

ONTARIO
HYDRO-ELECTRIC
COMMISSION
REPORTS

•
ESSEX DISTRICT
RAILWAYS

1931

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

Track construction, which was commenced in 1929 on Sandwich street in the town of Sandwich and on London street in the city of Windsor, was completed during the year.

The double track construction on Sandwich street in Sandwich, between Rosedale avenue and Detroit street, referred to in last year's report, was completed and was placed in operation on the 18th of December, 1929. This double track, which is the standard paved monolithic type, is located in the centre of the widened street and replaces the former open double track located on the south side of the street on private right-of-way. Tubular steel poles were also erected for the joint use of the municipality and the railway. This work was covered by agreement between the municipality and the Commission and in accordance with this agreement the municipality has purchased the private right-of-way, formerly occupied by the railway trackage, and has paid the cost of pavement on the track allowance.

On London street in Windsor the double track reconstruction programme referred to in last year's report was completed. The portion of track reconstructed this year extends from Janette street to Ouellette avenue. That portion of the work between Janette street and Victoria avenue is of the standard paved monolithic type of construction, while the remainder from Victoria avenue to Ouellette avenue consists of 100 lb. A.R.A., A. rail on oak ties and crushed stone ballast, with concrete paving base and brick pavement. The former portion was placed in operation on September 12, while the reconstruction of the latter portion was performed under traffic.

At the request of the municipalities of the city of East Windsor and Sandwich East township, the single open track on Tecumseh road, between George street and Pillette road, was moved from the north side of the road to the open track reservation in the centre of the road. This work was done in connection with the paving programme of these municipalities and at their expense.

A physical connection between the Windsor, Essex and Lake Shore Railway single track on Howard avenue and the double track of this system on Erie street in Windsor was constructed to permit of the interchange of traffic between the two systems.

Way and Structures

The work contemplated under this heading includes the partial reconstruction of approximately one mile of paved single track in Windsor and all of the paved track in Essex and Cottam. On the balance of the line, where open track exists, it is proposed to install 60,000 cedar ties, 7,000 four-hole angle bars to replace the existing two-hole bars now in use, and 13,000 bonds. It is also proposed to reballast a major portion of the line, repair small bridges and culverts and renew defective special work.

In order to provide passing points for the improved service to be inaugurated, provision has been made for the construction of new passing sidings.

Reconstruction of the overhead system includes the replacement of the majority of the wood poles, erection of new catenary construction throughout consisting of 7/16 steel-strand messenger and 4/0 grooved copper contact wire supported on existing mast arms, and the installation of an adequate feeder system.

Provision is made for the installation of new telephone and signal system throughout.

In Leamington an extension of approximately 4,000 feet of track is contemplated to accommodate summer traffic to Seaciff park and allowance is made for the construction of a new freight shed to take care of the increased business which is offered.

Rehabilitation work as outlined above is proceeding as rapidly as possible and the various materials necessary are being assembled. Due to the lateness of the season, the market for cedar ties is limited, but it is expected that half of the number required will be installed before the advent of severe weather. The partial reconstruction of the paved track in Windsor is practically completed, 15,000 cedar ties have been installed on the open track and 5,000 yards of ballast have been placed in the track to date. The freight shed at Leamington has been completed and is now in use.

GUELPH DISTRICT RAILWAYS

Way and Structures

The construction of a short spur to the Guelph Stove Company's plant on York road constituted the only track extension during the year. This spur was built under the terms of the Standard Siding agreement, the Stove Company assuming the perishable cost and paying a 6 per cent. per annum rental on the non-perishable cost. It is expected that considerable business will accrue to the railway as a result of this construction, the Stove Company having recently completed a large addition to its plant.

In addition to the general maintenance work performed throughout the year, major repairs were executed on the paved single track on Gordon street and the single track on Ontario street was partially rebuilt.

On Gordon street, 2,000 feet of paved single track extending from Waterloo avenue on the north to a point near the Speed River crossing on the south was repaired by removing the existing continuous joints and welding the rails together by means of the Thermit process.

A combined car house and freight shed of solid brick construction is situated on Arthur street in Windsor. In Kingsville there is a small car house of solid brick construction, also a garage of corrugated iron construction. The head office and the freight shed is also located at Kingsville. In addition there are a number of small stations, shelters and miscellaneous buildings including a combined station and freight shed at Essex.

Equipment

The car equipment consists of seven motor passenger cars, four trail cars, four Gotfredson buses, three express cars, one snow plow, two box cars, four gondola freight cars and five flat cars.

Power

The steam power house for the system is situated on Park street in Kingsville and consists of a solid brick building with boiler house of concrete block.

Steam is generated in four 360-h.p. water-tube boilers. Electrical power is generated by two cross-compound horizontal slow-speed engines each direct connected to a 500-kw. Westinghouse single-phase 6,600-volt generator.

Rehabilitation

The railway system, in all its branches, has been poorly maintained and extensive rehabilitation is necessary throughout. The rehabilitation programme which has been approved by the Windsor, Essex and Lake Shore Electric Railway Association under the terms of its agreement with the Commission is outlined below, the estimated cost being \$674,000. This amount, together with the purchase cost of \$296,000 and expenses in connection with acquisition and financing will place the capital cost at \$1,000,000.

Way and Structures:

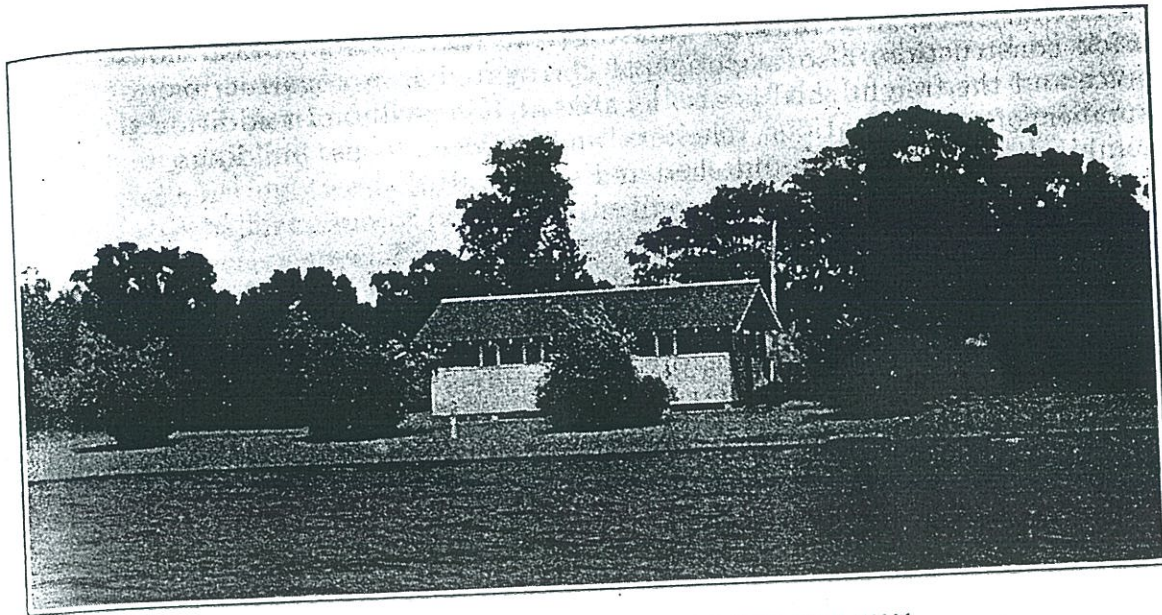
Reconstructing roadbed, including drainage, ballasting, retieing, replating joints and bonding.....	\$238,000	
Construction of new sidings.....	20,000	
New overhead and feeder system.....	140,000	
Telephone and signal system.....	21,000	
Track extension in Leamington.....	20,000	
New freight shed at Leamington and repairs to station buildings....	5,000	
		\$444,000

Equipment:

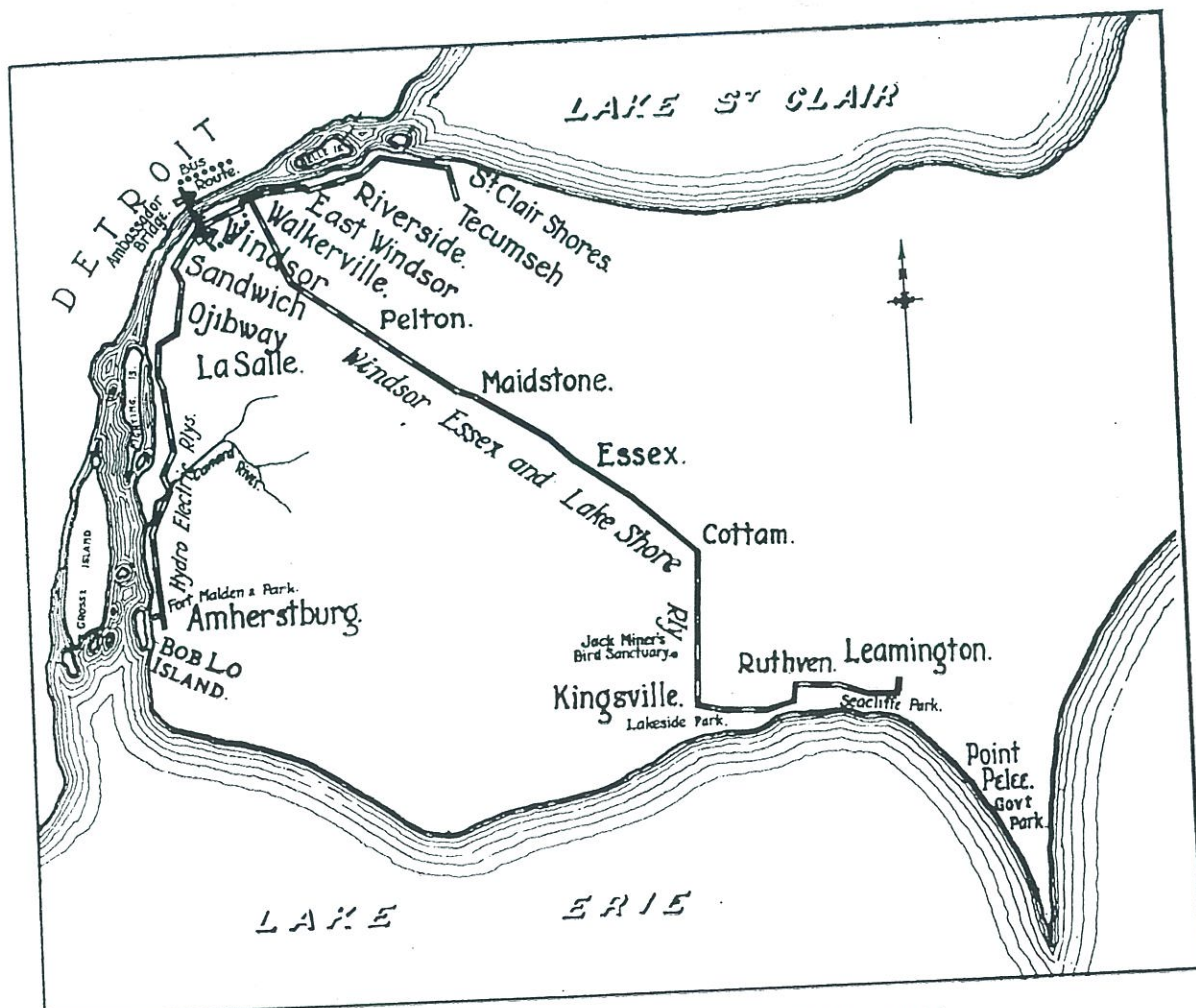
5 new cars (4 motor, and 1 trail).....	\$112,000	
2 locomotives.....	18,000	
3 rebuilt city cars.....	20,000	
Repairs to buses.....	5,000	
Total equipment.....		155,000

Power:

Construction of new substations.....	75,000	
Grand total.....		\$674,000



WINDSOR, ESSEX & LAKE SHORE RAPID RAILWAY
Bathing Beach and Dressing Rooms at Point Pelee Park



WINDSOR, ESSEX & LAKE SHORE RAPID RAILWAY

ESSEX DISTRICT RAILWAYS

Operating Statistics, 1929

Route-miles:

City trolley.....	24.29
City bus.....	18.50
Amherstburg interurban.....	13.54
Tecumseh interurban.....	6.10
Total route-miles.....	62.43
Passenger and freight car-miles operated.....	3,375,422
Passenger and freight car-hours operated.....	380,394
Passengers carried.....	19,703,333
Percentage of transfer passengers to revenue passengers.....	17.24
Passenger cars operated.....	65
Passenger buses operated.....	15
Passengers carried per route-mile.....	315,607
Passengers carried per car-mile.....	5,869
Passengers carried per car-hour.....	52.57
Average mileage per car operated.....	38,504
Average mileage per bus operated.....	33,859
Average passengers per car operated.....	282,263
Average passengers per bus operated.....	90,415
Freight tonnage carried.....	12,540

WINDSOR, ESSEX & LAKE SHORE RAPID RAILWAY

On the 8th of September, 1929, the operation of the Windsor, Essex and Lake Shore Rapid Railway was taken over by the Commission under agreement with the Windsor, Essex and Lake Shore Electric Railway Association, the latter body, representing a number of municipalities traversed by the railway, having purchased the line from the original owners, the Windsor, Essex and Lake Shore Rapid Railway Company, at a cost of \$296,000.

Way and Structures

This railway consists of 36.12 miles of standard gauge single track extending from the intersection of Pitt street and Ouellette avenue in downtown Windsor to Leamington, with numerous industrial sidings along the route. In Windsor, Essex, Cottam, Kingsville and Leamington the track is situated in the centre of the street, while on the balance of the line it is constructed on a narrow strip of private right-of-way of varying widths, adjacent to the highway.

The main line track in Windsor, Essex, Kingsville and Leamington is paved, chiefly with vitrified brick, the balance is of the open type of construction. The rail is mainly 80-pound A.S.C.E. section, in 33-foot lengths. Approximately 7,000 pairs of two-hole angle bars have been used. Ties are of hardwood in paved construction and of cedar and jackpine in the open construction.

The overhead system of cross-span construction in Windsor is chiefly carried on steel poles. On the balance of the line, 30 to 35-foot cedar poles have been used, with iron brackets supporting catenary construction except in Essex, Cottam, Kingsville and Leamington, where cross-span construction is in use. The 10-point catenary construction consists of 7/16 steel-stranded messenger wire supporting a 3/0 grooved copper trolley wire.

the year 1929 amounted to \$266,881 as compared with \$260,272 for the year 1928, an increase in fixed charges of \$6,609.

The improvement in passenger business noted towards the close of 1928 continued for the first six months of 1929, each month showing an increase in revenue passengers carried as compared with the corresponding period for the previous year. The increase in passenger earnings was increased in a greater proportion due to the higher rate of fare for the first six months of 1929 as compared with 1928. For the last six months the rate of fare is the same for both years, but during this period the number of revenue passengers carried in 1929 showed a considerable decrease from the 1928 figures with a corresponding decrease in earnings. From November 1 to April 30, revenue passengers increased 355,678 over 1928 and from May 1 to October 31 decreased 586,789, a net decrease for the year of 231,111.

The industrial depression in the Border Cities resulting from the partial or total closing of automotive factories and allied industries in the early summer of 1929 is responsible for the falling off in passenger earnings. The Chamber of Commerce report of automobile workers employed in September was 7,934 as compared with 14,280 in April, and it was noted that many of these were working part time only.

The College Avenue line was placed in operation in December, 1927, and carried 451,177 revenue passengers, replacing bus service to a considerable extent. Bus revenue passengers were 348,907 less than in 1928. The Parent Avenue extension was put in operation in February and this line carried 560,171 more fare passengers than in 1928. All other city car lines except Seminole (29,400 increase) showed decreases. The Howard Avenue bus line carried 262,093 passengers more than in 1928.

There was a reduction in freight tonnage from 19,183 tons in 1928 to 12,540 tons in 1929, due to the curtailment of shipments to the export docks. This was offset by a substantial increase in car rentals.

The net result of the year's operations shows a surplus of \$44,471 after paying interest and taxes but without taking care of depreciation, as compared with \$14,095 in 1928. Passenger revenue increased \$76,262 and freight revenue increased \$3,249 over 1928. Gross revenue increased \$82,331.

Arrangements are being made to operate a bus service over the Ambassador bridge early in November.

The financial statements respecting the railway are given in Section IX of this report. The accompanying chart indicates the growth of the railway for the past five years.

The mileage operated by the various types of cars and buses during the year is as follows: single-truck, hand-brakes, two-man cars, 5,009 car-miles; double-truck, air-brakes, two-man cars 244,113 car-miles; interurban cars, 516,849 car-miles; single-truck, safety cars, 735,945 car-miles; double-truck, safety cars, 1,347,437 car-miles; express cars, 18,182 car-miles; buses, 507,887 bus-miles; service cars, 22,269 car-miles; total, 3,397,691 car- and bus-miles.

was necessary, standard paved double track was installed, consisting of 100-pound A.R.A.-A. rail on international twin steel ties, with concrete ballast and pavement. Partial reconstruction between Salter avenue and Elm avenue consisted of the replacement of the 85-pound C.P.R. rail and asphalt block pavement, with 100-pound A.R.A.-A. rail on steel tie plates, and granite block pavement, the existing wood ties and concrete base being utilized. Joints were thermit welded throughout.

On Sandwich street west in Windsor, the bridge over the Canadian Pacific Railway was reconstructed by that company, necessitating reconstruction of the street railway paved single track in a slightly different location for a distance of 500 feet. As the single track which was replaced was in a wornout condition, arrangements were made with the Canadian Pacific Railway, providing for the work being done by the Commission's forces, the Commission supplying the necessary steel rails and steel ties in place at its own expense, all other costs in connection with the work being borne by the railway company.

The pile trestle over Turkey creek having reached such a condition that further repairs were not considered economical, complete reconstruction was made. The new trestle consists of eight, four-pile bents with timber deck.

On Sandwich street in the town of Sandwich, double-track construction is proceeding in the centre of the street between Rosedale avenue and Detroit streets, for a distance of approximately one-quarter mile. The double track between these two streets was formerly situated on private right-of-way at the south side of the street and as the track at each end swung across the pavement to regain the centre of the street a somewhat hazardous condition existed. Arrangements have been made with the municipality providing for the new track construction to be in the centre of the street, the municipality purchasing the private right-of-way for street widening purposes. The municipality has also agreed to bear the cost of pavement on the new track allowance. Tubular steel poles for the joint use of the municipality and the railway for lighting and railway overhead are also being erected. It is expected that the work will be completed and placed in operation before the end of the calendar year 1929.

An addition to the car yard property was made by the purchase of the Fleming property fronting on Sandwich street in Windsor. The car house property now extends from London street on the south to Sandwich street on the north, with a frontage of 237 feet on the former street, and 120 feet on the latter, the total length between the two streets being 1,062 feet.

Equipment

The railway equipment was well maintained, no new equipment being added.

Operation

The gross revenue for the year 1929 amounted to \$1,241,042 as compared with \$1,158,710 for 1928, an increase of \$82,331.

The net operating revenue for the year 1929 was \$305,962 as compared with a net in 1928 of \$274,377, an increase of \$31,585. The interest and taxes for

1930

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

The single-track extension of the Parent Avenue route on Tecumseh road, Walkerville, mentioned in last year's annual report, was constructed and was placed in operation on February 14, 1929. This extension, from the westerly limits of Walkerville to Walker road is 2,300 feet long and is placed off centre, in the double-track unpaved reservation provided in the centre of the street. The construction is of the open type except at street intersections, at which points the track is paved with granite blocks on concrete paving base. Tubular steel poles for ornamental street lighting and railway overhead construction were erected on this extension and arrangements made whereby the cost of the pole lines was borne equally by the municipality and the railway.

In addition to the normal maintenance work required on the system, reconstruction work of a major character was carried out on London street and Sandwich street west in Windsor and on Sandwich street in the town of Sandwich. The bridge over Turkey creek was also reconstructed during the year.

On London street in Windsor the reconstruction work was performed in conjunction with the city's street widening scheme. The reconstruction programme involves the complete reconstruction of the paved double track from Ouellette avenue to Salter avenue, a distance of 2,600 feet, the partial reconstruction from Salter avenue to Elm avenue, a distance of 900 feet, and the complete reconstruction between the M.C.R. bridge and the west city limits, a distance of 2,100 feet. Also involved was the moving of the existing steel-pole lines from Bruce avenue to the west city limits, this latter work being done at the expense of the municipality. It was, however, found impossible to complete the reconstruction programme during 1929 owing to the fact that the city's plans for widening London street east of Janette street were not completed. That portion of the work therefore, between Janette street and Ouellette avenue for a distance of 1,900 feet, still remains to be completed, and it is expected that this work will be done during the ensuing year. Where complete reconstruction

The net result of the year's operations shows a surplus of \$14,095, after paying interest and taxes, as compared with a deficit of \$19,980 in 1927.

During the year, additional bus service was operated to take care of outlying districts and resulted in an increase in bus passengers carried of 300,000. The gross revenue for bus operation for the year was \$137,059, and cost of operation \$152,441, leaving a deficit of \$15,382.

Considerable reduction of bus service will be made very shortly as a result of the completion of the College avenue line, and the rehabilitation of the Windsor, Essex and Lake Shore railway, which will reduce operating expenses considerably.

The results for the year 1928 show an increase in passenger revenue over 1927 of \$96,346, but a decrease in freight revenue of \$4,788 for the year. Gross revenue increased \$89,080.

The outlook for the coming year is very favorable. The construction of the Ambassador bridge between Sandwich and Detroit is proceeding rapidly, and it is expected the bridge will be opened July 1, 1929. Work on the tunnel is well under way. The Chrysler Corporation have let the contract for a large addition to their Walkerville plant, to which an extension of the railway will be made.

The financial statements respecting the railway are given in section IX of this report (consult general index). The attached chart will give a fair indication of the growth of the railway for the past five years.

The mileage run by the various types of cars and buses during the year is as follows: single-truck, hand-brake, two-man cars 573 car-miles; trailers 334 car miles; double-truck, air-brake, two-man cars 208,334 car-miles; interurban cars 507,767 car-miles; single-truck, safety cars 580,831 car-miles; double-truck, safety cars 1,235,355 car-miles; express cars 28,152 car-miles; buses 544,432 bus-miles; service cars 11,860 car-miles; total 3,117,538 car- and bus-miles.

ESSEX DISTRICT RAILWAYS

Operating Statistics, 1928

Route-miles:

City trolley.....	21.15	
City bus.....	19.95	
Amherstburg interurban.....	13.54	
Tecumseh interurban.....	6.10	
Total route-miles.....		60.74

Passenger and freight car-miles operated.....	3,105,778
Passenger and freight car-hours operated.....	354,599
Passengers carried.....	19,648,470
Percentage of transfer passengers to revenue passengers.....	14.06
Passenger cars operated.....	76
Passenger buses operated.....	14
Passengers carried per route-mile.....	323,484
Passengers carried per car-mile.....	6.38
Passengers carried per car-hour.....	56.33
Average mileage per car operated.....	40,209
Average mileage per bus operated.....	38,888
Average passengers per car operated.....	284,796
Average passengers per bus operated.....	121,879
Freight tonnage carried.....	19,183

Block signals of the Nachod type have been installed on the Tecumseh division throughout, and the installation of this type of signal on the Amherstburg division is nearing completion. These installations will permit the inauguration of faster service with the maximum of safety.

Tubular steel poles for street lighting and railway overhead construction were erected on Sandwich street in Sandwich, and arrangements made whereby the cost was borne jointly by the municipality and the railway.

The extension of the Parent avenue line on Tecumseh road from Windsor city limits to Walker road has been authorized, and it is expected that the work will be completed and cars in operation by the latter part of December. The total track mileage, including passing tracks, at the close of the year 1928, will be 62.

Equipment

One of the older types of single-truck cars was rebuilt and equipped for a rail grinding car to take care of rail corrugation on the various divisions. It is proving very satisfactory. An overhead line repair car has also been purchased and should be in operation at an early date.

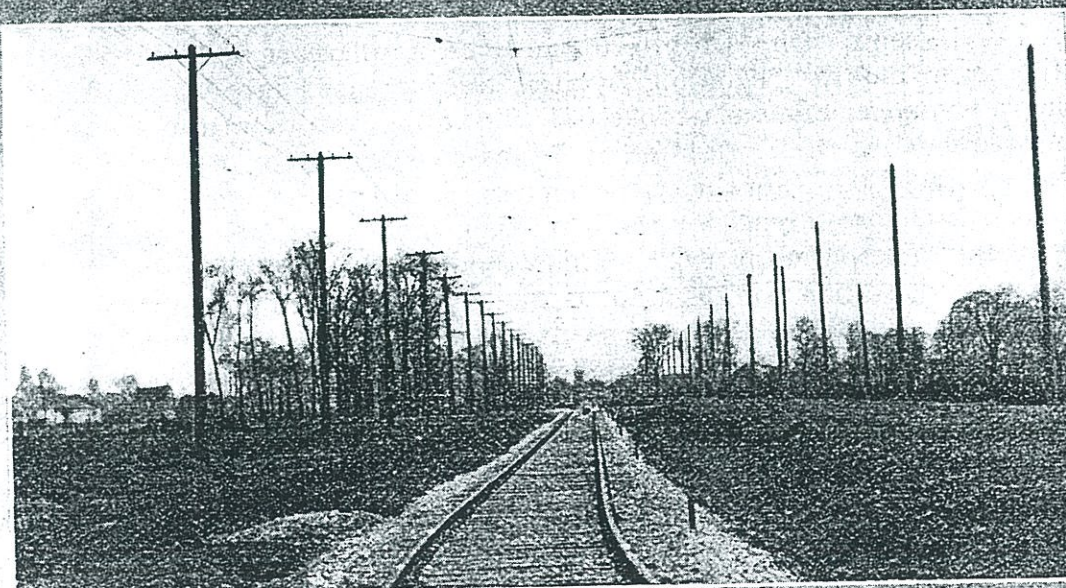
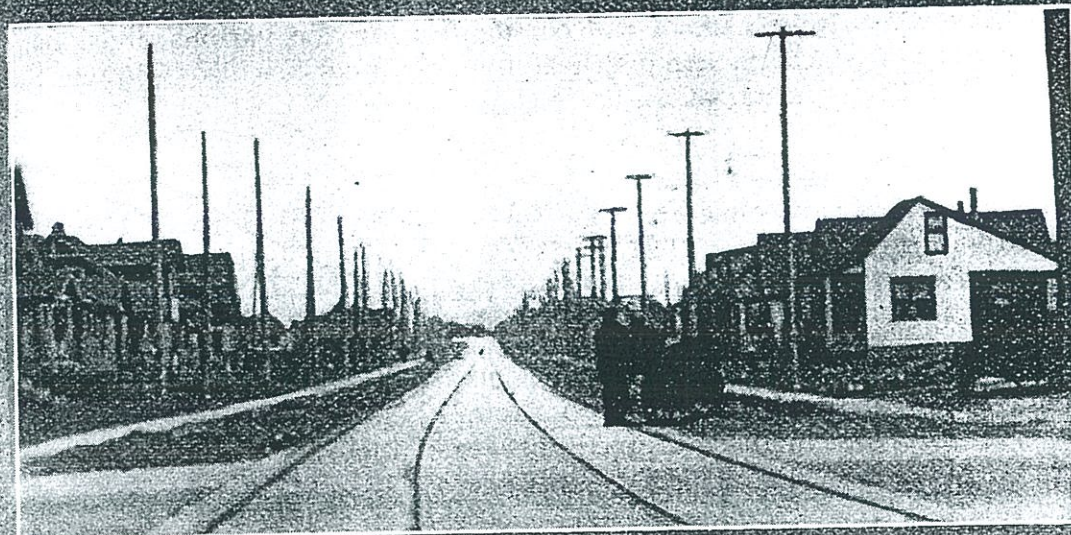
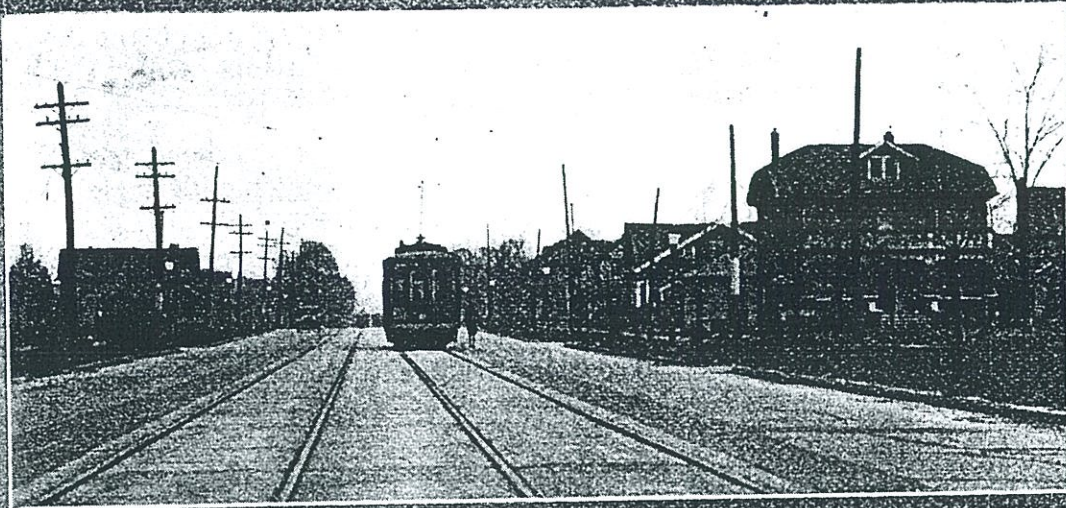
Operation

While the gross revenue for the year 1928 amounted to \$1,158,710, as compared with \$1,069,631 for 1927, an increase of \$89,079, the net results show an increase from the estimates as shown in the budget for 1928.

The net operating revenue for the year 1928 was \$274,377, as compared with a net in 1927 of \$229,574, being an increase of \$44,803. The interest and taxes for the year 1928 amounted to \$260,272, as compared with \$249,554 for the year 1927, an increase in fixed charges of \$10,728.

On April 16, 1928, an increase in fares was inaugurated on the city car lines in Windsor, the cash fare was increased from 6 cents to 7 cents, and four tickets for 25 cents were sold in place of ten for 50 cents. Night fares were reduced to 10 cents cash. On interurban lines, an increase of 1 cent was made. For the seven months beginning April 1, the increased fare was estimated to produce a passenger revenue of \$696,021; the actual results for the seven months ending October 31, 1928, resulted in a passenger revenue of \$689,394. This compares with \$580,917 for the last seven months of 1927, an increase of \$108,477. Revenue passengers carried for the last seven months of 1928 were 771,173 in excess of the same period in 1927. This would indicate an increase of \$140,315. That this increase has not resulted, is due to the fact that of the increase in passengers carried, 200,000 were bus passengers whose rate has not changed, and on city car lines where the passengers increased 375,000, full advantage of the increase has not resulted because a large percentage of the former cash passengers now buy tickets. Previous to the increase in rates, about 50 per cent of the city passengers paid cash fares. Since the fare increase cash fare passengers have dropped to 30 per cent.

During the year 1928, industrial conditions in the Border Cities improved to a remarkable extent, the number of employees increasing over the number for 1927 and even 1926, which was the previous peak year. The automotive industry has been particularly active and further improvement is expected as a result of extensions now under way.



ESSEX DISTRICT RAILWAYS

- a. London Street, Sandwich, east from Patricia Avenue
- b. College Avenue, Windsor, east from Campbell Avenue
- c. College Avenue, Windsor, east from Lena Street

1928

1929

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

In addition to the regular maintenance work required on the railway system, extensions were constructed in Ford City, Windsor and Sandwich, and reconstruction work was performed on Elm avenue and Sandwich street in Windsor, and on London street in Windsor and Sandwich.

In Ford City, the Seminole route was extended easterly along Tecumseh road from the terminal at George street to Norman road. This extension, which is single-track, is approximately 3,000 feet in length and construction is of the open type. Two passing sidings were also constructed on this route to provide accommodation for the increased service necessary.

In Windsor and Sandwich, the construction of the College avenue extension, which was deferred from last year, was proceeded with and will be completed by December 1st. This extension leaves the existing Wellington street line at College avenue and runs westerly for a distance of 2,600 feet in Windsor, and a further distance of 7,600 feet in Sandwich, via College avenue, Lena street and Matchette road to Prince road. That portion of the extension in Windsor is double-track permanent construction, and the portion in Sandwich is single-track open construction with passing siding. The construction of this extension involved the crossing at grade of the Michigan Central railway spur near Wellington avenue, and the overcrossing of the Michigan Central railway main line to the Windsor tunnel, the grade crossing necessitating the installation of an interlocking plant, and the main line crossing being effected by means of the bridge constructed in 1927 jointly by the city of Windsor and the Commission.

In Windsor, the single-track on Elm avenue and on Sandwich street, between Elm avenue and the Canadian Pacific railway bridge, was reconstructed and a wye installed at the intersection of these two streets. The construction on Elm avenue is of the permanent type with concrete pavement, and on Sandwich street consists of 80-pound rail with wooden ties on stone ballast and macadam pavement.

On London street in Windsor and Sandwich, the double-track was reconstructed for a distance of approximately 3,000 feet from a point near the Huron line road easterly. This track is now of the permanent paved type of construction, in place of the former type consisting of wooden ties on stone ballast, with macadam pavement.

ESSEX DISTRICT RAILWAYS

Operating Statistics, 1927

Route-miles:

City trolley.....	20.61
City bus.....	11.40
Amherstburg interurban.....	13.54
Tecumseh interurban.....	6.10
Total route-miles.....	51.65

Passenger and freight car-miles operated.....	2,984,934
Passenger and freight car-hours operated.....	350,649
Passengers carried.....	18,928,736
Percentage of transfer passengers to revenue passengers.....	12.55
Passenger cars operated.....	79
Passengers carried per route-mile.....	366,487
Passengers carried per car-mile.....	6.41
Passengers carried per car-hour.....	54.97
Average mileage per car operated.....	37,366
Average passengers per car operated.....	239,600
Freight tonnage carried.....	19,438

Passengers carried, 1926, 18,410,520; 1927, 18,928,736; increase, 518,216; accidents per 100,000 car-miles, 1926, 26.86; 1927, 23.85.

The net result of the year's operation shows a deficit of \$19,980, without making provision for depreciation reserve. In the past, an endeavour has been made to set aside a sum for depreciation, notwithstanding the fact that it is not stipulated by the Act; but this feature will have to be taken care of from 1930 on, as well as amortization of the capital.

Because of the fact that the Border Cities is a very rapidly growing community, it has been necessary during recent years to provide many improvements and extensions. This will not be necessary to the same degree in the near future, as the completion of the 1927 programme will take care of a substantial growth of population.

The bus operation was extended during the year, to take care of temporary requirements, pending the construction of rail lines. The revenue in no case was sufficient to meet the operating costs. The revenue from bus operation was \$110,091 for the year. The cost of operation was \$132,652.

The results for the year 1927 show an increase in passenger revenue over the previous year of \$52,085, but a decrease in the freight revenue of \$17,280 for the year, leaving a gross increase in revenue of \$38,188.

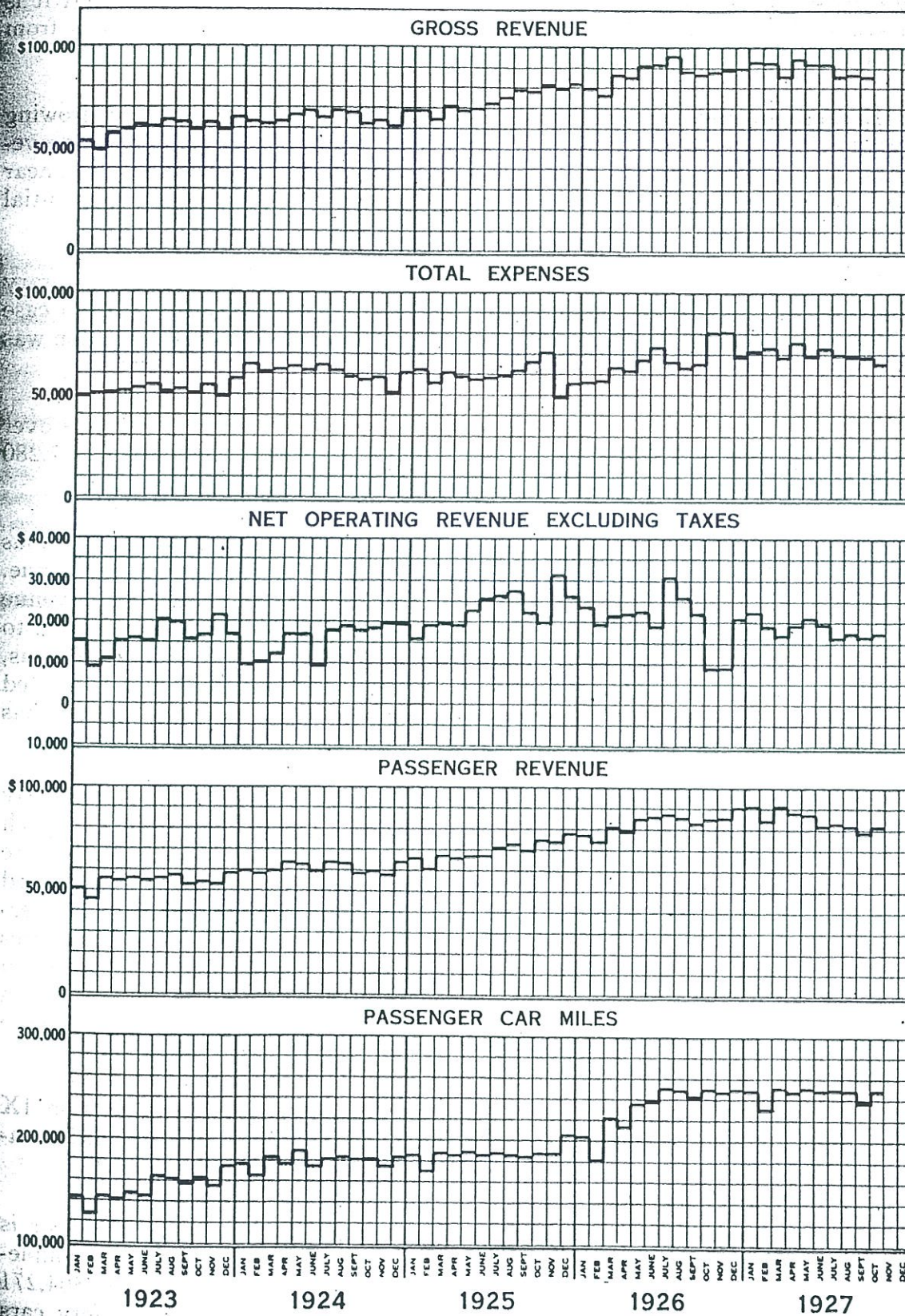
The additional bus service that was operated in 1927 over the previous year was responsible for a large portion of the increased passenger revenue. The increase in bus revenue amounted to \$55,523, but this increase in revenue was more than offset by the increased cost of bus operation, which amounted to \$70,962. The increase in fixed charges for the year was \$34,294. These items, and the reduced patronage caused by the industrial depression that existed in Windsor in 1927, explain the temporary financial setback—the first that has occurred on the railway in fifteen years.

For the coming year there are certain favourable considerations which may be mentioned. The construction of the Detroit river bridge, from Sandwich to Detroit, is under way. The arrangements for the financing of the tunnel are progressing very favourably, and it is considered probable that it will be started early in the new year. The re-opening of the General Motors plant in Walkerville, which has been idle for the past five years, is assured; and certain activities in the steel plant at Ojibway indicate that a portion of this plant also will be in operation during 1928. There are approximately one hundred and fifty men working at Ojibway, and, at an early date, it is proposed to transfer the wire plant from Hamilton.

The financial statements respecting the railway are given in Section IX of this report (consult general index). The attached chart will give a fair indication of the growth of the railway for the past five years.

The mileage run by various types of cars and busses during the year is as follows: Single-truck, hand-brake, two-man cars 28,378 car-miles; double-truck, air-brake, two-man cars 202,957 car-miles; interurban cars 504,271 car-miles; single-truck safety cars 490,199 car-miles; double-truck safety cars 1,289,442 car-miles; express cars 33,005 car-miles; busses 436,682 bus-miles; total, 2,984,934 car- and bus-miles.

ESSEX DISTRICT RAILWAYS—OPERATING STATISTICS



Equipment

The delivery of ten cars which had been purchased in the vicinity of New York city, was made in the latter part of the year 1926. These were placed in operation and have proved very satisfactory.

The installation of two additional 1,000 kilowatt rotary converters in the McDougall avenue substation was completed, and they were put into service on January 5, 1927. The 500 kilowatt rotary converter, which was formerly in the temporary station at McDougall avenue, was transferred to the Ford substation at Seminole and George streets, Ford City, and placed in service on May 19, 1927.

The Salt Block station has been abandoned entirely and arrangements have been made for the disposal of the old equipment. It is possible that arrangements may be made to use the old substation as a garage to take care of future bus operation. The re-arrangement of feeders was completed and the present power situation is in a very satisfactory condition.

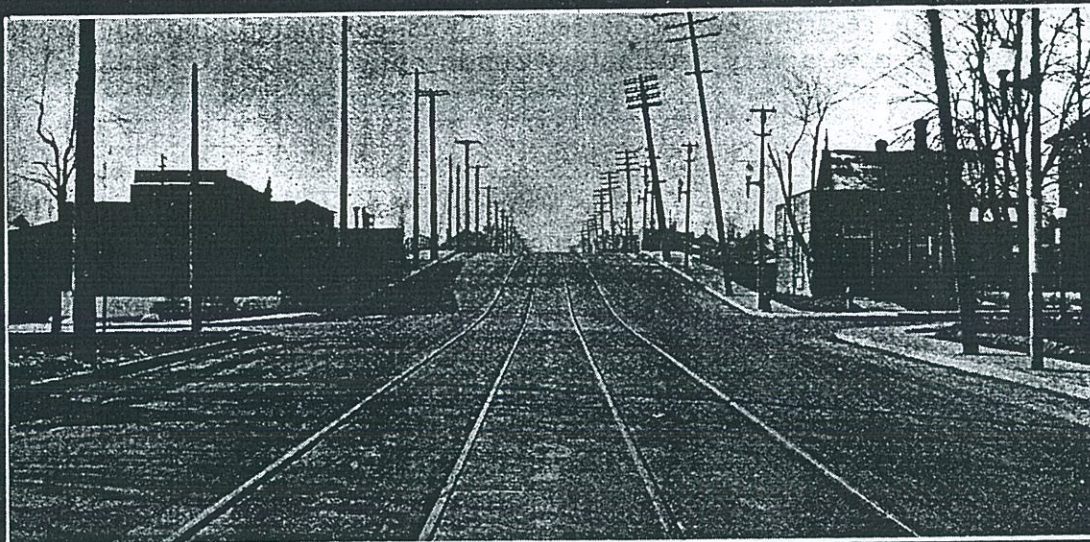
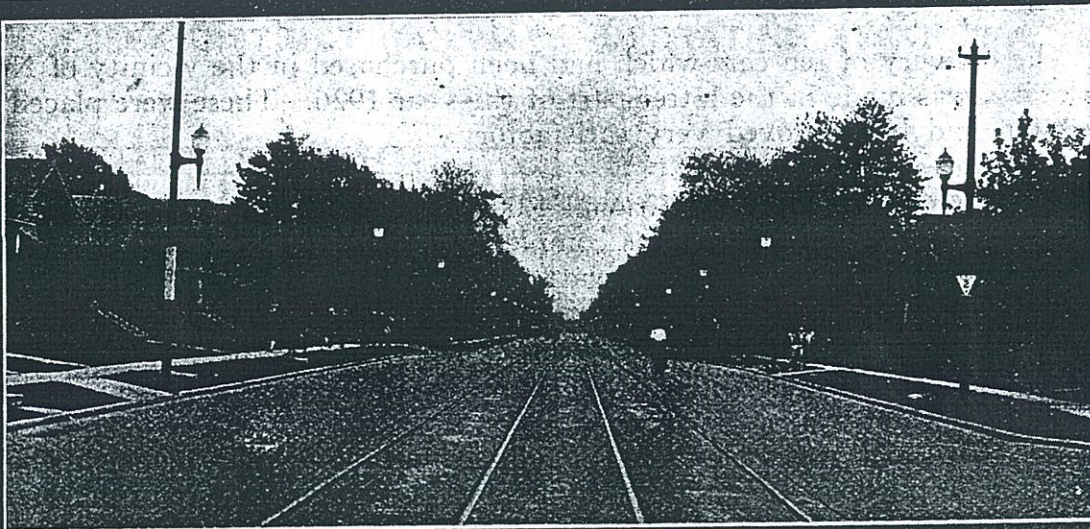
Operation

While the gross revenue for the year 1927 amounted to \$1,069,631, as compared with \$1,031,443 for 1926, an increase of \$38,188, the net results show a decrease from the estimates as shown in the budget for 1927.

The net operating revenue for 1927 was \$229,574, as compared with the net operating revenue in 1926 of \$275,729, being a decrease of \$46,155. The interest and taxes for the year 1927 amounted to \$249,554, as compared with \$215,259 for the year 1926, an increase in fixed charges of \$34,295.

In preparing the budget for the year 1927, the average increase in revenue for the preceding six years was used, the total increase in revenue for the six years being 204 per cent. The increase in revenue for 1926 over 1925 amounted to \$171,140. The anticipated increase in revenue for 1927 over 1926 was not secured, due primarily to local industrial conditions. In February of 1927, the extensive Ford plant was practically closed down, and this in turn affected many subsidiary plants. During the year 1926, the number of men directly employed by the automobile industry was 6,740; but during the year 1927, the number dropped to around 3,000. This, of course, seriously affected other industries.

A report of industrial conditions for the city of Detroit for the month of October, showed that there was a decrease of 37,420 employees, compared with the corresponding month for the previous year. This also affected the residents of the Border Cities of Canada. The unsettled condition of the United States immigration laws was another factor which affected both the railway revenue and the growth of the Border Cities. It is anticipated that, at an early date, the motor industry will be back again into more normal production, particularly the Ford plant; and that the difficulties concerning immigration regulations as they relate to people living in Windsor and working in Detroit will be satisfactorily settled.



ESSEX DISTRICT RAILWAYS—TRACK CONSTRUCTION IN WINDSOR

- a. Ouellette Avenue at Pine Street looking south, July, 1927.
- b. Wyandotte Street West from Caron Avenue looking west towards C.P.R. overcrossing, December, 1927.
- c. Wyandotte Street East from Goyeau Street, December, 1927.

1928

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

In addition to the regular maintenance work required on the railway system, new works, embracing the construction of a bridge over the Canadian Pacific Railway on Wyandotte street west and a physical connection between the Wyandotte street line and the Michigan Central Railway line at Wellington and Wyandotte streets, were carried out. On the completion of the latter, traffic on the Michigan Central Division was transferred from London street to Wyandotte street. The bridge over the portal of the Michigan Central Railway tunnel on Field avenue (which has since been re-named College avenue) was also completed.

Track laying on Field avenue extension was not attempted on account of the inability of the city of Windsor to make arrangements for the expropriation of the property required for the approaches on the Wellington street side of the bridge in sufficient time to allow for the necessary settlement of the earth fill on the approaches, and also owing to the town of Sandwich not grading its portion of the thoroughfare. For these reasons it was decided that it would be advisable to defer the work until next year. This delay would also give time for the settlement of sub-grades. It is expected that this work will be completed in the early part of 1928.

The rehabilitation of the track on Wyandotte street east, between Ouellette avenue and Glengarry avenue, was completed and steel poles were erected along this portion of Wyandotte street.

On the Tecumseh division, a new siding was constructed at St. Clair Shores, to permit of improvement in the running time of the Tecumseh cars. Arrangements were completed with the town of Sandwich for the erection of combination steel poles to support both the railway and lighting wires.

At the London street car barns, additional extra storage track was installed and the carpenter shop was moved from its old situation to a more convenient one in the west barn. New wood-working machinery was added which has substantially improved the working conditions and facilities. Spray painting apparatus was installed in the paint shop, which permits of two men completing a car in less than a week. At an early date, the capacity of this shop will be further increased by the provision of additional facilities.

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until all three machines are installed in the McDougall substation at which time the Salt Block station will be abandoned. The installation of these new substations has reduced the energy lost in transmitting power to the cars and has cut down the overloads that were previously carried by the Salt Block station. The savings that have accrued have been sufficient to cover the increased cost of operating additional substations and the fixed charges on them.

Additional feeders are now being run from the new McDougall substation to supply Sandwich street east, and Ouellette and London streets west. Many other minor changes are being made in the overhead system to make it conform to the new substation layout.

Operation

That the Essex District Railways continue to show an increase in revenue will be seen from the accompanying graphs.

The gross revenue for 1926 was \$1,031,443, as compared with \$860,303 in 1925. The revenue was made up as follows: Passenger revenue, \$969,339; freight and express, \$51,585; and miscellaneous, \$10,519. The net operating revenue was \$272,183 as compared with \$257,418 in 1925; leaving a surplus of \$60,470, which was set aside as depreciation.

More than the normal amount of track work was carried out during the year, which accounts for the increase in track maintenance. \$4,342 was written off valuation expenses, and about \$13,000 was set aside for the pension and insurance fund.

The number of passengers carried on all lines for the year was 18,410,520; an increase of 3,600,482 over 1925. The number of accidents per 100,000 car miles was 26.86, as compared with 19.43 for 1925. Although there was an increase in the number of accidents, the cost per car-mile shows a slight decrease, being 1.24 cents per passenger-car-mile in 1926, as compared with 1.25 in 1925. Out of the total number of accidents, 494 were due to automobiles, and of these, 140 were caused by automobiles running into street cars.

The following is the mileage run by various types of cars for the year: Single-truck hand-brake (two-man), 142,558 car-miles; double-truck air-brake (two-man), 490,110 car-miles; interurban cars, 184,999 car miles; single-truck safety cars, 716,091 car-miles; double-truck safety cars, 708,457 car-miles express cars, 27,856 car-miles.

ESSEX DISTRICT RAILWAYS

Operating Statistics

Route-miles:	
City trolley.....	20.56
City bus.....	12.18
Amherstburg interurban.....	13.54
Tecumseh interurban.....	5.76
Total route-miles.....	52.04
Passenger and freight car-miles operated.....	2,712,602
Passenger and freight car-hours operated.....	327,875
Passengers carried.....	18,410,520
Percentage of transfer passengers to revenue passengers.....	11.97
Passenger cars operated.....	83
Passengers carried per route-mile.....	353,762
Passengers carried per car-mile.....	6.86
Passengers carried per car-hour.....	57.39
Average mileage per car operated.....	32,319
Average passengers per car operated.....	216,204
Freight tonnage carried.....	26,822

On Devonshire road, and also on Sandwich street from Devonshire road to the eastern limits of the Town the steel poles carrying the overhead work for the street railway were moved back, and the municipal street-lighting fixtures were attached thereto, one-half the ownership of the poles being assumed by the Town. This work was rendered necessary by the street widening work which is being carried out by the Town.

At London Street car-barn yard several hundred feet of extra storage track was installed; drainage and heating systems were overhauled, and two of the old boilers in the power house were removed and scrapped, the remaining one being repaired and reset.

In the West car-barn, which had not previously been heated, a heating system was installed, and the barn was re-floored throughout, part of the old wooden floor being replaced by concrete.

The equipment of the barn was added to by the provision of some large track tools, including a compressor having a capacity of 360 cu. ft. per minute, a reciprocating rack grinder, and complete equipment for welding rail joints by the Thermit process.

Equipment

The additional car ordered for the Amherstburg division and the three extra city cars mentioned in the 18th Annual Report were placed in service early in the year. As traffic continued to increase it was decided, after careful investigation, to order ten cars from the vicinity of New York city; these were entirely overhauled, repainted and equipped with modern door apparatus, cross seats and heaters. The cars were placed in service during the summer and fall at which time it was found that they were so suitable as to warrant placing an order for another lot of ten, delivery of which is expected to be completed before the end of the year. The installation of treadle-operated doors on the rear ends of some of the new cars had not been pressed pending experience with a more recent type of apparatus which had been installed on the first ten cars mentioned above. This type has proved so satisfactory that it has now been decided to use it on all future cars that are being equipped with treadle-operated doors.

A contract was made with the Gotfredson Corporation for renting seven 21-seat and five 29-seat gasoline buses, which have been placed in service on the Howard Avenue, Campbell and Wyandotte Street West routes. The sections through which these buses run were previously without service, except that supplied by privately-owned buses which have now ceased running.

The construction of the permanent substation building on the McDougall Avenue site was commenced during the summer and the installation of the first 1,000-kw. machine is now practically completed. It is expected that this station will be in operation about the 1st of December and the other two machines should be ready for service in January, 1927. The 500-kw. rotary-converter station in Ford was placed in service early in the year and has resulted in a great improvement in service through Walkerville, Ford, Riverside and Tecumseh. Work is now in hand to transfer the 500-kw. rotary-converter from the Salt Block station to form a second machine in the Ford substation to take care of the additional demands in that section. The transfer cannot be completed



One-man, two-man safety car, seating capacity 60 persons

by completely removing the old layout at Wyandotte street and Ouellette avenue and replacing it by a new double track turnout east and west on Wyandotte street from Ouellette avenue and installing a double track diamond crossing on Ouellette avenue.

On Ouellette avenue from Pine street southerly to Tecumseh road, with the exception of double-track between Maple and Ellis avenues, the tracks were completely replaced by new construction similar to that described above. While this work was in progress traffic was diverted to a temporary track on the westerly side of the street, and an auxiliary bus service at the southerly end of Ouellette avenue was instituted. Under joint ownership with the city, steel poles which carry the lighting and other wires of the city, and overhead system of the railway, were erected on Ouellette avenue from Erie to Tecumseh road.

In order to relieve the congestion of the downtown section of Windsor, a single-track loop was constructed on Chatham, Victoria, and Park streets, with a right-hand branch-off on London street. The construction throughout was 100-lb. A.R.A. section-A rail 60 feet long, one half of which was laid on Dayton steel ties and the balance on twin steel ties imbedded in concrete with trap rock wearing surface. An electrically operated track switch was installed on the branch-off from Ouellette avenue to Chatham street.

In Walkerville extensive repairs were made to the double-track on Wyandotte street between Victoria road and Gladstone avenue; all the rail joints were opened up and welded by the Thermit process and the pavement was renewed.

The Seminole and George Street extension referred to in the 18th Annual Report was completed and placed in operation in January of the current year. Extensive alterations were necessary to the interlocking plant of the Essex Terminal and Père Marquette railways, in order that the interlocking plant necessary for the crossing of the Essex Terminal Railway and Père Marquette Railway by the Hydro-Electric Railway might be incorporated.

1927

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

On the Amherstburg division the work of replacing the County road-bridge, in accordance with Order No. 35950 of the Board of Railway Commissioners, was completed, and the temporary track forming the diversion of the Hydro-Electric Railways was replaced by permanent track in its new location. In the early autumn the bridge was thrown open to traffic.

In La Salle several extensions were made to the industrial spurs.

With the town of Sandwich negotiations were conducted with a view to replacing existing wooden poles on Sandwich street, from Detroit to Brock streets, by steel poles under joint ownership, carrying both street lighting and railway facilities. The Town Council finally decided not to enter into the joint ownership arrangement.

With Windsor and Sandwich negotiations were opened for the provision of service in southwest Windsor, and south Sandwich by means of a line which it was proposed to run from Wellington street, south of the Essex Terminal railway, westerly to the Huron line. In connection with this matter application was made to the Board of Railway Commissioners for the opening of Field avenue across the Michigan Central Railroad tunnel cut, but owing to the fact that satisfactory arrangements were not concluded in time it was impossible to proceed with the construction of this line during 1926. It is anticipated, however, that a definite policy with respect to opening a street both in Windsor and Sandwich which will form a thoroughfare will be arrived at in the near future. In this case it may be possible to proceed with this extension in 1927.

In Windsor the construction of a double-track line on Wyandotte street west from Ouellette avenue to Wellington street was completed in order that the street widening programme of the city might be proceeded with. It was impossible, however, to put this line in operation owing to non-completion of the bridge crossing the Canadian Pacific Railway. All work, however, has been completed with the exception of a small section at the bridge crossing; immediately on completion of the structure, therefore, this line can be put in operation. The construction adopted was 100-lb. A.R.A. section-A rail 60 feet long, laid on twin steel ties imbedded in concrete with trap rock concrete wearing surface, the joints in the rails being welded by the Thermit welding process. The operation of the new double track line on Wyandotte street west, was provided for

in service in January. This equipment is much more comfortable and convenient than the old, and the cars are geared for much higher speeds. The equipment is modern in every respect and should result in an increase in patronage. Provision was made in last year's programme for a third car of this same type and delivery is expected early in 1926. The traffic on the city lines commenced to increase very rapidly towards the close of the summer and orders were at once entered for three additional four-hundred-type cars. These will be similar to the last lot of cars placed in service, excepting that treadle exit doors will be provided. Two of the three-hundred-type cars have been remodelled with treadle exits and have given such satisfactory results that next year's programme will make provision for installing these automatic exit doors on the remaining cars of this same general type.

Traffic during the fall has continued to increase to a greater extent than was anticipated at the beginning of the year and it has been deemed expedient to obtain information respecting used cars of modern design with a view to securing early delivery of some additional equipment to relieve the overcrowding that is now prevalent on various routes. In any event provision will be made in next year's programme for the supply of twenty double-truck cars for delivery during the year 1926.

Operation

The Commission is pleased to report a continued increase in revenue for the Essex District Railways. It will be noted in the accompanying graphs that the revenue continues to show a very satisfactory increase, and that the operating expenses per car-mile have again decreased slightly.

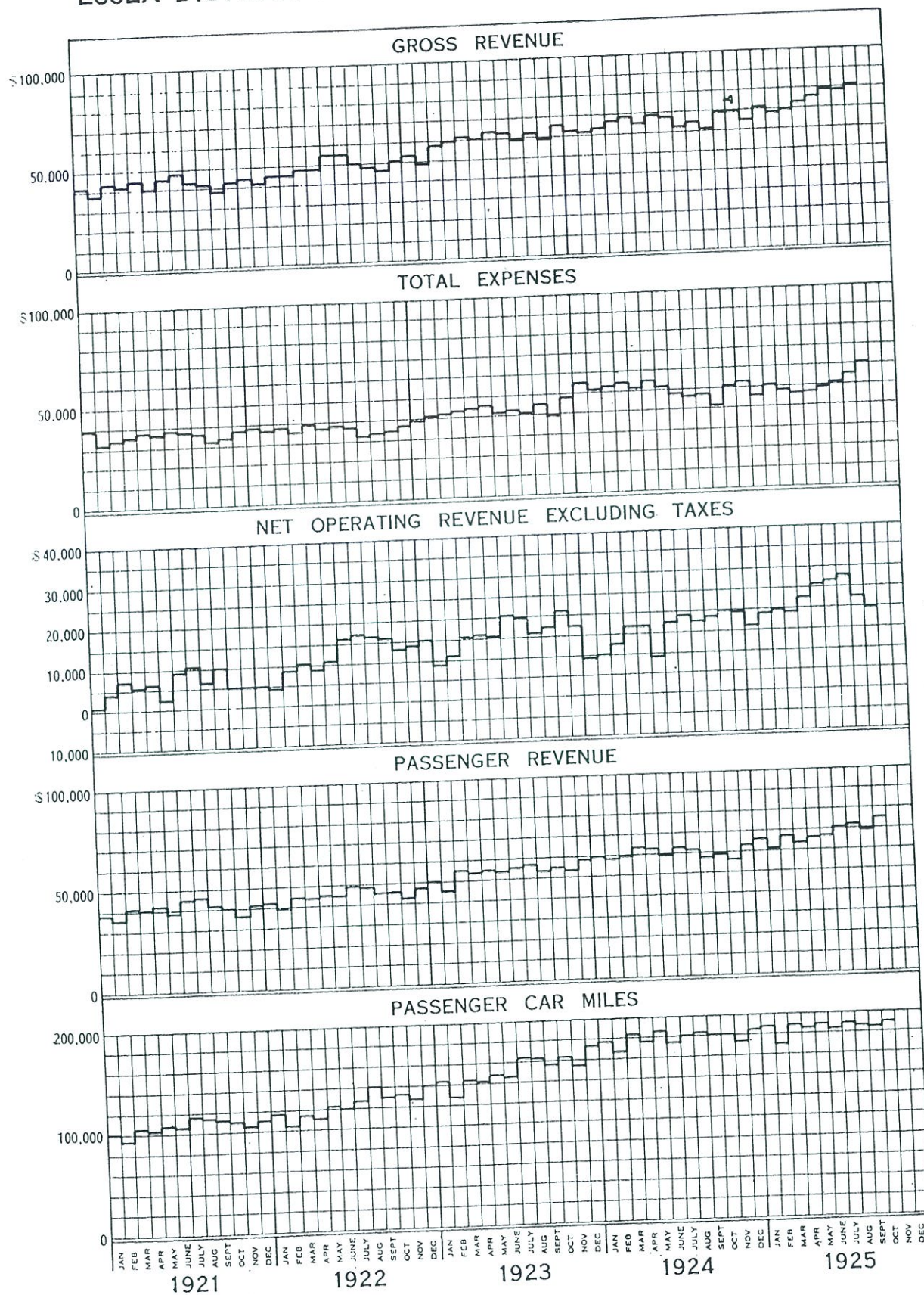
The gross revenue for the year 1925 was \$860,303, as compared with \$774,907 in 1924. The gross revenue was made up as follows: Passenger revenue \$798,131, freight revenue \$46,425, miscellaneous revenue \$15,747. The net operating revenue was \$257,418, as compared with \$186,249 in the year 1924. The surplus for the year ending October 31, 1925, was \$64,435, as compared with \$13,980 in 1924.

The number of passengers carried for the year on all lines was 14,810,038, as compared with 13,330,081 for 1924; being an increase of 1,479,957 over the previous year. The number of accidents per 100,000 car-miles was 19.43 as compared with 15.60 in 1924 and 20.59 in 1923. The single-truck hand-brake cars showed 24.47 accidents per 100,000 car-miles. The single-truck one-man safety cars showed 20.81; the double-truck safety cars, 22.93; the trolley bus, 41.80; and the interurban cars, 11.54 accidents per 100,000 car-miles. Out of the total of 456 accidents, 319 were automobile, 18 were pedestrians hurt by cars, 19 were derailments, 24 were boarding and alighting accidents and 25 were miscellaneous.

The total car mileage operated by the different types of cars was as follows: Single-truck hand-brake cars 73,547 miles, interurban cars 536,962 miles, one-man safety cars 850,184 miles, double-truck safety cars 675,848 miles, and trolley busses 55,011 miles. The total car mileage was 2,330,725 miles.

The average cost of accidents was 1.25 cents per car-mile. This relatively high cost was due to the fact that in one case where an automobile ran into a street car judgment was given in favour of the plaintiff for \$16,000, which amount is over 50 per cent of the total cost of accidents, which amounted to \$29,244. On 107 days of the year no accidents occurred.

ESSEX DISTRICT RAILWAYS—OPERATING STATISTICS



NOTES: 1919—May and July, strikes. December, power interruption.
 1921—Fare increased from 6 for 25 cents to 5 cents straight, effective July 1.
 1922—Fare increased to 6 cents cash, 20 tickets for \$1.

The single track on Ottawa street, Walkerville, was completely replaced by a double track from the east city limits of Windsor to Monmouth road, and a single track east to Walker road, south on Walker road to Seminole street—with passing siding south of the E.T. Rly.—and east on Seminole street to St. Luke road, all in paved construction, with 80-lb., A.S.C.E.-section rail 60 feet long laid on twin steel ties imbedded in concrete with trap rock concrete wearing surface. On Seminole street east from St. Luke road to George street, Ford, and south on George street to Tecumseh road, single track was constructed of 80-lb., A.S.C.E.-section rail, 60 feet long laid on cedar ties, and with tie plates and surfaced on crushed stone ballast in a double-track reservation provided therefor. The overhead system on Seminole street is carried on wooden poles, with an attachment to Bell Telephone Company poles on the south side of the street. This line has opened up and provided a means of transportation for a large area in south Ford.

The single track on Walker road, Walkerville, from Wyandotte street to Ottawa street, was abandoned and replaced on Monmouth road by double track. The single track on Devonshire road, Walkerville, extending from Wyandotte street to the P.M.R. depot was reconstructed.

Steel tubular poles for street lighting and the overhead construction of the electric railway were installed on Ottawa street, Walkerville, from the city limits of Windsor to Walker road, and on Monmouth road from Wyandotte street to Ottawa street. On poles situated on Ottawa street, Walkerville owns a one-half interest, and on those situated on Monmouth road a one-half interest in alternate poles only.

A feeder to improve line voltage was constructed on George street from Ford substation north to Ottawa street and east to Wolfe's siding.

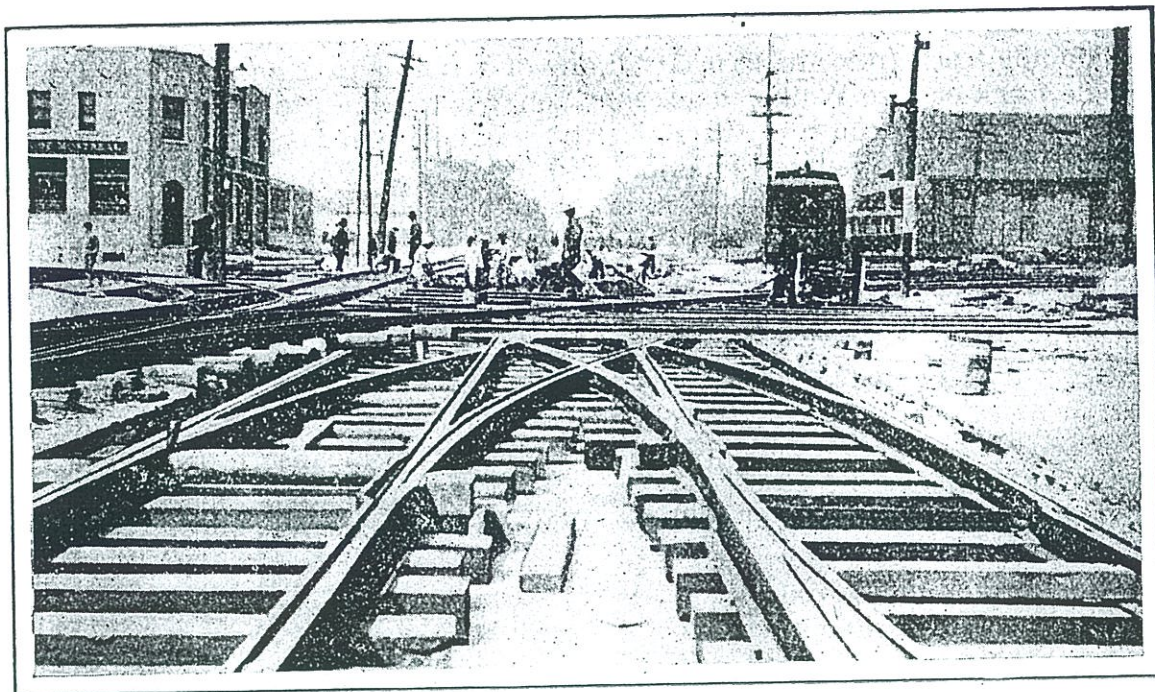
Equipment

In the Salt Block power plant a new feeder panel was installed to take care of an additional feeder, which was run to the Ferry Loop district. This relieves the load on the other feeder, and under rush hour conditions results in better power to the cars in this section.

A temporary power station was erected on McDougall avenue near Erie, and a 500 kw. machine was placed in service at that point in January, 1925, pending the construction during 1926 of a permanent power station on this site. The new power station will be equipped with three 1,000 k.w. machines, one unit of which is on order. The erection of this permanent building will permit both the railway and the Windsor Hydro system to discontinue the use of the old Salt Block plant. The Salt Company, on account of its intention to discontinue the use of this plant, has allowed the steam generating units to deteriorate, and in consequence, it was impossible for the Commission to secure from this plant a satisfactory continuity of service. It is expected that this plant will be closed during the summer of 1926.

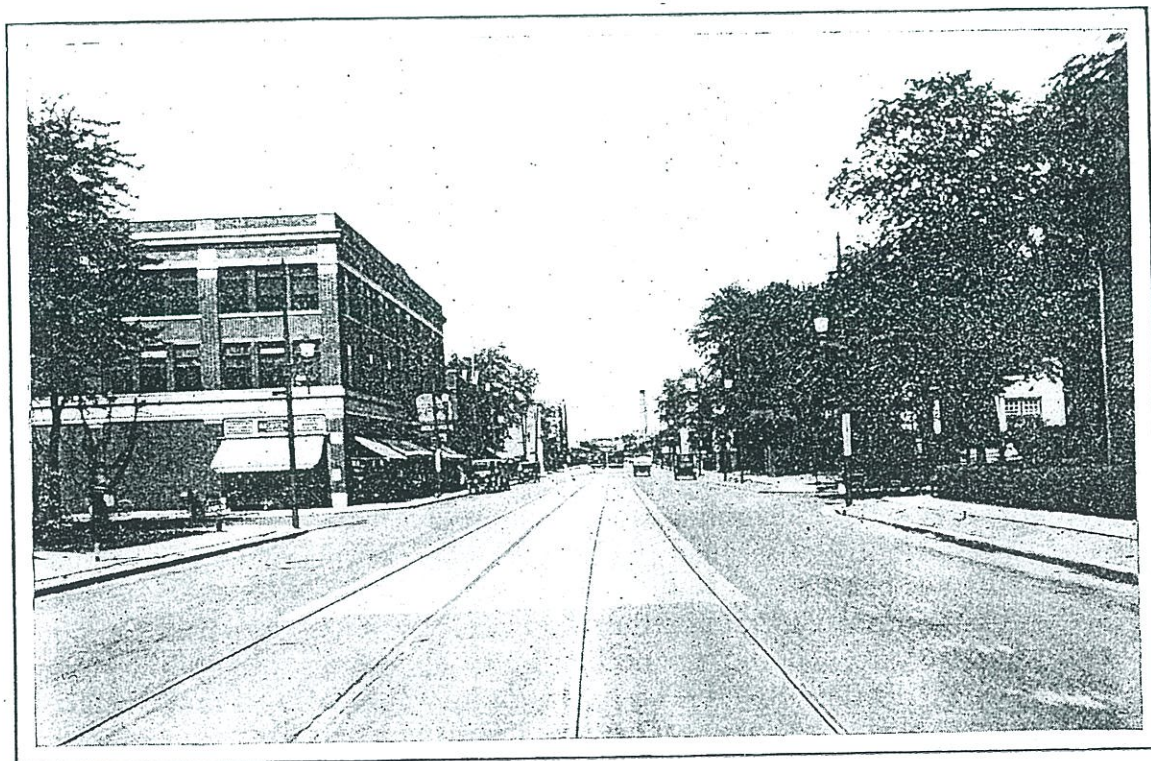
A site for the Ford City substation was selected at the corner of Seminole street and George street, and a temporary building to house a 500-k.w. rotary converter is now being erected. The operation of this station should result in a great improvement in voltage through Ford, Walkerville, Riverside and Tecumseh. The new Seminole route will also be supplied from this station, which is expected to be ready for operation early in 1926.

The two new interurban cars for the Amherstburg division, mentioned as being under construction during the preceding year, were delivered and placed



ESSEX DISTRICT RAILWAYS

Track re-construction at the car barns on London Street, Windsor, June 12, 1925.



ESSEX DISTRICT RAILWAYS

Double track construction on Wyandotte Street, Walkerville, near Kildare Road, looking east

1926

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

Further rehabilitation of interurban lines was proceeded with by installing 3,300 treated ties with tie plates, and placing two miles of crushed stone ballast in Ojibway. The processes of tie renewing and ballasting on interurban lines are now in normal cycle.

Light rail on curves in Ojibway was replaced by 80-lb., A.S.C.E.-section rail. The revision to alignment, and the relocation of tracks at Sunnyside, referred to in previous report, were completed.

The county of Essex made application to the Board of Railway Commissioners for Canada for the reconstruction of the wooden bridge over-crossing the M.C.R. on the Front or River road, Anderdon township. Under the terms of the old order pertaining to this structure, the electric railway bore the cost of strengthening the bridge for railway loading and 50 per cent of the annual maintenance charges. On December 30, 1924, Order No. 35,950 was issued directing the M.C.R. to prepare plans for a new bridge, the cost of which is to be charged 40 per cent to the M.C.R., 35 per cent to the county of Essex, and 25 per cent to the electric railway. Plans have been approved and construction will be commenced at an early date.

In Windsor, on London street opposite the car barn, the single track extending from Elm street to the M.C.R. bridge was replaced by double track, and a complete new layout was installed for the entrance to the barn and storage tracks. The work included a "Y" on London street at Elm street, a cross-over, two turnouts into the car barn and a turnout into Wellington street. The changes effected on London street, together with the new loop installed at the rear of the paint shop, have greatly improved operating conditions.

On London street, from Ouellette avenue to the west city limits of Windsor, steel tubular poles for lighting and overhead construction were installed, arrangements being made with Windsor for joint ownership.

In Walkerville, on Wyandotte street a double track was constructed from Kildare road to Walker road, and a loop was constructed at the latter point, as outlined in the 1924 report.

On Sandwich street from Victoria avenue, Walkerville, to Strabane avenue, Ford City, the track was reconstructed, and through Ford City was relocated in the centre of the street. The construction throughout was 80-lb., A.S.C.E.-section rail 60 feet long, laid on twin steel ties imbedded in concrete with trap rock concrete wearing surface. At Montreuil avenue the C.N.R. three-track diamond was replaced by a single diamond and a new C.N.R. diamond authorized by Board Order was inserted near Belle Isle avenue.

100,000 car miles at a cost of 0.22 cents per car mile. The one-man single-truck safety cars, were operated 777,065 car miles, with 19.94 accidents per 100,000 car miles at a cost of 0.54 cents per car mile. The double-truck, one-man—two-men cars operated 365,616 car miles, with 19.41 accidents per 100,000 car miles, at a cost of 0.44 cents per car mile. The trackless-trolley busses operated 51,448 bus miles with 25.26 accidents per 100,000 bus miles at a cost of 2.46 cents per bus mile. The total cost of accidents was 0.72 cents per car mile. There were two boarding and alighting accidents on our safety cars for 1,142,681 car miles, for neither of which the operating staff was responsible, while with the older type of car there were 14 boarding and alighting accidents for approximately 931,000 car miles. This record is considerably lower than is found in the records that are available from companies operating in the United States, where, with the safety car, the average seems to be approximately 38 accidents per 100,000 car miles. The following operating statistics will prove interesting:—

ESSEX DISTRICT RAILWAYS

Operating Statistics

Route-miles:		
City trolley.....	16.71	
City trollibus.....	2.99	
Amherstburg interurban.....	13.54	
Tecumseh interurban.....	6.11	
Total route-miles.....		39.35
Passenger and freight car-miles operated.....	2,151,349	
Passenger and freight car-hours operated.....	259,401	
Accidents.....	343	
Passengers carried.....	13,330,081	
Percentage of transfer passengers to revenue passengers.....	11	
Passenger cars operated.....	62	
Passengers carried per route-mile.....	338,756	
Passengers carried per car-mile.....	6.3	
Passengers carried per car-hour.....	52.6	
Average mileage per car operated.....	34,067	
Average passengers per car operated.....	215,001	
Freight tonnage carried.....	17,203	

COMPARATIVE FIGURES SHOWING GROWTH

Year.....	1920-21	1921-22	Per- cent- age of 1920-21	1922-23	Per- cent- age of 1920-21	1923-24	Per- cent- age of 1920-21
	\$	\$		\$		\$	
Passenger earnings.....	488,185	526,982	108	625,601	128	717,356	147
Freight earnings.....	9,883	19,470	197	50,570	512	44,090	446
Miscellaneous earnings.....	7,757	10,339	133	12,244	158	13,460	174
Gross earnings.....	505,826	556,792	110	688,416	136	774,907	153
Operating expenses.....	426,604	436,910	102	500,202	117	588,658	138
Net earnings.....	79,222	119,881	151	188,214	237	186,248	235

NOTE.—In the above table the cents have been omitted and the percentages are given to the nearest whole number.

Population Statistics

The following tabulation shows the present population of the Border Cities. The growth has been so rapid and consistent that the prediction may safely be made that there will be about 100,000 people living in this district before the end of 1927.

ments. The trucks and motors are considerably heavier to give improved riding qualities and to permit high speeds to be maintained on the interurban sections. Delivery of these two cars is expected in the next few weeks.

Operation

The Commission is pleased to report a continued increase in revenue for the Essex District railways in spite of the fact that many of the industrial plants were working on short time. The condition of the automobile industry was one of retrenchment, and this condition was reflected in quite a number of local plants. It will be noted in the accompanying graphs that the revenue continues to increase yearly at a very satisfactory rate and that the operating expenses per car mile show a slight decrease. The passenger revenue shows an increase of \$86,674.19, but the freight revenue shows a decrease of \$6,480.00. The gross revenue for the year was \$774,907.11 as compared with \$688,416.00 for the year ending October 31, 1923. This compares with a gross revenue of \$377,000.00 in the year 1919, which was the year previous to Hydro operation. The net operating revenue was \$186,248.78. The surplus for the year ending October 31, 1923, was \$34,463.00. The surplus for the year ending October 31, 1924, is \$13,980.33.

While the surplus is not as large as for the year of 1923, considerable sums of money were expended in construction work which was charged to maintenance. Notwithstanding the fact that 70 per cent of the track and overhead in this district has been rebuilt, approximately \$63,000 was spent by the Operating department in renewing and rehabilitating track and overhead on the balance of the line, and over \$50,000 on maintaining and rebuilding car bodies and trucks. The line is now in first-class condition, the interurban lines being all completely rock ballasted and the city lines being brought up to a high state of repair. Automatic block signals on the Tecumseh division have been extended to the Ford City limits, resulting in improved operating conditions. An all-night service was established in Windsor, Walkerville, Ford and Sandwich in August. This service has been of great advantage to the residents of that section, and the revenue has been more than sufficient to take care of the cost of operation. The number of passengers carried for the year, on all lines, was 13,330,081, being an increase of approximately one million over the previous year. The passengers carried on the Lincoln Road bus line were practically the same in number as in the previous year, notwithstanding the fact that the Erie Avenue line also taps the Lincoln Road district and gives a considerably improved service over the trackless trolley line, which formerly operated over this route. The M.C.R. and Ouellette Avenue lines show normal increases, while the Walker Road line shows a decrease of about 3,000 passengers per month as compared with the corresponding period in 1923, this being caused by the better facilities offered on the Erie Avenue line. The Crosstown line shows an increase of about 150,000 passengers a month as compared with the previous year. The operation of one-man cars in this section continues to be satisfactory, and notwithstanding an increase of over 300,000 additional car miles, accidents in 1924 were reduced from 20.59 per 100,000 car miles to 15.60 accidents per 100,000 car miles. For the year ending October 31, 1924, 293,304 car miles were operated with single-truck hand-brake cars, these cars being used on the light-travel sections, and there were 14.31 accidents per 100,000 car miles at a cost of 2.20 cents per car mile. There were operated 624,727 car miles with double-truck air-brake cars on the interurban lines, accidents being 9.28 per

a report and plan, respecting the feasibility and probable cost of a subway or bridge connecting Wyandotte street, Walkerville, to Ottawa street, Ford City. A report was accordingly prepared and presented to the Border Cities Joint Board on April 11, 1924.

Two schemes were submitted, with a recommendation, that the route be adopted via a new diagonal street from Wyandotte street to Edna street, thence via Edna street to Ottawa street. This scheme involved two subways under the P.M.R. and C.N.R. It was suggested, owing to the magnitude of the work, that it be proceeded with as conditions warranted, and that any public works affecting the scheme should be made to conform to the recommended route.

The Joint Board adopted the recommendation, and arrangements were made shortly after by the Walkerville council to open up Wyandotte street extension, as proposed, in order to permit the Commission to proceed with the double-tracking programme, and to insure that the new track would not have to be torn up and relaid if and when the larger scheme should be put into effect. Ford City council also defined a building line on Edna street conforming to the proposed limit of the suggested new thoroughfare. Immediately this matter was definitely decided upon, and purchase made of the necessary right-of-way the Commission commenced to construct its tracks according to the approved plan and the work is now in progress.

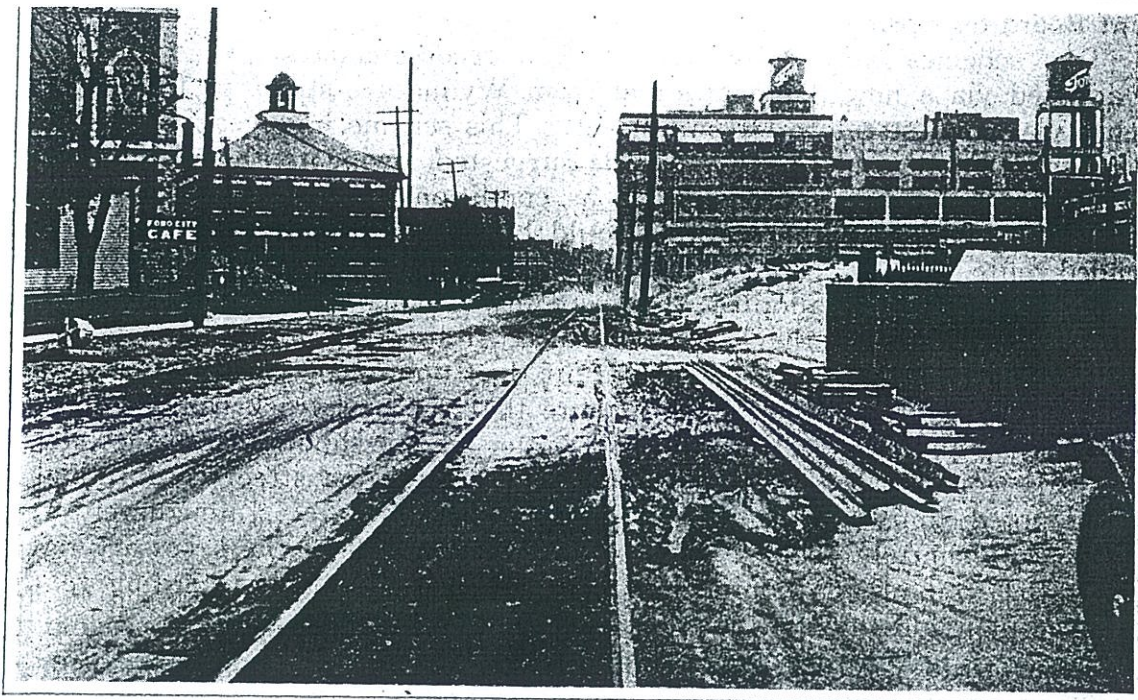
Equipment:

The additional car service supplied on these railways since they were taken over by the Commission has made it necessary to arrange for further substation equipment. A suitable lot has been purchased on McDougall avenue, adjoining the Windsor municipal substation, and a temporary galvanized-iron building is being erected in which will be installed one of the 500-kw rotary-converters that was formerly used on the disposal railway of the Queenston-Chippawa power development. This machine will be placed in service during the next few weeks in order to help out the steam-driven plant on Sandwich street west. The temporary building has been made large enough to accommodate a second converter and the question of constructing a permanent building will be held in abeyance for a year or two, it being anticipated that an automatic station with two 1,000-kw rotary-converters will later be required for supplying the load in the central portion of the Border Cities. The smaller machine will thereupon be moved to the outlying districts to take care of the anticipated growth in such sections.

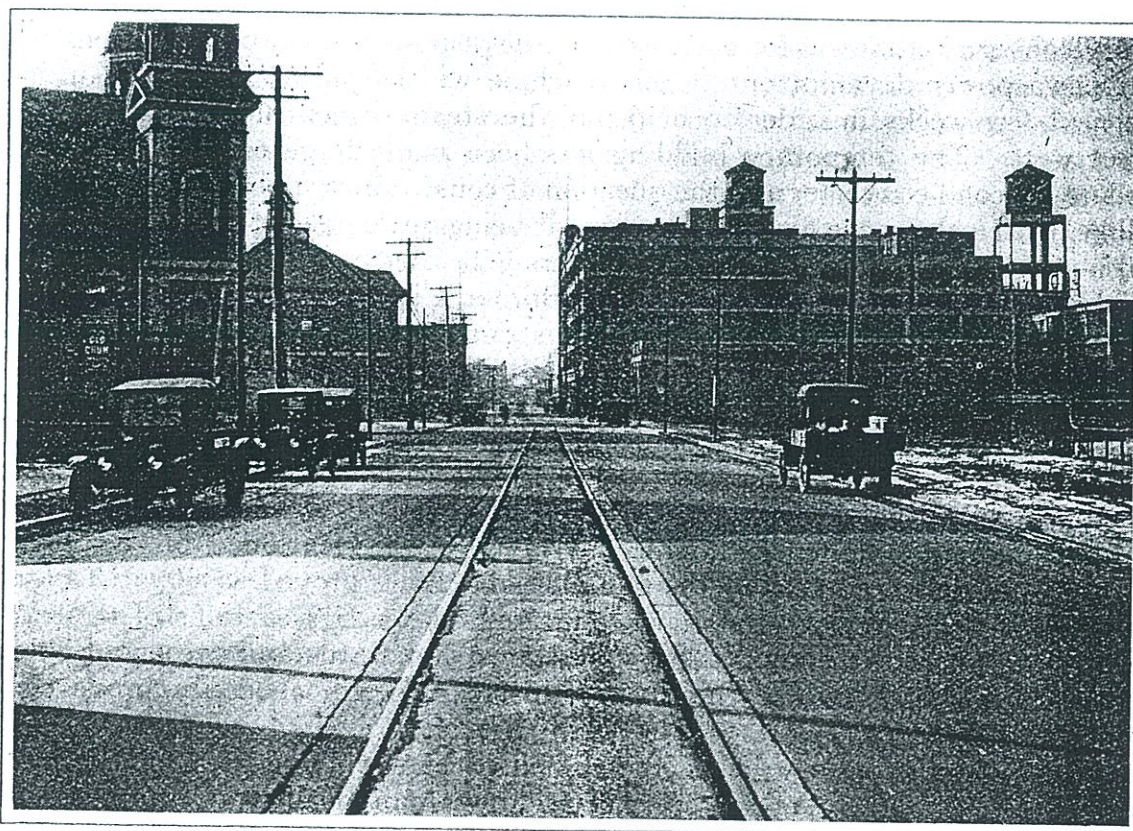
Provision is being made for the erection of necessary feeders from the McDougall Avenue substation, more particularly to the south-east section of Windsor and Walkerville, in order to give a better supply of power to the trolley bus routes operating through that territory.

The eight double-truck, double-end motor cars, mentioned in last year's report, were delivered during the summer and have proved very satisfactory in handling the heavy peak loads encountered on the city sections of this railway. These cars are equipped with the latest apparatus and are arranged to operate in trains of two or three cars; this feature will no doubt prove very desirable.

The Commission has had some difficulty in supplying two modern-type cars suitable for the Amherstburg division, as practically no equipment of this type has been built in Canada. The cars provided have short single-door vestibules and are divided into the main and smoking compart-



ESSEX DISTRICT RAILWAYS
Sandwich Street, Ford City, before rehabilitation



ESSEX DISTRICT RAILWAYS
Sandwich Street, Ford City, after rehabilitation

and on Parent avenue. On the latter open construction was adopted, on creosoted ties with tie-plates. Owing to the town of Walkerville not being ready to proceed with the street widening of Ottawa street, the projected extension from Lincoln road to Walker road was deferred.

With the construction of the Erie-Ottawa double-track line, the trackless trolley bus line on Erie street, Langlois avenue, Ottawa street, Gladstone avenue, and Giles boulevard was discontinued, and the overhead construction was revised to provide for the new conditions.

On account of rapid growth of population in the outlying section of Walkerville, south of Tecumseh road, the trackless trolley line was extended via Byng road, Lens avenue and Turner road to Vimy avenue, which is now the terminal of that line.

On Ottawa street in Ford City two passing sidings were constructed at Strabane avenue and Pillette road. Each siding is 500 feet long, of 60-lb. relay rail, on treated ties with tie-plates, and crushed stone ballast.

The automatic, block-signal system which was installed in 1922 on Sandwich street, between Ouellette avenue and the Ford "Y", was extended to Pillette road in order to take care of the extended city service and protect the movement of cars between the two new sidings which were constructed on Ottawa street at Strabane avenue and Pillette road.

The town council of Riverside requested the Commission to remove the street railway tracks from the north side of Ottawa street to a double-track reservation in the centre, which extended easterly from the western town limits for a distance of 7,000 feet; the town assumed the cost of removal and the work was proceeded with upon completion of the sub-grading by the municipality.

A new copper telephone line from the car barns to Tecumseh was erected to replace the old line which had outlived its usefulness.

An agreement was concluded with the Essex county council whereby the Commission agreed to move its tracks at Sunnyside, to the new right-of-way purchased by the county, thus eliminating the sharp curve formerly existing at this place. The work is now proceeding, and when completed will materially improve the line. A standard shelter was also erected at this point.

The trestle approaches to the steel spans crossing the Canard river were filled in, and after settlement has taken place the timber decking will be removed.

A joint wood-pole line 35 feet high was constructed carrying the railway and rural power lines from Stop 69 to Stop 79, Amherstburg division.

Serious erosion by the Detroit river of the highway, near Amherstburg, upon which the railway is situated, led to the matter being taken up with Essex county council; an agreement was reached whereby the County and the Commission each assumed one-half the cost of placing rip-rap along about 750 feet of shore line. The work was handled by dumping large stone from cars on the railway.

Following the consummation of an arrangement respecting the handling of express business, an extension to Amherstburg station was constructed to provide increased facilities.

A one-half-ton service truck was added to the Way equipment to facilitate the movement of small supplies.

The overhead truck in service having outlived its usefulness was replaced by a modern 2½-ton truck, with air-lift hoist, and modern equipment.

A resolution was passed on October 5, 1923, by the Transportation committee of the Border Cities Joint Board, requesting the Commission to prepare

1925

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

During the past year further rehabilitation of the system was proceeded with in order to bring the remaining parts of the system (which had not previously been covered) up to normal operating efficiency.

On the interurban lines over 11,000 treated ties with tie-plates were installed, and several miles of crushed stone ballast were laid, thus completing rock ballasting of all open track construction on both Tecumseh and Amherstburg interurban lines, with the exception of about three miles through Ojibway.

The section of double track westerly from the Windsor city limits to Patricia avenue in Sandwich was excavated and new ties and rails were installed where necessary. All joints were welded, and the track was rock ballasted with macadam binder and placed in good operating condition.

Extensive repairs were made on the Windsor car barns, including the replacement of practically the entire wall of the most westerly barn.

A very considerable amount of new work was performed over the entire system, the more important items being the following:—

In Sandwich on Sandwich street two complete "blocks" of signals were installed, extending from Brock street to Spring's loop.

On Wellington street, Windsor, a new open-track passing siding, 350 feet long, was constructed near London street.

To improve the service on Ouellette avenue the single track extending from Maple street to Ellis street was removed, and replaced by double-track construction with 80-lb. A.S.C.E. section rail, 60-feet long, laid on twin-steel ties imbedded in concrete, with trap-rock concrete wearing surface.

Owing to the necessity for increased office facilities, a frame addition to the rear of the second storey of the superintendent's office on London street was constructed. This added two rooms to the accommodation.

To improve the power conditions on the line, a 500,000 c.m. double-braided weather-proof cable was erected, extending from the Salt Block substation via London street and Ouellette avenue to Erie street.

Arrangements were concluded with the city of Windsor for the erection of combination light and trolley steel poles, on London street, from Ouellette avenue westerly to the Windsor city limits. This work is now being carried out.

The new double-track line replacing the Erie Avenue bus line, which operated on Erie street, Parent avenue, and Ottawa street to Lincoln road, was completed in the autumn of 1923, and immediately put in operation. Standard track construction with 80-lb., A.S.C.E.-section rail, 60-feet long was laid throughout, with the exception of the portion through the special track work,

Records for 13 railway companies in the United States, operating 18,022,899 one-man car-miles, show 38.01 accidents per 100,000 car-miles, while the two-man cars operating, under like conditions, 13,868,097 car-miles, were responsible for 57.55 accidents per 100,000 car-miles.

New equipment is being ordered to provide for the increased passenger traffic which is now growing at the rate of about 110,000 or 120,000 passengers per month.

The car-miles operated in 1919 (the year before the Commission took over the line) were approximately 1,000,000. The mileage for the year ending October 31, 1923, is approximately 1,800,000.

The following operating statistics are interesting and explain themselves:

ESSEX DISTRICT RAILWAYS

Operating Statistics

Route-miles:	15.11	
City trolley.....	5.01	
City trollibus.....	13.54	
Amherstburg interurban.....	6.11	
Tecumseh interurban.....		39.77
Total route-miles.....		1,825,171
Passenger and freight car-miles operated.....		217,486
Passenger and freight car-hours operated.....		200
Average number of employees.....		375
Accidents.....		12,318,236
Passengers carried.....	14.7	
Percentage of transfer passengers to revenue passengers.....	55	
Passenger cars operated.....		309,736
Passengers carried per route-mile.....	6.9	
Passengers carried per car-mile.....	58.8	
Passengers carried per car-hour.....		32,232
Average mileage per car operated.....		223,968
Average passengers per car operated.....		137.7
Average riding (revenue) habit.....		19,989
Freight tonnage carried.....		

COMPARATIVE FIGURES SHOWING GROWTH

Year.....	1920-21	1921-22	Percentage of 1920-21	1922-23	Percentage of 1920-21
	\$ c.	\$ c.	%	\$ c.	%
Passenger earnings.....	488,185.92	526,982.29	107.8	625,601.43	128.1
Freight earnings.....	9,883.36	19,470.44	197.0	50,570.37	511.6
Miscellaneous earnings.....	7,757.56	10,339.95	133.2	12,244.98	157.8
Gross earnings.....	505,826.84	556,792.68	110.1	688,416.78	136.5
Operating expenses.....	426,604.43	436,910.98	102.4	500,202.26	117.2
Net earnings.....	79,222.41	119,881.70	151.3	188,214.52	237.5

The population to the acre—15.99—is exceeded only by Toronto with 26.08 and Ottawa with 22.14, Hamilton being fourth with 15.42. The population has grown until the Border Cities now have a population of practically 92,000 people.

It was anticipated that the Ford Motor Company, on the completion of the reconstruction and enlargement of its factory, would employ about 7,000 men. This anticipated total has not as yet been reached. The factory is practically completed, and the company expects to increase substantially the number of its employees during the fall of 1924.

It will be noted from the accompanying graph that the revenue continues to increase yearly at a very satisfactory rate, and that the operating expenses have decreased in proportion to the car mileage operated. The graph indicates that many of the conditions existing at the time the railway was taken over have been changed and that the railway line, in general, shows a very healthy growth. A number of sidings have been constructed into industries situated in proximity to the lines, and this has resulted in the freight revenue increasing from approximately \$6,000 per year in 1919 to \$50,570 for the year ending October 31, 1923. The gross revenue in 1919 was \$377,000, while in 1923 it had grown to \$688,416.

The Commission estimated that the reconstruction would be practically completed in 1922, and while the statement for that year showed a deficit of \$4,385, it is very gratifying to note that there is a surplus of \$34,463 for the year ending October 31, 1923, which is being held in reserve for depreciation. The operating expenses for the year averaged 27.406 cents per car-mile operated, notwithstanding the fact that a large sum was spent in rebuilding old equipment and charged to operation.

Automatic block signals have been installed on the Tecumseh division on Sandwich street between Ouellette avenue and Victoria road in Walkerville. This protection will, in the early spring, be further extended to the Ford City limits, a distance of about two miles.

The trackless-trolley line on Erie avenue and Ottawa street has been discontinued and is being replaced by a double-track railway line in order to take care of this rapidly growing section. (Since this work has been completed the revenue that was secured by the trackless trolleys, which amounted to approximately \$750 a month, has grown to approximately \$9,500 a month.)

The operation of one-man cars in this section has been satisfactory. The contention that the operation of one-man cars results in more accidents than two-man operation has been disproven by the records of two years' operation. For the year ending October 31, 1923, the one-man safety cars were operated a total of 759,341 car-miles, and the accidents amounted to 26.47 per 100,000 car-miles, the cost of which was 0.47 cents per car-mile. The single-truck two-man cars were operated a total of 355,852 car-miles, and notwithstanding the fact that they operate in a less congested district (being used only on the outskirts) the accidents, per 100,000 car-miles, were 22.76, the cost of accidents amounting to 0.503 cents per car-mile. The trackless trolleys, operating 82,053 car-miles, were responsible for 17.06 accidents per 100,000 car-miles, the cost being 0.395 cents per car-mile. This is also one-man operation. The total accidents were 20.59 per 100,000 car-miles and the cost was 0.416 cents per car-mile.

On the Amherstburg division several miles of crushed-stone ballast were placed and a large number of old ties were replaced by treated ties with tie plates. Practically the entire division was covered through lifting and surfacing operations. A new section tool house was erected at Amherstburg.

Equipment

An additional express car was placed in service early in the year and as traffic continued to increase it was found necessary in the autumn to secure an extra car.

Four new double-truck safety cars ordered during the preceding year were placed in service during the summer. This type of car has proved very satisfactory, especially for handling the "peaks" caused by the arrival of the ferry at Windsor. The urban municipalities served by the railway are developing very rapidly, causing a corresponding increase in traffic, and the double-truck car is now required for a considerable portion of the day. Special men have been detailed at heavy loading points to assist the single operator on these cars and the flexible control of the doors of the car permits the collection of fares at two positions, thus assisting in cutting down dead time at heavy loading points. The layout of these cars with their wider aisles and larger vestibules follows the latest approved standards. The additional motor capacity and strength that have been provided in the car body have been amply justified, and experience has shown that the Commission was well advised in not adopting the extreme, small-motor, light-weight car.

The Commission has endeavoured to make such improvements and repairs to the old rolling stock as are justified in order to obtain the full life of this equipment. The Commission has called for tenders on eight additional double-truck safety cars, very similar to those placed in service during the past summer. Automatic couplers and multiple-unit type of control will be provided, as well as the standard safety air-brake equipment, which should make these cars more flexible for the traffic demands. Special attention is also being paid to the control of the doors, with the idea of still further decreasing the time required for loading and unloading.

Operation

The Commission is pleased to report that the rehabilitation of the Essex division has been practically completed. Other anticipated improvements are under way, and the result of the last year's operation shows quite clearly that the revenue estimated by the Commission has been exceeded, while the cost of operation has been slightly less than that anticipated.

The population in the districts served by the railway has steadily increased for a number of years past. The increase in Windsor, which may be taken as representative, is as follows:

1919.....	7.79	per cent
1920.....	14.90	" "
1921.....	3.66	" "
1922.....	8.53	" "
1923.....	12.00	" "

The city of Windsor has 73 miles of street paving and 24 miles of alley pavement, with approximately 82 miles each of sewer and of water mains. Building permits for the last five years have averaged more than 1,200 per year.

1924

SECTION VIII

ELECTRIC RAILWAYS

ESSEX DISTRICT RAILWAYS

Way and Structures

The rehabilitation of the entire system was proceeded with. The more important improvements were as follows:

On Sandwich street east between Goyeau and Victoria roads the double track which existed on the northerly side of the street was replaced with a single track and two passing sidings. Block signals were installed. The new construction consisted of 85-lb., C.P.R.-section, relay rail laid in open construction on ties, fully tie-plated throughout, in crushed-stone ballast, located to the north of a 6-inch concrete curb. This construction eliminated a dangerous condition and has very materially improved the operating conditions. The entire deck and the track approaches on Peabody's bridge were removed and replaced by heavier construction, and a guard rail was installed on the approaches. From Peabody's bridge to Strabane avenue a new single track was constructed using 80-lb. A.S.C.E. rail with twin steel ties laid in concrete. On Sandwich street east, from Maisenville avenue easterly to Strabane avenue, the track was moved from the north side of the street to the centre, very materially improving conditions over this section. A new diamond was inserted by the Canadian National Railways on Sandwich street between Belle Isle and Cadillac streets for an industrial siding serving the Ford Motor Company.

On the Tecumseh division at Stop 17 an industrial siding was installed for the town of Riverside, using 56-lb. rail laid on treated ties with tie plates, lined and surfaced on crushed-stone ballast. On the Tecumseh division at Stop 27 a new passing siding was installed, using 56-lb. relay rail, creosoted ties, and tie plates, lined and surfaced on crushed-stone ballast. With the exception of that portion of the railway situated within the town limits of Riverside the entire Tecumseh division is now rock ballasted and, with the completion of bonding and other improvements, the line is now in first-class operating condition. A standard shelter was erected at Little River.

New double-track construction was started on Erie street, Parent avenue and Ottawa street and with the exception of that portion laid on Parent avenue the construction consists of 80-lb., A.S.C.E.-section rail, 60 feet long, laid on steel ties imbedded in concrete, with trap-rock wearing surface. The section on Parent avenue was laid, excepting intersecting street crossings, with 80-lb., A.S.C.E.-section rail, 60 feet long, on creosoted ties with tie plates, and crushed-stone ballast.

On Wyandotte street, Walkerville, new steel poles of joint ownership were erected, on which lighting brackets were installed by the town of Walkerville.

It should be noted, first, that the traffic handled and revenue secured have shown a gratifying increase in rate of growth as compared with the preceding years and, second, that the operating expenses per car mile have been kept within 10 per cent of the 1919 figure although employees' wages, cost of power and other items of expense have increased at a greater rate. These results could not have been secured if the improvement programme had not been carried out.

The operating expenses per car mile for the period immediately preceding the acquisition of the railway as compared with the corresponding figure for recent periods with the rehabilitation programme finished, possibly gives the best justification for the new expenditure incurred. It is well known that the company curtailed every possible expense for some months prior to turning over the railway and, therefore, the expense of 27 cents per car mile for such period, with practically no maintenance being done on either track or cars, was very much less than it should have been. Since that date wages of employees have been increased nearly 40 per cent, the cost of power has increased about the same percentage and practically every other charge also, including an amount to make up for the deferred maintenance, and yet the corresponding figure for the fiscal year 1922 is 29.5 cents per car mile. Many of the improvements were not installed until late in the summer, hence it is reasonable to anticipate a lower operating cost for the current year. The operating expenses per car mile for the month of November, 1922, were 25.4 cents or considerably below the corresponding figure for the last year under the old company control, when wages, cost of power, etc., were very much less and when no attempt was made to maintain the property in working condition.

It has been asserted that the Commission did not have the right to take over the existing railway on behalf of the municipalities until the 1920 Act was passed, i.e. some two months after the purchase deal was put through. This statement is incorrect as the amendment to The Hydro-Electric Railway Act passed in 1916 provided—

"The agreement may include.....the purchase
.....or running rights over any steam railway,
electric railway, etc., as part of the railway to be constructed by
the Commission."

Those who have made the above statements that the Commission was not empowered to take over the railway, have evidently been misled by section three of the 1920 Act passed about three months after the railway was acquired. This section repealing the corresponding section of the 1916 amendment was passed on the recommendation of legal counsel to make the clause more clear, but counsel, at the same time, maintained that the language of the original clause left no doubt respecting the right of the Commission to acquire a railway to form a part or a whole of any proposed line. It should further be pointed out that the Government itself recognized the Commission's authority to purchase the railways by passing orders-in-council authorizing the purchase agreement and the guaranteeing of the bonds, etc., and, still further, that the bonds were marketed and duly approved by the counsel of purchasers.

Guelph District Railways

Equipment

Previous to the acquisition of this road by the Commission, service was given with heavy, double-truck, two-man cars of a type suitable for heavy service in large cities. When it is pointed out that these cars, throughout the

improvements from which full returns were not secured until all had been placed in service and properly co-ordinated towards the end of the year. It should be noted that the deficit of \$4,385 is, after all, a relatively insignificant amount,—a fact which will be clear when it is realized that an increase in revenue of only one per cent or a decrease in expenses of the same amount would have entirely wiped out this deficit.

It is believed that much useful information can be obtained from a study of the annual statistics of operation over the past ten years and a graph of the more important items is, therefore, presented on an accompanying page.

The available traffic in any district is naturally a function of the population so it is encouraging to note that, during the decade covered by the graph, the population served has increased from 30,000 to 70,000—that is, it has more than doubled. This means that the inherent possibilities of the railway are very good indeed, especially when statistics of other corresponding districts indicate that the number of times per year the average resident uses an electric railway increases very rapidly as the population grows. This is but natural as, once a city has reached a certain size, the new population must settle in the outskirts at some distance from the business section and consequently must use the street cars to a greater extent than older population settled closer downtown. There is also a tendency for manufacturing plants to locate on the outskirts to secure proper railway sidings, lower taxes, etc., all of which increases the average riding per head of population.

The lack of adequate facilities to take care of the increased traffic is clearly shown by the curve of revenue passengers which, as pointed out, should have shown an appreciable improvement in riding habit when the population doubled.

The comparative returns for November, 1921, and 1922, show this to be the case as the passengers increased almost 10 per cent, due entirely to the new cars, track, other facilities and the more reliable service rendered in November, 1922, over November, 1921. There is every reason to anticipate that the coming year will show a considerable increase both in the riding habit per inhabitant and in the total revenue passengers handled, as the facilities are now much improved.

The same remarks are equally applicable to the curve of operating revenue. There should also be an improvement in the additional revenue secured from the non-resident or casual rider who is now charged six cents for his fare on local lines. This change was explained to representatives of the municipalities at a meeting in Windsor towards the close of the year.

It will be noted from the graph that the annual car miles operated by the old company remained practically constant during the last six years under its control. The number of passengers carried increased about 75 per cent during the same period. In other words the service (i.e. the car miles run per passenger) was very much reduced. This fault, as far as possible, has been corrected with the equipment that is available and still further improvement will be made if the municipalities authorize the purchase of the additional cars now being recommended by the Commission. The graph indicates that there was no increase in car miles given by the railway from 1913 to 1919 and that since then, under the Commission management, there has been an increase of 45 per cent. The lack of proper service in 1918 and 1919 resulted in there being no gain in passengers carried during that period and is in remarkable contrast with the period from 1919 to 1922 where an increase in service of 40 per cent resulted in a corresponding increase in passengers carried.

It has been asserted that the Commission paid about \$400,000 more than the depreciated value of the property at the time purchased. Those making such a statement have forgotten to take into consideration the fact that the purchase bonds were based on $4\frac{1}{2}$ per cent money whose face value at 6 per cent was only some \$1,500,000. The Commission's depreciated valuation was approximately \$1,650,000, i.e. slightly more than the purchase price. The Commission estimates that the actual physical value of the property is at least equal to or greater than the value of the outstanding bonds and that the net return from operation in the future will be sufficient to meet all operating and capital charges.

A statement that has been made that the line is over capitalized, does not bear investigating. In 1919 the capitalization was approximately \$2,000,000 and the gross earnings of the line in that year were \$377,000, while in 1922 the capitalization stood at approximately \$3,000,000 and the gross revenue was over \$570,000 so that the ratio of capital investment, as compared with the earning capacity, is considerably in favour of the 1922 condition.

The operating statement for the current year is technically correct, but it cannot be used as a guide for future years. The revenue was seriously affected by the more or less disorganization of service that occurred while the property was being rehabilitated and improved and by the inability to maintain a regular service with some of the older cars. The repairs to track and equipment have been practically completed and the most run-down of the cars replaced by those of a more modern and efficient type, thus it is reasonable to anticipate an increase in revenue for the coming year.

The operating expenses were adversely affected by the same conditions as the revenue only to a greater degree. It is impossible to record the difficulties that faced the operating staff in maintaining even the semblance of regular service with the dilapidated condition of track and equipment but it is hoped these difficult conditions are past and that the service may continuously be improved.

At this stage it may not be out of place to add a few words as to the stand the Commission has taken regarding a reserve fund for depreciation. The Accounting department, without a specific ruling from the Commission, commenced setting aside monthly amounts for depreciation from the date of purchase. The Commission has recommended that depreciation charges should be set aside for the utilities which it operates but when the returns from operation after completion of the rehabilitation programme were available and indicated that this work had seriously affected the net revenue, it was decided that it would be equitable to defer the depreciation charges until the property was placed in satisfactory working condition. It is now the intention to charge depreciation each month dating from November 1, 1922.

Before leaving this subject it might be well to point out that the Hydro-Electric Railway Act under which the Essex District Railways are operated does not call for the Commission to set aside a reserve fund for depreciation. Clause I (l) of the agreement between the municipalities and the Commission also makes it clear that depreciation should only be provided out of any surplus remaining after all other charges have been met. It is apparent that it is equitable to postpone the depreciation charges during the reconstruction period that is estimated to have been completed on November 1, 1922.

The operating statement for the year, shown in the next subdivision of this report, indicates a net deficit of \$4,385. This deficit was largely caused by the increase in interest charges to cover the new capital used for repairs and

Private industrial spurs have been constructed on River street, and into the properties of V. Benoit, Windsor, W. Mayrand, and the Martinette Realities Company on the Amherstburg division, and an interchange with the Essex Terminal railway was installed near the southerly limit of Ojibway. Increased yard capacity at the car barns was effected by purchase of additional land and extensions of trackage.

Considerable improvement has been effected throughout various portions of the interurban lines. A 6-inch lift of ballast was given to one mile on the Tecumseh division and one and one-half miles on the Amherstburg division, and weeds were removed from the remainder throughout. Some 9,000 ties have been replaced and some other necessary betterments made to the track.

Seven new shelters were erected and the old ones repaired and repainted. An additional steel span was erected over the Canard river and repairs made to other bridge structures. The new sub-station at Petrimoux Corners has been completed and alterations to the feeder system made to conform thereto. Up-to-date telephones and telephone boxes have replaced obsolete equipment.

Generally, the whole of the Essex district with the exception of the tracks on Sandwich street and on the Walker road route has been placed in first-class operating condition.

Operation

The Commission is pleased to report that the rehabilitation of the property to place it in fair operating condition is now completed and that the most pressing of the improvements required for reasonable operation have also been placed in service. The district served is growing so rapidly that more cars must be secured immediately and additional double track with some extensions must also be provided if the traffic offered is to be satisfactorily handled. A programme of suggested improvements is now being prepared and will be submitted to the municipalities for approval early in the new year.

The financial statements showing the balance sheet as of October 31, 1922, and the operating figures for the current fiscal year, will be found in the next subdivision of this section of the Commission's report.

The balance sheet shown, refers to the Sandwich, Windsor and Amherstburg Railway as the books must be kept in the name of that Company until all the outstanding bonds issued by the old Company are retired in September, 1927. The Commission's bonds for an equal amount are meanwhile in the hands of a Trust Company and are only delivered to the owners of the former Company as the old bonds are retired by them.

The investment of the municipalities in the railway is now made up as follows:

(1) Purchase price and allowance for imperative repairs at date of acquisition.....	\$2,100,000
(2) Rehabilitation and improvements as authorized by municipalities in 1921.....	900,000
	<hr/>
	\$3,000,000

Some \$2,000,000 of the above capital is in the form of $4\frac{1}{2}$ per cent, 40-year bonds used to purchase the property. This amount is equivalent to approximately \$1,500,000 on the basis of 6 per cent bonds so that the investment to date in ready money is about \$2,500,000.

Late in the year it was decided to purchase a motor express car and trailer to take care of the rapidly increasing freight and express traffic in this territory. Several offers are now receiving consideration and it is expected to have the new cars in service early in the new year.

For special heavy passenger service in Windsor and Walkerville, four double-truck safety cars have been ordered. These are now under construction and have been designed to facilitate rapid loading and unloading. They are to be equipped with all the latest automatic safety devices and may be operated either by one or by two men as the traffic demands. They will be delivered in 1923.

A new rotary substation at Petrimoux Corners on the Amherstburg line was put into operation during the year. The equipment is housed in a temporary galvanized iron structure as it was felt that the traffic developments in this section during the next few years will require further adjustment of the power supply. Previous to the opening of this station, all the power was supplied from the Salt Block station on Sandwich street, Windsor, and a booster was used for the Amherstburg line. Under these conditions about half of the energy supplied by the booster was dissipated in resistance on the trolley wire between Windsor and Amherstburg which resulted in most inefficient operation and low speeds. This condition has been rectified by the new station.

Track, Roadway and Buildings

During the year further rehabilitation and improvements were made to these facilities, as follows:—

The Ferry street loop, started last year, has been completed.

On Wyandotte street the old double track between Moy avenue and the easterly limits of the city of Windsor has been reconstructed using 56-lb. relay rails with creosoted ties on a 6-inch concrete base and plain concrete paving surface. On the remainder of the unreconstructed track on this street all joints have been lifted and the fish plates welded.

On London street repairs to the pavement were carried out.

Reconstruction on Ouellette avenue between Pine street and Sheppard avenue included installation of 85-lb. relay rail and tie plates taken from the Niagara development work. These were supported on creosoted ties and crushed stone ballast with a macadam paving surface.

From Sheppard avenue to Tecumseh road joints were repaired in a similar manner to those on Wyandotte street.

Steel combination light and trolley poles have been erected on Wyandotte street east to the city limits and on Ouellette avenue from Erie street north to Sandwich street. Some necessary changes were made in alignment on Wellington avenue when this street was paved and the track was resurfaced.

In Ford city the "Y" at the corner of Strabane avenue and Ottawa street was shifted and lowered so as to conform to the changes made last season in the Ottawa street tracks, and the Strabane avenue-Ottawa street curve relaid with 85-lb. rail on creosoted ties, the municipality having in both cases supplied an 8-inch concrete paving base. Between these points where Strabane avenue is being paved on either side of the track allowance, reconstruction has been carried out with 56-lb. relay rail, about 50 per cent. of the ties being renewed and the line resurfaced with rock ballast.

On London street, Sandwich, 500 feet of double track was replaced with 56-lb. rail and creosoted ties on crushed rock ballast and finished off with a tarvia pavement.

Guelph Radial Railway

In response to a resolution of the Guelph city council passed in September, 1919, the Commission made an investigation of the operation of this railway, and reports were submitted to the city on two propositions—one assuming the incorporation of the existing railway as a part of the Hamilton, Guelph and Elmira Railway, and a second on the basis of an independent railway. Both proposals were favorably voted upon by the electors. When action on the Hamilton, Guelph and Elmira Railway was held up in July, 1920, the city of Guelph requested the Commission and the provincial Government to permit the Commission to take over and operate the railway as a separate unit, as covered by the second above described proposition. The Government, however, ordered the project to be re-submitted to the electors before the transfer could be made. A new agreement was prepared providing for a sum of \$300,000, and was accepted by the electors at the annual elections, January, 1921. It was ratified by special Act in the same year, and the road was transferred to the Commission's management on May 1, 1921.

Toronto Suburban Railway

A resolution was received in 1921 from the city of Toronto requesting a report on this railway. A report was made recommending its purchase at a cost of \$2,778,000, which sum included an amount for betterments. By-laws and agreements were approved as authorized by the Toronto Suburban Railway Act, 1921, and were favorably voted on by the electors, January 1, 1922. The Dominion Government has given an option on the line on the basis that it will be a feeder to its trunk line railway. Details of the transfer are now being discussed.

REPORT ON WORK DONE DURING THE YEAR

Essex District Railways

Equipment

A large number of the two-man cars in the city service have been replaced by seventeen one-man, safety cars built according to the Commission's own plans and specifications. After considerable time and study had been given to a consideration as to the best type of car to be used, it was finally decided to provide double doors instead of the usual single-door design. The aisles were also made wider, and heavier motors, more comfortable seats and better heating were installed than had been used on similar cars in other cities. These cars are, of course, equipped with the usual automatic safety devices by which power is cut off, brakes applied and doors unlatched in the event of the operator removing his hand from the controller handle, through illness, negligence or for any other reason. The best possible fittings and equipment have been used and the cars represent the latest development of this type of rolling stock on the continent.

Service was given to certain districts of Windsor and Walkerville from which the traffic at present does not warrant the construction of rail lines, by four trolley buses operating on two routes. The buses also are the latest development of their kind and have several new features heretofore not used. The operation has been entirely successful up to the present time and has been remarked upon and inspected by electric railway operators from various sections of Canada and the United States.

thoroughly gone into it was found that a satisfactory agreement could not be made and the municipalities were so informed. Previous to this time a by-law permitting the company to increase fares had been defeated and the company stated they were unable to grant a wage increase demanded by their employees. The men went on strike and after some days without service, the Ontario Railway Board operated the road and granted the increases, the road being returned to the company about two weeks later.

Negotiations for the purchase of the road were re-opened shortly after this time and a satisfactory option was finally secured. By-laws and agreements were at once prepared, were sanctioned by the Government on October 16, 1919, and were submitted to the electors on December 6, 1919. Eight of the nine municipalities interested carried their by-laws and immediately agreed to assume the share of the township which had defeated the by-law. In 1920 the agreements were ratified by Act, and the Government, by order-in-council dated January 27, 1920, authorized the taking over of the road and guaranteed the Commission's bonds to the extent of \$2,100,000.

The transfer was made on April 1, 1920, and the Commission has since operated the road.

The amount passed upon by the electors, which was \$2,100,000, included, in addition to the purchase price, a small sum for badly needed immediate betterments only, as it was thought inadvisable to delay the taking over of the road until a complete study was made of the requirements of the system. During the winter of 1920 and 1921 a survey of the entire property was made to determine what further improvements could be recommended and a programme calling for an expenditure of \$900,000 was advised. This was approved by the municipalities and additional bonds to that amount were guaranteed by the Government on September 13, 1921. The betterments that were undertaken during the current year will be found under subdivision (3) and statistics of operation under subdivision (4).

Toronto Eastern Railway

Requisitions were received in 1919 from the municipalities along the uncompleted Toronto Eastern Railway from Toronto to Bowmanville, a distance of about 44 miles, asking that the Commission make a report on the acquisition and completion of this railway on behalf of the municipalities. The order-in-council authorizing this report was issued and a report was made recommending that the road be purchased and completed as it was found that it would be a self-sustaining utility. It was to cost completely equipped \$8,360,794. All the municipalities interested passed their by-laws and the agreements were validated by Act in 1920. Further proceedings were halted at this point pending the report of an investigating commission and the 1922 Radial Act cancelled all the agreements.

Hamilton, Guelph and Elmira Railway

After resolutions had been received from the municipalities in this district and on the authority of order-in-council, a report was made recommending that a new line be constructed from Hamilton to Galt and that purchase or running rights be obtained over the Grand Trunk Railway Branch Lines connecting Galt, Preston, Hespeler, Elmira, Kitchener and Waterloo, a total distance of about 80 miles. The construction and equipment costs were estimated to be

which means that these original agreements and debentures, that have been deposited with the Commission, are still legal and binding.

The original agreement voted on by the electors of the city of Toronto in January, 1916, and reaffirmed by the Council in July, 1922, specified that the route of the railway should extend westerly from the foot of Yonge Street to Sunnyside, "using Harbour Board property and private right of way wherever possible." It was therefore necessary to prepare a formal agreement to provide for the transfer of various lands from the city of Toronto to the Commission. Meetings were held with the various interested bodies and after an extended discussion a special agreement was prepared and authorized by the city council of Toronto.

Port Credit-St. Catharines Railway

Resolutions requesting a report on a railway through the Toronto-Hamilton-Niagara district were received in 1915 and 1916. A report was presented to the municipalities in 1916, recommending the construction of a railway from St. Catharines through Hamilton to Port Credit to connect with the proposed Toronto-London line at Port Credit. It was estimated that the cost of constructing and equipping this line, which was about 60 miles in length, would be \$11,360,363. By-laws and agreements were prepared, sanctioned by Order-in-Council, and carried by the electors in 1916 and 1919 in fifteen of the seventeen interested municipalities. As authorized by the Act, the fifteen municipalities agreed by resolutions to assume the share of the two which had not carried their by-laws. An order-in-council authorizing the construction of the line and guaranteeing the Commission's bonds to the above amount was passed on August 8, 1919. Approximately \$500,000 had been spent on right-of-way, etc., by the first of July, 1920, when all further commitments were held up pending the report of an investigating Commission.

The new 1922 Act exempted this line from its provisions and permitted that it be proceeded with under the old Act on condition that the municipalities reaffirm their desire to go on with the work. To the present date nine of the fifteen municipalities have passed the necessary resolutions and the electors in the remaining six will vote at the coming municipal elections.

Essex District Railways

1923

This railway system extends from Tecumseh through Windsor, Sandwich and other towns to Amherstburg, and previous to its purchase by the Commission was operated by the Detroit United Railway. Owing to the many separate franchises great difficulties were encountered by the municipalities in arranging with the company for extensions and betterments. As early as 1915 the Commission's engineers visited Windsor at the request of the city council to assist in various proposals then under consideration. Again in 1917, on requests of the various councils, a valuation of the property was made but the company was not prepared to sell until the expiration of its franchise. In 1918, by vote of the ratepayers, the Commission was again requested to report on the proposed purchase of the line. A report was made early the following year but as the company was still unwilling to dispose of its holding nothing further was done at the time.

Later in the year further resolutions were passed by the councils asking the Commission to continue active negotiations with the company. This was done and the company finally agreed to negotiate. After the matter was

tions of the work is of brick with a concrete roadbed. The excavation and concrete work is being carried on by contract, and the tracklaying, bonding and overhead work by day labour.

A single track loop is being installed around the block bounded by Sandwich, Ferry, Pitt and Ouellette Streets, with a view to eliminating the wyeing of cars at this point.

The whole of the above work is expected to be completed early in December, by which time it is hoped an order for 20 new one-man cars of the Brill double-door type will have been filled.

A resurvey of all property pertaining to the Essex District and the preparation of plans and profiles corresponding thereto has been in progress.

Guelph Radial Railway

In May, the Commission, at the request of the City of Guelph, took over the management of the Guelph Radial Railway. Subsequently, when it became apparent that the Government would not assume any financial or other responsibility in respect of the System, the Commission issued bonds to the extent of \$150,000 for the rehabilitation of the Guelph Radial. These bonds were secured by an issue of City of Guelph debentures of like amount.

In addition to other much needed betterments which have been undertaken, a contract was let on October 15th for excavation, concrete and paving in connection with the replacement of some 2,500 ft. of worn out track on Woolwich, Wyndham, Carden and Wilson Sts. by new construction of the same general standard as that employed on the Essex District. Arrangements have also been made to retire some obsolete equipment and substitute therefor 8 new one-man cars of the type ordered for the City of Windsor.

Peterborough Radial Railway

No extensions to this system have been undertaken during the year. In July, the three old C.P.R. crossings on George St. were replaced by one manganese and two built-up diamonds.

LABORATORIES DEPARTMENT

The past year has been notable by reason of the large increase in volume of work necessitated by the Queenston-Chippawa Power Development. This undertaking has affected all sections of the Laboratories, particularly the Engineering Materials, the High-Tension and the Photographic sections.

The work of inspecting cement, concrete materials, and steel for the generating station, for bridges, for concrete reinforcing and for penstocks, etc., devolved upon the Engineering Materials Laboratory. There was in addition a great volume of miscellaneous inspection. This work is described in greater detail below.

The High-Tension and Electrical Testing Laboratory was frequently called upon to render assistance to the Engineering Department in connection with the design of the Generating Station and the purchase of materials such as bus-bar insulators, generators, and transformers. This laboratory has also rendered assistance to, and is at present working in co-operation with, the Hydraulic Department, in efficiency tests on the power plants at Niagara Falls.

All sections of the Laboratories Department have done a considerable amount of commercial work, including calibration of meters, photometric tests, electrical tests on motors, transformers, etc.

No items of equipment of large size were added during the past year, but in many ways the equipment was made more efficient and more suitable for the purpose intended. In this work and in the construction of small pieces of necessary equipment, the laboratory workshop has been of value and effected

SECTION VII

GENERAL ACTIVITIES OF THE COMMISSION

ELECTRICAL INSPECTION

Previous reports have described in detail the general activities of the Electrical Inspection Department, and as the work in general does not vary to any great extent, it is unnecessary to enumerate again the routine work.

During the year the number of paid applications for the inspection of new wiring aggregated 84,352, while the number of inspections made was 160,873.

There has been a marked increase throughout the province in the use of current-consuming devices of all kinds, particularly electric ranges, the number of these installed this year being greatly in excess of other years. This, no doubt, is due in a large measure to the activities of local Commissions, many of whom have established merchandising departments and carry a full line of ranges and other appliances which they are prepared to sell and instal at very reasonable prices, thus encouraging their use.

With the contemplated extension of the Commission's lines, the present indications are that the Inspection Department will have a very busy year in the rural districts, as the farmers are taking advantage of "Hydro" power and are equipping their farms with modern electrically operated appliances.

Considerable time has been devoted to the inspection of old installations during the past year and this department has been successful in persuading many owners to have their wiring remodelled and overhauled, at an approximate cost of \$584,450. These necessary improvements eliminate the fire and life hazard associated, in many cases, with old and obsolete installations.

HYDRO-ELECTRIC RAILWAYS

Proposed New Railway Lines

No further surveys have been undertaken in connection with the proposed Railway lines, for the construction of which by-laws have been passed by the interested municipalities.

The compilation of new estimates and preparation of the large mass of other information requested by the Radial Railway Commission continued, during the past year; to involve a considerable amount of office work.

Essex District.

Late in the year—the Government having guaranteed the Commission's bonds to the extent of \$900,000—some extensive betterments to the system were proceeded with. These included the laying of new 60 lb. rail on rock ballast on Ottawa St., Ford City, from Strabane St. to the easterly city limits, and installing an interchange with the G.T.R., and double tracking of some 4,000 ft. of single track and sidings on Ouellette Ave. north of London St., and 3,200 ft. of single track on Wyandotte St. between Moy and Glengarry.

This new construction consists of 80 lb. 60 ft. rails, of standard section, on steel ties embedded in concrete, with pavement of the same material. At intersections 114 lb. rails of the grooved girder type on oak ties are used in conjunction with manganese steel special work, the pavement on these por-

Power Transmission Line, miles surveyed and mapped..	3
Power Transmission Line, miles mapped only	38
Power Canal, Power and Substation Sites, acres surveyed and mapped	441
Railways, miles surveyed and mapped	60
Deed Index Cards recorded	100
Other Index Cards recorded	1,022
Deeds entered in Record Books	313

Toronto Suburban Railway

A valuation of this property, segregating the portions which might be operated as part of the Toronto Street Railway System, was made as a check on the sale price approved by the Dominion Government. A survey and estimate were also made for a connection between the Guelph branch near Lambton and the proposed main line of the Toronto-Niagara Division via the old Belt Line of the G.T.R.

Niagara, St. Catharines and Toronto Railway

An option on this line, in addition to those on the Toronto Eastern and Toronto Suburban Railways was obtained from the Dominion Government in June, and, as in the case of these latter, a check on the purchase price was made by valuating the physical assets. The estimated cost of an independent line between St. Catharines and Niagara Falls was also made, using as a basis a location run in the autumn of 1919.

Peterboro Street Railway

In order to conform with certain street improvements contemplated by the City Council, and at the same time to renew some of the original track which had fallen into disrepair and become obsolete, the Commission during the past season had the old 56-pound rails removed from George street for a distance of 2,340 feet and replaced with new 85-pound steel on a concrete foundation with pavement of the same material for the width of the roadbed.

Essex Division

In accordance with the by-law passed by the interested municipalities in December, 1919, the Sandwich, Windsor and Amherstburg and Tecumseh lines of the Detroit United Railways were taken over by the Commission on April 1st of this year and have since been operated by it as the Essex Division of the Hydro-Electric Railways. During the succeeding seven months some much needed betterments were proceeded with. These included increasing and rehabilitating equipment, double tracking 3,500 feet on London street from Ouellette to Elm street, installing new "Y" at the Ford Plant and renewing turnouts and intersection at corner of London and Ouellette streets. Studies were also made for a proposed down town loop in order to relieve present congestion and improve operating conditions. An estimate has been prepared for a new Belt Line in Walkerville and Windsor, which it is expected to construct in 1921. Numerous betterments to equipment and roadbed are expected to be undertaken in the near future that will materially improve the service on these lines.

One Mile House.

Ontario Hydro Electric Rys., Essex District.—Authority has been obtained for the expenditure of about \$1,000,000 on these lines for new track, rehabilitation of present track, equipment and power substations, the greater part of which will be expended this year. The expenditure will be divided as follows:—maintenance of way, \$580,000; equipment, \$320,000; substations, \$100,000. The initial expenditures will be made on 3 track jobs in Windsor, as follows:—double tracking of present single track line on Ouellette Ave. between Pine St. and Tecumseh Road, 4,500 ft. The present single track will be moved off street center, and new excavation made for the double track line track allowance. On Wyandotte St. between Ouellette Ave. and Wellington St., 3,900 ft., new double track will be built. In the downtown district, on Chatham, Victoria and Park Sts., a single track loop will be installed. The tracks on all 3 jobs will be in pavement surface; steel ties and 100 lb. A.R.A. rail will be used, and the joints will be welded by the Thermit process. The track foundation and paving work will be done by contract. Tenders have been called for at the time of writing, June 16, and it is expected that work will be under way early in July. The tracklaying will be done by the management's forces. The tubular steel poles which will be used for the overhead will also carry the city's street lights.

The appropriation for equipment as given above has been used in part to pay for the 10 cars bought in the United States, mentioned under "Electric Railway Rolling Stock" elsewhere in this issue. Plans for the acquisition of additional equipment are being made. Additional track work and work on the substations will in all probability be proceeded with later this season.

By The Hydro

The Windsor, Essex and Lake Shore Rapid Ry., information as to the operations, probable future, etc., of which was given in Canadian Railway and Marine World for March, on pg. 156, will, in all probability, be taken over by the municipalities which it serves, and handed to the Hydro Electric Power Commission of Ontario Railways Department for operation. As stated in the article referred to, the municipalities, by bylaw, authorized the H.E.P.C. of O. Railways Department to make a survey to determine the cost of rehabilitating the property, the profit or loss possibilities, etc. This work has been under way during the past month, and we are advised officially that the survey will be completed and a report prepared early in May.

MOTOR BUS DEPARTMENT.

once routed across the bridge.
Windsor, Essex and Lake Shore Rapid
Ry. is, we are advised officially, building a
30 x 16 ft. extension to its fruit shed at
Leamington, Ont.
Winnipeg Electric Co.—A press report
states that a sub-committee of the city
council's committee on public improve-

Canadian Railway & Marine World - 31

3/1926 137 Essex

The management expects delivery shortly of one interurban type ad 3 double end double track safety type, 400 class cars ordered from Ottawa Car Co. - Traffic on the Essex District increased from 70,000 to 80,000 passengers a week compared to a year ago making more rolling stock an urgent necessity.

March 1926 p142

O H & Ry's Essex District

- negotiations Feb 18 and 19 relative to track construction plan D.T. Wyandotte St - single track line paralleled to Essex Ferry Rd between Wellington & Felix Sts in Sandwich 1 mile
- D.T. Ouellette Ave.

April 1926 p201

O H & Ry's Essex Dist has received from Ottawa Car Mfg Co the interurban type car ... and has bought from an agency in New York City the 10 all steel double track cars

Delivery expected after 3/23

16

Cdn Ry & Marine

April 1920 p198

The Windsor Essex & Lake Shore
has bought 3 second hand
Passenger Cars.

May 1920 p 259

The W&E & S Ry has bought
a steam shovel from F. H. Hopkins
for its gravel pit

enter cars.

The Hydro Electric Power Commission of Ontario has received one safety car out of an order of 25, from Canadian Brill Co., for operation on the Hydro Electric Radial Rys., Essex Division, at Windsor, Ont.

Members of the Montreal Chamber of

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work is in progress. (Jan. pg. 42).

Ontario Hydro Electric Ry.—Essex Division.—Four spurs are reported to have been laid from the main line on Sandwich St., Windsor, to the Detroit River bank, to facilitate the shipping of beer to the United States. (Aug., pg. 429).

Beer
switch

1,000 a day. (Oct., pg. 430.)

Ontario Hydro Electric Rys.—Essex Division.—Tenders were received by the Hydro Electric Power Commission of Ontario to Oct. 6 for building a double track electric railway on Ouelette Ave. and Wyandotte Ave., Windsor, Ont. This is a portion of the work proposed to be done on the old Sandwich, Windsor & Amherstburg Ry., out of the \$900,000 recently appropriated for the rehabilitation of the line, of which the City of Windsor is providing \$457,500. (Aug., pg. 434.)

Windsor Ry. Light & Power Co. is. we

up recently with its employees.

Hydro Electric Railways—Essex Division.—We are officially advised that the agreement between the management and the employees on the lines in and around Windsor, Ont., made in 1920, has been extended for a year, after having been under negotiation from early in June. The men asked an increase of 5c. an hour on the rate of 45c. an hour for first year men, increasing to 55c. an hour for long service men. These old rates will stand for another year, and we are advised that the only alteration made in the agreement is that there is a fixed allowance for uniforms instead of 50% of the cost.

London St. Ry.—We are officially ad-

tracks at Bridge St.

Windsor, Essex & Lake Shore Rapid

Ry.—We are officially advised that the company proposes to build a siding of about 800 ft. into its terminal at Leamington, Ont.; and to lay about 4,750 ft. of paving in Kingsville, Ont. It is in the market for 3,000 no. 1 white oak ties and 100 tons of 85 lb. rails, C.P.R. section.

Windsor Electric Ry.—An extension

ways Co. to build it. (May, 1911)

Ontario Hydro Electric Sys. Essex Division. — A Windsor, Ont., press report says that T. U. Fairlie, of the Hydro Electric Power Commission of Ontario, has informed the city council's transportation committee that new switches, which will eliminate delay and congestion at Devonshire Road, Walkerville, will be built on Walker Road, that the north track on East Sandwich St., will be rebuilt as soon as the south track is removed, and that double end cars will be used on the Walker Road run.

— Windsor Daily Star

t to Guelph, and for other purposes. (Jan.
1921, pg. 36.)

Windsor, Essex & Lake Shore Rapid
Ry.—We are officially advised that the
company is contemplating building a sid-
ing into its proposed freight terminal at
Leamington, Ont., and erecting a freight
shed and office. A. Eastman is Vice Pre-
sident and General Manager, Kingsville,
Ont. (Dec., 1921, pg. 660.)

(Jan., pg. 86.)

Hydro Electric Ry.-Essex Division. —
Plans for extensions and improvements of the electric railway in Windsor Ont., which include some second track work, in addition to other betterments, are under consideration by the Windsor City Council in connection with the repavement of the streets. It is said that the percentages paid to the city by the old Sandwich, Windsor & Amherstburg Ry. Co. were used in connection with the paving on the streets on which the rails are laid, and it is claimed that the cost should be borne by the users of the cars and not by the ratepayers generally. (Feb., pg. 92.)

pg. 210.

Hydro Electric Ry.—Essex Division.—

A press report states that Windsor, Ont., city officials state that paving on Ottawa and other streets cannot be started until the Hydro Electric Power Commission of Ontario is ready to lay the new tracks for the electric railway. The new track work outlined by the Commission includes lines on Ottawa St., Parent Ave. and Erie St., Windsor, and on Monmouth Road, Walkerville. (April, pg. 213.)

London & Port Stanley Ry.—The ques-

the result that it was reported, Dec. 9, that an arrangement had been made.

124. The hearing of the New Brunswick Power Co.'s appeal in connection with the fixing of the original cost of the company's investment in St. John, N.B.; for street railway purposes, has been concluded before the New Brunswick Court of Appeal and judgment reserved. The special commission appointed by the N.B. Legislature in 1918, after an investigation, fixed the value of the investment at \$2,800,000 on which a return of 7% was to be secured. In the appeal, the St. John City Council asked for a reduction to below \$2,000,000, while the company argued that it should be increased to about \$5,000,000.

The Sandwich, Windsor & Amherstburg Ry.'s Superintendent suspended 4 conductors and motormen, in connection with their alleged refusal to handle a broken live trolley wire in Nov., 1919. The matter was referred to the Ontario Railway and Municipal Board, which sent the following telegram to the company's General Manager: "Ontario Railway and Municipal Board, on report of inspector, finds fault in car house foremen not acting promptly when telephoned, and finds motormen and conductors in fault in not telephoning between 9 and 11.30 o'clock, and orders reinstatement forthwith of 4 suspended employees and payment to them of half pay for period of suspension."

Electric Railway Track Laid in

January
1920
p36

LETTERS IN THE SERVICE FILE NO. 10000.

Sandwich, Windsor and Amherstburg Ry.—We were officially advised, Jan. 15, that it was expected that the Hydro Electric Power Commission of Ontario will assume control of this railway, the purchase of which was authorized by bylaws, passed by the nine municipalities interested, on Dec. 6, 1919, about the middle of March. Until the transfer is made the railway will be managed by the same staff as heretofore. One of the conditions of the transfer is that any of these officials shall resign on request from the commission.

Sarnia St. Ry.—A member of the Hydro Electric Power Commission of Ontario's engineering staff visited Sarnia, Ont., recently and it was reported Jan. 16, that complete survey of the Sarnia St. Ry. and its possibilities would be commenced by the commission's engineers during February. It is expected that as the result of the survey a proposition will be made to acquire the line by the city, and to extend it.

Toronto Suburban Ry.—On Oct. 16.

782

February
1920

Sandwich, Windsor and Amherst- burg Railway Transfer.

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The Sandwich, Windsor and Amherst-
burg Railway, which operated under
lease the Windsor and Tecumseh Elec-
tric Railway, both being owned by the
Detroit United Railway, was transferred
to the Hydro-Electric Power Commission
of Ontario at midnight, March 31, and
is now being operated as the Hydro-
Electric Railway, Essex Division. The
lines aggregate 41.342 miles and connect
Tecumseh, Ford, Walkerville, Windsor,
Sandwich, Ojibway and Amherstburg.
The transfer is the culmination of an
agitation started by the people of the
border districts early in 1918, for better
service and improved lines. The wage
and fare questions also became acute,
and a seizure of the lines by the Ontario
Railway and Municipal Board resulted
before a settlement of wages was effect-
ed. An appeal to the Hydro-Electric
Power Commission of Ontario followed,
with the result that an agreement for
the sale of the properties was reached,
which was approved by the electors
Dec. 6, 1919. The Commission being au-
thorized to issue bonds for 40 years guar-
anteed by the municipalities served.

The lines are being operated under W.
N. Robertson, General Superintendent of
the Hydro-Electric Power Commission's
railway division. The principal officials
of the S. W. & A. Ry. have left the ser-
vice and new officials have been appoint-
ed, particulars of the appointments be-
ing given under "Mainly About Electric
Railway People," on this page.

P258

MAY, 1920

Sandwich, Windsor and Amherst- burg Railway Transfer.

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ing given under "Mainly About Electric
Railway People," on this page.

MAY 1920
P258

May, 1920.

CANAI

Electric Rail

The Peterborough, Ont., Radial Ry. will, a press report states, put one-man cars on all its lines.

The Quebec Railway Light and Power Co. has received 5 cars from Ottawa Car Manufacturing Co.

The Hydro-Electric Power Commission of Ontario has ordered 3 bodies for 50-ton electric locomotives, from Canadian Car and Foundry Co.

The Windsor, Essex & Lake Shore Rapid Ry. has bought a steam shovel from F. H. Hopkins & Co., Montreal, for its gravel pit.

MAY 1920
P259

WORLD

July, 1920.

Electric Railway Projects, Construction, Betterments, Etc.

Calgary Municipal Ry.—R. A. Brown, Superintendent, has reported that extensive reconstruction of double track lines will have to be done at the rate of from five to seven blocks a year, at a cost of about \$11,000 a block, or \$12,500 a block if heavier rail is used; and reconstruction of line on unpaved streets at the rate of six blocks a year at a cost of \$6,000 a block. The estimated total cost of this reconstruction is about \$91,000 a year for the next five years. He proposes that \$60,000 a year be taken from depreciation fund and that the balance be made up from revenue. June, pg. 316.)

Hydro Electric Ry. (Essex Division). We are officially advised that a second track is being built on London St., Windsor, Ont., from Onelette St. to Wellington St.; and that the car shop on London St. is being rebuilt. The new work will provide a new repair pit, an armature room, a blacksmith shop and a machine shop. (See Sandwich, Windsor & Amherstburg Ry., June, pg. 316.)

New Brunswick Power Co.—We are

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line westward on King St., to the
rick survey. (Aug., pg. 450.)

Hydro Electric Ry., Essex Division.—
We were officially advised Aug. 10 that
it was expected to begin laying about a
mile of second track on London St.,
Windsor, Ont., between Aug. 23 and 30.
(July, pg. 392.)

Levis County Ry.—A press report of

September 1920

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The extension of the Mimico Division from Long Branch has been completed to Port Credit, Ont., and a car service has been placed in operation.

Windsor, Essex and Lake Shore Rapid Ry.—

Dr. Jas. Brien, ex-M.P. for Essex, is quoted as saying:—"The grading of the roadbed will be finished between Kingsville and Windsor, Ont., next week, and this will be followed by the laying of tracks at once. The water-power of Niagara Falls will be used when Detroit and Buffalo are connected. The distance is 229 miles. The route will be from Windsor to Essex, Kingsville, Leamington, Wheatley, Tilbury, Chatham, London, and thence to Buffalo. Detroit capital is largely interested in the company." A mortgage to the National Trust Co. of the property and franchises of the company, to secure an issue of bonds for a sum not exceeding \$20,000 a mile of the company's projected line, has been filed with the Provincial Secretary, Toronto. (Nov., pg. 543.)

— — — — — **Meetings, Etc.** — — — — —

Oshawa Railway Rolling Stock Orders.

The Oshawa Ry., Oshawa, Ont., has ordered 2 double truck, double end, passenger cars from Ottawa Car Manufacturing Co., for delivery in April. They will be of the latest design, 33½ ft. long, wooden bodies, and steel underframes. It has also ordered an electric locomotive from Canadian Westinghouse Co., of 43 tons capacity, equipped with four type 552 motors, having an output of 75 h.p. each when operated at 600 volts, and of 95 h.p. each when operated at 750 volts; and HLF multiple unit, double end control. The continuous tractive effort will be 9,000 lb., or 11,200 lb. for one hour, and a maximum of 21,500 lb. The motors will be equipped with helical forged steel gears and pinions, and the air brake equipment will be type 14-EL double end control, including 2 type D-3-M compressors. Length between coupler knuckles 32 ft. 7¼ in., length between bumpers or end frames 29½ ft., height over roof 11 ft. 10½ in., total wheel base 22½ ft., wheel dia. 33 in., width over all 10 ft. A switchman's step and rigid drawbar will be fitted, instead of the usual pilot and radial drawbar. The drawbar pull will be transmitted through the cab underframing and center pins, and each driving axle will be equipped with an independently geared motor, the weight of which will be carried partly on axle bearings and partly on the truck frame. All the cab equipment will be easily removable through the doors and windows.

An underframe has also been received from Ottawa Car Manufacturing Co., for an electric locomotive, which the company is rebuilding in its own shops, and increasing its weight from 28 to 40 tons.

Answers to Questions on Electric Railway Topics.

Answers to questions in the American Electric Railway Association's question box have been sent as follows by J. M. Ahearn, Assistant Manager, Ottawa Electric Ry.:-

Life of Commutators.—Have any companies figures as to the life of commutators on their non-interpole motors? Depends on condition, tension of brushes and composition of commutators, etc. Have observed ½ in. wear in 54,000 car miles.

Axles Cracks.—Has any member company a method of locating cracks or checks in axles other than by the hammer test? Clean well and coat with whitening. When dry, cracks will be quite discernible.

Motor Repair Work.—In connection with car repair work, how do mechanical and electrical failures divide? Our mechanical repairs, including gears, etc., were believed to be about 75% of the failures.

Split Type Motors.—With split type motors, which is preferable, to swing lower half, or to take out hinge pins and lower the bottom half on the pit jack? Our practice has always been to swing the lower half.

Tightening Bearing Shells.—What is the most satisfactory way to tighten bearing shells which have worked loose in the bearing housings? Our practice is to rebore and install oversize bushing. They can be pressed in with a shim.

Guard Rails on Bridges.—What is the practice of member companies with reference to the installation of auxiliary inside steel guard rail on bridges? (b) What weight of rail is used? (c) How

frequently is it spiked to ties? (d) What is the distance between gauge line of running rail and face of guard rail? (e) How many bolts are used at joints? (f) How are ends of rails finished and what distance do they extend beyond each end of bridge? (a) Both running rails paralleled on the inside. (b) and (c) Same as running rail. (d) About 8 in. (e) Full bolted. (f) Tapered. We believe the farther extended, the better.

Cinders as Ballast.—Are any companies using cinder material as a top ballast or a sub-ballast? If so, has its use been found detrimental to the life of the ties, rails and bonds? We use cinders as top ballast, and there has been no noticeable change.

Canadian National Railways Electrification for Toronto District.

Canadian Railway and Marine World for January, gave on pg. 27, details of the Canadian National Ry.'s tentative plans for providing an electric railway service into Toronto, Ont., from the east, by utilizing a portion of the Canadian National line between Toronto and Trenton, Ont., now operated as the Orono Subdivision of the Ottawa Division, Ontario District, and the Toronto Eastern Ry. We are advised that E. W. Oliver, General Superintendent, Electric Lines, C.N.R., has made a report on the situation as concerns electric traction east of Toronto, which is now in the C.N.R. management's hands.

During the recent municipal elections in Toronto, when a bylaw to permit entrance of a radial electric railway to be built by the Hydro Electric Power Commission of Ontario, into the city was defeated, the possibility of the C.N.R. furnishing an electric railway service between Toronto and Niagara Falls was widely discussed, and a statement made by Sir Henry Thornton, President, C.N.R., concerning the situation, was published in our January number. We are officially advised that Mr. Oliver has also made a report on a proposed programme of rehabilitation and expansion for the Niagara, St. Catharines & Toronto Ry., but no official information is available as to what investigations have been made with a view to linking up Toronto with Niagara peninsula points by electric railway service to be furnished by the C.N.R. This matter will, however, doubtless occupy the management's early attention.

Toronto Ry. Arbitration.—Mayor Alfred Maguire, in his inaugural address to Toronto's new city council recently, said:—"The arbitrators have not yet given their award determining the value of the Toronto Ry. Co.'s assets taken over by the city on the expiration of the franchise on Sept. 1, 1921. The arbitration began in June, 1921, and in July was adjourned until Sept. 19, on which day the real taking of evidence began. Altogether there were 158 days of sittings, and the matter was gone into thoroughly. The taking of evidence was finally completed on Nov. 29, 1922. The great length of time required to hear the evidence was occasioned largely by the fact that the reproduction value of the property, both on prices averaging throughout three years previous to Sept. 1, 1921, and on Sept. 1, 1921, was put forward strongly by the company, and had to be met by the city. This went into the greatest detail. I hope the making of the award will not be long delayed."

Safety Cars for Ontario Hydro Electric Rys., Essex Division.

The Hydro Electric Power Commission of Ontario has ordered 4 one-man-two-man double truck safety cars for the Ontario Hydro Electric Railways, Essex Division. They will be equipped for double end operation, and will have the following dimensions:

Length over all	43 ft. 9 in.
Length over vestibules	42 ft. 6 in.
Length over bulkheads	38 ft. 9 in.
Width over side sills	8 ft. 3 13/16 in.
Width over all	8 ft. 5 in.
Height rail to top of floor	2 ft. 7 3/4 in.
Height rail to top of roof	10 ft. 0 1/2 in.
Post spacing	2 ft. 6 in.
Truck centers	20 ft.
Passenger seating capacity	52
Weight	34,000 lb.
Wheel diam.	26 in.

As the designation of the cars indicates, they will be suitable for one or two-man operation, and it is the intention to run them as two-man cars during rush hours and as one-man cars at other times. They will be equipped with 4 double doors, one at each corner, and a unique feature will be that the door operation will not only be interlocked with the control apparatus, but also with the brakes, so that when the doors are open, movement of the car will be prevented, not only by the impossibility of getting current to the motors, but also by the brakes being applied. Two trolley poles will be applied. The cars have been ordered from St. Louis Car Co., St. Louis, Missouri. The air brake and electrical apparatus will be supplied by Canadian General Electric Co. and the trucks by Taylor Electric Truck Co., Troy, N.Y. The cars are to be used in local service in Windsor, Walkerville and Sandwich, Ont.

The London & Port Stanley Railway Co.'s directorate for this year is composed of the following London City Council members: Mayor Weinge, Aldermen Watt, Judd, Greer, Drake, Colbert, Patterson, Burdick and Wilson. The railway, however, is operated by the London Railway Commission, on which there were two vacancies, the term of office of P. Pocock and F. E. Harley having expired. Nine names were submitted for the position at a private preliminary meeting of the council, Jan. 6, when, after several votes, F. E. Harley was re-chosen, and D. Wright was chosen in place of P. Pocock. At the open meeting of the council, Jan. 8, an effort was made to reinstate P. Pocock, but the previous decision was confirmed by 9 votes to 3. At the inaugural meeting of the Commission, Jan. 15, Sir Adam Beck was re-elected chairman, and F. E. Harley, vice chairman. P. Pocock is a member of the London Public Utilities Commission, which has charge of the electric light and power undertaking, waterworks, etc., and at the inaugural meeting of that commission, Jan. 12, was elected chairman of the playgrounds committee.

The Montreal Electrical Commission is reported to have awarded the Montreal Tramways Co. \$27,721.39 for overhead material expropriated by the city in districts 4 and 6, in order to clear the streets of unnecessary wires and place them underground. The wires in question had not been used for a considerable time.

Montreal City Council has appointed a committee to study the tramway situation in the city. The committee was instructed to consider the advisability of allowing traffic in both directions on St. Urban St., between Ontario and St. Catherine Streets.

located. The blacksmith shop, machine shop and carpenter shop are fitted up to take care adequately of running repairs on electric car bodies and trucks, and the armature and air brake repair shops are equipped to take care of the motor and air brake work. A feature of the construction is that a hoist has been installed to lift armatures, motors, etc., out of the car barn portion of the building and to transfer them into the armature shop in the one straight line movement. Stairs leading to the boiler room and coal storage space in the basement, and leading to the armature shop and air brake repair shop in the second story, are located between the machine shop and carpenter shop. The building is heated by steam, with the low pressure system.

The interchange platform, provided jointly by the Hydro Electric Power Commission of Ontario's Railways Department and the Toronto Transportation Commission, was built by Toronto Transportation Commission forces, and the umbrella shelter, also provided jointly, was built by the Metallic Roofing Co., Toronto. The contractors for the station, and car barn, repair shop and freight house building, were Sullivan & Fried, Toronto. The buildings were designed by J. C. Crumm, Designing Engineer, Railways Department, Hydro Electric Power Commission of Ontario. Construction was in charge of T. U. Fairlie, Engineer, Railways Department, H.E.P.C., and the design and construction were carried on under the supervision of F. A. Gaby, Chief Engineer, H.E.P.C. Construction was begun about Nov. 1, 1922; all trackage and overhead work were completed Jan. 15, 1923, and the station and car barn and freight shed building were completed and placed in operation March 15.

The new facilities will serve the Hydro Electric Railways' Toronto and York District, Metropolitan Division, including the branch line from Aurora to Schomberg, formerly the Schomberg & Aurora Ry.

Street Car Traffic Conditions in Montreal.

Lt.-Col. J. E. Hutcheson, General Manager, Montreal Tramways Co., is reported to have said, in a recent interview:—"At two points the limit of density has practically been reached, so that it would not be possible to add additional cars during the rush hour. These points are Bleury St. and St. James St. from Place d'Armes to McGill St. The matter is receiving earnest study by the company and the commission. During the rush hour period we are operating 760 cars, a greater number than ever before. The week-day average of revenue passengers carried numbers approximately 600,000, with an additional 200,000 carried on transfers. Yet, despite that large number, the average number of passengers carried per mile is only 8.5, so that there are periods when travel is very light. Our car mileage is greater than ever before.

"One of the causes of trouble arises from the fact that the winter peak load is carried in a briefer period, between 5.30 and 6.30 p.m. In the summer the load is carried over a longer period, beginning at 4 p.m. As a matter of fact, there are no complaints in the summer, it is only in winter that complaints of overcrowding and delays occur. There are several causes for this. The effort to carry the people by putting more cars

in operation causes density of traffic. Take, for instance, the corner of Bleury and St. Catherine Streets, where a car moves in each direction every 15 seconds. In addition to that, there is considerable vehicular traffic, and motors get in between cars, further adding to the rush hour congestion. I think it would be a good plan to direct the vehicular traffic through other channels during the rush hour period. If this were done, it would greatly facilitate the movement of trams across this intersection. Similarly, if vehicular traffic could be diverted from McGill St., intersection trams could be moved across there more expeditiously. For instance, instead of stopping the westbound trams opposite the Bank of Nova Scotia, they could be shot across to the square and this would permit the trams turning at McGill to swing out of the way. As it is now, there are

service, and he was asked if that had received any consideration. He replied: "Buses could be used as auxiliaries and as feeders. Conditions in Montreal are against autobuses. In summer on asphalt roads they are all right, but in the winter they would be severely handicapped. Even in a good limousine, with nice springs, travel on winter roads is none too pleasant. In a motor bus with solid tires and chains, the experience would be most unpleasant.

"Costs now are more than double what they were previous to the war. This is due to the great increases in wages and in the costs of materials. It is true that fares have been increased 50%, but it requires the exercise of great care to prevent the expenses from rising too high and crossing the border of revenue."

Windsor, Essex and Lake Shore Rapid Ry. Organization Changes.

A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., who has desired for some time to give up the General Managership, resigned it Oct. 31, 1922, but it was only accepted recently. He remains a director, and as Vice President, and will go into business in Windsor, Ont., in the near future to handle financial investments, real estate, insurance, valuations and adjustment of insurance claims.

T. P. Pinckard, President, has assumed executive charge of the company's affairs, with office at Windsor. He is Manager of the Dominion Traction & Lighting Co., which is a holding company for the Windsor, Essex & Lake Shore Rapid Ry. Co., and the Windsor Gas Co. He has announced the following organization, with offices at Kingsville:—

C. P. Cooper, heretofore Superintendent, to be General Superintendent, in charge of all departments, and reporting to President.

E. S. Hughes, heretofore Traffic Manager, to be Assistant General Superintendent, respecting all employees and departments, also Traffic Manager.

H. F. Macdonald, Auditor, continues in that position.

George C. Graham, heretofore Superintendent of Shops and Rolling Equipment, to be Superintendent of Power and Equipment, in charge of power house, shops and rolling stock.

C. G. Loop, heretofore Roadmaster, to be Superintendent of Way and Structures, in charge of tracks, roadway, overhead lines and gravel pit.

Fort William Municipal Railway Matters.—A. B. Ingram, Vice Chairman, Ontario Railway and Municipal Board, visited Fort William recently, and met the acting mayor, the city's public utilities committee, and some city officials, in connection with matters relating to the municipal railway. The city agreed to replace a Y, which had been complained of, by a loop, as soon as weather will permit. On Dec. 29, 1922, the Board approved of 5 one-man cars, and on Jan. 15, of 4 more, for operation on the railway, but there was some delay in issuing an order, on account of the law stamps required. This was adjusted satisfactorily. The Chippawa Park extension, and rates of fares charged, were discussed, but are still in a somewhat unsettled state. Delay in furnishing the Board with an annual report, and a report in regard to accidents, was discussed and adjusted satisfactorily.

Canadian Electric Railway Association.

Honorary President, E. A. Robert, President, Montreal Tramways Co., and Quebec Ry., Light, Heat & Power Co.
Honorary Vice President, Wm. C. Hawkins, Managing Director and Secretary, Dominion Power & Transmission Co.

Honorary Council: Thos. Ashern, President, Ottawa Electric Ry.; Acton Burrows, Proprietor, Canadian Railway and Marine World; Geo. Kidd, General Manager, British Columbia Electric Ry.; Lt.-Col. J. E. Hutcheson, General Manager, Montreal Tramways Co., and director, Quebec Ry., Light, Heat & Power Co.

President, Major F. D. Burpee, Manager and director, Ottawa Electric Ry.
Vice President, H. H. Cousins, General Manager, Toronto Transportation Commission.

Executive Committee: The President, the Vice President, the immediate past President (G. Gordon Gale, Vice President and General Manager, Hull Electric Co.) and D. E. Blair, Superintendent of Rolling Stock, Montreal Tramways Co.; E. P. Coleman, General Manager, Dominion Power & Transmission Co.; A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry.; D. W. Houston, Superintendent, Regina Municipal Ry.; A. W. McLimont, Vice President and General Manager, Winnipeg Electric Ry.; R. Mayne-Read, Superintendent, Quebec Railway, Light & Power Co.; W. R. Robertson, General Superintendent of Railways, Hydro-Electric Power Commission of Ontario; W. L. Weston, Manager, Nova Scotia Tramways & Power Co.; H. E. Weyman, Manager, Lewis County Ry.; C. L. Wilson, Assistant Manager, Toronto & York Radial Ry.

Treasurer, W. S. Hart, Managing Director, Three Rivers Traction Co.
Auditor, Lt.-Col. G. C. Royce, General Manager, Toronto Suburban Ry.
Secretary, D. N. Gill, Comptroller, Ottawa Electric Ry., Ottawa, Ont.
Official Organ, Canadian Railway and Marine World, Toronto.

times when the street is lined with trams back to the square. I think it would be possible to find another passageway for the vehicles and motors during the rush hours, so as to relieve the congestion at McGill St.

"It is noticeable that there has been a decided increase in the use of motor cars during the winter. These automobiles naturally take to the streets in which the trams run, because there the streets are better kept and it is easier to travel, but that practice also adds to the delays.

"In addition to increased car mileage, there are now more large cars in use, and also an increase in the number of cars with trailers."

It was pointed out to Lt.-Col. Hutcheson that the agreement between the city and the company gives the latter the privilege of operating an autobus

Sandwich, Windsor & Amherstburg Railway Franchise.

The S.W. & A.R., which has 40.78 miles of first track lines, is owned by the Detroit United Ry. Co. The railway includes the lines within the City of Windsor, the Town of Walkerville, and the line extending to Amherstburg, together with the Windsor & Tecumseh Electric Ry. For some considerable time past there has been a good deal of friction between the City of Windsor and the company respecting the car service, etc. The franchises within the city and in Walkerville expire in 1922. The question of taking over the lines in the near future has been considered with a view of linking them up with the Hydro Electric Power Commission of Ontario's projected lines. In this connection something like joint action is being taken by all the municipalities within which the company operates. P. Watt, Street Railway Commissioner of Cleveland, Ohio, met a committee of citizens of Windsor and Walkerville, May 3, and advised that complete municipal ownership was the real solution of all the difficulties which surrounded the situation. The present financial situation might render it impossible to carry out such a project, but it might be possible to arrange with the company to operate the line under municipal control. The committee finally decided to send a delegation to Toronto to interview the H.E. P.C. of Ontario on the matter.

The delegation appears to have met the commission, in Toronto, for the Mayor of Windsor is reported to have said in an interview, on May 10, that the commission advised against the purchase of the lines at present, and further advised against the city undertaking at present any extensions of the lines which might be desirable in order to give a more adequate service. The commission, he said, pointed out that if the city took over the lines now, instead of on the expiry of the franchise, it would have to pay the value of the property as a going concern, that having been a court decision in a similar matter.

Winnipeg Electric Railway Co's Annual Report.

The report for the calendar year 1916 shows the following results:

Gross earnings from operation	\$3,311,169.69
Operating charges	1,939,041.36
Net operating revenue for year	\$1,372,128.33
Miscellaneous income	26,010.42
Gross income available to meet fixed charges	\$1,398,138.75
Fixed charges:	
Sinking fund require-	

ity of disposing of long term securities at prices to retire temporary loans, a discontinuance of dividends for the time being would strengthen the company's financial position and more quickly guarantee an earlier date for the resumption of such dividends. Having reached this conclusion, no dividend was declared during the year.

It is a matter for congratulation that as a result of a thorough investigation of all the properties by the J. G. White Engineering Corporation, of New York, its appraisal goes to show that the properties have been well maintained and taken care of, which points to the conservative treatment adopted by the board heretofore. The board has therefore adopted the appraisal in accordance with the statement made in its previous report, and is pleased to state that all depreciation has been taken care of to date. With the knowledge that the company's properties have so far been maintained to a high standard of physical efficiency, it is reasonable to assume that with a return to normal conditions the revenue from the various departments of the company's activities may be expected to show satisfactory increases. In accordance with the orders of the Public Utilities Commission in regard to the classification of accounts, the company's system of accounting has been altered to meet the commission's requirements.

The net income for the year, \$445,251.45, added to the surplus brought forward from 1915, as adjusted, \$682,824.47, makes a total surplus carried forward of \$1,128,075.92.

At the annual meeting the directors were all re-elected and the officers were re-appointed.

The London and Port Stanley Ry's Funded Debt.

A Canadian engineer writes from Toronto: "The railway statistics issued by the Dominion Government recently containing the sworn statements of the different railways as to their financial condition and operating results, give for the London & Port Stanley a funded debt in bonds of \$900,000, but include no return of either miscellaneous obligations or outstanding stock. The impression intended to be conveyed to the public is that these bonds are the sole debt of the railway, and, with no stock subscription or government aid, represent its cost, to the interest and sinking fund on which the net traffic returns are in part applicable. As a matter of fact, however, this large item of \$900,000 only covers the cost of electrification, the new cars, and the 19 miles of additional sidings and turnouts, and the return ignores the very large

addition, when as a matter of fact, the large annual interest and sinking fund of the original cost are ignored. Evidently to appease the conscience of the commission, which appears to take a special care over this railway's affairs, and at the same time to further blind the people of Ontario, this long standing item of \$1,332,854 of bonds on the road, appears in another part of the same government blue book, under the head of 'Aid to steam railways,' where the public is not expected to look for information about electric railways, and is now called 'Loans from municipalities,' while the share subscription of municipalities is given as \$414,000. Is this straightforward dealing with the public?"

Electric Railway Legislation in Nova Scotia.

The Nova Scotia Legislature has passed bill 223 as follows:

1. Chap. 11 of the acts of 1911, amended by chap. 58 of the acts of 1914 is hereby amended by adding the following sections:-

16 (d). The Board of Commissioners of Public Utilities, on application being made to it, and on being satisfied that the additional men required can be obtained, and that in other respects it is not unreasonable so to do, shall make regulations, limiting the number of days in every eight days, during which employees or any class of employees of any street railway company may be required or permitted to work, as such employees.

16 (e). The power conferred by the next preceding section may be exercised, notwithstanding the provisions of any agreement, respecting hours of labor, between such street railway company and its employees.

2. Clause (f) of sec. 22 of chap. 180 of the acts of 1914 is hereby repealed and the following substituted therefor:

(f) The Nova Scotia Tramways and Power Co., Ltd., shall, for the benefit of the working people issue tickets for use in the City of Halifax at a price to give 8 single trips for 25c during such hours at noon and evenings and subject to such terms and conditions as the Board of Commissioners of Public Utilities may approve.

Brantford Municipal Ry. Wages.

The Brantford Municipal Ry. Commission advanced conductors' and motormen's wages on the Brantford Municipal Ry. recently 2c an hour. Following is a comparison of the old and new rates:

	Old rate.	New rate.
1st month	16c	18c
Next 11 months	19½c	21½c
Second year		

heretofore, but is being changed to standard. Sixteen cars of this type have been ordered for the Ontario Hydro Electric Sys. during the past 12 months, the first having been delivered to the Essex District about July 1.

As stated in Canadian Railway and Marine World for August, pg. 417, two interurban cars have been ordered for the Essex District from Ottawa Car Manufacturing Co. They will have the following dimensions:

Length over all.....	50 ft.
Truck centers.....	27 ft. 6 in.
Truck wheelbase.....	6 ft.
Truck center to end of car.....	11 ft. 3 in.
Width over all.....	8 ft. 4 in.
Height, rail to top of roof.....	11 ft. 3 in.
Height of car body.....	8 ft. 5 in.

The interior will be divided into 2 compartments, the main one, at the front, to have 8 transverse seats on each side of the central aisle, and 4 longitudinal seats, one at each end of the rows of transverse seats. The seating capacity of this compartment will be 44. The rear compartment, for smokers, will be equipped with 10 movable chairs, arranged 5 on each side of the central aisle, making the car's total seating capacity 54. The seats in the main compartment will be upholstered in plush, and the chairs in the smoking compartment in leather. The ceiling will be fitted with dome lighting fixtures, 2 in the smoking compartment and 5 in the main compartment. The cars will be equipped for double end operation, and will have Westinghouse 306 CV 4 motors. The trucks will be of Canadian Car and Foundry Co. manufacture, the wheels to be 33 in. diam., and of cast steel, with special manganese tread. The control will be G.E. K35 type, and the air brakes Westinghouse combined straight air and automatic. There will be 4 doors, one at each corner, with electro-pneumatic control to be supplied by Railway and Power Engineering Corporation, the arrangement to be such that there will be an opening and closing push button for each door.

The order for 10 interurban cars for

September
1924

the street, ———
rail.

Ontario Hydro Electric Rys., Essex District.—A contract was given recently to Merlo, Merlo and Ray, Ford, Ont., for the excavation of track allowance, laying of foundation, track laying and paving for a 2,700 ft. double track line in Walkerville, Ont., on a street opened recently by the municipality, running diagonally between Wyandotte St. and Walker Road. This street was opened with the idea of extending it ultimately under the Canadian National Ry. tracks by a subway, and the laying of track on it involves abandonment of the tracks on Walker Road and Wyandotte St., on the other two sides of the triangle thus formed. The contract is for labor only, the railway supplying the materials. The foundation is concrete, as is the wearing surface, the latter being given granite chip dressing. International twin steel ties are being used, and 85 lb. C.P.R. section T rail. Joints are being welded electric-

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ally. The overhead, of standard construc-
tion, is being erected by railway forces.
The contractors started on the track
work in the first week in October, and
we were advised, Oct. 17, that the work
should be completed by the end of Oct-
ober.

We are advised that it is the manage-
ment's intention to double track a short
section of between 600 and 700 ft., in
front of the car barns on London St.,
Windsor, the work to be done by railway
forces.

On the Amherstburg Division, the rock
ballasting which has been in progress
for some time, has been completed, and
on the Tecumseh Division, all but about
1,200 ft. of track has been rock ballasted.
At the time of writing, (Oct. 16), work
is proceeding on this remaining portion,
in Riverside, and the expectation is that
it will be completed early in November.
This work is also being done by railway
forces.

The management has bought some
land at McDougall and Erie Sts., Wind-
sor, and is erecting a power station to
include two 500 k.w. rotary converters, to
reinforce the power supply now being
obtained from the steam driven plant
on Sandwich St. West. The additional
power was made necessary on account
of additional services on existing routes,
and the placing in operation of services
on new routes.

Ontario Hydro Electric Ry., Toronto

grinding cars operated by Toronto Transportation Commission.

Future of Metropolitan Division, Toronto Radial Railways.

Consequent on the transfer by the City of Toronto to the Toronto Transportation Commission, for operation as parts of the city electric railway system, of the Scarborough and Mimico Divisions of the radial electric railways which came into the city's possession following the cleaning up of private electric railway and power franchises in the Toronto district, the Metropolitan Division of the radial lines is the only one remaining in the city's possession. This division, which extends from Toronto's north city limits to Sutton, on Lake Simcoe, 48.66 miles, continues to be operated by the T.T.C. as agent for the city. The passenger cars on it are brought only to the city limits; the express freight cars are operated into downtown Toronto. Over a year ago, Toronto City Council authorized the expenditure of a considerable sum to place the line in first-class operating condition, and for additional equipment, but it has not been expended.

D. W. Harvey, General Manager, T.T.C., in a recent statement to the press, forecasts operation of buses in conjunction with the electric cars operating on the line, the Commission having secured the power to operate buses on Yonge St., which the line follows, by the recent acquisition of the Metropolitan Bus Lines, Ltd. Mr. Harvey stated also that the Commission has retained a consultant to make a thorough study of the line, its traffic possibilities, potential earning power, etc., and that if his report should favor the scrapping of the whole or any part of the line, the Commission will probably recommend to the city that it carry out the recommendation. It will be some months before the report is presented.

Following the acquisition by the T.T.C. of Metropolitan Bus Lines, Ltd. business, it was rumored in the places along the line that the railway was going to be abandoned forthwith, but this rumor was denied officially. The line has been losing money for years and continues to do so, and it would not be surprising if, within a year, it is decided to abandon the greater part of it, retaining only the southerly few miles, immediately north of Toronto city limits. In that case, it would be logical to expect that the short remaining line would be handed over to the T.T.C. for operation as a part of the city system, as has been done with the Scarborough and Mimico Division lines, running east and west from Toronto respectively.

December
1928

and the matter was left to the committee
for decision. (April, pg. 189.)

Ontario Hydro Electric Rys., Essex District.—About 1,000 ft. of line, in front of the car barns at London and Wellington Sts., Windsor, Ont., previously single track, has been double tracked.

Discussions with border cities representatives concerning extensions and new facilities on this district are continuing, and considerable work is contemplated. We were advised officially on Apr. 17 that it would probably be about a fortnight thereafter before a decision would be arrived at concerning the work to be done.

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Hill to St. James St. If the company is not allowed to build the University Ave. line the only alternative is an overhead structure, starting at Craig St. and running northward until the rising ground is reached, somewhere north of Ontario St. Thence it would run underground through a subway to north of Sherbrooke St., continuing north or north east by the ordinary surface route. The ground is ideally graded for such a structure. This would deal effectually with the traffic difficulty and would be much less expensive than a subway.

New Brunswick Power Co. is reported to have ordered new rails for the St. James St. line in St. John. The city expects to start paving work on the street early in May, and the new 82 lb. rails will be laid on the right of way while the work is in progress. The total length of track to be laid is 2,300 ft. of single track.

An application by residents of the Red Head district for the extension of the electric railway to Lee's brickyard was before the New Brunswick Board of Public Utilities recently. A question as to the Board's jurisdiction was raised, and the matter was left to the Chairman for decision. (April, pg. 189.)

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Ontario Hydro Electric Rys., Toronto

Toronto Transportation Commission.—In line with the Commission's policy to replace Y's by loops throughout its street railway system, a loop is being installed at the southwest corner of Dupont and Christie Sts., where the Church St. car run ends. Cars have been turned on a Y there heretofore, a groundman having been kept on duty to assist the car crews.

The Commission's way forces have laid track on the diversion of Dundas St., in the west end of the city, about 1,000 ft., which was necessary on account of work starting on the building of a subway under the Canadian Pacific and Canadian National Ry. tracks, on Royce Ave.

The Commission was approached recently by residents of Scarborough Township, with the suggestion that tracks be built beyond the city limits, at the east end of the city, but preliminary investigation disclosed that there is not sufficient population to furnish traffic for a street railway.

As stated in Canadian Railway and Marine World for April, a temporary bridge is to be built from Front St., across the steam railway tracks to the lake front, between Bay and Yonge Sts., to take care of traffic while the waterfront grade separation work is proceeding. The Commission has advised the city council that it is prepared to lay street railway tracks across this bridge as soon as it is completed.

Windsor, Essex & Lake Shore Rapid Ry. is building, at Leamington, Ont., a steel and wood express loading platform, for fruit shipments, 70 x 16 ft., with canopied roof. Two smaller platforms for the same purpose are being built at Fraser and Ruthven, Ont.

Winnipeg Electric Co. has in progress, we are advised officially, the laying of 4,400 lin. ft. of second track, open track construction on St. Mary's Road from

department.

Use of Trackless Trolley Cars Decreased.

Five years ago the trackless trolley was the object of a great deal of discussion among electric railway operators, and many predicted a future for it which has failed to materialize. In Canada, installations were made by the Ontario Hydro Electric Sys., Essex District, and the Toronto Transportation Commission, the former placing 4 in operation, and the latter 3. Those on the O.H.E.R., Essex District, had St. Louis Car Co. bodies and Westinghouse electrical equipment, there being two 508-TN 25 h.p. motors per vehicle. The bodies were 27 ft. long, chassis wheelbase was 16½ ft., and seating was provided for 30 passengers. Those operated by the Toronto Transportation Commission were built up of Kuhlman Car Co. bodies on Packard chassis, with Westinghouse electrical equipment, being about the same size as the 4 on the Essex District lines, and equipped with two 25 h.p. motors.

All the seven vehicles have been retired from service. Those on the Essex District lines were used in Windsor until about a year ago, when they were laid up, and the motors were taken out and sold recently. The T.T.C. ones were used to give a service on Mount Pleasant Blvd., in northeast Toronto, until a double track street car line was laid on that street, when they were taken out of service. They have since been in storage, and are available for sale, and if not sold will probably be scrapped. One of the chief drawbacks in their operation was lack of flexibility; they could not leave the streets equipped with trolley wires. Compared with a gasoline or gas-electric bus, there was the added investment for the overhead work. In Windsor, where the Essex District machines were operated, they worked in the outlying sections of the city, where the power supply was not as dependable as it might have been, which

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1 District.—A large programme of track ar
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: undertakings, as follows:—On Elm St., p

h.p., in the spring, to meet increased demand for power for the electric railway,

Ontario Hydro Electric Rys., Essex District.—W. R. Robertson, General Superintendent, Electric Rys., Hydro Electric Power Commission of Ontario, concluded negotiations with Windsor, Sandwich, Walkerville and Ford City representatives on Feb. 18 and 19 relative to track construction and other work to be done in the border cities this year. This will include double track line on Wyandotte St., Windsor, between Ouellette Ave. and Wellington St., 4,000 ft.; single track line parallel to the Essex Terminal Ry., between Wellington and Felix Sts., in Sandwich, approximately 1 mile; double tracking of present single track on Ouellette Ave., between Erie Ave. and loop at Tecumseh Road, in Windsor, approximately 1 mile. The substation at McDougall St. and Erie Ave. in Windsor will be enlarged and rotary converters of 3,000 k.w. capacity will be installed, with provision for installation of additional 4,000 k.w. capacity when needed; a 500 k.w. rotary converter will be installed in the Ford City substation, and 2 500 k.w. rotary converters will be installed in a new power station in Sandwich. Current is delivered at 13,000 and 4,000 volts a.c., and stepped down and transformed to 600 volts d.c. Capital expenditure on the Essex District lines for 1926 will be approximately \$1,000,000, part of which will be for rolling stock.

Electric Railway Rolling Stock.

Three Rivers Traction Co. has ordered 4 additional one-man cars.

Hamilton Street Ry. has adopted olive green for the bodies of its cars, with cream above the base.

Ottawa Electric Ry. has received 2 re-vamped 600 class cars, from Ottawa Car Manufacturing Co., making 11 which have been re-vamped.

The Fort William Municipal Ry. has repainted one of its cars a sapphire blue with orange linings, and is asking the people whether they approve of it or not, before any more cars are repainted. Their present color is a green shade.

The 10 all steel double truck cars bought for the Ontario Hydro Electric Rys., Essex District, in the United States, and described in Canadian Railway and Marine World for March, pg. 137, and April, pg. 201, were delivered in the last half of June, and placed in service at the end of that month.

control.

Ontario Hydro Electric Rys., Essex District, has received from Ottawa Car Mfg. Co. the interurban type car described in Canadian Railway and Marine World for January, pg. 34, and has bought, from an agency in New York City, the 10 all steel double truck cars which, as mentioned in Canadian Railway and Marine World for March, it was negotiating for. These have 4 Westinghouse 514 40 h.p. motors per car, and K-35 control, double doors at each corner, and treadle door operating device on one door at each end, and are of modern design throughout. Delivery is expected, at the time of writing, March 23, to commence shortly.

The British Columbia Electric Ry. was stated in Canadian Railway and Marine World for March as having ordered four 2-car trains and 8 single end prepayment cars, and it was stated that the 2-car trains would be indentical with those ordered about a year ago, and which were described and illustrated in Canadian Railway and Marine World for Aug. 1925, pg. 419. We are advised that the cars ordered this year are to be equipped with O. M. Edwards brass sash, that the trolley bases are to be Nuttall no. 20-A, instead of no. 13-E, as provided last year, and that 4 of the single end cars are to be equipped with Nuttall heat treated helical gears and pinions.

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Co. and, ing has ase for was lian ary. was red fin- onto St. ars. e in motors. The 8 single end cars will be of the same dimensions as the leading car of the 2-car trains, and of similar all-steel construction, but will be somewhat lighter in weight. The train cars weigh, fully equipped, 46,300 and 45,800 lb. respectively, while the single end cars are expected to weigh about 43,000 lb. each. These single cars will be equipped with pneumatically operated doors and signals, but will not have the Tomlinson couplers. The power equipment will consist of 4 Westinghouse 533 motors, with type K-35-HH controller and type 806 electro-pneumatic line switch, which will be interlocked with the door signals. The whole equipment ordered is expected to go into service in June.

Hamilton Street Railway

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Essex District Electric Railways Operation.—Discussion which has been going on for some time in Windsor, Walkerville, Sandwich and contiguous municipalities in the Western Ontario peninsula concerning the advisability of acquiring the Windsor, Essex and Lake Shore Rapid Ry. and handing it over to the Hydro Electric Power Commission of Ontario's Railways Department, which operates the electric roads owned by those places and which comprise the Essex District, Ontario Hydro Electric Rys., has recently been assuming a more definite form than heretofore. Representatives of several of the municipalities have asked W. R. Robertson, General Superintendent, Electric Railways, H.E. P.C., to have a report prepared on the matter, and we are advised that if this is satisfactory to the councils of all the places interested it will be gone ahead with. Acquisition of the Essex Terminal Ry. has also been discussed, and the advisability of this would also be dealt with in the report. A recent dispatch stated that such a report was in course of preparation, but we are advised that this is not the case.

London and Port Stanley Ry. officials discovered, Dec. 7, that the copper rail bonds on 2 miles of the line in Westminster Tp. had been removed.

Ontario Hydro Electric Railways, Essex District Affairs.

Representatives of the City of Windsor, the towns of Walkerville, Ford, Sandwich, Riverside, Tecumseh and Amherstburg, the villages of LaSalle and Ojibway and the townships of Sandwich East and Sandwich West, the municipalities served by the Ontario Hydro Electric Rys., Essex District, formerly the Sandwich, Windsor and Amherstburg Radial Ry., met with Hydro Electric Power Commission of Ontario officials in Toronto on Nov. 16 to discuss various matters relating to the railway, including earnings, and a prospective fare increase. As shown by the figures for the road under "Electric Railway Finance, Meetings, Etc.," elsewhere in this issue, it has not done quite as well in 1927 as in 1926, there being, to the end of the fiscal year, Oct. 31, a small deficit after payment of fixed charges. It is known that the management has had in contemplation for some time a possibility of a fare increase. The delegates were advised, however, that there would be no move toward higher fares until the municipalities concerned had been presented with a detailed statement of the railway's operating results and given ample opportunity to study it. They left the meeting with the feeling that there would be no change until next spring at least.

The fares on the line are 6c cash, or 10 tickets for 50c, with a 3c cash fare for children under 51 in. high, or 10 tickets for 25c. The interurban line fare averages 2c a mile, with a special return fare of 50c for 37 miles on the Amherstburg line. Our advice is that the management has not determined what fares will be placed in effect in the event of an increase being decided upon. On the buses operated in conjunction with the electric railway cars, the fare is 10c cash, or 7 tickets for 50c, payment of the bus fare entitling passengers to free transfer to street car. A transfer obtained on a street car is good on a bus only with the payment of an additional 3c cash, or an auxiliary bus ticket, which are sold 7 for 15c. In the event of the railway fares being increased, the bus fares will not be altered.

The falling off in the railway's net earnings in 1927 has been due, first, to the almost complete shut-down of the Ford automobile factory in Ford City, while expenses have been increased materially by bus operation. However, with the Ford plant taking on large numbers of men for manufacture of the new model car, with construction started on the bridge across the Detroit River, to connect Windsor and Detroit, and with the U.S. Steel Corporation going ahead with its developments at Ojibway, the railway's net earnings are beginning to increase most encouragingly, and it is hoped that no fare increase will be necessary.

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Nov. 17, the contract for their electrical equipment has not been placed.

Ontario Hydro Electric Sys., Essex District management has had a car fitted at the railway shops in Windsor as a rail grinding car, the general arrangement being similar to that employed in the rail grinding cars operated by Toronto Transportation Commission.

Future of Metropolitan Division,

1928

discussed by Fort William City Council.
Winnipeg Electric Co.—The matter about which there was a difference during March between the company and its

conference, the company agreed to re-employ the dismissed conductor in another capacity, and the decision of the men to strike was recalled.

Windsor, Essex and Lake Shore Rapid Railway Proposed Purchase.

The proposal for the acquisition of the Windsor, Essex, and Lake Shore Rapid Ry. by Windsor, Ont., and 11 other municipalities served by the line, was dealt with in Canadian Railway and Marine World for April, on pg. 215, and in preceding issues. As stated in the April issue, a bill was introduced at the Ontario Legislature's recent session, to validate the proposed purchase, and for the ratification of an agreement, to turn the line over to the Hydro Electric Power Commission of Ontario's Railways Department for operation. The bill provided that the municipalities could buy, rehabilitate, and equip the railway, that they could enter into an agreement with the H.E.P.C. of O. for its operation, that they could issue debentures to be deposited with the Commission as security for bonds to be issued by the Commission to secure funds to pay for the railway and its rehabilitation, and that the municipalities would have to reimburse the Commission for any deficits each year. The bill was read a first time, but shortly afterward it developed that the Ontario Government was not favorable to all its terms, its chief objection being to the sections which made the Hydro Electric Power Commission a party to the transaction, and a factor in the legislation. It is stated that the Government, in adopting this attitude, had in mind the outcome of the hydro-radial railway legislation of 1914. At all events, when a delegation of border cities people visited Toronto on March 26 to urge Premier Ferguson to hasten legislation to permit the line to be taken over and rehabilitated, he stated that the bill would have to be redrafted so that the Hydro Electric Power Commission would not be specifically mentioned as the authority to operate the road. As a result of the Government's attitude, the original bill, No. 62, was not proceeded with, but a new bill, No. 163, with the same title as the other, viz., "An act to authorize the purchase and operation of the Windsor, Essex, and Lake Shore Rapid Railway," was introduced and passed its first, second and third readings in one day, on March 30.

Section 3 of the act as passed is as follows:—"There is hereby created and constituted a body corporate and politic, under the name Windsor, Essex and Lake Shore Electric Railway Association, consisting of as many members as there are corporations, one member to be appointed by the council of each corporation and to hold office for three years and until his successor is appointed. In case of any vacancy in the representation of any corporation in the Association, the council of such corporation may by resolution appoint another member to fill the vacancy. Any member of the council of any of the corporations shall be eligible for appointment as a member of the Association. A majority of the members shall form a quorum for the transaction of business.

The first meeting of the Association may be called by the member appointed by the City of Windsor by written notice served on the other members, and at such first meeting the Association shall appoint one of the members as Chairman and another as Vice-Chairman."

The Association is empowered to make by-laws for the carrying on of the railway enterprise, to rehabilitate, extend, maintain and operate the railway, to enter into an agreement with the several municipal corporations for the acquisition of the W. E. and L. S. R. R., (the agreement being given as a schedule to the act), and may authorize the execution of the agreement, which, after execution, will be valid and binding on the municipal corporations, their ratepayers, and on the Association itself. Any by-law passed by any of the municipal corporations, to provide for the issue of debentures for acquirement of the railway, need not be submitted to the ratepayers.

Section 8 provides that the Association may, with the consent of a majority of the corporations, enter into a contract "with any body corporate, commission or railway company operating any railway in the County of Essex, providing for the management, construction, rehabilitation, extension, completion, equipment, maintenance and operation of the railway on behalf of the Association and the corporations."

As a result of the Government's policy in regard to the matter, the Hydro Electric Power Commission was not a party to the legislative proceedings in any form, and the municipalities are left free to arrange with the Commission to operate the line, or to arrange with any other body, as they may see fit. It is expected that the H.E.P.C. of O., Railways Department, of which W. R. Robertson is General Superintendent, will operate the line, in accordance with the original intention.

Immediately after the bill's passage, organization of the Windsor, Essex and Lake Shore Electric Railway Association was started, but proceedings had not got very far, when they were delayed by reluctance on the part of some of the municipalities to issue the debentures representing their share of the purchase and rehabilitation cost, and by the desire of one municipality to have the line's route changed somewhat. Most of the municipalities, however, representing a 79.9% interest in the transaction, were anxious to go ahead with it and get the line rehabilitated and in first class operating condition. At the time of writing, April 23, meetings are being held in Windsor to get matters straightened out, and it is expected that in the very near future the purchase of the line will be completed and its rehabilitation started, with the Hydro Electric Power Commission of Ontario's Railways Department as the operating agency.

Detroit and Windsor Subway Co.—Notice has been given of application to the Dominion Parliament for the incorporation of a company with the above title, to build tunnels, and approaches thereto, in Walkerville, Windsor or Sandwich, Ont., or from all of them, under the Detroit River to Detroit, Mich., and that the works be declared to be for the general advantage of Canada. Smith and Johnson, Ottawa, are solicitors for the applicants. B. B. Cady, attorney, Port Huron, Mich., acting for the Detroit River Subways, Inc., is reported to have filed an application with the Michigan State Public Utilities Commission for permission to do business in that state. It is stated that the company proposes to build three tunnels about half a mile apart, one for interurban electric cars and one for motor traffic, from Detroit and Canada, and one for motor traffic from Canada to Detroit, with terminals and connections on both sides.

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Ontario Hydro Electric Rys., Essex District.—The track construction and rehabilitation work reported in our Dec. 1925 and preceding issues as under way has been completed, and the management is now making plans for extensions to be gone ahead with during the 1926 season. W. R. Robertson, General Superintendent, Electric Railways, Hydro Electric Power Commission of Ontario, met members of the Windsor, Ont., Council in Dec. 1925, and explained the necessity of the work advocated, which includes double tracking the line on Wyandotte St. West, between Ouellette and Wellington Aves., and also double tracking the line on Ouellette Ave. The latter work cannot be proceeded with, however, until the street is widened. He also advocated the securing of running rights over the Essex Terminal Ry. to Huron and Church Sts., to serve an area now without service. Other work contemplated is the construction of a loop for Pitt St. East, and possibly a second loop elsewhere. The management contemplates the expenditure of about \$400,000 for this

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safety tap panels with push button switches. The inspection pits are lighted with 60 watt lamps, base plugs being spaced every 12 ft. for attaching lamps. (April, pg. 189.)

Ontario Hydro Electric Railways, Essex District Results.

The Ontario Hydro Electric Rys., Essex District, results for the year ended Oct. 31, 1924 were as follows:

Gross revenue	\$774,907.11
Operating expenses	589,747.81
Operating surplus	185,159.30
Interest and taxes	171,178.97

Net surplus credited to renewals 13,980.33

During the year \$12,532.24 was contributed to employees' pension and insurance fund. Following are some of the operating figures: track miles operated, city lines, 29.63, Amherstburg interurban, 17.42, Tecumseh interurban, 6.48, total 53.53; passenger and freight car miles, 2,151,345; percentage of transfer passengers, 11; passenger cars operated, 62; passengers carried per route mile, 338,756; passengers carried per car mile, 6.3; passengers carried per car hour, 52.6; average mileage per car operated, 34,067; average passengers per car operated, 215,001; freight tonnage carried, 17,205.

The growth of the road's business is shown by the following figures, representing the 1923-24 traffic in terms of percentage of the 1920-21 traffic, the latter being equated to 100%: passenger earnings, 147%; freight earnings, 446%; miscellaneous earnings, 174%; gross earnings, 153%; operating expenses, 138%; net earnings, 925%. It is evident that

1925

net earnings, 235%. It is evident that expenses have been well kept down, in proportion to the development of traffic and revenue, while net earnings have shown a very satisfactory rate of increase.

During the year the lines were improved as follows: 11,000 treated ties with tie plates were installed on the Tecumseh and Amherstburg lines, and 7 miles of crushed stone ballast was laid, completing rock ballasting of all open track on the interurban divisions, with the exception of a portion through Ojibway. Double tracking of the Erie Avenue line was completed and trackless trolley operation over that route eliminated. Steel combination light and trolley poles were erected on London St., and tracks were removed from north side of Ottawa St. to the center of the street in Riverside, Ont. Tracks at Sunnyside were moved to the new right of way and curves were straightened at that point. Trestle bridge approaches to the steel spans of bridge across Canard River were filled in. Rip-rapping was done along 700 ft. of the river bank near Amherstburg.

Additional equipment provided during the year included an overhead tower wagon, 8 double truck city service cars, and 2 interurban cars for the Amherstburg Division. Both types of cars were described in recent issues of Canadian Railway and Marine World. A 500 k.w. rotary converter station was erected at McDougall Ave., Windsor, and new feeders were installed on Erie Ave. and Wyandotte St.

All-night services were established in Windsor, Walkerville, Ford and Sandwich, and these, we are advised, have been of great advantage to the citizens, while the revenue covers all costs. The number of accidents decreased from 20.59 per 100,000 car miles to 15.60, the cost being 0.72c per car mile. Car miles increased by 300,000 over the 1923 figure.

1925

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Windsor, between London St. and Sand-
wich St., 1,000 ft. of single track, and a
Y on Sandwich St., are being rehabilitated.
This track is in pavement, and Interna-
tional twin steel ties and 100 lb. T rail,
A.R.A. type A section, are being used. A
contract has been given Cadwell Sand and
Gravel Co. for the sub-grade, and work
has started. The rails will be laid by
railway forces. The cost of the work will
be approximately \$31,000. On London
St., between Windsor city limits and
Huron Line in Sandwich, 3,000 ft. of
double track will be rehabilitated. This
track is in concrete. Steel ties and 100 lb.
T rail, A.R.A. type A section, will be used,
and joints will be welded by the Thermit
process. A contract for the sub-grade will
be awarded, and track will be laid by
railway forces. Work will start in the
near future. The cost of the rehabilita-
tion will be about \$80,000. On Field
Ave., in Windsor and Sandwich, and on
Lena St. in Sandwich (Lena St. running
southerly from Field Ave.) new track is
to be laid. On Field Ave. in Windsor
2,500 ft. of double track will be laid in
pavement, and on Field Ave. and Lena
St. in Sandwich 3,000 ft. of single track,
open construction, will be laid. On the
double track, steel ties and 100 lb. T rail,
A.R.A. type A section, with Thermit weld-
ed joints, will be used; on the single track,
100 lb. rail, cedar ties with tie plates, and
stone ballast, will be used. A contract
has been given Merlo, Merlo and Ray for the
sub-grade. Track will be laid by railway
forces. The job will cost approximately
\$130,000. On Tecumseh Road, Ford City,
easterly to Ford City limits, 3,000 ft. of
single track, open construction, will be
laid. C.P.R. section 85 lb. rails, tie plated
cedar ties, and stone ballast will be used.
The work in entirety will be done by rail-
way forces. The work will cost about
\$31,000. All of the foregoing work is to
be completed during the present construc-
tion season.

and E. K. Decary, General Manager.

Ontario Hydro Electric Ry., Essex District.—Financial results for the year ended Oct. 31, 1925, were as follows:—gross earnings, \$861,797.16; operating expenses, \$598,162.14; net operating revenue, \$263,635.02; taxes and interest, \$190,843.94; surplus, \$72,791.08. Passenger traffic was much heavier than in the preceding year, the increase ranging from 6,000 passengers a week in the early part of the year to between 70,000 and 80,000 in the closing weeks. The total number of passengers carried was 14,810,038, an increase of approximately 1,500,000 compared with the year ended Oct. 31, 1924. This increased business continues; for example, we are advised officially, that in the week ended Dec. 5, 1925, there were 75,000 more passengers carried than in the same week in 1924, an increase of 32.8%.

Ottawa Traction Co. has declared a dividend of 1% and a bonus of 1%, payable Jan. 2, 1926, in addition to which 3 quar-

that the deficit will be the lowest in the history of the road. The passenger car miles operated will be about 1,050,000, which is more than in any year since 1914. The deficit represents an average of about 700 fares daily and under normal conditions it is expected that this would be more than made up." A table appended to the report shows the estimated position at Dec. 31, 1925, in comparison with the audited figures as at Dec. 31, 1915, 1918, 1921 and 1924. The following figures show the estimated 1925 position, compared with the actual position at the end of 1924:—Total operating cost, \$259,500—\$244,852.59; fixed charges, \$97,185.11 — \$96,046.74; total cost, \$325,685.11—\$340,899.33; total revenue, \$320,825—\$315,026.51; deficit, \$14,860.11—\$25,872.82; passenger car miles, 1,050,000—1,044,986; passengers carried, 4,882,760—4,786,796; total expenses per passenger, 6.87c—7.15c; revenue per passenger, 6.12c—6.11c.

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has not paid, a report submitted to the municipalities by W. R. Robertson, General Superintendent, Railways Department, and T. U. Fairlie, then Railways Engineer, H.E.P.C. of Ontario, claimed that with expenditure of \$696,946 for rehabilitation, it could be made to pay. The amounts to which the various municipalities concerned would be made financially responsible for the road's acquisition and rehabilitation, by issue of debentures to be deposited with the H.E.P.C. of Ontario as security for the bonds to be issued by that body and sold to the public, were dealt with in the article in our July issue. As stated in our August issue, all the municipalities concerned, except Windsor, will have to have a vote of the rate-payers on the proposed purchase and operation agreements, in the form of bylaws.

A deputation of representatives from Windsor and other interested municipalities conferred with Premier Ferguson of Ontario, on Nov. 16, in Toronto, in regard to the Government's attitude toward the deal. On the question of the Government guaranteeing bonds to be issued to provide capital for buying and rehabilitating the road, the Premier explained that the Government is unable to do this, legislation terminating the Government's authority to guarantee radial railway bonds having been passed at the Ontario Legislature's last session. (This was by amendment to the Hydro-electric Railway Act, 1914, as explained in our April issue, pg. 220). He said, however, that the Government is prepared to endorse operation of the line by the H.E.P.C. of Ontario Railways Department, and indicated that validating legislation, to confirm and ratify the agreements for purchase and operation, would be forthcoming when needed. The probabilities are that the municipalities concerned will proceed with the submission of the necessary bylaws to the electors.

In connection with the removal of the Government guarantee, it may be said that while this no doubt detracts from the desirability of the bonds from the investor's viewpoint, thus inducing a tendency toward a higher cost for capital, it does not alter the municipalities' obligation, as they are responsible for the road's ability to pay its way whether the guarantee be present or not.

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