (Electrical Power) Act, 1897, authorised the use of electric power on the tramways of the Dublin United Tramways Company.

It would appear that amalgamation, rationalisation and integration were not unknown in the late 19th century, although it is doubtful if the last two words were ever used. The fact remains that the Dublin United Tramways Company acquired the undertakings of the Dublin Tramways Company, the North Dublin Street Tramways Company, and the Dublin Central Tramways Company in 1881, and by an Act of 1905 the final step was taken in amalgamating all the various tramways companies operating in the city into one company, to be known as the Dublin United Tramways Company (1896) Limited.

The Transport Act, 1944, provided, *inter alia*, for the amalgamation of the Great Southern Railways Company and the Dublin United Transport Company—the name Dublin United Transport Company was adopted by a resolution of the shareholders of the Dublin United Tramways Company (1896) Limited, in 1941 as being more appropriate to the business of the company, having regard to its increasing interest in the operation of passenger road services by omnibuses.

The city bus services are, therefore, an integral part of the national transport undertaking which is engaged in the business of transport by rail and road and, since the passing of the 1950 Transport Act, canals.

In view of the fact that the Dublin city services have formed a part of the national transport undertaking since the establishment of C.I.E., I propose to deal with my subject in the light of the ten years since 1st January, 1945.

Area and Population served by the System.

For all practical purposes, the area served by the city services may be regarded as extending in all directions up to a distance of 15 miles from the General Post Office. This, at any rate, was the rough and ready yard-stick adopted by the former Dublin United Transport Company, although I may remark that the claim was never conceded by either the Great Southern Railways Company or the Great Northern Railway Company, each of which companies operated its own bus services out of Dublin.

In a paper prepared some months ago by Dr. M. D. McCarthy, Deputy Director, Central Statistics Office, and read before the Association of Higher Civil Servants Discussion Group, on the Growth of Dublin, he states that the 1926 Census showed the population of the city and county was 506 thousand. In the ten years after 1926, the annual increase was over 8 thousand persons per annum, dropping to a rate of 5 thousand between 1936 and 1946, and rising sharply to about 11,500 per annum between 1946 and 1951, in which year the population of the city and county was 693 thousand. Accepting Dr. McCarthy's estimated annual increases between 1926 and 1946, the population in the year 1945 was approximately 631 thousand, and the increase in population in the ten years since the establishment of Coras Iompair Eireann was, therefore, approximately 62 thousand.

In arriving at the figure 693 thousand, the 1951 Census shows the county borough of Dublin, as then constituted, 522 thousand, Dun Laoghaire borough 48 thousand, a total of 570 thousand. Dr. McCarthy went on to say, "many suburban dwellers, however, who form part of the Dublin community, live outside the legal boundaries of these areas, and it was decided that to get a picture of the whole conurbation to define for Census purposes the Dublin and Dun Laoghaire suburbs as the area outside the borough boundaries and within what is known by the town planners as the "Green Belt." These suburbs included the Artane, Baldoyle, Coolock and Finglas areas on the North side, and on the South, Ballyfermot, Drimnagh, Crumlin, Rathfarnham, Dundrum and Mount Merrion areas, as well as the Dun Laoghaire suburbs which lie in the region bounded by the sea and railway from Stillorgan to Shankill. Within this area there lived in 1951 a further 64 thousand persons, giving a total population for Greater Dublin of 634 thousand.

The population of Dublin city and county at the same Census was 693 thousand, leaving in the balance of the county outside the Greater Dublin area 59 thousand persons, many of whom do actually work in the city."

The task of providing an efficient and economic public transport service for this mass of people, included within the city and county boundaries, which, as Dr. McCarthy further points out, represents 23·4% of the total population of the State, is in the hands of C.I.E.

Growth of Passenger Equipment.

The remarkable increase in the population quite obviously required a substantial increase in transport facilities, which has been met in two ways :—

- (i) an increase in the number of public service vehicles and the services provided by the transport undertaking ;
- (ii) by the increased use of the private car.

The following Table shows the number of vehicles in each year from 1945 to 1954, and the available seating capacity provided by the public services, and reflects the effort to meet the growing demands for transport as a result of the increased population :—

TABLE I.
Dublin City Services—Passenger Equipment

Year	Number of Vehicles			Total Seating Capacity	Percentage Seating Capacity 1945=100
	Trams	Buses			
		Single-deck	Double-deck		
1945	93	88	267	24,316	100
1946	93	118	273	25,722	105·8
1947	93	118	283	26,438	108·7
1948	58	118	369	29,536	121·5
1949	—	122	441	29,854	122·8
1950	—	124	457	31,220	128·4
1951	—	109	457	31,169	128·2
1952	—	100	478	32,288	132·8
1953	—	100	509	34,490	141·8
1954	—	100	509	34,546	142·1

The figures shown in the Table represent the position at the end of each year, and I should point out that it was not until July, 1949, that the last of the trams were withdrawn from service. The last service to be converted from trams to buses was the No. 8 route to Dalkey.

Apart from the steady increase in the number of vehicles provided to meet city service requirements, and the corresponding increase in total available seating capacity, the significant feature in the Table is the complete elimination of trams as a unit of conveyance in 1949.

It was, I think, inevitable after about the year 1926 that trams on Dublin's city transport services would be supplanted in favour of buses for the following reasons :—

- (i) Numerous independent operators had commenced to operate bus services in the city and its environs.
- (ii) Many of these services paralleled the tramway services and, therefore, represented a duplication of services.
- (iii) The new bus services proved extremely popular with the public.

- (iv) The general extension of the city suburbs and the reaction of new housing areas were not served by any existing tram route.
- (v) The provision of new tramways and new tram car equipment to meet the demands of the residents of the new areas could not have been met quickly.
- (vi) The initial capital outlay of laying new tramways, overhead wires and rolling stock, would have far exceeded that of providing motor buses.

The ease with which new bus services could be and were introduced by anyone prepared to invest capital in this business was in distinct contrast to the obligations imposed on the original Tramways Companies, and it was not until the passing of the Road Transport Act, 1932, that any restriction was placed on the freedom to develop and expand road transport services. By that Act it was provided that "no person shall carry on a passenger road service save under and in accordance with a licence (in this Act referred to as a passenger licence) granted to him under this Act," but by that time the bus, as one of the principal agencies for providing transport to the citizens of Dublin, had established itself.

The granting of passenger licences to existing bus operators in the city of Dublin in 1932 established these operators, and laid on them certain obligations regarding regularity of service, maximum charges and fair wages, but did nothing to ease the position which had developed in the previous five or six years of a large number of unco-ordinated services and a considerable amount of wasteful duplication.

The Road Transport Act, 1933, gave an opportunity to remedy this position, for under that Act any authorised carrying Company was empowered to send an application to the Minister requesting him to make an Order transferring a particular licence to such company. The Dublin United Tramways Company was an authorised passenger carrying company, and exercised its powers under the Act to acquire the licences of most of its competitors in the city.

By these acquisitions, the Tramways Company found themselves with a fairly substantial bus fleet, and with no other means of providing services for a large section of the community than with the vehicles which had been acquired from their competitors. It was a natural development, therefore, not alone to maintain but to improve the services previously provided by the acquired operators. It can be said at once that the condition of many of the vehicles which were taken over was poor and required early replacement. Not one of the services taken over was operated by a double-deck vehicle, while to-day double-deck buses outnumber single-deck buses by 5 to 1.

While in retrospect there is probably no difficulty in agreeing that the change-over from trams to buses was inevitable, there was a substantial body of criticism of the Tramway Company's policy in this direction. I venture to say that in the event the criticism has proved unfounded, and that the Tramway Company's policy was sound; at any rate, one hears little nowadays about the subject, and few people would suggest the return of the electric tram or even trolley buses to our streets.

In support of this opinion, however, I quote from the Royal Commission Report on Transport, 1930 :—

“After carefully examining the evidence which we have received from various witnesses, our considered view is that Tramways, if not an obsolete form of transport, are at all events in a state of obsolescence and cause much unnecessary congestion and considerable unnecessary danger to the public. We recommend, therefore, (a) that no additional tramways should be constructed, and (b) that, though no definite time limit can be laid down, they should gradually disappear and give place to other forms of transport.

“We are of opinion that it will be to the advantage of the inhabitants of the towns where they exist to get rid of them by degrees, and to substitute trackless trolley vehicles or motor omnibuses, as some authorities have done already.”

Apart from the actual increase in the number of vehicles, an important development in recent years has been the introduction of higher seating capacity vehicles, whereas in 1945 the double-deck fleet comprised two vehicles of 54 seats, 261 of 56 seats, and 4 of 62 seats, the fleet in 1954 was made up of 380 vehicles of 58 seats 4 of 62 seats, and 125 of 66 seats, while in single-deck vehicles the standard seating capacity has gone up from 34 and 36 to 39 and 45. The urge with all transport operators is to increase the seating capacity of the vehicles within the standard measurements allowed by statutory authority.

It is a fact, however, that double-deck passenger vehicles are peculiar to Britain and Ireland, and the introduction of what is somewhat crudely known as “Standee” buses has been advocated by the management of a number of municipal undertakings in Britain. These buses are single-deck vehicles and have a very high standing carrying capacity, with a relatively low seating capacity. Their advocates contend that they are most useful at peak periods, provide faster running, improved fare collection and better conductor control and, finally, that a passenger would prefer to stand in a bus than in a queue. The capital cost of these vehicles would be very much less than for a double-deck vehicle.

Table I shows that the seating capacity in 1954 had increased by 42% since 1945, while the increase in population, as mentioned earlier, in the same period was something around 10%—1945, 631 thousand; 1951, 693 thousand—from which it may be inferred that the lot of the city bus user has been eased over the last ten years.

While there has been a steady increase in the vehicle facilities provided by the Public Transport Service to meet the growing demand and the change in pattern in city travel over the years, it is insignificant when compared with the increase in private transport in the area served by Public Transport. The following Table shows the number of private cars and motor cycles taxed at mid-August in the years 1945 to 1954 in the city and county of Dublin as given in returns from the Department of Local Government and the Central Statistics Office :—

TABLE II.

Year	Private Cars	Motor Cycles	Total
1945	1,566	34	1,600
1946	15,065	1,439	16,504
1947	18,062	1,744	19,806
1948	21,231	2,125	23,356
1949	24,554	2,318	26,872
1950	28,600	2,541	31,141
1951	32,312	2,851	35,163
1952	34,142	3,523	37,665
1953	35,765	5,283	41,048
1954	36,680	7,242	43,922

If we assume an average seating capacity of four seats per private car of the cars registered in the city and county, we find that the available private car capacity is 146,720 seats as compared with 34,546 P.S.V. seats set out at Table I above. It is, of course, realised that private cars are not used to capacity, and if one watches the stream of private cars coming into and going out of town in the mornings and evenings, it will be noticed that it is unusual to find a private car fully laden, and the average carrying is probably less than two per vehicle. The private car, nevertheless, is the real competitor of Public Transport, not alone in the city but in the whole country. So far as Dublin city and county are concerned, there was at mid-August, 1954, 36,680 private cars, and at the 1951 Census, as already mentioned, the population of the city and county was 693 thousand, representing one car for every 18.89 head of the population. Admittedly high as the proportion of motor cars to the population appears to be here, it is nothing to what the Public Transport Companies face in America, where, on recent inquiry, it was disclosed that in certain cities and towns there are $1\frac{1}{2}$ cars per family.

The pedal-cycle remains a very popular mode of transport for many of Dublin's citizens, and it is very noticeable how an increase in city bus fares, initially at any rate, drives a considerable number of bus users on to bicycles, and that when the weather is inclement there is a greater demand on the Public Services because so many regular cyclists leave their machines at home.

It is to be noted that, while the number of motor cars increased by 143% between 1946 and 1954, motor cycles increased by 403%. The very extraordinary increase in motor cycles is, undoubtedly, due to the growing popularity of autocycles—the power-driven cycle—and the scooter-type machine.

Trend of Passenger Carrying.

Having observed the steady increase in the passenger equipment and the available seating capacity provided by the city services undertaking, let us examine for the moment the user of the services as disclosed by passenger carryings.

The following Tables must be considered jointly. Table III(a) shows the number of passengers carried in each year from 1945 to 1954, and the yearly percentage based on the 1945 carryings. Table III(b) shows the mileage run in each year over the period, the yearly percentage related to 1945 and the passengers carried per vehicle mile:—

TABLE III (a).

Year ended 31st December	Number of Passengers Carried (Thousands)			
	Trams	Buses	Total	Percentage 1945=100
1945	38,947	155,225	194,172	100
1946	37,646	180,236	217,882	112.2
1947	29,870	159,551	189,421	97.6
1948	31,637	201,370	233,007	120
1949	9,237	215,198	224,435	115.6
1950	—	227,942	227,942	117.4
1951	—	239,814	239,814	123.5
1952	—	236,581	236,581	121.8
1953	—	231,967	231,967	119.5
1954	—	241,021	241,021	124.1

TABLE III (b).

Year ended 31st December	Mileage Operated (Thousands)				Average number of Passengers per Mile
	Trams	Buses	Total	Percentage 1945=100	
1945	2,511	11,346	13,857	100	36.7
1946	2,519	13,716	16,235	117.2	36.4
1947	2,123	12,563	14,686	106	31.3
1948	2,438	16,987	19,425	140.2	30.3
1949	854	21,813	22,667	163.6	26.2
1950	—	24,530	24,530	177	23.4
1951	—	25,853	25,853	186.6	20.9
1952	—	26,001	26,001	187.6	15.8
1953	—	26,781	26,781	193.3	16.6
1954	—	27,220	27,220	196.4	16.8

The Tables show clearly how much greater the increase in mileage operated year by year has been as compared with the relative increase in the total number of passengers carried each year, and which is finally reflected in the average number of passengers carried per vehicle mile.

The increase in mileage is easily explained; between 1945 and 1954 the number of routes operated increased from 61 to 77, and route mileage from 261 to 287, and over the same period there has been extensions of a number of established services.

The increase in the number of services and route mileage reflects the growth of the population and the development of new housing areas and the expansion of the suburban areas.

Ignoring the year 1947, during which there was a withdrawal of services owing to a labour dispute, from 4th September to the 2nd of November in that year, it will be noted that there was a fall in passenger carryings in 1949 compared with 1948, in 1952 against 1951, and in 1953 against 1952. It is not without significance that the 2d. minimum fare was introduced on the 28th March, 1949. An increase in fares was effected on the 10th September, 1951, and a further increase in fares was effected in February, 1953.

A loss of traffic is always to be expected on an increase to the user of the cost of the service, and is invariably provided for when budgeting or when estimating the increased revenue to be expected from an increase in fares and rates, but it sometimes happens, as seems to be the case on Dublin's city services, that in time the public get used to the increase, and are only, therefore, temporarily diverted to the use of alternative services. It is equally true, however, that where traffic is lost due to an increase in fares, a certain proportion is lost for good. People who buy motor cars or bicycles will not readily give them up even in the event of a reduction in fares on the Public Services. As an indication of passenger resistance to a fares increase, in the first few weeks following the increase in March, 1949, weekly passenger journeys fell by 60 to 80 thousand.

The steady and continuous decline in the average number of passengers per vehicle mile between 1945 and 1952 is very significant. This decline can only be attributed to two causes, and I set them out in what I regard as order of influence :—

- (1) the increasing use of private transport ;
- (2) the increase in the services provided, i.e. by the introduction of new services, the extension of existing services, and the strengthening of existing services, all of which result in increased vehicle user and increased mileage.

With regard to (1), it might be said that the increase in the use of private transport is the result of increases in fares. There is some merit in this contention, but it does not explain the fall in passengers per vehicle mile from 36·7 in 1945 to 30·3 in 1948, since during that period there was actually no increase in fares compared with 1945, and which in that year were at a level no higher than they had been for many years before 1945. But with regard to (2), the fact that during the Emergency, vehicles could not be obtained, did result in overcrowding to a degree that would not be countenanced by the public when vehicles became available. It was a natural corollary of an improvement in services when vehicles became available that there would be a reduction in the average number of passengers conveyed per vehicle mile.

The numbers of originating passenger journeys per head of population as given in the following Table are another measure of user of the services.

TABLE IV.

Year	Passenger Journeys per Head of Population
1945	308
1946	343
1947	292
1948	354
1949	335
1950	334
1951	346
1952	341
1953	335
1954	348

NOTE : The figures for 1952, 1953 and 1954 are based on the population for the year 1951, the last Census year. If the same annual rate of increase in population was maintained in the years 1951 to 1954 as in the years 1946 to 1951 the figures for the years 1952, 1953 and 1954 would be 336, 324 and 332 respectively.

As might be expected, the figures follow the same broad pattern as passenger carryings, and they show that concurrently with increased availability of public transport the passenger journeys per head of population remain consistent, with a slight increase in 1954 and the high peak of 1948 has not been repeated.

It is convenient at this point to refer briefly to the railway services operated by the Board on the Dublin South-Eastern section. Here we have a long established railway line serving 14 stations up to and including Greystones on the Westland Row or coastal side, and 9 stations up to and including Greystones on the Harcourt Street line. The rail distances to Bray from Westland Row and Harcourt Street are, respectively, $13\frac{1}{2}$ and $12\frac{1}{4}$ miles, so that the average distance between stations is 1 mile on the Westland Row line and on the Harcourt Street line $1\frac{1}{3}$ miles.

Broadly speaking, the single fares on the Board's suburban rail services are the same as the bus fares to common points. In fact, from the beginning of the century when electric trams were first introduced to Dalkey, the then Dublin South-Eastern Railways invariably fixed their fares on the suburban section with an eye to the tram fares. While the single fares, however, are on a par for each form of service, the day return fares on rail give a considerable advantage to the rail user for the double journey.

Here are specific examples :—

TABLE V.

To	Bus Fares from Nelson Pillar		Rail Fares—3rd Class from Tara St. and Westland Row	
	Single	Return (2 single fares)	Single	Day Return
	s. d.	s. d.	s. d.	s. d.
Dun Laoghaire ...	8	1 4	8	11
Sandycove ...	9	1 6	8 Westland Row 9 Tara St.	1 0
Dalkey ...	10	1 8	9	1 2
Bray ...	1 4	2 8	1 4	2 0

It is interesting, therefore, to study the trend of passenger carryings for the suburban rail section for the last three years. I am, unfortunately, unable to give corresponding figures for the years before 1952 :—

TABLE VI.

Year	Passenger Journeys (excluding Season Ticket Journeys)	Percentage 1952=100	Season Ticket Journeys	Percentage 1952=100
1952	2,032,149	100	1,486,818	100
1953	1,969,272	96.9	1,452,420	97.7
1954	1,774,893	87.3	1,373,111	92.4

It will be noted that the decline in the number of passenger journeys is more marked than in respect of season ticket journeys. It is probable that there is a hard core of suburbanites who are staunch weekly or monthly ticket holders on the rail suburban services despite the alternative services. There are, however, a great many more people who buy their travel from day to day, thereby enjoying the benefit of the cheap day fare which costs only slightly more per day than a weekly ticket—the advantage of the weekly ticket being that it gives unlimited travel during its availability—and who by doing so have the facility of being able to accept a free lift in a motor car, use their own motor car, or travel on the alternative service as it suits them. A further examination of travel in this category shows that the decline was greatest at the seven heaviest loading stations—Amiens Street, Tara Street, Westland Row, Harcourt Street, Dun Laoghaire, Dalkey and Bray—where, compared with 1952, the decline in 1954 was 16·9%.

We have then the contrasting picture of a steady increase in carryings on the Dublin city bus services, and a steady decline on the rail carryings to and from areas which are also served by the Board's road services. A very substantial part of the decline on the railway is, undoubtedly, due to the increase in the use of the private car, but as great, if not greater, proportion of the loss can be traced to the development of the city bus services.

This conclusion is unavoidable when one recalls what happened between July and September, 1949. The Dalkey route was finally converted from trams to buses on the 29th June, 1949. The decline in passenger journeys for the three months July-September, 1949, compared with the corresponding period in 1948, on the stations Westland Row to Dalkey, was 166 thousand on 717 thousand, or 23%.

In view of the peak hour difficulties of bus travellers compared with rail travellers, the tremendous drift from rail suburban services must be a source of some surprise. The sight of long queues waiting at the Pillar for the Dalkey service and at Burgh Quay for the Bray service between 5.00 and 6.00 p.m. when there are very frequent rail services from Tara Street Station to Dalkey, Bray and Greystones, is inexplicable. The departure times of trains from Tara Street are actually displayed at the Burgh Quay departure point for Bray buses, and the inspectors frequently direct the attention of people in the queue to the rail services from Tara Street with little or no effect. It would appear that most suburban dwellers prefer the inconvenience of queueing to the walk from the local station to their homes.

Between the hours of 8.30 and 9.56 in the morning, 9 suburban trains arrive at Westland Row, and between the hours of 8.33 and 9.55 a.m. 5 suburban trains arrive in Harcourt Street. In the hours between 5.15 and 6.17 in the evening 8 trains leave Westland Row for suburban stations, and between 5.00 and 6.20 p.m. 5 trains leave Harcourt Street Station. If these trains were used to capacity it would, undoubtedly, relieve the pressure on buses on routes serving the districts also served by stations on the two railway lines.

Trend of Operating Revenue.

No consideration of the development and expansion of Dublin's city services would be complete without indicating the effect on the

gross earnings. The Tables we have so far examined show how the facilities provided have increased, and the growth in user as demonstrated by the steady increase in passenger carryings. To complete the picture, we must look at the takings.

Table VII : shows the gross receipts from Dublin's City Transport Services for the years 1945 to 1954 :—

TABLE VII.

Year	Gross Receipts			Percentage 1945=100
	Trams	Buses	Total	
1945	295,730	1,241,452	1,537,182	100
1946	275,073	1,345,393	1,620,466	105·4
1947	227,626	1,172,901	1,400,527	91·1
1948	256,030	1,537,314	1,793,344	116·7
1949	102,525	2,097,824	2,200,349	143·1
1950	—	2,393,342	2,393,342	155·7
1951	—	2,630,676	2,630,676	171·1
1952	—	2,841,912	2,841,912	184·9
1953	—	3,060,814	3,060,814	199·1
1954	—	3,184,031	3,184,031	207·1

The substantial increase in takings as between 1945 and 1954 is due, not only to the marked increase in carryings but to the increases in fares which have been effected during the period.

The strike in 1947, to which I have referred, seriously affected the trend of the earnings, but each year thereafter shows an increase on the preceding year. As I have already mentioned, the 2d. minimum fare was introduced in 1949—on the 28th March to be precise—and that year's revenue shows the greatest increase over the preceding year. Further increases in fares were introduced in September, 1951, and February, 1953, in each case by shortening of existing fare stages.

Break Down of Revenue in Fare Values.

So far I have been talking in terms of gross figures under all heads, and, in submitting the figure of takings, we have a picture of what the citizens pay out each year for City Transport. I should like to have given some indication of what this means in terms of individuals and households, but it will be realised that the statistics normally collected by a transport undertaking are essentially to serve the needs of administrative and financial control, and I am afraid we must leave to the sociologist the task of providing data of individual and family expenditure on Public Transport in the city. Nevertheless, from the figures of population and gross revenue, which I have already given, we can calculate that, taking the year 1954 population as approximately 693 thousand, the average expenditure in that year per head of the population on City Transport amounted to £4 6s., but this is a very crude indication of the level of expenditure on travel by each citizen. Nevertheless, the corresponding figure in London Transport in 1951 was £6.

It is interesting, however, to consider the average fare payable per journey throughout the period and the break down of the carryings in fare values. Table VIII shows the average fare over the whole system for each year and the percentage of the total passengers carried at each fare denomination :

TABLE VIII.

Year	Percentage of Passengers Carried at					Average Fare— Pence
	1d. 1½d.	2d. 2½d.	3d.	4d.	5d. and over	
1945 ...	55	31	9	3	2	1.90
1946 ...	59	30	6	3	2	1.78
1947 ...	56	34	5	2	3	1.77
1948 ...	54	35	6	2	3	1.85
1949 ...	14	56	21	4	5	2.35
1950 ...	14	54	21	4	7	2.52
1951 ...	12	43	25	12	8	2.63
1952 ...	12	43	25	12	8	2.88
1953 ...	12.5	31.6	24.6	16.8	14.5	3.17
1954 ...	12.5	31.6	24.6	16.8	14.5	3.18

NOTES : The 2½d. fares were withdrawn in 1946. Since 1949 1d. and 1½d. fares have applied only to children. The figures for 1954 are not available but are estimated to be not materially different from those for 1953.

Fares Structure.

Section 20, sub-section 2, of the Transport Act, 1950, reads—" the Board may fix, demand, take and recover such charges as the Board thinks fit for services provided by it." The Board has, therefore, freedom of action in the fixing of fares, but it was not always thus.

It is, I believe, reasonable to say that statutory control of charges in the case of the city services against the possibility of overcharging is, to-day, unnecessary. No statutory transport undertaking in this country has a monopoly of the service it provides. The level of the charges for the services provided by the Board must be determined on a purely commercial basis, which means that they should on the one hand, be calculated to bring in sufficient revenue to cover, in the aggregate, the cost of the service provided, and give an adequate return on the capital invested, and yet not be so onerous that the public do not avail of the services to the fullest possible extent and are forced in large numbers to find alternative forms of transport which, nowadays, are readily available.

It is not easy on a city service, nor is it desirable, to strike fares on the basis of exact distances or fare stages. The fare stages, i.e. the points at which there is a variation of the fare, are determined not alone on the distance from the last fare stage, but on their importance as loading points. Nevertheless, in a broad way the basis of present-day fares in the city of Dublin may be taken as 2d. for the first 1½ miles and 1d. per mile thereafter.

The following Table brings this point out :—

TABLE IX.
Average Length of Section for Each Fare

Distance						Fare
	Not exceeding 1.2 miles					2d.
Exceeding 1.2 miles but	2.1	2.1	2.1	2.1	2.1	3d.
„	3.2	3.2	3.2	3.2	3.2	4d.
„	4.2	4.2	4.2	4.2	4.2	5d.
„	5.3	5.3	5.3	5.3	5.3	6d.
„	6.2	6.2	6.2	6.2	6.2	7d.
„	7.1	7.1	7.1	7.1	7.1	8d.
„	8.2	8.2	8.2	8.2	8.2	9d.

The manager of Glasgow Corporation Transport system reported in submitting his accounts for the year 1952 that on the trams the 2d. minimum fare gives an average travelling distance of about 1·2 miles and that the fares progressed thereafter by stages of 1d. to 6d., so that the fares for trams in Glasgow approximate to the fares in Dublin for buses.

Glasgow has always had a reputation for providing its citizens with a cheap transport system ; I am not sure that they could maintain this claim to-day, because I am aware that the fares charged on the buses are high, particularly on those routes which are served by both bus and tram.

While one must expect grumbling from time to time regarding the cost of Dublin City Transport Services, the fares, as I have indicated, bear favourable comparison with those in the city of Glasgow, and, as far as I am aware, are probably cheaper than in London and some other cities in Britain. There has, however, been special pressure on the Board from time to time to consider concession fares :—

- (i) for workers coming to and from work ;
- (ii) for citizens who have been transferred from condemned houses in the centre of the city to some of the new Corporation housing areas.

In regard to the first application, it is worth recalling the views expressed by a witness for the British Transport Commission in evidence in support of a recent application for an increase in passenger fares—that workmen's fares are an anachronism and, as far as is practicable, one group of travellers should not receive a privilege at the expense of travellers generally ; and with regard to the second application, I cannot believe that it is either an obligation or a function of the Public Transport system to provide as a social measure concession fares to people who have had to be moved out from the centre of the city, although it is undoubtedly true that many citizens living in the centre of the city will find it too heavy a financial burden to move out to better-class housing conditions at rents possibly a little higher than they are paying to-day, and at the same time, have to pay transport costs for themselves going to work and for the children going to school. It has been argued that this dispersal of the population creates new traffic for the city services, but it is equally true that the extension of the city boundaries and the housing areas has substantially increased the operational cost of providing the services, including the provision of new capital, and this is reflected in the tremendous increase in mileage operated between the year 1945 and the year 1954, as set out in Table III(b).

The situation in Dublin in the matter of the growth of working-class areas on the periphery of the city itself can be found in many cities in Britain. In the last 20 years there has grown up a number of working-class housing areas, for example, Killester, Marino, Donnycarney, Cabra, Whitehall, Inchicore, Ballyfermot, Drimnagh, Crumlin, Kimmage and East Road. A large proportion of the population in these areas represents people who have moved out, over the years,

from residences in the city. Mr. W. M. Little, General Manager, Edinburgh City Transport, has this to say recently about concession fares to new housing areas :—

“ Before the war, when margins from the lower fares of 1d. and 2d. were ample, this situation developed in many places when very great concessions in rates per mile were made in fares to new city areas. An attitude of mind was engendered which assumed that wherever houses, works, or building proceeded, abundant cheap transport would be automatically available. Immediate post-war development proceeded on the same assumption. Even now realisation of the true situation is incomplete. Large areas of housing and industry are still being established in remote districts without, it seems, true assessment of the cost of servicing, and transport is a service comparable with other utilities.”

Planning of Services.

The demands by the public on the city transport undertaking come under two heads :—

- (1) for the opening up of new routes or the extension of existing routes ; and
- (2) for an increase in the frequency on existing routes, and the operating department is constantly weighing the demands of the public for extra services against the economics of the service. It is not to be thought, however, that the initiative in the matter of providing better services must always be taken by the public. The officials of the department are keeping constant watch on the trends of city travel, and, in particular, the development of new housing areas and the establishment of new factories, to ensure that transport facilities are made available to these places.

The obligations of the Board in the matter of providing transport services are two-fold :—

- (1) to provide an efficient, economical and convenient system of public transport ; and
- (2) to conduct its undertaking so as to ensure that, taking one year with another, the revenue of the Board shall be not less than sufficient to meet the charges properly chargeable to revenue.

The Dublin city services are a most important and distinctive part of the whole undertaking of Coras Iompair Eireann. Administratively they form part of the Board's road passenger organisation which operates a very comprehensive provincial bus service, including Cork city service. The general obligations of the Board must apply to the Dublin city services as to all other parts of this undertaking, yet it not infrequently happens that these obligations are irreconcilable. Efficiency of operation does not necessarily connote a satisfactory service from the public point of view and the criterion of efficiency is different for different individuals.

I think it would be true to say that the success and efficiency of any undertaking is judged, first of all, by the financial results. I would

suggest that this is a completely inadequate yard-stick to apply to the public transport undertaking in respect of many of its activities, not least the Dublin city services. In the mind of the passenger who is dependent on the services for his day-to-day travel needs, the time spent in waiting for his bus is the greatest single factor in influencing his opinion of the merits of the service.

Here, then, is the unending problem of the Board to satisfy the standard set by the tens of thousands of ordinary citizens who use the services daily—that is, efficiency in the sense that a public service of reasonable standards is provided—and to reconcile that continuous demand and, I may say, obligation with operational efficiency which is a prerequisite for satisfactory financial results.

These contrasting obligations pose to the Board, at the very outset, a problem of some intractability—to provide a service throughout seventeen to eighteen hours in the day which will cater also during very short periods in the mornings and evenings and, to a lesser degree, at midday, for exceptional demands.

Despite the growth in equipment provided to meet the increase in population, it is unfortunately true that the problem of peak periods is greater to-day than it was before the Emergency. There can be little doubt that this is largely due to a general constriction of working hours in many city concerns since 1939. The best example of this is to be found in the case of the large drapery houses. Prior to the Emergency few, if any, of these closed before 6.00 p.m. Since then, the general closing hour has become 5.30 p.m. This has had the effect of increasing passenger potential between 5.30 p.m. and 6.00 p.m. for shop assistants who previously did not return home until after 6.00 p.m. and for workers out of factories and offices who are now unable to shop after leaving work at 5.30 p.m.

In the morning the impact of school children is severely felt. The fact that most schools have a commencing hour of 9.00 a.m. and that many of the new housing areas lack adequate schools, especially for secondary education, imposes on the services a very heavy burden.

The mid-day services are also severely taxed by the large number of scholars who go home for lunch. This is a feature of school-children's travel which developed out of the Emergency when, owing to restrictions of food and fuel, the Educational Authorities encouraged children to go home for the mid-day meal, and concession fares were introduced for pupils for lunch-hour travel, which still remain. It costs a child only a 1d. to travel any distance up to between four and five miles during the mid-day break.

The pressure on the Board is most insistent for increased services during the peak hours, and it is not perhaps sufficiently realised that the peak hour services are the most expensive provided, because peak hour augmentation usually involves additional capital stock and crews for which there is little general work during the day.

The variation in the incidence of travel from day to day adds to the difficulties of ensuring a consistently satisfactory service to the users. The following Table shows the distribution of passenger carryings over the week by average daily numbers and percentage for the year 1954.

TABLE X.

Day	Average Number of Passengers Carried Each Day—Year 1954 Thousands	Percentage of Weekly Total
Monday	652	14.1
Tuesday	652	14.1
Wednesday	642	13.9
Thursday	647	14.0
Friday	712	15.4
Saturday	735	15.9
Sunday	582	12.6
TOTAL ...	4,622	100

Unremunerative Mileage.

In a public transport service such as is provided in Dublin, it is inevitable that not all routes will pay their way. Many routes will remain a constant source of loss, others will in time enjoy increased gross earnings when the areas which they, at present, serve become more populated. Nevertheless, all such services perform a more than useful public function which cannot lightly be disregarded, and the provision of services which commercially may be unjustified is a function of the Public Transport undertaking, and is so recognised. In such cases, the aim of the Board is to provide the optimum services at the minimum cost. In the first nine months of the current financial year, unremunerative routes represented approximately 16.6% of the total mileage operated. The proportion of unremunerative mileage to the whole is by no means exceptionally high. The Chairman of the Scottish group of bus companies stated that no less than 20% of the mileage operated by his companies was unremunerative.

The very high proportion of the mileage which is run by Dublin city services on Sundays at less than cost is worth noting. For the Sundays in the period to which the figures quoted above apply, the uneconomic mileage represented 54.8% of the total mileage run. This fact explains the resistance to representations made from time to time for an earlier start of Sunday morning services and increased frequencies in the forenoon. Even during the three summer months, July to September, only 60% of the mileage is remunerative.

The explanation, of course, for the poor showing of the Sunday services lies in the fact that there is very little travel before mid-day, and Sunday costs of wages are 50% higher than on week days.

Traffic Congestion : Causes and Effects.

The provision of more and more vehicles both public and private to cater for the city's increasing population has brought its own particular problem—congestion of the city's roadways. It is of little satisfaction to Government and municipal planners, to the Gardai and transport officials, that the same problem is being faced in a greater or lesser degree in cities and towns in Britain and America and, doubtless, throughout the more highly developed countries in the world. It

does explain, however, why so much thought and study has been given to the problem by town planning experts everywhere, and, therefore, why I do not regard myself as competent to contribute much to the solution of the problem in Dublin. It is necessary, however, that I should comment on the position here as it affects Public Transport.

To say that we have too many vehicles using too few streets is to propound the problem in its simplest terms, too simple it seems to me because it provokes an obvious answer—build more streets to cater for the present excess of vehicles and to take care of the future.

Mr. P. J. Herson, City Manager, in his preface to the Town Planning Report presented in 1939, says :—

“The framework of modern Dublin, within the ambit of the North and South Circular Roads is, in the main, the work of the Wide Streets Commissioners of the eighteenth century, . . . giving us, in the words of Professor Abercrombie, ‘the bones of a fine plan, symmetrical but not mechanical.’”

The pattern of the streets in the city centre was, therefore, laid down over 150 years ago when industry was simple, business leisurely and community life unhurried. The revolution created by the internal combustion engine did not change the city streets.

From the figures which I have given relating to population, buses and private cars, to which must be added a vast number of motor lorries and vans—the number of these latter taxed in the city and county in mid-August, 1954, was 11,175—it is apparent that Dublin’s traffic problem has reached a critical stage, and it is growing more acute every year.

The impact on the Public Transport services of the increasing utilisation of the streets by moving and standing motor vehicles of all kinds is three-fold :—

- (a) it slows down mass transportation of the citizens ;
- (b) it conduces to irregularity of services ;
- (c) it adds to the cost of providing the services.

It is right to say that these effects are really acute only in the evenings and that for a limited period, commencing about 4.45 p.m., rising to a crescendo between 5.15 p.m. and 6.15 p.m. and falling away very quickly immediately thereafter. This is the very time when the Public Services are in greatest demand, and when gaps in the services cause public inconvenience and resultant irritation.

If buses could be kept moving according to schedule at intervals of three, four or five minutes, then even on the heaviest loading routes all passengers could be accommodated within a reasonable time. The situation is being reached, however, where an increase in frequencies at peak hours does little to assist in the quick getaway of the waiting passengers because the streets cannot absorb any more vehicles.

Special checks made recently on the time taken by buses traversing the city centre at the evening peak show that average speeds drop as low as 3 miles per hour between specified points, that the best that can be expected is an average speed of between 4 and 5 miles per hour at these times, that the speeds vary from service to service within the peak period, and that there is no consistency from day to day.

The delays to buses in traffic within the city centre at peak hours reduces the number of journeys per unit, causes gaps between buses, thereby reducing the number of people who can be carried in a limited

time and, because there is considerable variation in conditions from day to day, produces irregularity in the arrival time of successive buses at heavy loading points. As a further consequence, it frequently happens that a number of the same route will be found in bunches after they have got clear of the centre area. With regard to the added costs which traffic congestion causes, it is not possible to quantify this reliably but it, undoubtedly, arises from increased journey times which may and does result in increased payments to crews and in fuel consumption. If the evening schedules could be maintained throughout the day there would be a saving of 170 bus hours per day. This excess time allowance is in a large part due to traffic congestion.

As I have said, I do not regard myself as competent to offer a solution to Dublin's traffic problem, and if I were to do so it would almost certainly be regarded as an *ex parte* statement. But Coras Iompair Eireann is charged with a heavy responsibility in the task of providing an adequate and efficient City transport service, and the Board is, therefore, deeply interested in any steps which may be taken to make the task easier and the service to the public better, and will gladly co-operate in so doing.

The problem is a familiar one in all modern cities, and much has been written and said on the subject. I do not think our situation here has become nearly so desperate as in London, for example, and in most American cities, but, as things are shaping, we would do well to recognise that it is only a matter of time before the position could become out of hand.

It seems to me I avoid the charge of partisanship if I quote the opinion of two eminent American town planners, pointing to the danger of trying to provide and protect everybody's interests and the advantages of greater use of public transport services.

Mr. Walter H. Blucher, Executive Director of the American Society of Planning Officials, quoted in an American publication on "Urban Transport," states:—

"It is important, unless we are going to bankrupt our cities by trying to provide facilities which we cannot provide for every individual, that we begin to think in terms of locomotion by our feet, and second, by moving people through the second best method of transportation, which is mass transportation."

And Mr. Russell H. Riley in the same publication is quoted as follows:

"Ever since the advent of the automobile, the larger American cities have struggled continuously with the problem of vehicular movement and parking. Yet, experience indicates that it would be impossible, both physically and financially, to widen enough streets to accommodate the normal daily movement of all persons if they travelled only by private automobiles. The answer manifestly is better mass transportation facilities. Transit vehicles require a much smaller amount of street space per person, and require practically no parking space. The increased use of these facilities is probably the greatest single factor in reducing congestion and in preventing the need of large public expenditure for street improvements."

The comparative efficiency of the public service passenger vehicle over the private car in use of street space is summed up in the following figures:—

TABLE XI.

	Road Space Occupied per Vehicle Sq. feet	Average Passenger Load per Vehicle Mile	Road Space Occupied per Passenger carried Sq. feet
Bus (double-deck) ...	210	16.8	12.5
Private Car	80 (say)	1.75	45.7

When a double-deck bus is fully loaded, as would normally be the case at the times when traffic congestion is most acute, the road space occupied per passenger is only $3\frac{1}{2}$ square feet.

The movement of a vast number of vehicles at the peak hours affects the quality of the service which can be given by the Public Transport system. Throughout the day, kerb-side waiting of private cars also tends to slow down traffic. Freed of waiting cars, some of our central city streets could take four lines of moving traffic with comparative ease. The increasing use of main thoroughfares has, to some extent, placed buses in the same position as the electric trams, the manoeuvrability of the bus has been reduced because of the difficulty of getting into the kerb to pick up passengers, thus causing obstruction to vehicles moving in the rear. Mr. Walter Blucher, already mentioned, has this comment to make on the use of the city streets by private cars :—

“ . . . If you want to free your city of congestion at the centre, and make it a suitable place for shopping, a little less consideration for that intangible being, the private automobile, might prove helpful.”

I offer no comment on that opinion, excepting to say that the convenience of 240 million passengers per year does deserve every consideration.

Conclusion.

The growth of Dublin since the introduction of the first street trams has in the matter of Public Transport services been met over the years first of all by the old Dublin United Tramways Company from the beginning of the century, from the middle twenties by the Tramways Company, supplemented by a number of private operators, latterly by a co-ordinated service under the aegis of the Dublin United Tramways Company and, finally, by the services provided by Coras Iompair Eireann. In the last ten years, it has been demonstrated in this paper, that the volume of the services provided in the matter of vehicles, seating capacity and miles run have more than kept pace with the growing population during that period. There is every indication, however, that Dublin will continue to expand, and the demands for increased public transport facilities are not ended. Even in the current year, additional new buses may be expected on the city streets to meet the ever-growing needs of the community.

It may be regrettable that the capital city should grow so rapidly concurrently with a decline in the rural population, but as Mr. F. A. A. Menzler, lately Director of Research, London Transport, once said :

“ Nevertheless, human nature being what it is, the lure of the metropolis will always be there and, if transport facilities to and from the centre are required to meet business and social needs, it is the duty of the transport undertakings to provide them.”

That duty is recognised by C.I.E. who will continue to do everything to discharge the duty.

It only remains for me to acknowledge my Board's permission to draw freely on all available material—some of which has not previously been published—in the compilation of statistical and other information embodied in this paper.

DISCUSSION.

Dr. M. D. McCarthy, in proposing the vote of thanks to Mr. Stewart for his very able paper, said that it was of interest not only to the Society but also to every Dublin dweller who has had to avail himself of the services dealt with. While he appreciated the honour of proposing the vote of thanks, Dr. McCarthy said that, apart from a general interest in the problem and a knowledge of statistics, he had no qualifications to speak on the matter of the paper.

Dr. McCarthy said that he would like to enter a plea that Mr. Stewart should in his statistical tables, as he does in other portions of the paper give particulars for at least one pre-war year, say 1938. He thought it was quite unfair to judge the growth of public transport in Dublin and to endeavour to relate it to the development of private transport by starting in 1945 or 1946. The inclusion of material for a pre-war year would alter the picture painted very considerably. The improvement in service measured by the mileage operated was 13·9 million miles in 1945 to 27·2 million miles in 1954, an increase of 96%, which would seem to put C.I.E. in the category of post-war benefactors. In fact, of course, the services in question operated for 22·2 million miles in 1938, which meant that the 1945 mileage for obvious reasons was only 62·5 per cent of pre-war mileage. The comparison between 1938 and 1954 showed that the percentage increase in this sector was 22·7%. Passengers carried in 1938 numbered 155 million, and increased by 55% in 1953 as compared with that date. In other words, while Mr. Stewart's tables showed that in the period he chose the percentage increase in vehicle mileage was four times as great as the percentage increase in the number of passengers carried, the proportions obtained by relating the recent figures to 1938 showed that the percentage increase in passengers carried was twice that of mileage operated which, Dr. McCarthy thought, gave a much fairer picture.

Dr. McCarthy stated that he found the last column of Table III(b) exceedingly misleading both in reference to the title at the head of the column and to the omission of pre-war data. It appeared to him that this column had been derived by dividing the estimated number of passenger miles by the number of vehicle miles, and was not, as one would have expected from the title, the average number of passengers per mile got by dividing the number of passengers originating by the number of vehicle miles. It would therefore appear that the figures in this column showed the average number of passengers per vehicle on vehicles at all times, i.e. the average “occupancy.” Dr. McCarthy said that the first comment he would like to make on this was that it

would appear that on the average a bus is filled to only about 30% of its capacity, and that while "road space occupied," even with this occupancy, gave buses an advantage over private cars, it was very doubtful whether private cars did not show at least as high a percentage of seats occupied as buses did. It was necessary to keep buses running at uneconomic times, but purely from the point of view of efficient utilisation of transport facilities, the figures quoted tended to show that public transport in this respect had such a great advantage over private transport. Another point Dr. McCarthy said he would like to make was that the fall in average occupancy since the war-time period had not, as far as could be judged, reduced the figures to the pre-war level. The only light one could get on this problem was provided by the figures for passengers originating per mile operated, and the latter figure was 7.0 for all transport and 5.2 for buses in 1938, 14.0 for all transport and 11.7 for buses in 1945 and 8.0 for buses only in 1954.

Dr. McCarthy said that if one were to insert the figures for 1938 in Table VII, gross receipts would show an increase from £1.16 million in 1938 to £3.18 million in 1954, or an increase of 174%. It was, of course, impossible to relate this change to the change in value of money alone since there had also been an expansion in travel. One could, however, examine the relationship between the figures in Table VIII and the change in the retail price level. Using the mid-August Consumer Price Index figure for 1945 and 1954, the increase in general retail prices was 37%, while the increase in the average fares in Dublin transport would be about 67%. This comparison would, of course, be affected by any change in the pattern of travel caused by increased length of journey and also possibly by the timing of fare changes.

Dr. McCarthy said that a notable omission from Mr. Stewart's paper was a revenue account of the Dublin city transport services. The 1954 C.I.E. Annual Report amalgamated the accounts for all road passenger working. This general account showed a profit of £560,000, having first transferred to a renewal fund £200,000 and having also made a depreciation allowance of £190,000. Dr. McCarthy said he would like to know how much of this profit was attributable to the Dublin transport operations. He added that he would also like to know the basis on which the depreciation was calculated in these accounts, and furthermore why—apart from the appearance of a substantial profit—it was found necessary to make a transfer to a renewal fund from the road passenger working account while a similar transfer was not made from the road freight working account.

In conclusion, Dr. McCarthy said that he would like to ask Mr. Stewart why he suggested that it was a matter for sociologists to provide data for individual and family expenditure on public transport in the city. He said that this material had already been published in ample measure in the Report of the Household Budget Inquiry, 1951-52, and he thought that a person in Mr. Stewart's position should have commented on the data in the report, particularly as the tables showed not only the expenditure on public but also on private transport.

Dr. McCarthy said that, according to the findings of the Inquiry, the average expenditure per family in the Dublin and Dun Laoghaire

district on travelling of all sorts was, in 1951-52, 12s. 9d. per family per week, or 5.2% of all expenditure. Of this sum, 4s. 5d. was on bus fares and 1s. 2d. on rail fares and, including air and sea travel, 5s. 10d. a week or almost half the expenditure was on public transport and half on private. The average number per family was 4.19, so that it would be quite easy to work out the expenditure per head. Similar figures were also available for other areas of the country. In addition, the figures for the different areas had been classified according to income per head of the family. In the Dublin area the Report showed that households with less than 30s. income per head per week spent 1s. 9d. a week on bus fares and 4d. on train fares. Families in this area whose income was between 30s. and 50s. per head per week spent 3s. 6d. on bus fares and 11d. on train fares, while in the next highest income group, 50s. to 80s. per head per week, the figures were 5s. 1d. on bus fares and 1s. 2d. on train fares, and in the highest income group, over 80s. per head per week, the corresponding expenditures were 6s. 2d. on buses and 1s. 10d. on train fares. In the four income groups public transport expenditure amounted to 2s. 2d., 4s. 6d., 6s. 5d., and 8s. 9d., out of a total expenditure on transport of 2s. 4d., 5s. 4d., 12s. 9d., and 24s. 11d. Therefore, Dr. McCarthy concluded, it was only in the highest income group that expenditure on private transport was appreciable, and thus Mr. Stewart's clients included a very large proportion of the population.

Mr. P. Callinan : I have listened with great interest to Mr. Stewart's paper on the subject of Dublin traffic. My comments will be confined mainly to the town planning aspect, and that without knowing what provision the Corporation propose to make in their town planning draft plan to deal with the traffic problem.

Amongst the features of Dublin city traffic that must strike a visitor from another country are the almost uncontrolled parking of motor cars for long periods in busy thoroughfares, and the obstruction caused in several such thoroughfares by the delivery of goods. There are, of course, a number of wide streets and spacious squares in which parking could be allowed for limited periods, but the use of public thoroughfares for such purpose should be made a source of revenue for the ratepayers by the introduction of parking meters. The use of these has proved successful in American cities. Too many owners park their cars for a whole day without using it once during office hours, and others use it for the purpose of going home to lunch. Dublin is remarkable when compared with any other city which I know for the number of people who can spare time to go home for lunch, and this also overtaxes the omnibus services. There would, I suggest, be less demand for public and private car transport during the lunch hour if dining facilities at reasonable prices were more readily available in the central area. Mr. Stewart has referred to the number of school children swelling the lunch hour crowd. Meal facilities should be provided for them at their schools. So far as peak periods are concerned, relief could be found in staggering office hours. Government departments and other large employers of clerical labour might well set an example.

The problem of parking off the street cannot be fully solved without the provision of multi-storey garages supplemented perhaps by car parks under open spaces. It has been suggested that car parks

should be provided under new municipal flats, but that would be too dangerous, as the fire and explosion risk would be considerable.

In 1951 it was estimated that the cost of providing garaging space in London would amount to £850 per car space beneath public or private open spaces, and £1,200 in multi-storey garages. It is claimed that in American cities it has been practicable to provide prefabricated garaging at a cost not exceeding £200 per car space. Anyway, expenditure will have to be faced if the problem is to be solved satisfactorily.

Railway facilities, despite what Mr. Stewart had to say about the reluctance of the public to leave a bus queue and walk a short distance to a railway station, could be improved so as to attract traffic. The public could be attracted back to the railways if rail services were made quicker and more frequent, and improved access provided to station platforms in the case of stations in the central areas.

Even when the very best use is made of existing streets, widening of streets and improvement of cross-river communication will be imperative, as the tendency is for motor traffic to increase still more. It will probably be double its present figure 10 years hence. The problem of traffic from the docks is a particularly pressing one, but that is rather outside the scope of Mr. Stewart's paper.