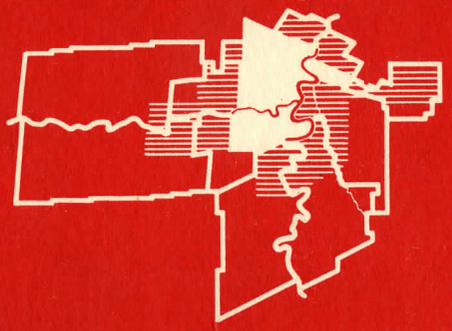

CENTRAL BUSINESS DISTRICT
GREATER WINNIPEG

1948

PRELIMINARY REPORT ON

CENTRAL BUSINESS DISTRICT

PART OF METROPOLITAN PLAN FOR GREATER WINNIPEG

Assiniboia Brooklands . Charleswood
East Kildonan Fort Garry St. Boniface
St. James St. Vital Transcona
Tuxedo .. West Kildonan Winnipeg

MANITOBA CANADA

NO. 8 OF

MASTER PLAN REPORTS

Prepared Jointly By

METROPOLITAN PLANNING COMMITTEE
WINNIPEG TOWN PLANNING COMMISSION

1948

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C O N T E N T S

PLATES

Note: All maps and drawings cover the Central Business District only, unless otherwise stated.

FOREWORD

The comprehensive plan for the metropolitan area is being prepared by the Metropolitan Planning Committee (Greater Winnipeg) and the Winnipeg Town Planning Commission, which in 1944 jointly established the 'Metropolitan Plan Greater Winnipeg' for this purpose. Reports have been published on Background for Planning, Major Thorofares, Transportation, Transit, Neighborhoods, Zoning, and Residential Areas, and a subsequent report will deal with city's appearance.

The Central Business District report is the eighth in this series dealing with future physical development of Greater Winnipeg. Studies were carried out and the report was prepared in the Planning Office. The proposals then received thorough study by a Citizen Advisory Committee. The Traffic Board of the City of Winnipeg was invited to attend committee meetings and was represented on the committee by the Board secretary, E. F Gillies, City Traffic Engineer, and by Traffic Inspector Robert Still, of the Police Department, through whom members were kept informed of the proposals with respect to traffic. After the many valuable suggestions of the advisory committee were incorporated in the report, it was referred to the Joint Executive Committee and to the Winnipeg Town Planning Commission and received approval for publication.

The planning organization wishes to acknowledge here the valuable assistance given by various citizens and organizations in the production of certain sections of the report. Deserving special mention are the Winnipeg Electric Company for detailed operations data used in the Transit section; Mr F. C. Austin, Chief Inspector of the City of Winnipeg Health Department Sanitation and Housing Division for checking the accuracy of the Dwelling Unit map; Mr. Frank Innes, Secretary Manager of the Automotive Trade Association for advice relating to off-street parking lot operation; and members of the City of Winnipeg Assessment Commission, namely Messrs. L. F. Borrowman, H. P. Crabb and Price Rattray, for advice on the Land Values section.

PLATE 1

M. J. Sym Photo Labs—Aero Surveys Ltd.

Air view from southwest
Central Business District
Winnipeg, Manitoba, Canada

SUMMARY OF PROPOSALS

The major suggestions and recommendations which are made in this report appear below in summarized form. The number appearing in parenthesis after each item indicates the page in the report where each item is discussed. Reference to these pages is suggested for a detailed discussion of existing conditions and an explanation of the proposals

DOWNTOWN BUSINESS ASSOCIATION

1. Establish an active downtown business association for the purpose of developing and improving the Central Business District, as the primary business centre of Greater Winnipeg (43)

LAND USE

2. Adopt the proposed Zoning By-law covering the Central Business area, which includes building height and bulk regulations and off-street loading requirements designed primarily to control congestion. (43)

3 Encourage grouping of common uses. Establish a civic centre as one such use group (44)

4. Establish small park sites (44)

5 Encourage more compact development of the Central Business District, rather than ribbon development (45

6. Rehabilitate substandard areas which are primarily residential as a means of improving living standards, city appearance and city revenue (45

CIRCULATION

7 Implement recommendations of the International Association of Police Chiefs for the City of Winnipeg (48)

8 Incorporate traffic safety study in the school curriculum. (49)

9 Establish a council of all local traffic education agencies for the purpose of carrying on a public traffic education program. (49)

10. Conduct a comprehensive origin-destination traffic survey, with annual checks and provision for special traffic counts to determine the best solution to particular problems (49)

11 Provide an even number of standard width moving lanes in either direction where pavements are to be widened or new pavements laid. (49)

12. Provide separate space for curb parking only where it is needed. (50

13 Institute curb loading for transit vehicles wherever possible Study the practice of queueing for boarding transit vehicles (50)

14. Round off property lines at intersections for easier turning movements and better visibility. (50)

15. Restrict curb cuts and close unnecessary or unused curb cuts (50)

16. Provide corner cut-offs at lane intersections wherever possible and consider widening where congestion may make it necessary. (51)

17. Develop the proposed major thorofare system as required by traffic needs, to improve access to the central area and to provide better circulation by means of distributor and by-pass routes (51)

18 Place building alignments immediately for new thorofares and for thorofare widening, to prevent further development on the proposed right-of-way. (51)

TRAFFIC

19. Install signal lights only where required on the basis of sound engineering standards. Provide walk lights operated in proper relationship to the vehicular signal lights Provide for control of signallized intersections at times when the signals are not in full operation. Review the coordination of traffic signals (53)

20 Review all traffic and parking signs, street name signs and highway route markings to establish adequate design, location and night lighting standards (54)

21 Use pavement markings more extensively for traffic lanes, pedestrian walks, turns and the like, on downtown thorofares. (54)

22. Implement the recommendations in the City Hydro report on Street Lighting. (55)

23. Study the proper function and operation of one-way street systems and establish them where warranted by traffic needs. (55)

24. Adopt tapered street car safety island guards (55)

25. Construct traffic islands in conjunction with divider strips on wide thorofares. (55)

26. Study intersection design and establish channelizing islands which may also serve as pedestrian islands. (55)

27. Establish pedestrian regulations with enforcement only when pedestrian protection is provided. (56)

28 Reduce the number of U-turns, left turns, and unnecessary right turns to provide protection for the pedestrian. (56)

29. Eliminate the five-mile-per-hour differential in the speed limit between trucks and automobiles. (56)

30. Adopt specific routes for major through truck movements. (56)

31. Discourage truck loading across sidewalks. (56)

32 Encourage provision of off-street loading as required in the proposed zoning by-law. (56)

33 Develop lane improvements where possible to overcome congestion. (56)

34. Promote the use of mosquito trucks downtown. (56)

35. Establish a Union Truck Terminal. (57)

36. Eliminate curb parking of taxicabs when not engaged, except at designated stands. (57)

PARKING

37. Conduct a comprehensive parking survey, preferably in conjunction with a general traffic survey. (58)

38. Review the traffic by-law and parking regulations with a view to such general revision as traffic and parking surveys show to be necessary. (58)

39. Maintain parallel parking to provide maximum street space for moving traffic and to reduce accidents (58)

40. Study regulations permitting curb loading in specified zones, to provide more parking space where possible. (58

41. Install parking meters where necessary to distribute available street parking space more equitably. Apply any revenue realized by this means to the provision of further parking facilities. (59)

42. Provide off-street parking spaces for both long and short time parkers Four or five short time parking lots should be acquired in the near future. Suggested sites are near the Medical Arts Building, just west of Main Street and south of Graham Avenue, near Ellice Avenue and Hargrave Street, north of Notre Dame Avenue west of Main Street and near the Dominion Public Building. (60)

43. Establish and enforce adequate design standards for off-street parking provision. (60) (See Appendix E.)

44. Promote 'interior block parking'. (60)

45. Control all parking through the Traffic Board or a Parking Authority. (61)

46. Combine some existing small parking lots to create larger, more efficient parking areas (61)

47 Consider the development of parking garages and roof-top parking. (61)

TRANSIT

48. Replace street cars with trolley coaches, with routes as proposed in Plate 16. (63)

49. Study and carry out the proposed public works necessary to bring about eventual thorofare and transit development. (64)

50. Use through routing of transit vehicles wherever possible, rather than extensive looping on the trolley coach loop in the downtown area. (64)

TRANSPORTATION

51. Rectify the congested condition at the C.N.R. Water Avenue freight loading sheds. (64)

52. Relocate the inter-urban bus terminal (64)

53. Route inter-urban buses on major thorofares (64)

INTRODUCTION

The present Central Business District in Greater Winnipeg, which was the scene of early settlement, has gradually developed over the years to become the focal point of an extensive metropolitan area. In it is located today the greatest urban concentration of property values, and of taxable wealth in the province. As the centre of employment, with large office buildings, stores, banks, theatres, hotels, public buildings and other similar uses and establishments, it is the goal of large volumes of traffic It contains the core of the business, social and cultural life of the community.

This central area, developing in the past as need arose or as fancy dictated, with little or no control, bears evidence today of the necessity for a comprehensive study of its present situation, and the formulation of and adherence to some guiding policy for its future growth and development. The decentralization so common in many cities, as evidenced by the gradual movement of taxpayers and of taxpaying and employment producing business concerns from the central area to ever-widening outlying districts, is possible here While a limited amount of decentralization is undoubtedly desirable, in the form of secondary shopping centres, uncontrolled 'destructive' decentralization of the essential functional core must be forestalled.

The central area is of substantial importance, and we cannot afford to have it become otherwise. While it requires comparatively costly municipal services, it contributes in taxes and in special assessments hundreds of thousands of dollars over and above the cost of the special services provided, and through these surpluses assists in balancing the tax load for other parts of the community. In all likelihood it will continue to be the government, business, social and cultural centre, and as such is necessary to the proper functioning of the metropolitan community. This central area should, therefore, be physically sound, economically stable, and free from the congestion, drabness, and unsightliness that characterize the central areas of so many cities today.

To these ends, it is essential that all phases in its development be studied and analyzed, and that plans be formulated for immediate and continuing action in redeveloping, revitalizing and stabilizing the area for future benefit and service to all of Greater Winnipeg

ORIGIN AND GROWTH

The Central Business District had its origin in the part time encampments of the Indians who inhabited the region around the junction of the Red and Assiniboine Rivers The area formed a natural resting point for these people, and later a divisional and transfer point for fur traders and settlers. The earliest activities of the white people in this area were motivated by the trade in furs, the commercial importance of the site from its earliest days being evidenced by the fact that both the Hudson's Bay Company and the North-West Company established fur trading posts here

Following Lord Selkirk's establishment of an agricultural community in 1812, the demand for retail trade arose, but it was not until 1819 that the first independent store came into being. It remained the sole one in the face of the Hudson's Bay Company monopoly until a similar trading firm was started in 1851. These two commercial enterprises were established near Main Street, immediately north of Portage Avenue near the centre of the present Central Business District.

In the following years, the settlement continued to grow in stature, with the establishment of a post office in 1855, and of a printing office and hotel in 1859. This printing office published the first newspaper in the west

From 1857 to 1869 new settlers opened new general stores, hotels, a dentist's office a drug store, and a sporting goods store. By 1873, the community was largely self-contained, with such new enterprises as a butcher shop, a bank, two harness shops, a brewery and several plants manufacturing aerated waters and wooden and iron pumps These and similar developments provided the necessary impetus to growth of the early settlement, which in 1873 culminated in incorporation of the City of Winnipeg, with an area of 2,935 acres

Winnipeg at incorporation appeared to have a guaranteed future as a manufacturing and distributing centre, located as it was almost at the geographical centre of the North American continent, and at the gateway to the western prairies. Long before the Canadian Pacific Railway was completed between Manitoba and Eastern Canada, the rail line had been built from the east to the Great Lakes where it connected with steamship lines Relatively cheap transportation by the lakes was thus available for seven or eight months a year and gave Winnipeg a marked advantage over other centres in Western Canada and, to a lesser degree, other centres in the western United States Until the rail line was built in 1883 connecting Winnipeg with the head of the lakes, shipment of goods was made by Red River cart or by Red River boat from St. Cloud, Minnesota. This service had been improved in 1878, with the completion of a rail line from St. Paul to St. Boniface. By the end of 1883, rail connections were complete from the Port Arthur connection of the Great Lakes steamship lines through Winnipeg and as far west as the British Columbia boundary. These main line developments, along with the completion of numerous branch lines, ended the isolation of Manitoba by rail, and trade rapidly expanded and improved.

Railway development and the accompanying land settlement brought about a real estate boom in Winnipeg. Retail and wholesale business grew rapidly, and the establishment of such financial institutions as banks and mortgage and insurance companies stimulated further expansion. The construction of the railways, rapid land settlement, and financial developments seemed to forecast a period of rapid growth, but this was temporarily interrupted by collapse and depression beginning in 1882, followed by gradual progress with more permanent results.

Trade, particularly in wholesale supplies, began to develop at this time Comparatively cheap water transportation for large shipments, coupled with the limited season of open water, made it desirable to bring in large quantities of goods over short periods of time and led to the establishment in Winnipeg of the largest wholesale jobbing houses in Canada.

While trade actually started in furs, nearly all branches of commerce and industry

were soon represented. As settlement and agriculture extended beyond the immediate vicinity of the Red River, the vast trade in furs was eventually exceeded by that in grain. The first grain was exported from the province in 1876, when a shipment of some 827 bushels was sent to Toronto via St. Cloud. In the following year, a shipment sent to Glasgow, Scotland, was also routed through the United States. Then, in 1884, the first shipments over an all Canadian route were made to Great Britain, taking only twenty-one days from Brandon, Manitoba.

As early as 1881, grain commission houses were established in Winnipeg, and in 1887 the now famous Winnipeg Grain Exchange was formed. In this first year of operation, the grain exchange traded only in cash grain and the whole crop of that year was less than 13 million bushels. By comparison, in 1912, 400 million bushels were traded in options alone, and the cash grain business was the largest on the continent. Financing the movement of the crop developed from a cash proposition to the point where practically all grain financing for Manitoba and the entire Canadian west was done through Winnipeg banks This necessitated a concentration of financial institutions in the city and established it as the financial centre of the West.

Paralleling the rapid development of the grain trade was that of farm implements. The Manitoba prairies lent themselves particularly well to the use of machinery, and from the first sale of binders in Winnipeg in 1882, the business developed to a place second only to that of grain in 1912.

During the years 1885 to 1908, the cattle trade developed rapidly. With only one rail line across Canada, and that one through Winnipeg, the cattle business thrived in this centre. Winnipeg became an unloading, sorting and export re-shipping base, and large abattoirs and packing houses were established.

Compared with the phenomenal growth of agriculture and associated businesses, development in manufacturing was relatively slow. Raw materials had to be imported, freight rates were high, and power and labor were expensive. As the province continued to prosper and the population increased, however, local demand for manufactured products required the establishment of a variety of factories to fill the need. Winnipeg, already a major distribution centre, also became the provincial manufacturing centre, although factories were developed in other parts of the province

Flour, an essential in these early days, ranked high in local demand, and flour mills were established at an early date. Lumber was also in great demand, as were steel products, bricks, building stones and building supplies of all kinds. These demands promoted development and led to the organization of new companies, many of which still exist. Other articles manufactured in the early years in Winnipeg included saddlery, soap, biscuits and confectionery. Shortly after 1900, several factories were established for manufacturing shirts, blouses and other wearing apparel

During the period from 1900 to 1913 some $2,500 million was invested in Canada. About three-quarters of this came from Great Britain and the remaining quarter largely from the United States. A large part was used for railways, industrial establishments and public improvements in the west. Two new transcontinental railway lines were completed, setting up terminal facilities in or near Winnipeg, and establishing this city as a railway centre

In 1906, the first of six power plants in the Winnipeg River area was completed, and thereafter supplied light and power to Greater Winnipeg. Rates for domestic lighting purposes were reduced steadily from 20¢ per kilowatt hour in 1906, to 3.3¢ in 1912, and to 2.1¢ in 1946.* Rates for commercial electricity were also sharply reduced as time went on, adding impetus to commercial and industrial development. Another important factor was the development in 1919 of an excellent water system, with an almost inexhaustible water supply from Shoal Lake

By 1913, a condition of over-investment in capital goods industries throughout Canada became apparent, and there were indications of the beginning of a serious depression.

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* City of Winnipeg Municipal Manual, 1948, page 166.

The activity caused by World War I, however, prevented a collapse, and markets, particularly for the agricultural products of the West, expanded further

The end of the war brought a short boom, followed by collapse and recession in 1921, lasting for about three years. In 1925, wheat prices started to rise, transportation costs fell, and general world business conditions improved. Under these favorable conditions Canada's export trade increased and renewed expansion took place in the West

In the following five years commerce in Winnipeg thrived, and industry made considerable progress, particularly in the processing of farm products The needle trades, which for some years had developed quite slowly, were marked by great expansion. Increased building activity and the development of northern mining areas contributed substantially to the prosperity of the City. Towards the latter part of this period, adverse influences became manifest. Industry was still not sufficiently diversified to absorb seasonal workers, and the unemployment problem became acute Development of an all water transportation route, via the Panama Canal which had been opened in 1914, together with a drastic change in the freight rate structure, resulted in sharply reduced shipments through Winnipeg, which lost its peak position in the West as a distributing and manufacturing centre

With the stock market crash in 1929, the period of expansion ended, to be followed by lengthy depression. By 1936, however, conditions were again improving, particularly in industry, with many branches showing progress The needle trades, mining, and processing of farm produce continued to make steady headway.

The national demands of World War II, possibly more than any other factor, brought continued expansion to Manitoba industry and commerce. The influx of population to the urban area and increased average earnings resulted in heavy demands on the retail trade to meet local needs Since the termination of hostilities, activity has been largely concentrated on the backlog of construction work which accumulated during the war years, with accompanying activity in the related building trades There has been expansion, improvement and new construction of commercial, industrial and service establishments, as well as comparatively large volumes of residential building. Postponed consumer buying has been sufficient to keep retail trade at a high level, and as the conversion of manufacturing plants to peacetime production is gradually accomplished, a greater variety of goods will again become available

It would appear that the brightest possibilities for future expansion in the Greater Winnipeg area lie in manufacturing. Further development of mining in the north and expansion of the tourist trade should benefit Greater Winnipeg to an increasing extent. While the urban area is well located to become a major air base, her future position in this field of transportation will depend largely upon airport facilities provided and upon decisions of the air line companies

The future of the whole of Greater Winnipeg, including economic and social aspects, will have a vital influence on development of the Central Business District. The effect of new industry may be felt indirectly through such various activities as its financial operations the demand created for manufacturing equipment, or the attraction of new workers, with resulting increased demand for such consumer goods as food, clothing and furnishings Location of new industries in outlying areas may lead to the development of new neighborhoods nearby, with convenient shopping centres, thus relieving the demand on retail establishments in the central area and easing the load on transit service to the downtown district. Development of attractive new residential neighborhoods, with provision for all necessities for living, including school, recreation and shopping facilities, may decrease the desire to use the central area. These possibilities cannot be evaluated without consideration of their relationship to other factors In a realistic study of the Central Business District and its future, the need is apparent for consideration of the interaction of various forces within the whole urban area

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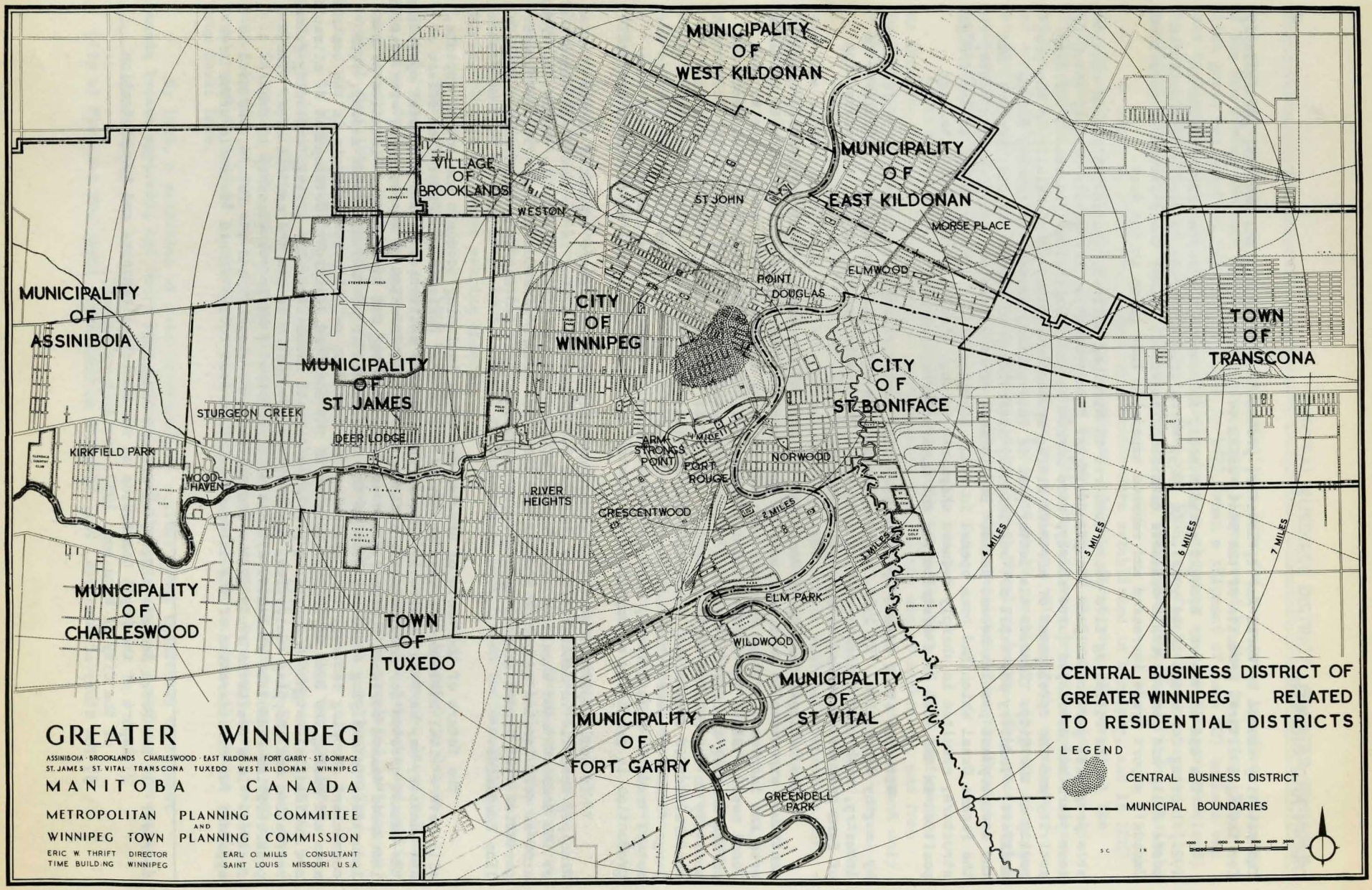
Sources: 1) The Forks Becomes a City, by William Douglas;
2) Report of the Royal Commission on the Municipal Finances and Administration of the City of Winnipeg, 1939. Goldenberg Report);
3 The Story of Manitoba, Vol 1 by F H. Schofield, 1913


MUNICIPALITY OF WEST KILDONAN
MUNICIPALITY OF EAST KILDONAN
VILLAGE OF BROOKLANDS
WESTON
ST JOHN
MORSE PLACE
ELMWOOD
POINT DOUGLAS
MUNICIPALITY OF ASSINIBOIA
CITY OF WINNIPEG
TOWN OF TRANSCONA
CITY OF ST BONIFACE
MUNICIPALITY OF ST JAMES
STURGEON CREEK
DEER LODGE
KIRKFIELD PARK
WOOD-HAVEN
ARMSTRONGS POINT
FORT ROUGE
NORWOOD
RIVER HEIGHTS
CRESCENTWOOD
1 MILE
2 MILES
3 MILES
4 MILES
5 MILES
6 MILES
7 MILES
ELM PARK
WILDWOOD
MUNICIPALITY OF CHARLESWOOD
TOWN OF TUXEDO
MUNICIPALITY OF ST VITAL
MUNICIPALITY OF FORT GARRY
GREENDELL PARK
GREATER WINNIPEG
ASSINIBOIA · BROOKLANDS · CHARLESWOOD · EAST KILDONAN · FORT GARRY · ST. BONIFACE
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TIME BUILDING WINNIPEG
EARL O. MILLS CONSULTANT
SAINT LOUIS MISSOURI U.S.A.
CENTRAL BUSINESS DISTRICT OF GREATER WINNIPEG RELATED TO RESIDENTIAL DISTRICTS
LEGEND
CENTRAL BUSINESS DISTRICT
MUNICIPAL BOUNDARIES

PLATE 2

PRESENT DEVELOPMENT

This second section of the report deals with the Central Business District of Greater Winnipeg as it exists today and describes in brief the various conditions, physical and economic, which have been operative in helping its growth as the business core of the community. It deals with some of the conditions which may be considered detrimental, and why they may be considered such, in order to provide a background for the recommendations for improvement which are outlined later

While every attempt has been made in this report to include up-to-date information, existing conditions are constantly changing and it has therefore been necessary to fix a time to which all information can be referred. This report, it is believed, is an accurate statement of prevailing conditions as of April 30, 1948

The Central Business District, located just north-west of the Y-shaped confluence of the Red and Assiniboine Rivers, and near the eastern boundary of the City of Winnipeg, is in a strategic position to serve the metropolitan area which surrounds it. Plate 2 shows the location of this central area in relation to the cities, towns, villages and municipalities which make up Greater Winnipeg, with mile circles indicating the distances to various parts of the urban area. Although the two rivers form natural barriers to free movement and access, their presence has been a factor in development of a number of excellent radial thorofares centering on the business district. Original street development was based upon the parish lot system, which consisted of long narrow strips running at right angles to the courses of the rivers. While the resulting land subdivision pattern consisted of city blocks of varying shapes and sizes, the thorofares themselves fortunately spread fan-wise in almost all directions.

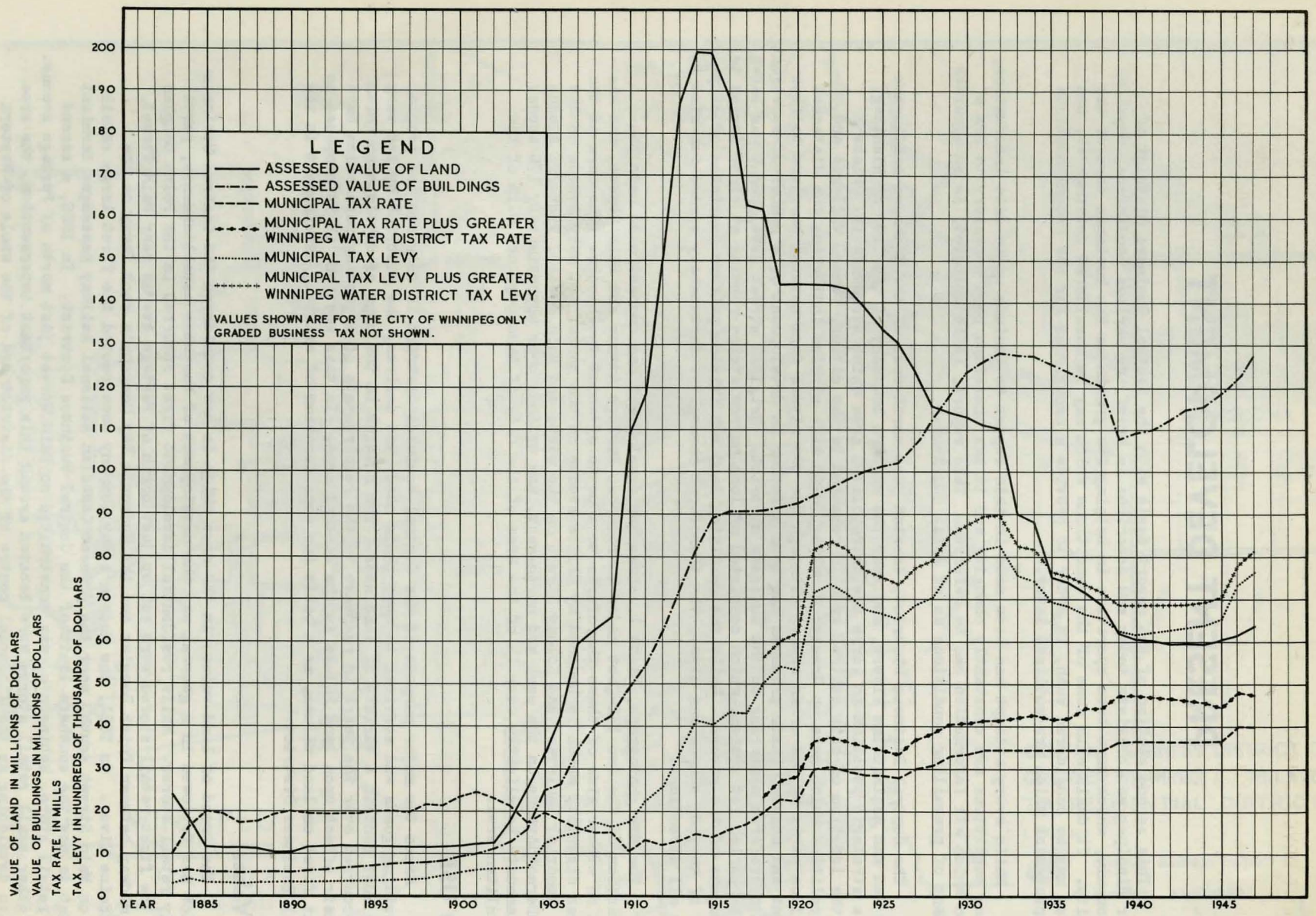
The air photograph, Plate 1, shows how development has concentrated near the intersection of the two 132-foot major thorofares, Portage Avenue and Main Street, and has spread on either side of these thorofares to a depth of about two blocks. The core of the business district, which is bounded by Ellice Avenue on the north, St. Mary Avenue on the south, Memorial Boulevard and Colony Street on the west, and Main Street, Victoria Avenue and McDermot Avenue on the east and north-east, now extends over approximately 170 acres, which amounts to slightly over 1% of the area of the City of Winnipeg, and 0.1% of the metropolitan area.

LAND USE

Since the major purpose of the Central Business District is to serve the people, by providing goods and services to meet their needs and desires, the district by its very nature must contain a variety of land uses. The changes in the type of development which have occurred over the years in response to the requirements of a growing population have had their effect upon land values in the central area. In this section, it is proposed to comment first on land values, as a basis for consideration of existing development in the Central Business District.

Land Values

The trend of land values in the area which is now considered the Central Business District has followed in a general way the development of business establishments, particularly retail stores. While residential development first occurred in the Point Douglas area, the first retail stores were set up just north of Portage Avenue near Main Street, about midway between Point Douglas and the Hudson's Bay Company's Fort Garry on the Assiniboine River. In 1881, the Hudson's Bay Company constructed the first large retail store on Main Street south, near the present Canadian National Railway passenger terminal and what is now the southern limit of the Central Business District. In 1882, a second large retail store, Robinson's, was constructed on Main Street just north of Portage Avenue. While other small retail stores were located around this important intersection, the area was also developing as the financial centre of the district and of the whole of Western



LAND AND BUILDINGS TAX RELATIONSHIPS

METROPOLITAN PLAN GREATER WINNIPEG

INFORMATION SUPPLIED BY ASSESSMENT DEPARTMENT CITY OF WINNIPEG

PLATE

Canada. The establishment of Robinson's store provided further impetus to the trend of development from that portion of Main Street near the Assiniboine River towards Portage Avenue and Main Street north of Portage Avenue

In 1905, the T Eaton Company constructed its present large retail store on Portage Avenue, between Donald and Hargrave Streets With this development, retail establishments proceeded to fill in the spaces between this store and Main Street which were not already occupied by other uses. Land values, which were already high at the intersection of Portage and Main, started to rise along Portage Avenue. In 1926, the Hudson's Bay Company replaced its original store on Main Street south with a new department store on Portage Avenue west of Eaton's, between Vaughan Street and what is now Memorial Boulevard.

While other business concerns now extend far west on Portage Avenue and north and south on Main Street, the new Hudson's Bay Company store proved the last major development to the west. Today, large retail stores, office buildings and financial institutions are concentrated to a depth of two to three blocks, largely between the Hudson's Bay Company store and Main Street, and north and south a short distance along Main Street. In addition, some large buildings and numerous retail stores have developed along major thorofares other than Portage and Main and, to some degree, on the lesser cross-streets

With the shift of retail trade westward on Portage Avenue, the location of peak values followed, eventually settling between Donald and Hargrave Streets, which is the present retail trade centre. Values at the Main Street - Portage Avenue intersection fell considerably from their one-time high, but remained second only to those of the retail centre Light manufacturing, warehouses, second-hand shops and automotive sales and service establishments developed in a strip of varying width, lying between the high land value central core and the low land value residential districts.

During the period of prosperity up to and including 1912, land values rose rapidly, reflecting wild speculation. By 1913, the beginning of a depression was evident, and after a brief respite provided by World War I, land values in the Central area dropped steadily. This condition came about as a natural result of numerous factors, the chief of which were:

1 The completion of the Panama Canal in 1914 and changes in the freight rate structure took an appreciable amount of the wholesale trade from Winnipeg, and other centres in Western Canada began to develop as distribution points This resulted in Winnipeg losing its key position as almost the sole distributing centre in Western Canada.

2. Development of mail order business reduced the use of commercial buildings and increased vacancies.

3. Excessive urban subdivision and partial development of farm land on the fringes of the growing city caused substantial losses and tended to depress land values

4. There was a trend away from investment in land towards other types of investments, due in part to development of interest in bonds through War Bond drives and in part to the losses which had been sustained in land speculation.

While the speculative value of land vanished, assessed values remained high, tax rates were increased, and taxes therefore continued to rise. At the same time revenues declined sharply, taxes were not paid, and in many cases title to land, particularly vacant land, reverted to the municipalities for tax arrears It is estimated that in the City of Winnipeg as much as 95% of all vacant lands came into the City's hands during this period.

Some reductions were made in assessed values, but it was not until after 1931 that assessed land values and use values were brought into more logical relationship. At this time, the whole Assessment Department was reorganized, and the assessing system revised. Basic taxation principles as laid down by the National Association of Assessing Officers, after many years of research, were endorsed by the Assessment Commissioner of the City of Winnipeg, and were incorporated in the present assessing system. Plate 3, showing assessed land values, assessed building values, mill rates, Water District rates and tax levied,

illustrates clearly the original high assessed values falling until World War II, the rising mill rate and the net decrease in total taxes

A period of prosperity started about 1936, and conditions steadily improved throughout World War II and up to the present. By 1946, land values and use values had increased to such an extent that land assessment increases were found necessary. In this same period, demand for land was high and, by 1947, nearly all improved land held but not required by the city had been sold for private use, and was again on the tax rolls

Plate 4 presents in detail a picture of changes in assessed land values from 1925 to 1946. Individual maps have been developed to show conditions immediately after major revisions were made and are therefore dated at irregularly spaced intervals

In the first map on Plate 4, for the year 1925, high land values throughout the Central Business District and particularly along Portage Avenue and Main Street are indicated. These are values that were on record before the assessing system was revised. In general, they are graded downwards almost directly in proportion to their distance from the various major streets

In 1934, extensive changes in assessed values which were brought about by revamping the assessing system, are clearly indicated by sharp downward revisions throughout the area. One notable exception to this trend exists in the area near Portage Avenue and Memorial Boulevard, and is mainly due to the development of the Hudson's Bay Company departmental store on this corner.

In 1937, still further generally downward revisionsin assessed values are evident Of particular interest is the continued lowering of assessed values at the intersection of Portage Avenue and Main Street, as compared with rising values near the developing retail trade centre on Portage Avenue between Donald and Hargrave Streets

Downward adjustment of assessed land values continued in 1943, although relatively higher values were maintained on Portage Avenue and on Main Street. Peak values continued at the retail trade centre on Portage Avenue

In 1946, although a few adjustments were made both upwards and downwards, in general assessed values remained substantially as they were in 1943.

In studying these maps from 1925 through 1946, the most noticeable trend has been downward. On the surface, it might appear that the effects of extensive decentralization were indicated, but it is felt that this conclusion is unjustified. While some decentralization may have occurred, as yet it is not considered to have had any great influence. Downward trends in assessments are rather attributed to planned reductions, designed to rectify a condition based on inflated values

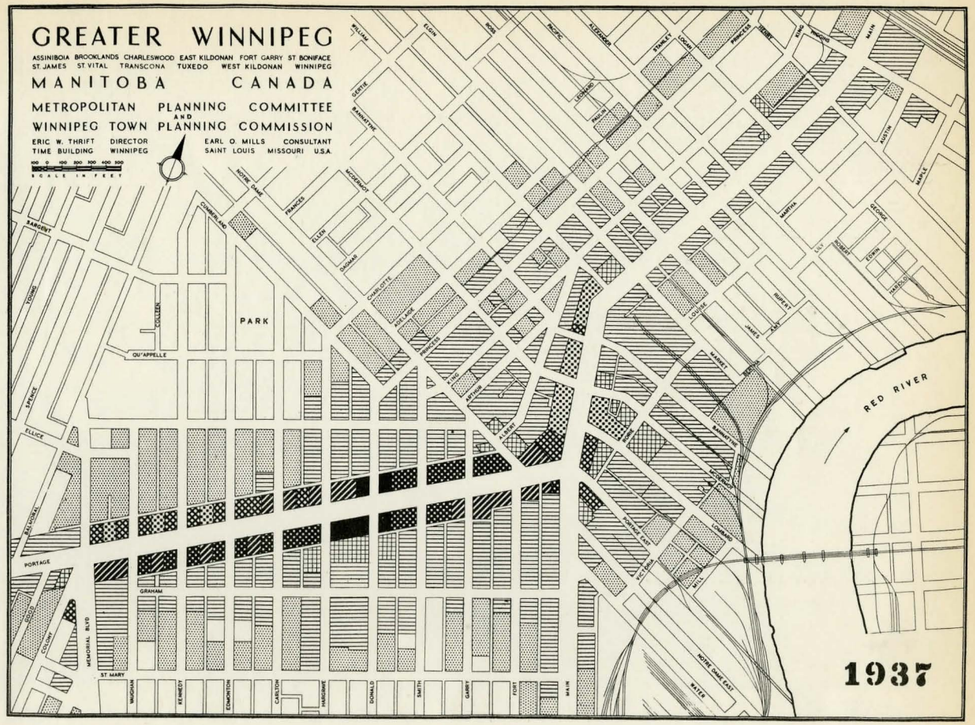
It would appear that by 1946 this earlier condition had been rectified and that a reasonable value relationship between various parts of the area had been achieved.

In the years 1947 and 1948 (not shown in Plate 4) slight increases were made throughout the whole area, as a result of generally improved economic conditions

Zoning

Zoning is recognized today as one of the most logical and positive tools with which to guide future development to suit our needs and desires. Under zoning, the community is divided into zones or districts, within which the use of land, and the use, height and area of buildings is regulated for the purpose of promoting the health, safety, morals, convenience and general welfare of the people

The City of Winnipeg is at present operating under a zoning by-law which covers approximately 70% of the entire city area, although none of the zoning regulations are applicable to the Central Business District. The development of this central area, therefore, has not benefited from any zoning control, the only restrictions being those contained in



CENTRAL BUSINESS DISTRICT

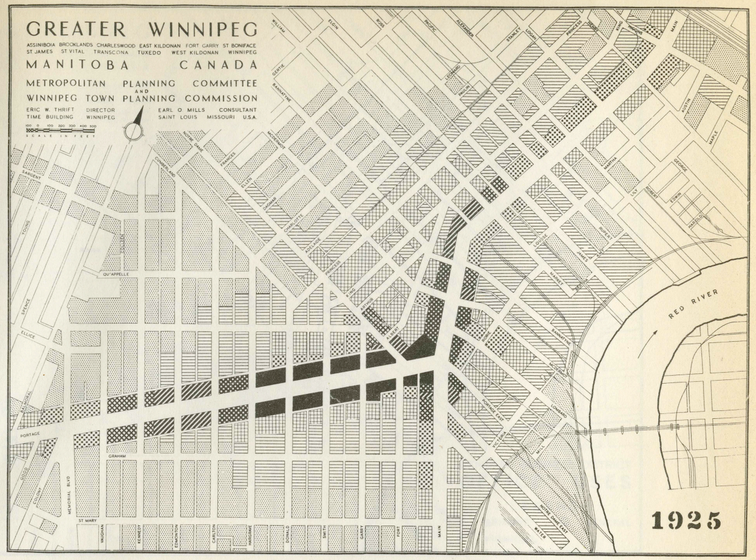
ASSESSED VALUE OF LAND

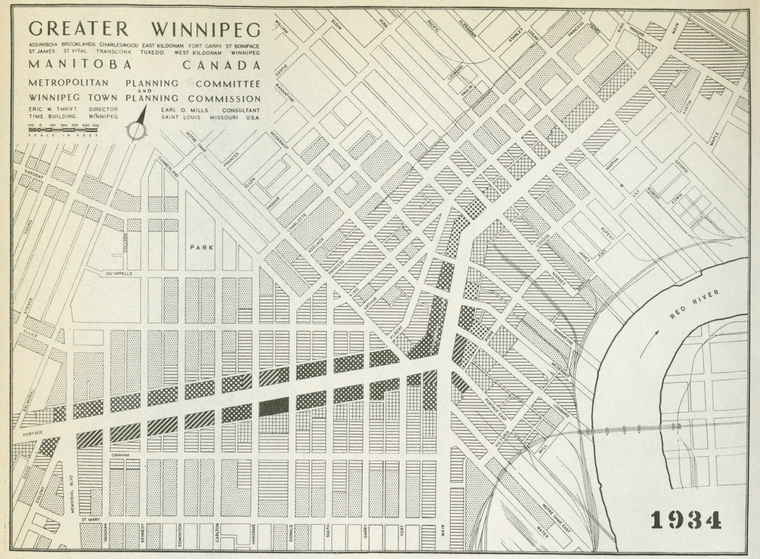
LEGEND

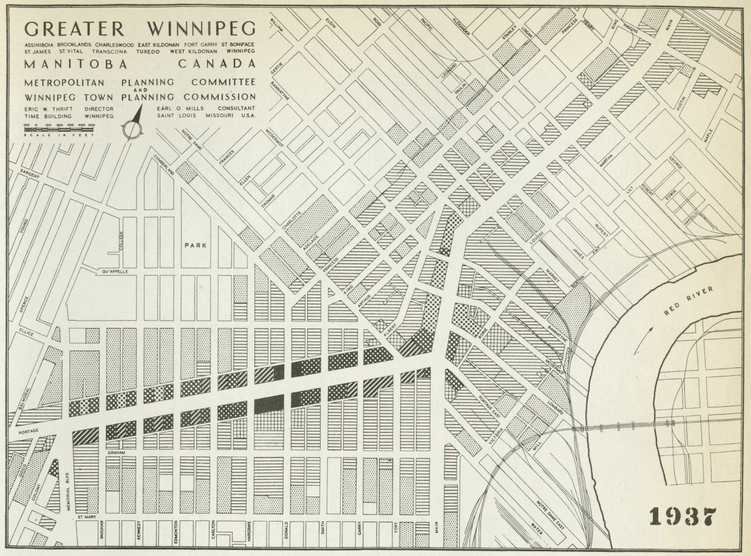
99 OR LESS	1500 TO 1999
100 TO 199	2000 TO 2499
200 TO 599	2500 TO 3499
600 TO 999	3500 AND OVER
1000 TO 1499	

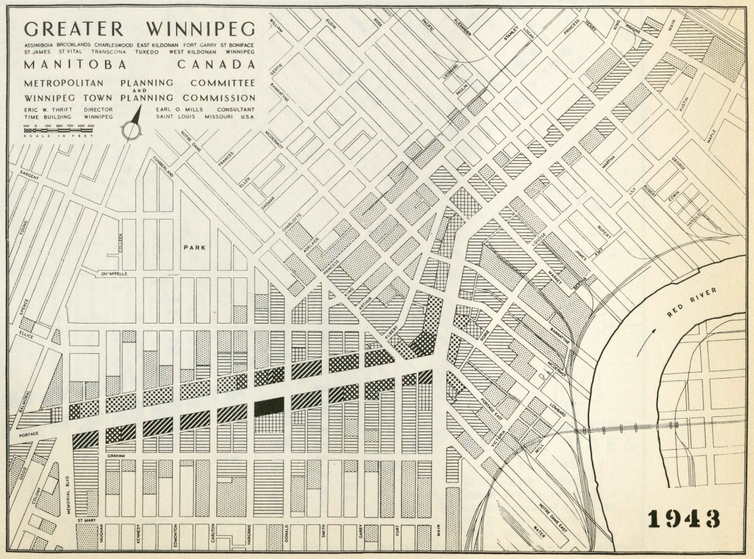
ASSESSED VALUES SHOWN IN DOLLARS PER FOOT FRONTAGE

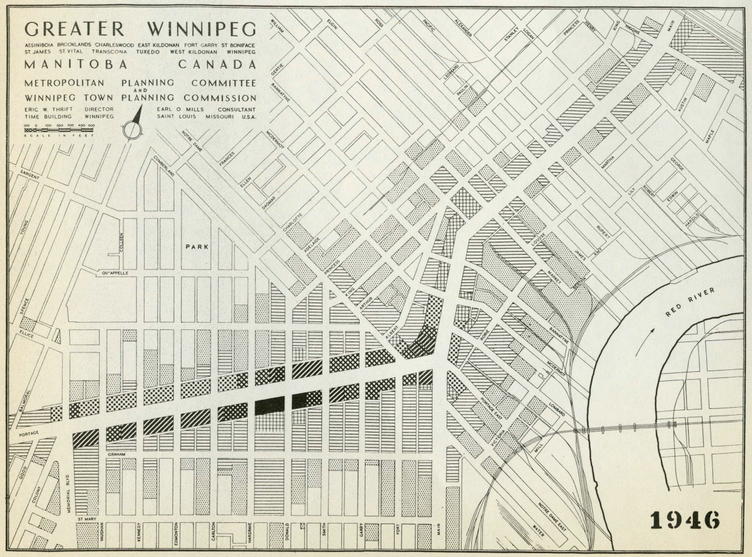
PLATE 4











CENTRAL BUSINESS DISTRICT

ASSESSED VALUE OF LAND

LEGEND

- 99 OR LESS
- 100 TO 199
- 200 TO 599
- 600 TO 999
- 1000 TO 1499
- 1500 TO 1999
- 2000 TO 2499
- 2500 TO 3499
- 3500 AND OVER

ASSESSED VALUES SHOWN IN DOLLARS PER FOOT FRONTAGE

PLATE 4

the building and health by-laws, with respect to the manner of construction. As a result, many different property uses have become thoroughly intermingled. Naturally, this has produced dwellings of less amenity and value as well as commercial and industrial establishments which are likely to be less efficient. Moreover, municipal operating costs for such mixed use areas are frequently considerably higher and the tendency towards slum and substandard conditions is greater

Under the provisions of the proposed new zoning by-law at present awaiting City Council approval, the whole of the city would be provided with complete zoning protection. Gradually, with enforcement of its provisions, considerable improvement could be brought about, through guidance of new development to desirable locations The specific provisions applying to the Central Business District are designed to permit the most desirable type of development and to prevent further deterioration.

Business and Financial Offices

The Central Business District, as the centre of business and of large investment, contains by far the greatest percentage of financial institutions in Greater Winnipeg Plate 5 shows clearly the distribution and relative physical size of these establishments Of particular note at or near the intersection of the two major thorofares, Portage Avenue and Main Street, is the marked concentration of banks, office buildings, insurance offices and trust and loan offices, including the Great-West Life Assurance Company Head Office, the Winnipeg Grain Exchange, and other grain offices Ribbon development is also noticeable, with few financial buildings located more than one block to either side of Portage Avenue or Main Street A striking example of this condition exists in the case of main and branch banks, with only two out of twenty-two such establishments in the Central Business District being located off these two thorofares, and these two at a distance of only two short blocks

Retail Stores

Greater Winnipeg is the oldest and largest consuming centre in Manitoba and the Prairies and is the fourth largest retail distribution centre in Canada.* A large proportion of the retail trade is carried on in the Central Business District, as there are no extensive secondary business centres The locations of retail sales establishments in the central area appear on Plate 6, which indicates ribbon development along Portage Avenue and Main Street. High retail sales volumes and concentrations of highest land values are found on these two main thorofares, where departmental, speciality, drug and smallwares stores present an almost solid front, particularly between Memorial Boulevard and Main Street on Portage Avenue. Food stores have largely disappeared from this area, remaining with residential development only near the outer fringes In some cases, retail sales concerns have occupied one-storey buildings, but many utilize the ground floor of higher buildings primarily devoted to office or light industrial use West of Main Street and north and south of Portage Avenue, there is a scattering of retail establishments, but east of this thorofare, the area is almost devoid of such uses, due primarily to the absence of concentrated residential use and the fact that the Red River cuts off through movement in the area

It is possible that retail sales establishments will be developed on other streets in the Central Business District in the near future, particularly if other major thorofares are developed. This tendency towards compact development should allow more economical provision of public services, and produce a more desirable type of retail shopping district, from the standpoint of both customer and retailer

Restaurants and Amusements

Plate 7 clearly indicates the large number of restaurants and places of amusement in the Central Business District. While the restaurants are well distributed to serve the area, the majority are of the lunch counter and booth type of establishment, with large restaurants occurring infrequently Some of these larger restaurants provide service during

* Industrial Survey of the Resources of the Province of Manitoba, prepared for the Industrial Development Board by Donald, Ross & Co , Montreal, 1947 (Donald Report)

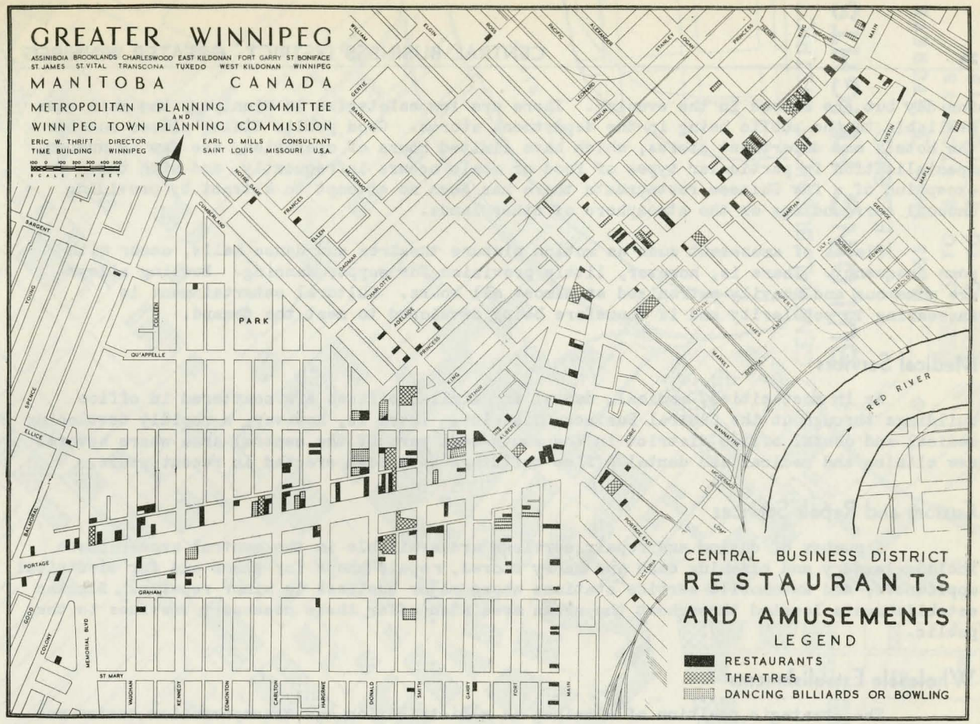


PLATE 7

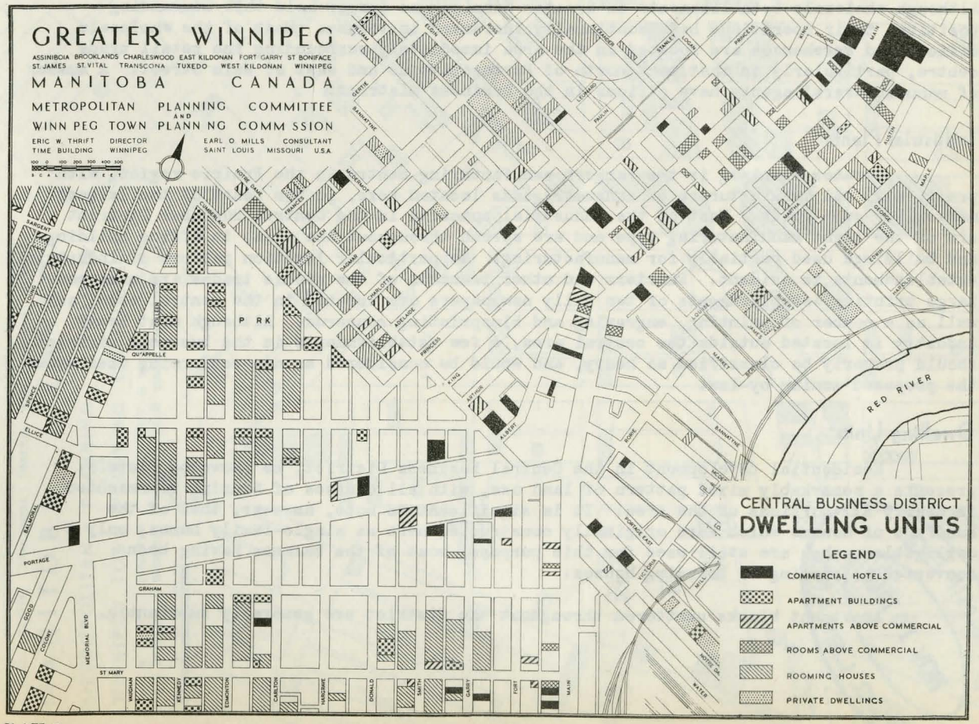


PLATE 8

the day but are closed in the evening There are few cafeterias in Winnipeg, the main ones available to the public being in the department stores Good public dining places outside the hotels and department stores which have limited hours of operation, are few in number Specialization in particular types of food or meals occurs infrequently, and with the exception of a few Chinese restaurants there has been no attempt to attract by providing unusual surroundings or the atmosphere of other lands

Places of amusement such as motion picture theatres and dance halls, occur with some frequency. There is, however, little provision for supper dancing. Bowling alleys are numerous and heavily patronized at almost all hours Cultural entertainment is increasing in popularity and is therefore being developed to meet the demand

Medical Services

As in most cities, medical, dental and similar offices are scattered in office buildings throughout the Central Business District. There is, however, a rapidly developing medical and dental office district in the south-west part of the central area where several new clinics and medical and dental office buildings have been erected in recent years

Custom and Repair Services

A number of custom and repair services are available in the central area. These include laundry and cleaning cash and carry stores, repair shops for shoes and for electrical appliances, and automobile service stations whose major business is minor repairs Similar establishments located throughout the urban area also offer these necessary services to the public

Wholesale Establishments

The strategic position of Winnipeg as a distribution and transportation centre was instrumental in making this city at one time the distributing centre of the Canadian West. Although wholesale establishments in Greater Winnipeg no longer hold this commanding position, their operations have continually increased in volume Most of the wholesale offices and warehouses are located in the area immediately surrounding the retail trade centre, particularly in that part north of Portage Avenue and east of Main Street. A number of manufacturers agents have offices in the business district.

Industrial Plants

Greater Winnipeg is the largest manufacturing centre in the Prairie region, with practically all manufacturers of consumer goods located here, in the heart of the largest market for such goods Most of the industrial concerns in the Central Business District are of the light manufacturing type and are spread throughout the area, in office buildings and buildings used partially for manufacturing. No particular location pattern of industrial establishments is evident. Furriers and other branches of the needle trades are numerous Large printing establishments of two daily newspapers are located in the central area, as well as a number of printing, engraving and blueprinting concerns. Although most heavy industry is located outside the central area, a few establishments in the business district should properly be classified as heavy, and would be considered as non-conforming uses under the proposed zoning by-law.

Dwelling Units

Residential development in the Central Business District, as shown by Plate 8, presents a remarkably mixed pattern of land use, with all classes of housing represented in nearly all portions of the area. It is significant to note, however, that of the hundreds of houses which were originally constructed here as single-family homes, only a negligible number are still used for this purpose, most of the balance having been converted to rooming or boarding houses

Apartment blocks scattered throughout the district are generally substantia.

GREATER WINNIPEG

ASSINIBOIA BROOKLANDS CHARLESWOOD EAST KILDONAN FORT GARRY ST BONIFACE
ST. JAMES ST. VITAL TRANSCONA TUXEDO WEST KILDONAN WINNIPEG

MANITOBA CANADA

METROPOLITAN PLANNING COMMITTEE
AND
WINNIPEG TOWN PLANNING COMMISSION

ERIC W. THRIFT DIRECTOR
TIME BUILDING WINNIPEG

EARL O. MILLS CONSULTANT
SAINT LOUIS MISSOURI U.S.A.

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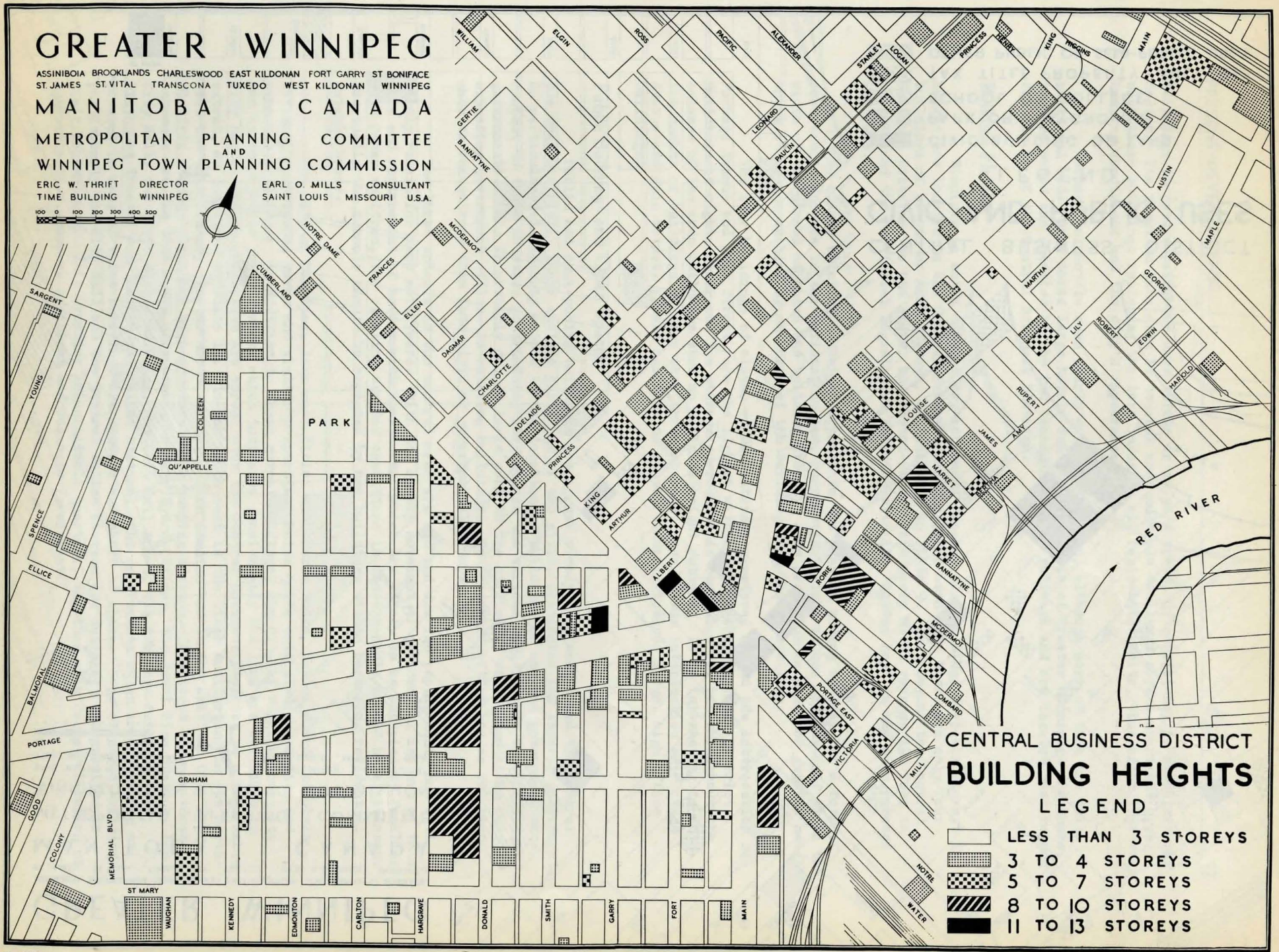


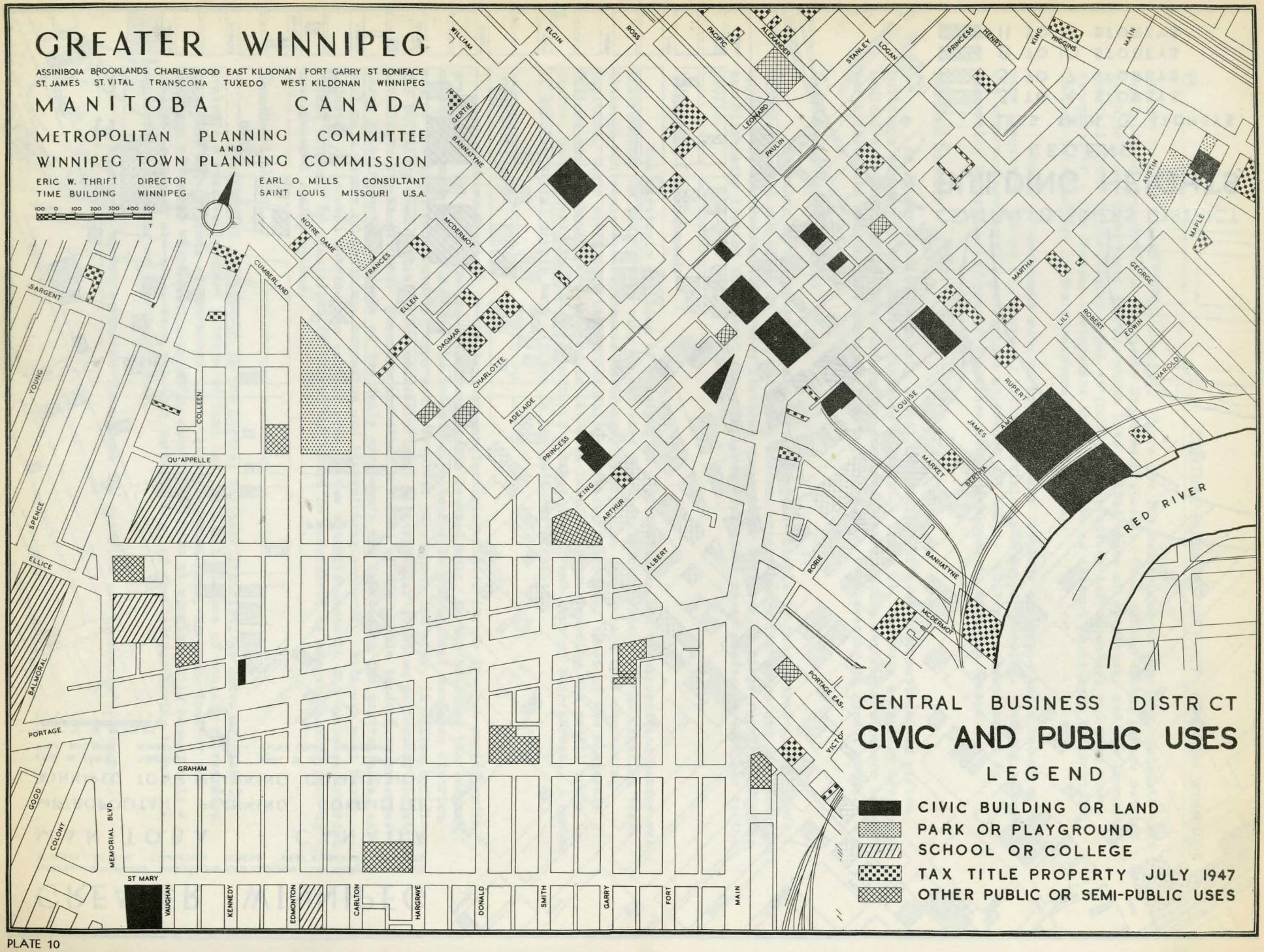
CENTRAL BUSINESS DISTRICT

BUILDING HEIGHTS

LEGEND

- LESS THAN 3 STOREYS
- 3 TO 4 STOREYS
- 5 TO 7 STOREYS
- 8 TO 10 STOREYS
- 11 TO 13 STOREYS

PLATE 9


GREATER WINNIPEG
ASSINIBOIA BROOKLANDS CHARLESWOOD EAST KILDONAN FORT GARRY ST BONIFACE
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SAINT LOUIS MISSOURI U.S.A.
100 0 100 200 300 400 500
WILLIAM
ELGIN
ROSS
PACIFIC
ALEXANDER
STANLEY
LOGAN
PRINCESS
HENRY
KING
HIGGINS
MAIN
GERTIE
BANNATYNE
LEONARD
PAULIN
AUSTIN
MAPLE
NOTRE DAME
FRANCES
MCDERMOT
CUMBERLAND
SARGENT
ELLEN
DAGMAR
CHARLOTTE
ADELAIDE
PRINCESS
KING
ARTHUR
ALBERT
MARTHA
GEORGE
LILY
ROBERT
EDWIN
HAROLD
RUPERT
LOUISE
JAMES
ANN
MARKET
BERTHA
RED RIVER
RORIE
BANNATYNE
MCDERMOT
PORTAGE EAST
VICTOR
YOUNG
COLLEEN
QU'APPELLE
SPENCE
ELLICE
BALMORAL
PORTAGE
GRAHAM
GOOD
COLONY
MEMORIAL BLVD
ST MARY
VAUGHAN
KENNEDY
EDMONTON
CARLTON
HARGRAVE
DONALD
SMITH
GARRY
FORT
MAIN
CENTRAL BUSINESS DISTRICT
CIVIC AND PUBLIC USES
LEGEND
CIVIC BUILDING OR LAND
PARK OR PLAYGROUND
SCHOOL OR COLLEGE
TAX TITLE PROPERTY JULY 1947
OTHER PUBLIC OR SEMI-PUBLIC USES

PLATE 10

buildings in good repair, but have little or no yard space, or consistency in architectural design. The trend in this area is towards more multiple dwellings of the apartment type, with these buildings replacing the less imposing old residential units, thus often improving housing conditions and the city's appearance.

Commercial hotels seem fairly well distributed, although most of them are quite small and old. Only three large hotels exist in the whole of Greater Winnipeg. Of these, two are owned and operated by the two transcontinental railways and are located just beyond the limits of the Central Business District.

Building Heights

Winnipeg is not a city of sky-scrapers Nearly all buildings over six storeys in height are located in the Central Business District, and even here there are only four buildings of eleven or more storeys, as indicated in Plate 9. Just beyond the Central Business District, to the south, the eleven-storey Fort Garry Hotel reaches 192 feet in height, and the Provincial Legislative Building with its 'Golden Boy' on the dome reaches 242 feet.

No clause relating to height appears in the present zoning by-law, but a form of restriction appears in the building by-law, restricting height to one and one-half times the width of the street on which the building fronts Some provision is made for greater height where it is accompanied by set-back of the building from the street line

The four buildings of eleven or more storeys clustered around the intersection of Portage Avenue and Main Street, are the highest within the Central Business District. Buildings of eight, nine, and ten storeys surround this central core, but throughout the balance of the area buildings show no definite height pattern. It is interesting to note the number of buildings of less than three storeys, even at the intersection of Portage Avenue and Main Street. There has been no recent tendency towards large, high office buildings

Public Buildings and Open Spaces

Public and semi-public buildings are spread widely over and beyond the Central Business District. These include buildings of the civic, provincial and federal governments No particular relationship exists in the location of buildings of any one government with respect to those of other governments, nor amongst the various buildings of the individual governments. This is probably due in large part to the difficulty of accommodating rapidly expanding government offices in existing buildings No concerted effort has as yet been made to concentrate them into civic or governmental groups.

The three schools in the central area are old and due for replacement, but will likely remain for many more years. With the steady movement of residential use out of this area and replacement of houses with apartments, which are likely to be occupied by families with fewer children, the existing crowded conditions in these schools should be alleviated. Eventually the schools should be replaced by new buildings within bordering residential neighborhoods.

The City of Winnipeg, like most cities with Parks Board, School Board and Civic offices, operational yards and similar properties, holds quite extensive properties and numerous buildings In addition to these normal holdings, the City of Winnipeg owns its own hydro-electric power system, which increases considerably the land and buildings in City hands. These properties are spread over the Central Business District to a remarkable extent, as indicated by Plate 10. In the south-west is the Civic Auditorium, in the north-west the Main Library, in the north the No. 3 Fire Station and in the east the City Hydro Electric standby plant and high pressure water pumping station. Scattered between these extremes are the City Hydro showrooms, the City Hydro offices, the No. 1 Fire Station, the City Hall, the Civic Office Building, the City Hall Annex, the Exchange Building, the Playhouse Theatre and the Central Police Station. The departments which are operating at present in many of these buildings are crowded and short of space. Some of these buildings, particularly the City Hall and the Central Police Station are quite old and unsuited to their present use. This crowding in unsuitable quarters, together with decentralization of administration, hampers efficient and economic government.

One of two publicly owned market places is located in the Central Business District behind the City Hall and offers an open area where farmers and market gardeners can set up their stands and offer fresh produce to the public.

In the vicinity of the Central Business District there are two small developed playgrounds and one park. Such spaces are particularly valuable assets in an area where buildings are concentrated and where there is practically no other open land. The recreational need which these park areas are helping to fill is evidenced by the fact that they are generally quite crowded. The square in front of the City Hall on Main Street is another open area, but is for ornamental purposes only.

Tax Sale Land

Tax title or tax sale land parcels have been quite numerous in the Central Business District in the past, but in more recent years the demand for property by private developers has been high, with the result that the total area of such land parcels in City hands is now quite small. With continuing demands for real property in the area, the overall condition would seem to be quite healthy, but constantly expanding public services emphasize the desirability of retaining a number of these properties for future use Indeed, with already crowded civic offices, expanding public services and necessary public improvements such as thorofare widenings and connections, recreation areas and off-street parking areas, the amount of city owned property is far from sufficient. To meet these pressing needs, it will be necessary for the City to acquire additional and better located property.

CIRCULATION

The basic requirement in provision for adequacy of circulation is the construction of streets, but such factors as traffic control, parking regulations and transit operations are of great importance in using these streets to the best advantage. The ultimate objective of good circulation and free movement in the central area will therefore be discussed according to these closely related, governing factors

Streets

Roadway Widths and Capacities

Most of the streets in the central area, other than Portage Avenue and Main Street, are 66 feet wide. When fully developed according to existing standards these streets consist of 46-foot paved roadways, bounded by 10-foot sidewalk strips Since many streets are now developed in this manner, and are unlikely to be changed, it is necessary to make the most practical use of them for pedestrian and vehicular movements, and for service of the properties abutting upon them.

The Major Thorofare report recommends that on minor residential streets, the space provided for one moving traffic lane be 9 feet, and that on 66-foot secondary thorofares such space be 12 feet. Streets of the business district would fall into the latter classification, and should have 12-foot lanes for moving traffic Where parallel parking is permitted, 9-foot lanes are recommended. Thus, the pavement would be made up of two 12-foot moving lanes and two 9-foot parking lanes, comprising a total of 42 feet.

Some authorities consider that the present 46-foot width presents some hazards, in that as presently used approximately 8 or 9 feet on either side is devoted to parking, with the remainder, about 28 feet, available for moving traffic This, it is contended, is used for two 14-foot moving lanes, one in each direction. Fourteen feet is, however, considered excessive for one lane of traffic and an unjustified expense for any type of street. It is pointed out that alternatively the 28 feet is used for three moving lanes of 9.3 feet each, which is conducive to accidents through the two-way use of the centre lane Experience elsewhere has shown that where two-way traffic is concerned, the use of an odd number of lanes should be avoided, as a general rule, because of the hazards involved. Study has apparently revealed that on major thorofares where paving of 24 feet or less is provided, traffic will not attempt to form a third lane, since the resultant 8-foot lanes make for uncomfortable driving for both present day automobiles, whose widths (1946 and

1947) vary from 5.8 to 6.9 feet, and modern trucks and buses * The maximum truck body width permitted under the Manitoba Highway Traffic Act is 8 feet; many buses are slightly over 8 feet.

If traffic should ever become so dense on 42-foot pavements that parking must be prohibited, there would then be available four 10.5-foot moving lanes. If a system of one-way streets were adopted there would be one 9-foot parking lane and three 11-foot moving lanes These are, of course, of less width than is recommended in the report on Major Thorofares, but where traffic becomes sufficiently heavy to require additional lanes, narrower lanes are often necessary, with operation at lower speeds If at some time in the future, parking must be restricted or prohibited on existing downtown streets where 46-foot paving has been constructed, four 11.5-foot moving lanes could be obtained.

With respect to actual street capacity, a number of spot counts have been taken, but no overall traffic count or survey has ever been made in the Central Business District Failing this local information, it is of interest to note that in a study made by a committee of the Institute of Traffic Engineers, practical capacities in the centre lanes of major business streets were found to be approximately 700 vehicles per hour per lane ** Curb lanes, where parking regulations are strictly enforced, can carry about 50% of the volume of centre lanes, or about 350 vehicles per hour There are, however, numerous factors that tend to reduce these figures, including the use of abutting property, frequency of cross streets and curb cuts, type and condition of paving, width of traffic lanes, classes of traffic utilizing the street, frequency of turning movements, vehicle speeds, amount and nature of street parking and the nature and use of traffic control devices

Sidewalk Widths and Capacities

No data is at present available to show the density of pedestrian traffic in the Central Business District. However, surveys made elsewhere indicate that the desirable maximum volume on business district sidewalks in front of retail stores, ranges from 1,100 to 1,600 persons per hour per 22-inch lane *** Portage Avenue and Main Street, each with 18-foot sidewalks, could then carry approximately 11,000 to 16,000 persons per hour Other business district sidewalks, most of which are 10 feet in width, could carry proportionately fewer persons

These figures are desirable maximums and would be reduced somewhat due to sidewalk obstructions. Capacities are usually limited to the effective sidewalk width occurring at street intersections where pedestrian cross traffic is encountered, and where pedestrians line up awaiting green traffic light or pedestrian signals Cross-walk capacity is, of course, less than sidewalk capacity since cross-walks are subject to interruptions from through and turning vehicular traffic To offset this reduced capacity, the cross-walk widths in the Central Business District are made somewhat greater than normal sidewalk widths Sidewalk capacities are affected to a marked degree by the use of abutting properties, particularly when used for retail sales purposes. Other factors influencing capacity are the frequency of curb cuts, and pedestrian speeds, the latter in turn being affected by condition of walking surface, temperature, type of crowd, and other lesser factors. Pedestrian speeds usually average from 3.5 to 4.5 feet per second. Motor bus and trolley coach curb loading stops also affect capacity. They create congestion at several points in the Central Business District, particularly near the intersections of Portage Avenue with Notre Dame Avenue, Smith Street and Fort Street, and of Portage Avenue East with Main Street, as well as on Portage Avenue in front of the T. Eaton Co. Ltd. departmental store

Curb Radii and Curb Heights

Throughout the Central Business District there is considerable variation in curb radii at street intersections, since these streets were developed before present day vehicle

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* Urban Land, April 1947, published by Urban Land Institute, Washington, D.C. (p.3)
** Traffic Engineering Handbook, 1941, published by the Institute of Traffic Engineers and the National Conservation Bureau (p.180)
*** Traffic Engineering Handbook, 1941 (p.36)

requirements were evident. Original curbs were designed with an 8-foot radius at corners, but later it became the practice to set radii at 17 feet. In an actual field check, it was found that the original 8-foot radii predominate, but that 4, 10 and 15-foot radii are also present. Recently 25 feet has been considered desirable, particularly where transit vehicles make turning movements This desirable radius is, of course, subject to field conditions, and as large a radius as possible is set.

Curb heights, as a general rule, have been kept below a desirable maximum. Standard practice at one time permitted a range of from 5 to 9 inches, but in a few isolated cases, heights have exceeded this range considerably, to such an extent in fact that passenger cars parked parallel are forced to keep a foot or two away from the curb in order to provide car door clearance Present practice is to set all curbs 6 inches high.

Curb Cuts

Plate 12 shows the locations of all driveways and other curb cuts in the Central Business District. Excessive numbers of these openings greatly reduce the effective width for moving traffic due to vehicles entering and leaving these openings, reduce curb space available for parking, and increase the element of hazard to pedestrians through vehicular movements across sidewalks While some curb cuts are essential as a means of access to property, the present frequency of such openings promotes congestion and accidents. On Portage Avenue and Main Street there are no curb cuts, but on some other streets they are excessive. In all fairness to the administration of the City of Winnipeg, it must be pointed out that the majority of these curb cuts were made many years ago, and that present practice is to discourage private property entranceways

Lanes

Although lanes form a part of most street subdivision in Greater Winnipeg, portions of the Central Business District which formed the centre of early development were laid out without lanes. The result is that in these congested areas, business establishments cannot be served from the rear by vehicular traffic In some cases, new lanes have been established by by-law, and in others private lanes or roadways have been permitted.

Generally, lanes are of standard widths of 16 and 20 feet, but variations are to be found. Lane intersections are usually right-angled, providing rather restricted space for vehicular turning movements. These movements are further complicated by the presence of telephone and electric power poles and guy wires In some cases, diagonal cut-offs have been made to facilitate turning movements, but such improvements are the exception rather than the rule Movement in lanes is usually permitted in both directions, but in a few cases, one-way regulations are in effect.

Street Adjustments

Principal street openings and widenings in recent years have been confined almost entirely to the development of what is termed the Crosstown Highway Included in this thorofare are Osborne Street, Memorial Boulevard, and Colony, Balmoral, Isabel and Salter Streets Only the sections on Memorial Boulevard, Colony Street and Balmoral Street are within the Central Business District.

The proposal for a crosstown thorofare has been mooted since the turn of the century. First action to implement the proposal took place in 1906, when an undeveloped section of Salter Street was paved to a width of 46 feet. In the years 1928, 1931 and 1939, to make ultimate achievement of the proposal possible, definite steps were taken through action of the City Council, in setting property alignments on certain sections at 80 feet. In 1932, the Salter Street viaduct, which had been under construction for several years, was officially opened to the public Further action in the years 1934, 1936, 1944 and 1946 included new construction, the elimination of several jogs and sharp turns, and the widening of several sections where widening was possible. While much has been accomplished in development of this north-south thorofare, particularly within the past 15 years, the route is not completely developed as a thorofare, and does not perform the function for which it was designed. This is primarily due to restricted widths in certain sections. Before this

thorofare can function efficiently and justify the expenditures already made, existing bottlenecks on Balmoral Street should be removed.

Other street changes in the Central Business District are minor. They include the extension of King Street across Notre Dame Avenue to connect with Smith Street, the extension of Victoria Street from Notre Dame Avenue East to Water Avenue, the widening of the Water Avenue intersection with Main Street, and in more recent years, the widening of a number of street pavements to 46 feet.

Traffic

Traffic Surveys

There have been no composite traffic surveys made to date in Greater Winnipeg Numerous traffic volume counts have been made at certain street intersections within the City of Winnipeg, by the City Signals Department and by the Police Department, to assist in the solution of specific congestion or traffic signal installation problems Other counts have been made by the Provincial Government Department of Highways, to measure traffic volumes entering the City, and two parking surveys have been made by the Planning Office in the Central Business District. This data, gathered at various times and under different conditions, forms a patchwork pattern, and there is no complete data available to show traffic conditions in this area.

Traffic Signal Lights

Plate 11 shows the number and locations of traffic signal lights in the Central Business District. These are concentrated largely along Portage Avenue and Main Street, where the heaviest traffic volumes occur In addition, individual signal lights are located on other thorofares at strategic intersections where traffic volumes or congestion have indicated the need for special treatment. Most interesting of the recent traffic light installations is the three-phase light system put into operation in September 1947, at the four-way intersection of Portage Avenue and Main Street. This replacement installation is unique in Greater Winnipeg, being at present the only one that makes special allowance for pedestrian movements. In one phase, all turning movements except those on two street car lines are made, and in the other two phases, only straight through movements are permitted. During these two latter phases, pedestrian movements take place free from the interference common at all other signalized intersections, where vehicular traffic makes right and left turns directly into pedestrian traffic. The only exception to the above operation permits two street car turning movements on the amber between-phase light.

Since no over-all traffic survey has ever been made, the responsible authorities have been wise in keeping traffic signal lights to a minimum. With a comprehensive survey under expert traffic engineering direction, the necessary data could be accumulated to indicate where additional lights would be required, where special types of lights might prove more desirable than the present fixed time signal lights, and where coordination of signal light operation could provide more continuous traffic flow

While the use of flashing amber and flashing red signals during the low-traffic volume night hours has been on trial for some time, certain traffic signal lights which are not adapted to flashing signals are shut off entirely during this period. Extinguishing some traffic lights during slack periods is probably good practice, but at present gives rise to a particularly bad traffic hazard. During the daylight hours, movements into many of these intersections are restricted to those permitted by the signal lights and traffic signs, but at night nearly all movements are permissible, with the possibility of vehicles entering at high speed from more than one direction at once

With the exception of the Portage Avenue - Main Street intersection control lights, no adequate provision has been made for pedestrian protection. Quite recently, a set of pedestrian 'Walk' lights was installed on a trial basis at the Portage Avenue - Donald Street intersection. These now operate simultaneously with the vehicular traffic control lights, the 'Walk' light operating during the green and amber phases For this reason they offer little additional protection and are disregarded by most pedestrians

GREATER WINNIPEG

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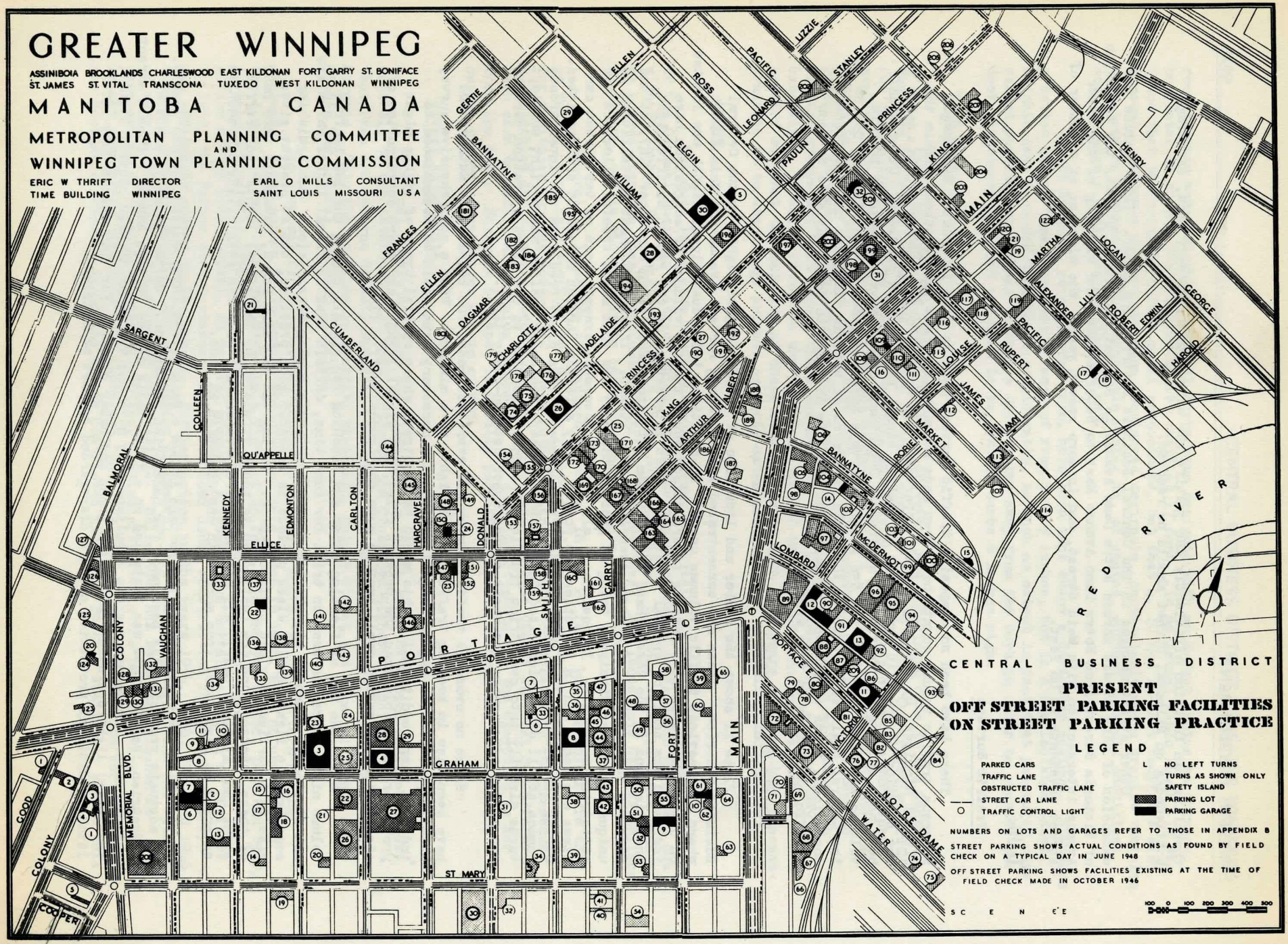

CENTRAL BUSINESS DISTRICT

PRESENT OFF STREET PARKING FACILITIES ON STREET PARKING PRACTICE

LEGEND

- PARKED CARS
- TRAFFIC LANE
- OBSTRUCTED TRAFFIC LANE
- STREET CAR LANE
- TRAFFIC CONTROL LIGHT
- L NO LEFT TURNS
- TURNS AS SHOWN ONLY
- SAFETY ISLAND
- PARKING LOT
- PARKING GARAGE

NUMBERS ON LOTS AND GARAGES REFER TO THOSE IN APPENDIX B

STREET PARKING SHOWS ACTUAL CONDITIONS AS FOUND BY FIELD CHECK ON A TYPICAL DAY IN JUNE 1948

OFF STREET PARKING SHOWS FACILITIES EXISTING AT THE TIME OF FIELD CHECK MADE IN OCTOBER 1946

SCENE

100 0 100 200 300 400 500

PLATE 11

Traffic Signs and Markings

In general, traffic signs in the Central Business District are standard in design, well marked and well placed, but highway route markings within Greater Winnipeg as a whole are inadequate and street name signs are missing at some intersections. In regard to pavement markings, a much less favorable condition exists These have been restricted almost entirely to crosswalks, turn guide lines, and street car and bus clearance lines, which frequently are not easily discerned. The only traffic lane lines are those recently placed at the intersection of Portage Avenue and Main Street With this inadequacy of traffic guidance, it is not surprising to find traffic weaving and dodging from lane to lane. City traffic police have a much more difficult job controlling traffic with such limited assistance from vehicular and pedestrian guidance markings

Street Lighting

Primarily, street lighting is designed to produce the necessary illumination for good visibility at night, so as to promote safer night use of streets and to make more effective use of the large investment in city streets It comes as a surprise to many that street lighting in Winnipeg, always a source of pride to its residents in the past, is not adequate to meet present day standards. In an excellent and detailed report submitted by Mr J. W Sanger, General Manager of the City of Winnipeg Hydro Electric System, a complete picture of the condition of street lighting in Winnipeg is presented, pointing out clearly the deficiencies existing in 1947 * No attempt will be made here to discuss street lighting, other than to refer the reader to this report for details

One-Way Streets

One-way streets are those on which vehicular traffic is permitted to move in only one direction, either at all times or for a substantial part of the time Such control has not been used extensively on Greater Winnipeg streets. In the few instances where regulations have been applied they were found necessary to alleviate particular traffic conditions and have been applied on a full-time basis. At present, one-way street regulations in the City of Winnipeg are in effect on certain sections of Bell Avenue, Glenwood Crescent, Harbison Avenue, Lanark Street, Lombard Avenue, Maryland Street, and Park Street, only Lombard Avenue being within the Central Business District. In addition, restrictions are placed on vehicular movements at the intersection of Academy Road with Wellington Crescent, of Balmoral Street with Notre Dame Avenue and of Colony Street with Memorial Boulevard, the last two mentioned being within the Central Business District. Application of the one-way movement principle is also made to certain lanes in the area **

Pedestrian and Traffic Islands

The use of pedestrian loading islands on thorofares at street car stops is restricted generally to the Central Business District. Outside this area, except at some important intersections and at some heavily patronized stops, the loading areas are not protected or identified by abutment, fence, raised surface, pavement buttons or paint markings. Where loading islands exist, protection consists of lighted concrete abutments with steel posts and chain connectors on one side. The pedestrian area is not raised but forms part of the regular paving. Since other vehicular traffic moves by law to the right of these loading areas, the design provides pedestrians with adequate protection. Design of the concrete abutment is fairly standard, with a blunt, painted vertical face on the approach side More recent designs call for a tapered approach face, and while none of these have been installed, plans are being made by the City Engineering Department to construct several on a trial basis.

No pedestrian refuge islands or vehicular channelizing islands, such as have been used to advantage in other cities to reduce congestion and accidents, have been installed in

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* City of Winnipeg Street Lighting Report and Recommendations, 1947. Submitted to the Committee on Public Utilities of the Winnipeg City Council by J. W. Sanger, General Manager, Hydro Electric System and Street Lighting Division.

** City of Winnipeg Traffic By-law No. 16024.

Greater Winnipeg. A few traffic division strips of the parkway type have been provided on such thorofares as Wellington Crescent, Burrows, Provencher and Broadway, but with the exception of the small island formed when King Street was extended across Notre Dame to Smith Street no channelizing islands of any kind exist in the Central Business District

Turning Movements

Turning movements in the Central Business District are, in general, unrestricted, as indicated in Plate 11 Apart from the previously mentioned 'one-way' movement regulations on certain streets, the following turn restrictions are at present in effect. At the intersection of Portage Avenue with Vaughan Street, Hargrave Street and Fort Street-Notre Dame Avenue no left turns are permitted. At Donald Street and Portage Avenue only right turns north from Portage to Donald Street are permitted. At Portage Avenue and Main Street, left turns are prohibited with the exception of those made from Portage Avenue to Main Street North, and from Main Street South to Portage Avenue, the latter turn being permitted for street cars only. During rush hours, left turns off Portage Avenue at Smith Street are prohibited. At the intersections of Higgins Avenue and Market Avenue with Main Street and of Smith Street with Portage Avenue 'U turns are prohibited. At all other street intersections, both left and right turning movements are permissible

Pedestrian Movements

At the present time there are in effect no regulations controlling pedestrian movements Pedestrians are legally free to cross streets with or against traffic lights, at intersections or at mid-block, with the result that the City of Winnipeg seems to have acquired a notoriety for jay-walking. Since the police have no regulations to enforce, they are powerless to control the situation effectively

Speed

Under the provisions of the Highway Traffic Act, vehicular speeds in built-up areas are restricted to 30 miles per hour in the case of passenger cars, and 25 miles per hour in the case of trucks Local or municipal governments have no power to regulate speeds below these figures, except in the immediate locality of schools and institutions While actual speeds undoubtedly average below the maximums allowed, these maximums are frequently too high in certain areas, and on certain streets where traffic conditions are peculiar. Slow speeds on certain streets can also prove hazardous and can have the general effect of disrupting smooth traffic flow.

The existing speed differential between passenger cars and trucks was in all likelihood set in the interests of safety. In actual practice, however, it has had the effect of forcing individual units in the various traffic streams to move at different and conflicting speeds. Slow moving traffic is by law directed to right traffic lanes, but the 5 mile per hour differential is not sufficient to so direct trucks, while it is sufficient to disrupt faster moving traffic. Faster moving traffic is encouraged to weave from lane to lane and to cut out from normal moving lanes in order to pass, with passing frequently accomplished on the right-hand side

Truck Routing and Loading

With the exception of a few through routes designated for moving specific commodities in the Central Business District, trucking routes are not specified by law, nor are any particular routes followed in practice. Truck routings vary from day to day and are arranged to fit daily pick-ups and deliveries Since these pick-ups and deliveries are usually unscheduled, city streets of all classes are subjected to truck traffic during all hours of the day.

Since the Central Business District grew rapidly to meet the requirements of the time, many existing buildings were not designed to meet today's needs. Facilities for loading and unloading commodities are an example of this inadequacy. In some few cases, buildings are so located and constructed that adequate off-street facilities are available for trucks, either within the buildings themselves or at least within the bounds of the

particular properties being served. In general, however, few off-street spaces are available, and commodity transfer is achieved by loading to platforms or directly into the buildings concerned from trucks parked in rear lanes Even where lanes are provided, this system is subject to delay and high cost, since lanes become congested and completely choked up due to the use of large trucks and semi-trailers, and to unscheduled deliveries and pick-ups Where no lanes are available or where these lanes are already congested, commodity transfer is sometimes made by means of private roadways, but more often directly from the street, across the pedestrian sidewalks Since loading areas cannot be provided at the curb for all buildings now without adequate facilities, street loading often involves angle parking and double parking, with consequent disruption of traffic flow.

Taxicabs

The taxicab per capita ratio in Greater Winnipeg is comparatively high, being one per 800 persons * Some 325 taxicabs were licensed in 1946, and this figure increased to 400 in 1947. While the number of cabs per person is higher than in most cities, this may be justified when considered in the light of low private automobile registrations and severe climatic conditions In any event, most of the taxicabs in use in the Greater Winnipeg area are presently well patronized by the public, who are apparently satisfied with the service received for the fare paid.

Although the number of taxicabs in Greater Winnipeg is comparatively large, they have not created any major traffic problems except in the case of a few companies whose cars have occupied an appreciable amount of curb parking space while awaiting assignments Usually this occurs at or near the company's office on a major thorofare and as a result removes all such parking space from general use The majority of the taxicab companies, however, have their own off-street stands and parking spaces with call phones to improve service and reduce mileage Cruising is officially frowned upon and although a certain amount is carried on, it has not as yet presented any problems Several large companies have installed two-way radios to further improve service, and others are contemplating similar installations Only two curb taxi stands are authorized in the City of Winnipeg, one at each transcontinental railway passenger terminal

Parking

The problem of finding suitable space for parking automobiles and trucks in the business district of Greater Winnipeg is a most serious one. Admittedly conditions here are not yet as acute as they are in some cities, notably those in the United States, but only because vehicle registrations are somewhat lower here than elsewhere Registrations are increasing and unless constructive action is taken it will be only a question of time before the parking problem is as critical here as it is elsewhere

While a comprehensive parking survey has never been conducted here, the Planning Office has made a study of both on-street and off-street parking facilities, and has found the following conditions in evidence

On-Street Parking

In the Central Business District, difficulty arises from the fact that there are not enough streets to provide parking spaces for all who wish to park. On streets which do provide for parking, appreciable portions are not available, being required for moving traffic, transit and commodity loading spaces, curb cuts, fire hydrant clearance, corner clearance and similar functions

Plate 11 shows developed on-street and off-street parking areas as determined by a survey early in 1946. During peak parking periods, facilities were found to be inadequate, particularly within a zone some two blocks wide on either side of Portage Avenue and Main Street. Since the survey was made, changes in regulations have reduced available parking

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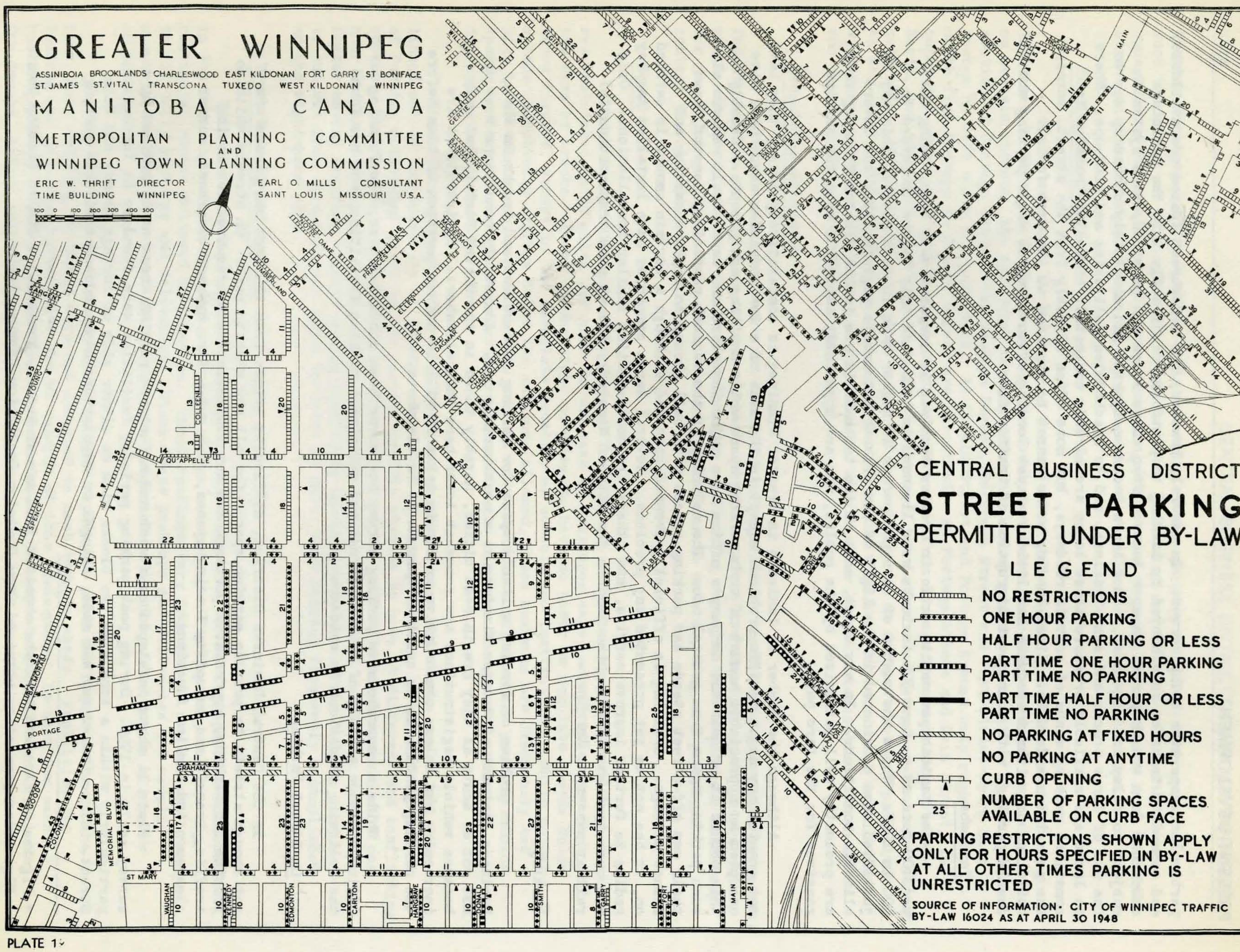
* Figures on licensed taxicabs obtained from Annual Report, Municipal & Public Utility Board
Figures on population obtained from Dominion Population Census, 1946.


GREATER WINNIPEG
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SAINT LOUIS MISSOURI U.S.A.
100 0 100 200 300 400 500
CENTRAL BUSINESS DISTRICT
STREET PARKING
PERMITTED UNDER BY-LAW
LEGEND
NO RESTRICTIONS
ONE HOUR PARKING
HALF HOUR PARKING OR LESS
PART TIME ONE HOUR PARKING
PART TIME NO PARKING
PART TIME HALF HOUR OR LESS
PART TIME NO PARKING
NO PARKING AT FIXED HOURS
NO PARKING AT ANYTIME
CURB OPENING
25
NUMBER OF PARKING SPACES AVAILABLE ON CURB FACE
PARKING RESTRICTIONS SHOWN APPLY ONLY FOR HOURS SPECIFIED IN BY-LAW AT ALL OTHER TIMES PARKING IS UNRESTRICTED
SOURCE OF INFORMATION - CITY OF WINNIPEG TRAFFIC BY-LAW 16024 AS AT APRIL 30 1948
PORTAGE
MEMORIAL BLVD
ST MARY
GRAHAM
QU'APPELLE
CUMBERLAND
MAIN
VAUGHAN
KENNEDY
EDMONTON
CARLTON
SMITH
VICTORIA
COLLEEN

PLATE 1

space In analyzing on-street parking in downtown Winnipeg, it becomes apparent that parking space is not used to the best advantage. Plate 12, which shows where various time periods of parking are legally permitted, indicates a piecemeal application of parking restrictions rather than a particular pattern by area.

Actual parking practice is indicated by Plate 11, with positions of parked vehicles at the time of the field survey being shown regardless of their adherence to parking regulations. That regulations are violated is evidenced by the frequency of obstructed traffic flow lines due to double parking, poor positioning, parking in restricted areas, and similar bad practices.

The difficulty in finding parking space in the central area has created a particularly difficult situation for legitimate short-time parkers such as shoppers, business clientele, salesmen and others, who by the nature of their business contribute directly to the up-keep of the Central Business District. They are forced to waste time and money searching for conveniently located parking space. It has been proven in many cities that these conditions discourage shoppers, causing an undue shift to outlying retail centres Time lost by business persons means higher operating costs which are eventually reflected in costs of goods and services

Sections of curb space on which parking time has been restricted to quarter, half and full hour intervals are specifically intended for this short-time parking group. Available information, however, would seem to indicate that short-time parking requirements are exceedingly high, that existing regulations are not sufficiently restrictive, or that regulations are violated to such an extent that few desirable spaces are available

In connection with street parking, a survey of costs was made, and the following pertinent data developed. On streets within the Central Business District where boulevards can be eliminated to permit pavement widening without reducing sidewalks to inadequate widths, street parking could be provided at a cost of from $200 to $250 per car space

Where wider pavements can only be provided through the acquisition of private property and an increase in the overall width of the street, costs involved would probably range from $1,800 to $17,900 per car space, the former figure representing costs where no buildings are involved, and the latter where buildings of moderate height would have to be purchased, cut back, remodelled and resold, as indicated in Appendix A.

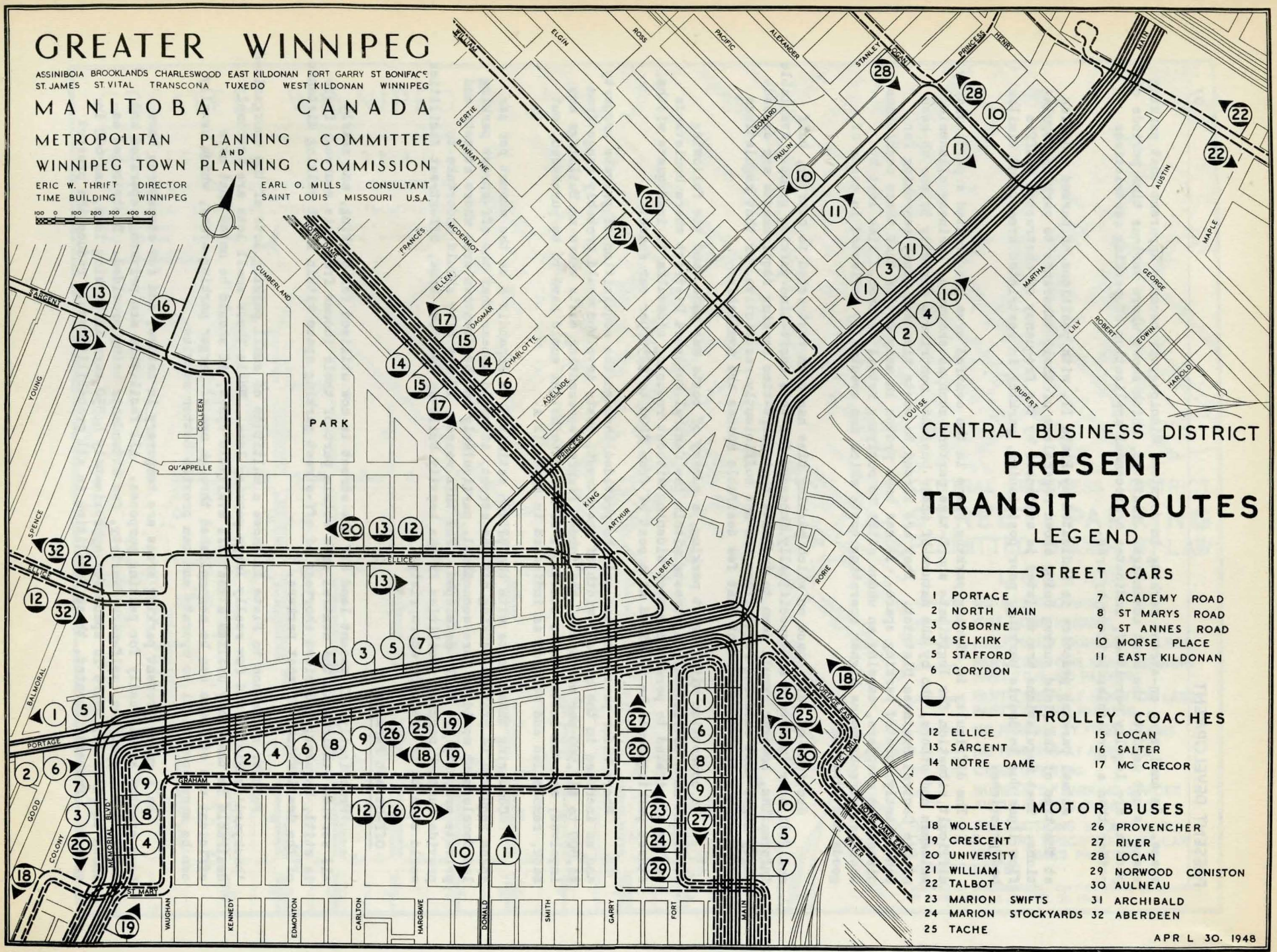
Comparing these costs with the $1,265 estimated in Appendix E as the amount per car space required to provide parking off the street, it would appear that the off-street parking lot development would be more economical, particularly in the downtown area where streets and private property are fully developed. For this reason, if the city should undertake to provide further parking facilities in the heavily built-up downtown area, off-street facilities would seem to be the more appropriate

Off-Street Parking

Practically all vacant land off the street is now utilized for parking, and nearly all service stations in the central area obtain part of their income from this source. There is still, however, a decided shortage of off-street parking space within short walking distance of the destinations of most parkers.

Further reference to Plate 11 shows a multitude of small parking lots of the unorganized 'backyard' variety, and few really large parking lots. While these small lots are extremely desirable in that they utilize almost all available space, it should be noted that more efficient use of space can be accomplished through use of larger parking areas, which usually can be more economical to operate and can provide better service

As a rule, present parking areas are temporary in nature, and few structures have been erected specifically for parking purposes. All facilities are privately operated and nearly all are of the 'self-park' variety, few attendants being provided. Distributed as shown in Plate 11, there is space for approximately 4,350 cars in parking lots, and 600 in garages. Properly located, these facilities in all probability would reduce the present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SAINT LOUIS MISSOURI U.S.A.
100 0 100 200 300 400 500
CENTRAL BUSINESS DISTRICT
PRESENT
TRANSIT ROUTES
LEGEND
STREET CARS
1 PORTAGE
2 NORTH MAIN
3 OSBORNE
4 SELKIRK
5 STAFFORD
6 CORYDON
7 ACADEMY ROAD
8 ST MARYS ROAD
9 ST ANNES ROAD
10 MORSE PLACE
11 EAST KILDONAN
TROLLEY COACHES
12 ELLICE
13 SARGENT
14 NOTRE DAME
15 LOGAN
16 SALTER
17 MC GREGOR
MOTOR BUSES
18 WOLSELEY
19 CRESCENT
20 UNIVERSITY
21 WILLIAM
22 TALBOT
23 MARION SWIFTS
24 MARION STOCKYARDS
25 TACHE
26 PROVENCHER
27 RIVER
28 LOGAN
29 NORWOOD CONISTON
30 AULNEAU
31 ARCHIBALD
32 ABERDEEN
APR L 30. 1948
PARK
MAIN
PORTAGE
GRAHAM
ST MARY
SARGENT
ELLICE
NOTRE DAME
PRINCESS
WILLIAM
ELGIN
ROSS
PACIFIC
ALEXANDER
STANLEY
OGDEN
HENRY
GERTIE
BANNATYNE
LEONARD
PAULIN
AUSTIN
MAPLE
MARTHA
GEORGE
LILY
ROBERT
EDWIN
HAROLD
LOUISE
RUPERT
FRANCES
MCDERMOT
ELLEN
DAGMAR
CHARLOTTE
ADELAIDE
KING
ARTHUR
ALBERT
RORIE
CUMBERLAND
COLLEEN
QU'APPELLE
YOUNG
SPENCE
BALMORAL
GOOD
COLONY
MEMORIAL BLVD
VAUGHAN
KENNEDY
EDMONTON
CARLTON
HARGRAVE
DONALD
SMITH
GARRY
FORT
WATER
PORTAGE EAST
NOTRE DAME EAST
VIA REIN

PLATE 13

parking problem to one of minor importance, but as presently located they provide little relationship to parking demand and so do not function to the best advantage.

Parking lot fees are reasonable and fairly standard, ranging from $1.00 per month for stalls near the fringes of the downtown area to $8.00 per month for stalls in more central locations Even when electric heater plugs are provided for winter use, fees do not exceed the $8.00 maximum. Garage rates are naturally higher, ranging upwards from $12.50, according to location. A detailed record of parking lots and garages appears in Appendix B

Transit

The Central Business District is in a general way oriented about the intersection of Portage Avenue and Main Street, where offices and commercial establishments are concentrated These two major thorofares further serve as the main arteries for transit vehicles, particularly street cars, with all but one line following either or both of these streets, and carrying nearly two-thirds of all revenue passengers The only alternative street car routes are those on Princess and Donald Streets and on Broadway. While the Main Street - Portage Avenue routing has provided transit passengers with direct access to the heart of the business district, it has also concentrated a large number of vehicles on these streets, particularly on Portage Avenue, thus contributing to rush hour traffic congestion.

Transit routes in the Central Business District, particularly trolley coach and motor bus routes, are presently undergoing considerable revision, with the Winnipeg Electric Company modernizing its whole mass transportation system. Included in the modernization program have been many of the recommendations outlined in the Transit report of the Metropolitan Plan Greater Winnipeg. Several street car routes have been changed to trolley coach or motor bus routes, some downtown looping has been eliminated and a number of routes are being developed as through routes Present transit routes in the Central Business District, as at April 30, 1948 are shown in Plate 13, and the following discussion describes the situation at that date

In connection with the changeover to trolley coaches, a downtown loop has been developed. The transit company plans to route nearly all trolley coaches around this loop, permitting numerous routing variations, so that trolley coaches may branch off at any point. It is understood that the Company anticipates that the loop will distribute passenger loading and unloading over a much wider area, providing better service and reducing crowding at coach stops. It is further anticipated that the use of Graham and Ellice Avenues rather than Portage Avenue, will relieve traffic congestion on this latter thorofare

With further changeover from street cars to other types of transit vehicles and with some re-routing, considerable improvement in service should be achieved. Certainly congestion on Portage Avenue and Main Street will be relieved with transfer of routes from Portage Avenue to Graham and Ellice Avenues Congestion on Graham Avenue, however, has already increased with inauguration of the trolley coach loop, and with increased loop use this condition will be intensified. Overall transit speed over the loop has already been slowed down by traffic and by the installation of traffic signal lights An attempt has been made to relieve the congestion by routing some of the inter-urban buses by St. Mary Avenue rather than Graham Avenue

As pointed out in the Transit report published in 1946, the Central Business District was provided with direct transit service from all parts of Greater Winnipeg at that time, with all but one street car route, all trolley coach routes and fourteen of twenty-eight motor bus routes traversing or looping within the central area. While numerous changes have been made since that time, the overall picture is still much the same, with transit vehicles generally following an excellent system of radials to and from the Central Business District.

Looping within the central area still exists, particularly in the case of motor buses and trolley coaches. As new trolley coach routes are inaugurated, however, some through routes may be developed with portions of the downtown loop being used only as connections from one route to another. The effect of looping motor buses at Main Street between Portage and Graham Avenues, which was mentioned in the Transit report, has been reduced to a great extent. This was achieved by re-routing motor buses serving the City of

St. Boniface, from Water Avenue north on Main Street and east on Portage Avenue East, to eliminate the Main Street crossing and congestion around the block bounded by Main Street, Graham Avenue, Fort Street and Portage Avenue

The reduction in looping as first attempted, however, forced transit transfer passengers to cross over either or both of the main thorofares, Portage Avenue and Main Street. This condition has been relieved somewhat by the combination of several individual bus routes into through routes operating through the Business District.

Left turning movements of both transit and other vehicles are still quite common in the Central Business District, such turns being prohibited at only seven intersections on Portage Avenue While traffic volumes have not yet reached the stage where all left turns must be eliminated, it must be kept in mind that such turns are a constant source of accidents and delay. Reduction of left turns should therefore be brought about whenever and wherever possible

Transit flow volumes, when studied for the report on Transit, were heavily concentrated on such thorofares as Portage Avenue and Main Street. Route changes since that time undoubtedly have had some effect on flow volumes, but in general such changes have been minor, and even with reduced numbers of passengers, the volume relationship between various streets probably remains substantially as it was in 1946.

Transit vehicles are still extremely crowded at rush hours, with passengers often having to wait for several cars before there is even standing room. It is difficult to remedy this problem without widespread cooperation of employers in staggering hours, and without a marked increase in the number of operating vehicles

Transportation

Rail Transportation

The Central Business District is remarkably free from the interference caused by railway lines and grade crossings, considering the fact that this general area has a great many rail facilities nearby. Within the Central District, main lines are provided with grade separations, no branch lines are present and spur lines appear only in the north and south-east portions

Although the railway passenger terminals are not located within the Central Business District, both the Canadian National and Canadian Pacific Railway terminals are on the fringes of this area. The Canadian Pacific Station, located on Higgins Avenue at Main Street, serves as passenger terminal for both the Canadian Pacific Railway which provides transcontinental and branch line Canadian transportation, and the Minneapolis, St Paul, and Sault Ste Marie Railroad Company (Soo Line) which provides transportation to and from the United States The Canadian National or Union Station, located on Main Street at Broadway, serves as passenger terminal for the transcontinental and branch line service of the Canadian National Railway, and for the connecting services to the United States of the Great Northern and Northern Pacific Railways Both passenger terminals are well served by major thorofares, and are only a few minutes travelling time from points in the central area. Parking facilities are provided at each of the major passenger terminals, but during hours of peak demand, these facilities are inadequate

Freight terminals of these two transcontinental railways are situated close to their respective passenger terminals in the business district fringes Canadian National Railway terminal facilities are quite accessible, but terminal loading and unloading operations extend beyond the railway property, occupying much of Water Avenue, and seriously affecting this communication route between the Central Business District and the City of St. Boniface. The Midland Railway of Manitoba, which operates to and from the United States, maintains a freight terminal north of the Central Business District, serving the wholesale fruit trade.

Motor Transportation

Motor carriers operating into the Greater Winnipeg area can be classified into two

main types, buses and trucks

All motor buses in the Greater Winnipeg area base their operations at the Manitoba Bus Terminals. This terminal or depot, located on congested Graham Avenue between Carlton and Hargrave Streets, was built a number of years ago and was altered in 1947. Even with the alterations, it is still inadequate, particularly in view of the ever increasing traffic and congestion on nearby streets. This is especially true of Graham Avenue, normally a busy street and now being developed as part of a business district trolley coach loop. Inside the terminal itself, space is at a premium, the concourse being narrow and crowded with people waiting for both transit and inter-urban buses.

While routing of buses in the rural areas is supervised by the Municipal and Public Utility Board, no such guiding influence exists over operation on urban streets, although the City Council of the City of Winnipeg is currently studying the problem of truck routes Generally, movement of buses within the metropolitan area is over major thorofares, but minor and residential streets are also used to some extent.

The operation of trucks and truck trailers within the Greater Winnipeg area is considerably less organized than that of buses. No common or joint truck terminal is available, although two small privately operated terminals, Truck Terminal and Manitoba Truck Depot, each provide facilities for a number of motor carrier concerns Neither of these, however, is nearly large enough to provide the necessary facilities for the use of all motor carriers Truckers not using these two terminals operate a multiplicity of similar establishments distributed throughout the central area wherever the necessary garage and storage space is available. Huge trucks and trucks with trailers or semi-trailers are forced to traverse city streets to and from their respective terminals, and are called upon to make local deliveries over city streets to business establishments These large vehicles, making deliveries and pick-ups from back lanes or from city streets where lanes are not available, clutter up these loading places, being hard to manoeuver and occupying far more space than often is justified by the loads they carry. The system of individual terminal operation discourages extensive use of 'mosquito' in-city delivery trucks, with their likely savings in terminal and delivery costs.

Water Transportation

As noted in the Transportation report, water transport is small in volume, consisting of approximately 9,000 tons yearly. Use of navigable waters in the area, the Red and the Assiniboine Rivers, is under the jurisdiction of the Winnipeg and St. Boniface Harbour Commission. Loading facilities are operated by two private organizations and by the Harbour Commission, those of the latter being the only ones located within the Central Business District.

Air Transportation

Stevenson Field, the municipal airport, is located less than four miles, via a direct thorofare connection, from the Central Business District. In this respect it is almost unique in its proximity to the business centre, since it requires only ten minutes by automobile to get downtown from the airport. This field has become an important Canadian repair and overhaul base for Trans-Canada Air Lines and Canadian Pacific Air Lines. It is a major port on the T.C.A. transcontinental system, as well as the terminus of the Northwest Airlines

Each of the major airlines operating from Stevenson Field has a separate ticket office in the Central Business District.

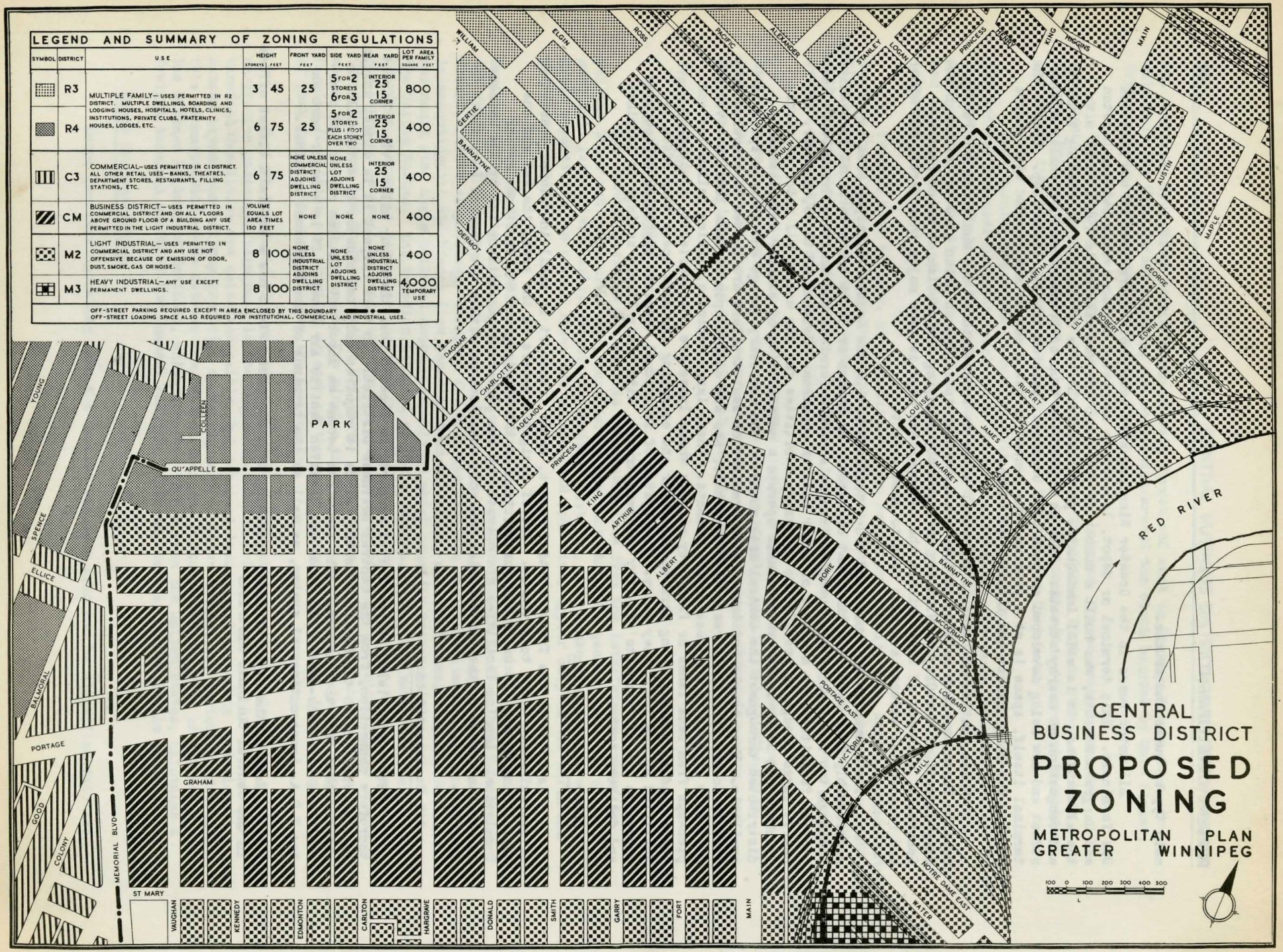
LEGEND AND SUMMARY OF ZONING REGULATIONS
SYMBOL | DISTRICT | USE | HEIGHT STOREYS | HEIGHT FEET | FRONT YARD FEET | SIDE YARD FEET | REAR YARD FEET | LOT AREA PER FAMILY SQUARE FEET
R3 | MULTIPLE FAMILY—USES PERMITTED IN R2 DISTRICT. MULTIPLE DWELLINGS, BOARDING AND LODGING HOUSES, HOSPITALS, HOTELS, CLINICS, INSTITUTIONS, PRIVATE CLUBS, FRATERNITY HOUSES, LODGES, ETC. | 3 | 45 | 25 | 5 FOR 2 STOREYS 6 FOR 3 | INTERIOR 25 15 CORNER | 800
R4 | | 6 | 75 | 25 | 5 FOR 2 STOREYS PLUS 1 FOOT EACH STOREY OVER TWO | INTERIOR 25 15 CORNER | 400
C3 | COMMERCIAL—USES PERMITTED IN C1 DISTRICT. ALL OTHER RETAIL USES—BANKS, THEATRES, DEPARTMENT STORES, RESTAURANTS, FILLING STATIONS, ETC. | 6 | 75 | NONE UNLESS COMMERCIAL DISTRICT ADJOINS DWELLING DISTRICT | NONE UNLESS LOT ADJOINS DWELLING DISTRICT | INTERIOR 25 15 CORNER | 400
CM | BUSINESS DISTRICT—USES PERMITTED IN COMMERCIAL DISTRICT AND ON ALL FLOORS ABOVE GROUND FLOOR OF A BUILDING ANY USE PERMITTED IN THE LIGHT INDUSTRIAL DISTRICT. | VOLUME EQUALS LOT AREA TIMES 150 FEET | | NONE | NONE | NONE | 400
M2 | LIGHT INDUSTRIAL—USES PERMITTED IN COMMERCIAL DISTRICT AND ANY USE NOT OFFENSIVE BECAUSE OF EMISSION OF ODOR, DUST, SMOKE, GAS OR NOISE. | 8 | 100 | NONE UNLESS INDUSTRIAL DISTRICT ADJOINS DWELLING DISTRICT | NONE UNLESS LOT ADJOINS DWELLING DISTRICT | NONE UNLESS INDUSTRIAL DISTRICT ADJOINS DWELLING DISTRICT | 400
M3 | HEAVY INDUSTRIAL—ANY USE EXCEPT PERMANENT DWELLINGS. | 8 | 100 | | | | 4,000 TEMPORARY USE
OFF-STREET PARKING REQUIRED EXCEPT IN AREA ENCLOSED BY THIS BOUNDARY
OFF-STREET LOADING SPACE ALSO REQUIRED FOR INSTITUTIONAL, COMMERCIAL AND INDUSTRIAL USES.
PARK
QU'APPELLE
COLLEEN
YOUNG
SPENCE
ELLICE
BALMORAL
PORTAGE
GOOD
COLONY
MEMORIAL BLVD
GRAHAM
ST MARY
VAUGHAN
KENNEDY
EDMONTON
CARLTON
HARGRAVE
DONALD
SMITH
GARRY
FORT
MAIN
WATER
NOTRE DAME EAST
VICTORIA
MILL
PORTAGE EAST
LOMBARD
McDERMOT
BANNATYNE
RORIE
ALBERT
ARTHUR
KING
PRINCESS
ADELAIDE
CHARLOTTE
DAGMAR
McDERMOT
BANNATYNE
GERTIE
ELGIN
WILLIAM
ROSS
PACIFIC
ALEXANDER
LEONARD
PAULIN
STANLEY
LOGAN
PRINCESS
KING
HIGGINS
MAIN
AUSTIN
MAPLE
GEORGE
EDWIN
HAROLD
LILY
ROBERT
MARTHA
RUPERT
LOUISE
JAMES
MARKET
RED RIVER
CENTRAL
BUSINESS DISTRICT
PROPOSED
ZONING
METROPOLITAN PLAN
GREATER WINNIPEG
100 0 100 200 300 400 500

PLATE 14

PROPOSED DEVELOPMENT

Recommendations for improving the Central Business District and providing for its sound future development are contained in this section of the report. These are based upon problems arising out of existing conditions, which have been described in the preceding section, and are accompanied by an explanation of the action proposed.

In each of the previously published reports forming part of the master plan for Greater Winnipeg, recommendations dealt with a particular phase of physical development. Although it is a part of the larger area already studied, the Central Business District requires more detailed study, hence this report. Since many of the recommendations made in previous reports apply to the central area with equal, if not greater, force than to other less complex areas, they bear repetition here

While many of these recommendations are intended for implementation in the near future, on the whole they should be considered as steps in a long-range program for improvement. As such, they are dependent upon other factors, such as the financial ability of the City to bring about implementation. Since the City cannot exist without the expenditure of some money, it is only reasonable that such funds be used to produce the best possible results on a long-range basis. With this in mind, the recommendations have been formulated. It is suggested that they be studied and adopted as the basis for future policy and guidance, to be implemented as conditions permit.

While existing development has spread fairly well over the Central Business District, the area is considered large enough to serve its present purpose for many years to come. It is not intensively developed, and in the interests of economy and efficiency it is advisable to maintain existing general boundaries and to intensify development within them.

Since investments in the business district can only yield their full return in the future if the area is maintained and developed as a desirable place to do business, protective and constructive action is of vital concern to businessmen. In a number of cities the downtown business and professional interests have organized for the purpose of promoting sound development, as a safeguard to their future. Organization of such a group in Winnipeg is recommended, to encourage such action by public bodies as may be required, and to coordinate action of individual owners to produce sound, coordinated development.

LAND USE

Zoning

As indicated in the section on present zoning, the Central Business District is unprotected by zoning regulations, with resulting conflict of land and building uses. It is proposed that the recommendations and District Map contained in the Zoning report be adopted by City Council in order that future development may be better planned and coordinated, and that present undesirable developments eventually may be eliminated. Plate 14 reproduces the portion of the Zoning District Map covering the Central Business District.

Building Heights

In the Central Business District there is insufficient space provided for access and loading purposes. There are certain height regulations existing in the present Building By-law which keep building heights within desirable bounds. It is recommended, however, that building bulk as well as height regulations be applied and that they be incorporated in the proposed Zoning By-law. Experience in other cities, particularly in the United States, has proved that overly high buildings create congestion in the streets immediately around them and have a generally depressing effect upon surrounding commercial structures.* There has, therefore, been less tendency in these cities in recent years to the construction of

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* Decentralization - What is it Doing to our Cities?, published by the Urban Land Institute, Chicago, Illinois, 1940.

such excessively high buildings

Use Groupings

Encouragement of the present trend towards physical grouping of specific uses is advocated. Existing local groupings, such as the financial centre at Portage Avenue and Main Street, the medical and dental clinic and office centre at the west end of Graham and St. Mary Avenues, and the automotive parts sales and servicing centre south of Portage Avenue near Main Street, are evidences of a trend which is undoubtedly more convenient and economical than scattered development. It is recommended that where possible, the further development of similar areas be fostered for such groups as light industry, wholesale trade and retail trade

Notwithstanding the recent City Council decision to rebuild the present City Hall at its present site, and the more recent proposal for a single twelve-storey or higher building for this purpose, it is recommended that the new City Hall be located in the area south of St. Mary Avenue in the vicinity of Memorial Boulevard. Situated between the Assiniboine River and St. Mary Avenue, it is particularly well served by major thorofares, guaranteeing ready access. Space is no problem, since much of the area contains the temporary Broadway Buildings of the University of Manitoba and old residential units which should soon be cleared.

It is agreed that civic offices should be concentrated in one area, and it is felt that the City should join with the Provincial and Dominion Governments in the development of a civic or governmental centre Such a centre could be so designed and constructed as to be a source of pride to the City and the whole Province, and by grouping buildings together economies might be effected. In addition to the Legislative Buildings, Law Courts and other provincial buildings located at this site, the City has developed the Civic Auditorium, the Cenotaph and Memorial Boulevard. It is understood that the three governments, Civic, Provincial and Dominion, are all in need of new and more extensive office buildings which, combined with existing developments, would provide a most desirable centre. Other components of this group eventually might include various quasi-governmental offices, a library, a museum and a public park. A prime requisite would be the provision of adequate off-street automobile parking space

Open Spaces

Any site upon which a City Hall is to be built should include some open space in the form of a small park designed to set off this important civic structure to advantage, and to provide adequate space for public receptions and other similar events, so that congestion and blocking of traffic in the area will be minimized.

In regard to other open spaces in the Central Business District, it is recommended that consideration be given to provision of several additional quiet parks In the Neighborhood report, it is pointed out that Isbister and Alexandra Schools are quite old, poorly located for school purposes and due for replacement. These sites are particularly well located in the Business District for park or automobile parking purposes

In addition to these sites, it is proposed that two others be developed, preferably in the northern and eastern parts of the district. One site at or near the present City Hall would be desirable, with the other in the south-east portion of the central area. In general, these parks should be landscaped and provided with benches, but where some residential development continues in their vicinity, consideration should be given to the provision of play equipment for small children. Some property in suitable locations is already in the hands of the City, and it is recommended that the necessary steps be taken to assure its retention and to acquire other property which is well located for such use

Land Values

Until such time as more restrictive measures are put into force, it is entirely likely that minor developments will continue as in the past, spreading ribbon-fashion along the various major thorofares leading out of the Central Business District. Large retail establishments are likely to remain within the present bounds of the retail trade area on

Portage Avenue and Main Street. Extension along Main Street immediately north of Portage Avenue seems doubtful since the presence of financial institutions and office buildings has made this property less suitable for retail purposes Further large-scale development west on Portage Avenue also may be unlikely for some time to come, since large establishments are concentrated between Memorial Boulevard and Main Street. While access to the Central Business District is good from some areas, particularly from the north on Main Street and west on Portage Avenue, there are certain difficulties on routes from other directions For example, there is congestion of traffic from the south and south-east on Osborne Street, from the north-west on Balmoral and Isabel, and difficulty in approaching from the north-east and from the City of St Boniface. Good access from all directions would help this area to function properly as the business centre of the metropolitan community

While peak land values are likely to remain fairly near their present locations, movement of business to outlying areas will probably continue, with a resulting effect on values throughout the central area. The development of a new major departmental store has been mentioned in recent years, and seems to be the only factor which might greatly influence the position and magnitude of peak values

The Central Business District, through various forms of taxes and licenses, provides a major portion of the funds required to operate the city. Certain other areas, notably those immediately surrounding the central core, do not produce sufficient taxes to pay for municipal services received and must therefore be subsidized at the expense of more solvent areas. If present services are to continue it is essential that areas with high values be maintained, and that those with low values be improved. The alternative is to raise the mill rate or the assessment and consequently the taxes of all land owners throughout the city.

To bring about this necessary consolidation and restoration the following recommendations have been drawn up for consideration.

1 Develop easier access to the central area through improvement of existing thorofares, and construction of new, more direct thorofares, with additional river crossings where necessary. The recently developed street paving policy, which provides for pavement widening and strengthening at the expense of taxpayers in general rather than at the expense of owners of abutting property, should greatly facilitate this proposal

2 Set up standards for the provision of off-street loading space at all buildings.

3 Provide parking space where required, rather than where vacant land happens to be readily available, so as to provide for short time parkers and all day parkers This proposal is intended to include off-street parking lots and garages, and the use of parking meters

4. Develop a system of one-way streets as required, so as to reduce congestion, delay and accidents while at the same time increasing available street parking space

5 Eliminate traffic delay and congestion as proposed later in this report.

6. Restrict the location of outlying commercial developments to equitably distributed islands, and the size of islands to that required to serve only the immediate, surrounding neighborhoods

7 Encourage more compact development on all streets other than Portage Avenue and Main Street and curtail ribbon development on these and other thorofares Increased land values should follow, eventually forcing out existing undesirable developments

8 Improve values in sub-standard and slum areas by rehabilitation and reconstruction in order that they may relieve the high value properties by sharing a greater part of the tax load. Such action would also improve the standard of living and city's appearance in these areas This policy should be applied inside as well as outside the Central Business District.

9. Adopt and enforce the proposed new Zoning By-law.

The foregoing proposals have been developed as reasonable long-range steps towards achieving solidity in the Central Business District. By such action, the present trend towards decentralization with loss of taxes and business to outlying areas can be kept under reasonable control, land values can be improved, and better and more economical municipal services, including such items as fire and police protection, social services, thorofares, parking facilities, schools, parks, and the like, can be provided throughout the city.

Decentralization

Decentralization, the movement which tends to scatter urban communities over ever-widening areas, is as yet not the vital factor in Greater Winnipeg that it is in more mature centres, particularly in the United States There are, however, some evidences of decentralization, and a study of the experience of these older cities is required to find out how the drastic effects of the movement may be avoided.

In a survey of 512 reports by expert appraisers and brokers from 221 cities in the United States, the following factors were listed among the dominant causes of decentralizaton.*

> All shopping is done by the pedestrian, but vehicular sidewalk crossings and street congestion are increasing to such an extent that street crossing and even passage along the sidewalks is becoming difficult and dangerous for the pedestrian, gradually forcing him out of the business district to a place where he can shop with greater convenience and safety.
>
> The elongated development of retail business sections along arterial highways and main streets is rated by many as a principal cause of decentralization. Apparently business centres are better able to remain healthy if they are fairly compact and are not allowed to siphon out through arterial streets, losing their vitality.
>
> Bad zoning and planning for business property or multiple dwellings are also rated high. It has been estimated that fifteen times more property has been set aside for multiple dwellings than ever can be so used, building up land values which later must be painfully written down.
>
> Other factors listed include danger to children on residential streets, smoke, dirt and noise, lack of strict enforcement of zoning regulations, jumbled architecture, unsightliness, drabness and uneconomic developments

All of these items, while not a complete list, indicate the number and variety of factors fostering destructive decentralization of the important core of our large communities

In a five year analysis of the City of St. Louis, it was found that the older districts almost uniformly received public services costing two and one-quarter times the amount paid in taxes.** A midtown, blighted residential district received city services almost equal to taxes levied. The apartment hotel district paid approximately twice as much in taxes as the cost of city services received. A newer residential district paid approximately twenty-five percent more in taxes than the cost of city services received. The industrial districts, taken as a group, paid approximately twenty percent more in taxes than the cost of city services The central downtown business district paid two and one-half times more in taxes than the cost of city services

From this study, the effect of decentralization was revealed in a startling manner A greater and greater portion of the close-in area of the city was not merely unable to pay taxes, but received vast subsidies. The total subsidy furnished this close-in area amounted

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* Decentralization - What is it Doing to our Cities?, published by the Urban Land Institute, Chicago, Illinois, 1940.

** The Present and Ultimate Effect of Decentralization upon American Cities, by Harland Bartholomew, published by Urban Land Institute, Chicago, Illinois, 1940.

to $5.5 million per year, or more than twenty-five percent of the total taxes collected from real estate This growing subsidy had to come from only two sources; namely, outlying city residential property still in good condition, and the downtown central business district Each of these classes of property bore one-half of the total subsidy.

A similar study in Des Moines revealed even more startling conditions * In that city, with a population of only 140,000, the annual subsidy to the old centrally located areas was $2.65 million, of which $2 million was contributed by taxpayers of the downtown business district over and above the value of all public services received by that district

If decentralization continues, it is clear that its ultimate effect will be disastrous In the central city a growing area of slums and a growing blighted district around them will become progressively less able to pay taxes It will therefore require an increasingly greater subsidy. This subsidy must be paid by two classes of property - the downtown central business district, and that portion of the residential area close to but still within the political city limits As decentralization continues these classes of property presumably must pay higher and higher taxes Since both of them, however, are losing rather than gaining in strength, the inevitable result in the central city is economic collapse as far as the ability of property to bear the tax burden is concerned.

With decentralization in the central city, and movement to suburban areas, it would seem that these suburban areas should benefit greatly. This is true to some extent in that some existing values increase, some new ones are established, and population increases With these beneficial effects, however, comes the responsibility for the provision of additional municipal services, a burden which the municipalities are frequently unable to carry, when the majority of the developments are residential only.

The foregoing clearly indicates what is happening in other cities where the effects of decentralization are evident. Here in Winnipeg the characteristic signs of decentralization were evident as early as 1935, when a statistical investigation was made into certain social conditions ** In this investigation, the Central Business District and the area immediately surrounding it were divided into two roughly equal portions Detailed studies were made of these two areas, which were compared with the rest of the city. It was shown that for the two areas studied, the cost of providing social services was greater than for the whole of the rest of the city, which had a population of over three times that of the smaller central areas In other words, certain social services in the central area cost considerably more than three times as much per capita as in the rest of the City. These statistics for the central area properly apply to the residential sections which immediately surround the Central Business District since there is little dwelling accommodation in the business area.

It would appear therefore that here in Winnipeg conditions are not too different from those in other cities, and that the danger of destructive decentralization is real Obviously some action is necessary to prevent this condition from spreading further, causing in Winnipeg serious difficulties which can lead to eventual economic destruction. In money and investments alone, the stake is too great. It involves practically all of the institutions which hold the savings of the public It involves the success or failure of much of the retail business structure of the country. It involves endless waste of time and nervous energy which comes from longer and longer distances which commuters must travel in earning their daily bread It involves political disorganization and multiplication of petty governmental units which ultimately will bankrupt the taxpayer and destroy property ownership Reasonably close proximity, consistent with good light, good air, adequate recreational facilities, and privacy, is essential to the successful functioning of our city. A sprawling, chaotic urban development, partially covering great areas and leaving tremendous amounts of unused land in between, will not only make Winnipeg less efficient, but also less livable

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* The Present and Ultimate Effect of Decentralization upon American Cities, by Harland Bartholomew, published by Urban Land Institute, Chicago, Illinois, 1940.

** An Investigation into Certain Social Conditions in Winnipeg, by A. G. Lawrence, Secretary City of Winnipeg Health Department, 1935

The cure for such ills does not lie in escape from the City, but rather in limitation of the urban developed area and in more desirable development, particularly in that blighted area immediately surrounding the Central Business District.

Implementation of some of the recommendations already made to control undesirable tendencies will go a long way towards the development of a sound Central Business District.

CIRCULATION

While the following circulation study of the Central Business District is made primarily from an engineering point of view, it is recognized that no traffic improvement program can be successful without the combined action of the three E's of traffic - Engineering, Enforcement and Education. Each is admittedly essential in its own right, but to achieve success the efforts of all three must be combined. To this end, it is recommended that the branches of education and enforcement be further developed to round out the engineering program herein outlined.

Effective enforcement measures cannot be taken unless engineering designs make enforcement both reasonable and palatable to the public, and unless the public is educated and informed in regard to enforcement measures At the present time, regulations respecting the conduct of pedestrians on city streets are conspicuous by their absence, and police officers are powerless in their efforts to reduce such hazardous pedestrian pursuits as 'jay-walking It is the policy of the city police to enforce regulations only when such regulations are reasonable and backed up by adequate pedestrian protection. Until such protection is provided through recognized traffic engineering designs and devices, or other means, this phase of enforcement will be negligible

Notwithstanding the difficulty in the enforcement of pedestrian regulations, certain regulations controlling vehicular movement exist which should permit a measure of improvement Existing conflict between vehicles and pedestrians at intersections, particularly where vehicles turn, indicates that most motorists are unaware of the prior rights of the pedestrian in this respect. Courtesy and good driving practices would overcome this. It is recommended that in any publicity and education work this aspect of the relationship between pedestrian and vehicle be dealt with. Strict enforcement, of course, would bring about improvement, but education is felt to be the more satisfactory technique

The city police are seriously hampered in their efforts by insufficient personnel While the following recommendations in regard to traffic signal lights, signs, markings and the like, would undoubtedly relieve the growing traffic problem, they are not sufficient in themselves, and must be supplemented by an adequately staffed traffic police. In 1945, a survey of Winnipeg traffic problems from the point of view of enforcement rather than engineering was made by the International Association of Police Chiefs * In the report submitted by this organization, it was pointed out that in Winnipeg police personnel assigned to traffic comprised only one-quarter of the number considered essential in cities of comparable size in the United States. While there has been some improvement since the submission of this report, the condition is still far from desirable and further action is recommended.

The aforementioned report is an excellent study, supplementing this engineering study with recommendations for desirable and necessary enforcement improvements Many of these are already overdue and should be effected at once The findings of the I.A.P C are recommended for detailed study and further implementation by the officials concerned.

In regard to traffic education, it is evident that the rising toll in accidents and the increasing degree of congestion on our city streets cannot be solved alone by enforcement and engineering. The assistance of an informed and cooperative public must be secured. This informed state of mind can only be brought about through educational organizations and institutions, including the schools, the radio, the press, and the various governmental and

* Traffic Report on the City of Winnipeg, prepared by the International Association of Police Chiefs, 1945

social agencies in contact with the public To our schools falls the first and possibly the most important task, that of teaching our children the safe and courteous methods of conducting themselves both as motorists and as pedestrians This task was taken up with the establishment of the School Boy Patrols some thirteen years ago. So effective have been these patrols that since their inception no child under their guidance has been fatally injured. This, however is only one phase of the necessary program. It is now essential to set up in the school curriculum, courses in pedestrian and driver safety. This also has been started through special lectures in the schools by members of the City Police and the Royal Canadian Mounted Police, but something more permanent is required, similar to the driver training courses being placed on the curriculum of some of the secondary schools in the United States. The City Police have been furthering the knowledge of traffic rules and regulations by sending periodic bulletins to the schools concerning traffic, particularly on the rules governing cycling.

To other agents of information and education falls the task of continuing these forms of training, and of informing the public of more immediate problems, of changes in traffic signs, signals, markings, parking and other aspects of traffic upon which the public must be kept informed. It would seem logical and highly desirable at this time for these various agencies to cooperate in establishing a positive traffic educational program, and to carry out this program on a continuing basis An excellent example of successful action exists in the United States, where a national action program for the prevention of traffic accidents was developed following the Presidents Highway Safety Conference

Traffic Surveys

Traffic surveys provide the only acceptable means of gathering accurate basic information on present and future traffic movements In traffic engineering, as in any other form of engineering, such basic data is required in order that workable plans can be formulated upon a sound foundation of fact. The solution to problems of traffic congestion, accidents, parking, signal light installation, the location and surface design of thorofares and numerous other and similar problems are all dependent upon the assembly of such data Piecemeal attacks upon the problems are inefficient, expensive, and often provide no solution at all It is recommended therefore that immediate steps be taken to organize and conduct, first of all, a detailed survey of the Origin and Destination type, including a parking study if possible in the overall survey. It is recommended that following this major survey annual and other special counts be conducted, particularly in the Central Business District, in order that traffic regulations and facilities may be kept reasonably abreast of traffic volume and movement changes Such data is also invaluable in the solution of specific localized problems, and is useful to industrial and commercial enterprises

Since a description of the various kinds of surveys, their value and use would provide unnecessary detail in this report, reference is made instead to the many excellent texts upon the subject, and in particular to the 'Manual of Traffic Engineering Studies *

Streets

Roadway Widths and Capacities

In the downtown area, no change is proposed in street pavements which already have been widened or constructed to 46 feet. Other streets, which are not as yet so developed but are in need of widening or reconstruction, should be paved to such width as to provide for an even number of moving lanes Provision for parking, if any, on either or both sides of the street should be considered separately. The only exceptions to the principle of equal numbers of moving lanes in each direction should be made on streets designed for one-way movement or on streets where movement is particularly heavy in one direction. In such cases, permissible paths of movement should be specifically designated.

It is recommended that as new streets are constructed, or existing streets widened, they be designed on the basis of the number of lanes they are to provide In the case of

* Manual of Traffic Engineering Studies, published by the Traffic and Transportation Division of the National Conservation Bureau, New York, 1945

heavily travelled streets, moving lane widths of 12 feet should be standard. Parking lanes, where provided, should be 9 feet in width, sufficient for parallel parking only The cost of providing this space for the exclusive use of parked vehicles frequently seems unjustified and should receive serious consideration.

On streets subject only to light local traffic, the above recommended lane widths are neither necessary nor desirable For such streets, moving lanes of 9 feet and parking lanes of 8 feet are advocated. In most cases, if parking lanes are to be provided at all, the provision of 8 feet on one side only should be adequate The possibility of dispensing with on-street parking space and of providing a few off-street parking lots or parking bays at strategic intervals should be investigated

As to the number of lanes to be provided on any specific street, no recommendations are made in this report, since such recommendations should be based upon detailed traffic statistics, which are not available. In general, however, the various types of streets, classed by traffic volume and use, have been outlined in the Major Thorofare report, and the designs presented there are recommended for application to streets which are undeveloped or in need of reconstruction.

Sidewalk Widths and Capacities

In general, sidewalk widths and capacities in the Central Business District are adequate, but in a few cases, former residential districts have developed as commercial areas and existing sidewalks are now too narrow Permanent sidewalk obstructions do not present any great problem, but temporary obstructions created by pedestrians standing at curb transit loading stops are serious factors Since the streets are already fully developed with either roadway or sidewalk at such points of conflict, it would be difficult to extend the sidewalk to provide special loading space It is proposed therefore that where the problem exists, a narrow strip of sidewalk on the street side be allocated for loading purposes and designated by a paint line, and that the 'queue-up practice which has been effectively employed in other cities be adopted here.

It is further recommended that in the design of retail and other business establishments, particularly those fronting on streets subject to heavy pedestrian traffic, the provision of flared and set-back entranceways be encouraged, to minimize the effect of these entranceways on sidewalk traffic

Curb Radii and Curb Heights

Where property lines meet at developed street intersections without diagonal or rounded cut-offs, the present practice of providing as long curb radii as possible is recommended. Where cut-offs are now made on property lines at street intersections where neither street exceeds 66 feet, curb radii should be extended on streets with light traffic to a minimum of 15 feet and on more heavily travelled streets to a minimum of 20 feet. The policy of rounding off property lines at street intersections should be extended to streets of greater width than 66 feet in order that greater curb radii may be provided on such streets without sacrificing too large a proportion of the space allocated to sidewalks

The present curb design height of 6 inches is recommended for continuance on business streets, and where possible, existing curbs of excessive height should be adjusted.

Curb Cuts

The present City of Winnipeg policy of restricting the construction of curb cuts is strongly recommended. Where other access by such means as a rear lane is available, permission for curb cuts for entranceways should as a general rule be refused. The entrance and exit of motor vehicles to private property from the street creates obstructions to moving traffic and therefore hazards and congestion. Curb parking space is reduced by such openings and since they generally cross a sidewalk they create hazards for pedestrians The limitation of curb cuts is therefore necessary to prevent further extension of such undesirable conditions It is further recommended that curb cuts now in existence but not essential to the property they serve be eliminated as soon as possible Existing curb cuts are shown on Plate 12

Lanes

Where lanes do not now exist in the Central Business District, the present city policy of providing public access as the opportunity arises is advocated, in order that the use of private driveways and the practice of street loading and unloading can be further eliminated. At the intersection of lanes with one another, a serious effort should be made to reduce congestion and to provide easier turning movement by cutting off and paving the rear corners of the lots at the intersection. In congested areas, this should be done as soon as possible wherever buildings or other obstructions do not make such improvements impossible In extreme cases, lane widening may be necessary. Where new lanes are to be constructed, provision for the cut-off at lane intersections should be included in the original design.

Street Adjustments

Of prime importance in the eventual solution of the traffic problems of Greater Winnipeg is the development of a major thorofare system, such as that proposed in the Major Thorofare report. Plate 15 shows the Major Thorofare system and incidental minor street adjustments in the central area. Alignments shown are approximate only, intended to indicate where widening or other adjustments are proposed. As this system is developed over a period of years, it will be necessary to provide more adequate means of dispersing the traffic concentrated on individual major thorofares in the Central Business District.

Action is already urgently required to alleviate congestion on existing thorofares leading to the central area, to provide direct connections between central area thorofares and major thorofares outside this area, and to develop distributor and by-pass streets At the present time only Portage Avenue and Main Street permit direct movement to through and beyond the Central Business District.

Admittedly enormous expenditures are involved in the final development of the proposed major thorofare system. The widening of streets, the construction of new streets and bridges, the elimination of bottle-necks, jogs, dead ends and sharp turns all are expensive, but over a period of years can be accomplished, and must be accomplished if the street system is to function with the minimum of accidents, delays and general traffic congestion.

While major thorofares outside the Central Business District will generate and concentrate traffic, the system is so designed as to permit and encourage through traffic to by-pass the central area, with resulting relief to congested downtown streets. For this reason, certain bridges proposed in the Major Thorofare report for eventual development assume added importance when considered in the light of over-all traffic conditions

As a necessary first step, to prevent blocking or restriction of required improvements, construction of new buildings should be guided by revised or adjusted building alignments These alignments should be placed as soon as possible, particularly in view of the building program now under way.

The establishment of these new or revised building alignments will eventually provide the desired width for all major thorofares and in the meantime will indicate where changes are required to provide new connections for improved access A number of these changes are of immediate importance, and the following key items are recommended for immediate detailed study and early implementation.

The proposed new bridge connecting Kelvin Street to Disraeli Street, and the proposed thorofare connection to Rorie Street and Portage Avenue would provide badly needed direct access to and from the Elmwood area, and should receive high priority. This new thorofare could form a base for redevelopment of much of the area between Main Street and the Red River It is a combination of Items 1 and 18 in the priority list established by the Citizen Advisory Committee on Streets

The proposed major thorofare connection from Provencher Bridge to either Graham Avenue or Portage Avenue, or both, deserves early attention, to reduce the congestion which presently exists between the Central Business District and the

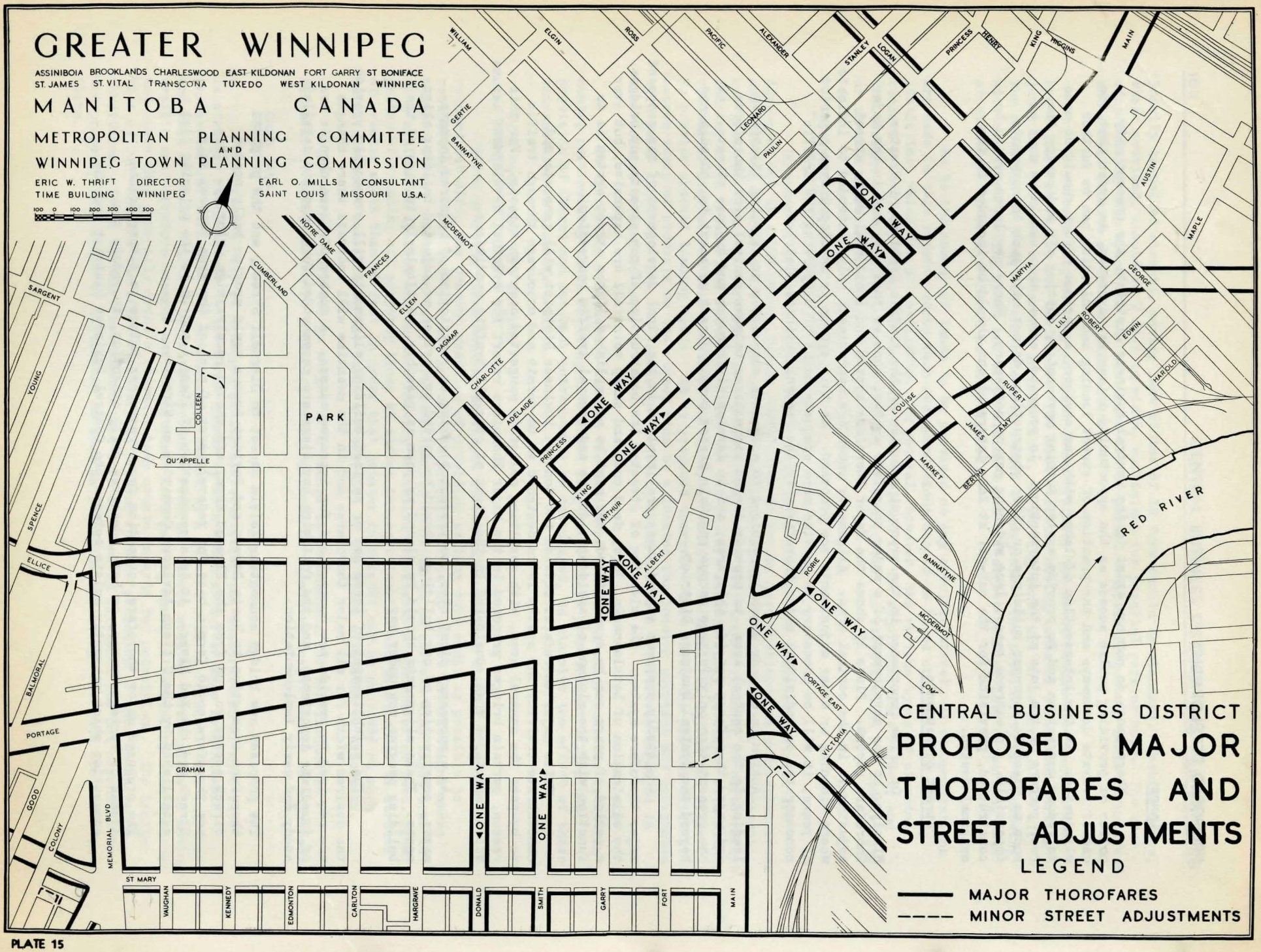
GREATER WINNIPEG
ASSINIBOIA BROOKLANDS CHARLESWOOD EAST KILDONAN FORT GARRY ST BONIFACE
ST. JAMES ST. VITAL TRANSCONA TUXEDO WEST KILDONAN WINNIPEG
MANITOBA CANADA
METROPOLITAN PLANNING COMMITTEE
AND
WINNIPEG TOWN PLANNING COMMISSION
ERIC W. THRIFT DIRECTOR
TIME BUILDING WINNIPEG
EARL O. MILLS CONSULTANT
SAINT LOUIS MISSOURI U.S.A.
100 0 100 200 300 400 500
WILLIAM
ELGIN
ROSS
PACIFIC
ALEXANDER
STANLEY
LOGAN
PRINCESS
HENRY
KING
HIGGINS
MAIN
GERTIE
BANNATYNE
LEONARD
PAULIN
AUSTIN
MAPLE
GEORGE
EDWIN
HAROLD
ROBERT
LILY
MARTHA
NOTRE DAME
MCDERMOT
FRANCES
ELLEN
DAGMAR
CHARLOTTE
CUMBERLAND
SARGENT
YOUNG
COLLEEN
PARK
QU'APPELLE
SPENCE
ELLICE
BALMORAL
PORTAGE
GOOD
COLONY
MEMORIAL BLVD
GRAHAM
ST MARY
VAUGHAN
KENNEDY
EDMONTON
CARLTON
HARGRAVE
DONALD
SMITH
GARRY
FORT
MAIN
ADELAIDE
PRINCESS
KING
ARTHUR
ALBERT
ONE WAY
LOUISE
RUPERT
JAMES
AMY
MARKET
BERRY
RORIE
BANNATYNE
MCDERMOT
PORTAGE EAST
VICTORIA
RED RIVER
CENTRAL BUSINESS DISTRICT
PROPOSED MAJOR THOROFARES AND STREET ADJUSTMENTS
LEGEND
MAJOR THOROFARES
MINOR STREET ADJUSTMENTS

PLATE 15

City of St Boniface This is Item 2 as established by the Citizen Advisory Committee on Streets

The partially completed 'crosstown highway should be developed more fully, as soon as possible, both as a crosstown and by-pass route west of the Central Business District. Development of the crosstown highway is referred to in Items 3 and 23 of the priority list of the Citizen Advisory Committee on Streets The proposed connection from the northern terminus to Main Street was later given first priority by the Winnipeg Town Planning Commission.

To provide free movement to and from the central area, the existing bottle-neck on Osborne Street, between Stradbrook Avenue and River Avenue, requires improvement. The most promising proposal in this regard is the development of a connection from Pembina Highway, along the north side of the C N.R. right-of-way, to River Avenue and Main Street. A later development should be a connection to the proposed one-way street system on Donald, Princess, Smith and King Streets While the congested section of Osborne Street is part of the crosstown highway, the proposed connection of Pembina Highway to Main Street appears as Item 7 on the priority list.

The existing jog on Ellice Avenue at the crosstown highway should be eliminated. This appears as part of Item 4 in the priority list of the Advisory Committee

Provision of an outlet to Portage Avenue from St. Mary Avenue is urgently required. Such a connection would relieve congestion in the central area on both Portage Avenue and Graham Avenue, and would provide both a distributor and by-pass route on the south side of the Business District This appears as Item 5 in the priority list of the Advisory Committee

Easing of the sharp turn on the Main Street approach to the Norwood Bridge would relieve traffic congestion and eliminate a serious accident hazard.

While not a complete list, these proposals are indicative of the severity of the circulation problems afflicting the Central Business District. These and similar problems must be dealt with before delay and congestion can be overcome, accident hazards substantially reduced, and a more efficient traffic circulation system developed. In addition to providing the necessary improvement within the central area, rectification of these internal problems will facilitate improvements outside the central area. It is therefore strongly recommended that positive action be initiated immediately on these matters Detailed studies should be made at once and such constructive action as may be necessary should be undertaken as soon thereafter as possible To achieve these ultimate aims, new building alignments may become necessary, and it is proposed that these also be determined and put into force without delay.

Traffic

Traffic Signal Lights

While some additional traffic signal lights are undoubtedly required at once, it is recommended that in general, the installation of new lights await the accumulation of detailed overall traffic volume and flow data upon which decisions as to need and types of lights can be based. The installation of all types of vehicular and pedestrian signal lights should be made only when traffic conditions are such as to meet the specifications or 'warrants' standardized for use throughout the United States * It is further recommended that all standards outlined in the Manual on Uniform Traffic Control Devices be adopted until such time as a set of Canadian standards is established in equivalent detail

One of the first intersections recommended for study is that at Portage Avenue and Memorial Boulevard, but others both inside and outside the Central Business District are also

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* Manual on Uniform Traffic Control Devices, published by Public Roads Administration, Washington, D.C , 1947

in urgent need of improvement

Certain existing vehicular traffic signal lights are provided with only one face and control vehicular and pedestrian traffic from one direction only. This causes an appreciable amount of inconvenience and confusion to pedestrian traffic approaching from the cross street, creating a tendency to ignore signals altogether. This condition should be rectified by the provision of walk lights or by the addition of a second face on existing signal standards

Where pedestrian walk lights are installed, particularly on wide streets such as Portage Avenue and Main Street, the 'walk interval should be made shorter than the corresponding 'go' interval provided for vehicular traffic, when the two signals operate simultaneously This will permit all pedestrians to clear the intersection before the 'go interval for vehicles on the cross street commences Study should be given to the value of pedestrian walk lights so operated that pedestrians may move freely in all directions within the intersection. These signals, sometimes called all-walk lights, permit movement of pedestrians free of all vehicular interference, particularly interference through right and left turns In practice, this type of signal light has not been too successful when placed on streets where signal progression is a factor, but at isolated intersections, under certain circumstances, experience has shown them to be a practical means of providing adequately for pedestrian movement.

The present trial use of flashing amber and flashing red traffic signal lights during periods of subnormal traffic volume should be made permanent. All intersections at which signal lights are turned off completely during these low volume periods, thus permitting uncontrolled intersection access, should be provided with some form of warning, cautionary or stop signal, preferably by the continued use of existing signal lights adapted for flashing amber or flashing red signals

The present coordination of traffic signal lights should be thoroughly investigated and adjusted to provide as far as possible for continuous traffic flow on all signalized thorofares

Traffic Signs and Markings

It is recommended that the frequency, location and condition of all provincial highway route markings be surveyed and improved, in order that highways may be more readily located and followed

In certain locations, street name signs and traffic stop signs are barely visible after dark. It is recommended that this condition be investigated, with a view to relocation or improved street lighting.

It has been found in many cities on this continent that the use of pavement markings permits the establishment of definite traffic lanes for vehicular movement and aids appreciably in traffic control On the streets provided with such marking, drivers are far less prone to wander from lane to lane or to drive in such a fashion as to occupy space of two moving lanes on the street. The use of painted lane markings enables much more effective and economical use of the street space, reduces unnecessary congestion, contributes to the free flow of vehicles and greatly facilitates enforcement. The provision of turn guide lines at intersections subject to heavy or hazardous turning, pavement markings for pedestrian cross walks, traffic stop lines, street car clearance lines and the like helps considerably in the reduction of traffic accidents It is therefore strongly recommended that the use of lane markings such as occur at present only at the Portage Avenue - Main Street intersection be extended to all thorofares carrying heavy volumes of traffic Particular care should be taken at street intersections in the establishment and maintenance of turning lines, pedestrian cross walk lines, traffic stop lines and the like

Street Lighting

Due to restrictions and shortages in recent years, normal street lighting replacement and improvement operations in the City of Winnipeg were curtailed to such an extent that certain changes are now overdue In the previously mentioned report on City of Winnipeg

street lighting, recommendations for rectification of present conditions are presented, based upon the most up-to-date and widely accepted lighting standards, as approved by the Illuminating Engineering Society. The report is most detailed, and its recommendations are herein endorsed and proposed for the whole of Greater Winnipeg

One-Way Streets

One-way streets can in general be divided into three types, the appropriate type to be used depending almost entirely upon relative traffic volumes. They may be streets on which traffic moves in one direction at all times, streets on which traffic is reversed in direction during the day, or streets on which traffic moves in one direction during peak traffic periods only. While there are certain disadvantages in the use of one-way streets, the advantages more than justify such use where traffic volumes are large or where physical conditions are peculiar. It is recommended that the necessary traffic volume data be accumulated and that one-way street regulations be applied where necessary in the downtown area according to the prerequisites outlined in the Traffic Engineering Handbook.* In general for this area, one-way street regulations should be applied on a full time movement basis In all but exceptional cases, one-way streets should be developed as systems of two parallel streets, one street accommodating all movements in one direction and the other accommodating all opposing movements

Pedestrian and Traffic Islands

It is proposed that all street car loading areas located on streets subject to heavy traffic be protected by concrete abutments, steel poles and chains Loading areas on streets with comparatively light traffic should be clearly marked and identified in order that pedestrians standing in them may receive reasonable protection. Trial installations are endorsed of loading island abutments with tapered approach faces, as proposed by the City Engineering Department Most recent designs of abutments of this type provide for greater protection of both motorists and pedestrians, and are recommended for eventual installation wherever they are required.

Pedestrian refuge islands do not seem to be needed at this time, particularly if pedestrian protection is provided through walk lights and turn restrictions If traffic volumes continue to increase, or if street cars are replaced by motor buses or trolley coaches, a few islands may be required on wide thorofares such as Portage Avenue and Main Street.

With the development of the major thorofare system, it is recommended that traffic divisional islands be introduced more extensively. As traffic moving in opposing directions increases in volume, it will become necessary to provide such separation. These islands may also be used as pedestrian refuge islands

In the immediate future, it will be necessary to provide more adequate control and protection at certain important downtown street intersections While traffic signal lights and police manual control can be used to advantage, more permanent and more economical solutions can frequently be achieved through intersection redesign and the use of channelizing islands. A study of existing downtown street intersections should be made, with a view to applying this method to both traffic control and pedestrian protection problems

Turning Movements

With steadily increasing accident frequency, congestion, delay and general disruption of traffic, it is becoming more and more evident that steps must be taken to eliminate some of the chief factors fostering these problems. One of the major adverse influences in Greater Winnipeg, and particularly in the Central Business District, is the incidence of both left and right turning movements. While some action has already been taken to reduce such conflict with other traffic, further restrictions are required now, and as traffic

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* Traffic Engineering Handbook, published by the Institute of Traffic Engineers and the National Conservation Bureau, 1941

volumes increase will become even more urgent. It is therefore proposed that left vehicular turns, particularly on Portage Avenue and Main Street between Memorial Boulevard and McDermot Avenue, be reduced to a minimum consistent with adequate movement in the area. Where such turns are essential, control should be provided, preferably by means of a separate phase in the traffic signal light cycle It is further proposed that right turns be further restricted, and that where permitted at intersections with heavy pedestrian movements, pedestrian walk lights be installed. In some cases, such as where jogs and dead ends occur, it may be necessary to install channelizing, divisional, or refuge islands and to effect certain street widenings or adjustments

U-turns at intersections, particularly on such important major thorofares as Portage and Main, add unduly to traffic congestion and should be eliminated as soon as possible. Several intersections in the central area have already been restricted with respect to this form of movement and it is recommended that where possible this policy be applied to all signalized intersections

Pedestrian Movements

It is proposed that a reasonable set of regulations for pedestrians be included in the traffic by-law. Such regulations should require pedestrian street crossing only at intersections or other designated places. Where intersections are provided with either vehicular signal lights or pedestrian walk lights, or both, pedestrian movement should be permitted only when favored by the proper signal indication.

It has been found elsewhere that it is both difficult and unreasonable to enforce pedestrian regulations unless the pedestrian is provided with adequate protection from vehicular traffic. It is proposed therefore that this protection be provided by the means discussed in other sections of this chapter, and that pedestrian regulations be enforced strictly only after such protection is provided.

Speed

Since downtown traffic conditions do not permit the safe operation of vehicles at the maximum speeds permitted by law, and since there is an existing difference in lawful top speed rates for trucks and automobiles, with a resulting tendency to disruption of traffic in downtown areas, it is proposed that the legal 5 mile per hour speed differential be eliminated, at least within the Central Business District, and that a top speed of 25 miles per hour be set for all vehicles

Truck Routing and Loading

The policy of designating specific routes for the use of through truck traffic is recommended for adoption throughout the metropolitan area. Such routes should follow the streets proposed as major thorofares or such other streets as it may be necessary to designate for this use, due to special conditions. In particular, truck traffic should not be permitted to utilize residential streets except for purposes of local pick-up and delivery.

So far as is possible, the practice of 'across-the-sidewalk' pick-up and delivery should be eliminated. It is appreciated that loading and unloading facilities are inadequate at present and that it is frequently impossible to find lane or off-street space in which trucks may stand. This condition is becoming steadily worse, however, and will never improve until definite constructive action is taken. To this end, it is proposed that either or both the zoning or building by-laws be revised to include a section specifying off-street space requirements for loading purposes. Such requirements are provided in the proposed new zoning by-law. It is further recommended that all downtown lanes be examined with a view to ascertaining and carrying out such physical adjustments as may be necessary to minimize present congestion. This should include the provision of new lanes where such access is not now available

The use of large trucks and semi-trailers in the downtown area is both uneconomic and unnecessary and should be restricted as far as possible. In general, local pick-up and delivery should be conducted by light 'mosquito' trucks

The establishment of a union truck terminal would undoubtedly provide a major measure of relief in this respect. Some investigation has already been made by the Planning Office as to the possibilities of such a development, with inconclusive results It is proposed that further and more detailed studies be made, and that attempts be made to interest trucking concerns in the actual construction of a union terminal Certainly the benefits of such an establishment warrant more thorough investigation than is possible with the limited budget and personnel available in the Planning Office

Taxicabs

The recent installation of two-way radio systems by several of the taxicab companies is worthy of high praise The resulting improvement in service justifies the expenditure and the example set by these companies should be emulated by others if possible

It is recommended that taxicab companies should not be permitted to use curb parking space for the parking of cabs at their principal place of business Off-street parking space should be provided by these companies for cars awaiting assignments, to avoid occupancy of extensive curb parking space for protracted periods

Parking

Careful analysis of present conditions with respect to parking points clearly to the fact that existing parking space both on and off the street is now inadequate and is diminishing rather rapidly, while actual demands, as evidenced by increasing vehicle registrations, are steadily increasing.

On the street, increasing traffic and congestion are forcing both parking time restrictions and parking bans An outstanding example of this trend is the recent and necessary prohibition of all diagonal parking in the City of Winnipeg. While the full force of this restriction was not felt immediately due to easing of certain other restrictions the change is indicative of what is to be expected in the future. Additional restrictions on parking are now being made to provide loading zones for extension of trolley coach and motor bus services, and demands by commercial, industrial and other business concerns are increasing for curb cuts and commodity loading spaces. Still further reductions and prohibitions with respect to parking spaces will be required in the future to reduce congestion, accidents and delays, and to facilitate movement of ever increasing traffic volumes particularly during the morning and evening rush hours

Off the street, a similar pattern of parking space reduction is developing. In general, space off the street is used for parking purposes as a temporary source of revenue until such time as more profitable projects develop During periods of considerable building construction, the use of vacant space for parking purposes at existing rates does not seem profitable. Sharp reductions in the number of lots available for parking in favor of more permanent uses can be expected, particularly in those sections where parking demands are greatest.

Aggravating the crowding caused by the trend to fewer parking spaces is the demand for more spaces by an increasing volume of vehicle operators This is only starting to be felt, and with the ultimate increase in motor vehicle production to meet current demand existing facilities can easily become hopelessly inadequate

If the unfortunate economic results of such a condition are to be avoided in the Central Business District, corrective measures must be undertaken. An early start on such action is particularly desirable, since experience generally indicates that satisfactory results will only be achieved over an extended period. To this end, the following program has been developed and is offered as a basis upon which to start.

On-Street Parking

In view of the long-term action which must be expected in the provision of permanent off-street parking facilities, it is extremely important that every effort be made to put existing street parking space to the best possible use

All existing parking restrictions in the City of Winnipeg are contained in By-law No. 16024, which has been developed over a period of many years, and has been the object of intensive study and effort to achieve desirable regulations While this by-law is an excellent piece of work, it is the product of a piecemeal system, since each individual regulation must be investigated separately and passed upon by City Council. For this reason, it cannot be expected to reflect the overall needs of all phases of traffic movement and vehicle parking, such as would be evidenced by an overall traffic and parking survey. It is proposed therefore that after the previously recommended survey is completed, the existing by-law be reorganized as required, eliminating or revising unnecessary or overly restrictive clauses, standardizing parking time regulations and introducing such new regulations as the survey shows to be desirable

In general, it must be recognized that streets are provided primarily for the movement of goods and persons, and that the use of street space for parking purposes is secondary to its use for vehicular and pedestrian movement An example of this policy in practice is the recent change from partial diagonal parking to complete parallel parking in the City of Winnipeg. Although this reduced street parking considerably, it is endorsed herein as essential to efficient traffic movement At such time as streets become so congested that parking must be eliminated or street widening undertaken, very careful scrutiny of costs should be made Widening of street paving for parking purposes can seldom be justified when compared with off-street parking area costs In one city in the eastern United States, it was estimated that the cost to the City was over $1,700 per year for providing curb space for one vehicle on a main street.* While this example may be higher than average, it is indicative of the expense involved in the provision of on-street parking space

Street parking practice should receive careful scrutiny to assure that the space available is used to the greatest advantage, and that compliance with present traffic regulations is maintained. A comparison of Plate 11, which shows the location of automobiles parked on streets on a typical day in June 1948, and Plate 12, which shows the spaces where parking is permitted on the streets by the Traffic By-law, indicates that there is some degree of violation of this By-law. Loading zones reserved for merchandise handling should be reviewed with the aim of restricting their use to specified loading times, thus providing more street space for general parking at other hours

Maintenance of the present policy of permitting only the minimum number of curb cuts practicable on major thorofares will help to retain as much space as possible for parking. There are a number of curb cuts on minor streets in the downtown area which might be eliminated where they are no longer serving a useful purpose or where the properties are adequately served by other means of traffic access Any such action would help to produce a small amount of additional curb parking space

In the best interests of the Central Business District, consideration should be given to the short time parker, that is the individual who uses his vehicle to make business calls or purchases rather than to reach a place of business and then find storage space for his car for several hours or all of the day. In other cities, considerable relief has been afforded the on-street parking problem through use of parking meters These mechanical devices measure the length of time during which vehicles occupy curb parking spaces As a means of providing rapid turnover and of assuring the availability of a reasonable number of street parking spaces at all times, they have proved indispensable in hundreds of cities Parking meters have been in use in various communities since 1935. Their use has increased steadily since that time, until in February 1946 there were 491 cities in the United States with meters in operation, and by December of the same year this number had increased to 924.** Several cities in Canada have installed them in recent years, but although the City of Winnipeg is seriously considering their use, none have been purchased as yet.

While parking meters are intended primarily to enable more efficient use of existing street parking space, particularly for short time parking, they also provide a substantial income (as summarized in Appendix C), assist in enforcement of parking regulations, and eliminate waste space through provision of parking spaces of standard and adequate length.

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* Engineering News-Record, February 9, 1941
** Traffic Engineering, December 1946 and July 1947

This provision of spaces of adequate length is particularly desirable, since it makes parallel parking much easier, and reduces the mental and actual hazards of vehicle damage.

It is recommended that the necessary legislation be obtained to permit such installations, and that a restricted number of meters be placed on trial in the downtown area, where demand for short time space is particularly high. After public approval has been given to the use of parking meters and to the general principle of paying for street parking space, more extensive installations should be made with location determined through intensive study of traffic volumes, parking demand, on-street and off-street parking facilities

It is strongly recommended that net meter revenues be withheld from general funds, and be set aside in a special fund for use in the development of additional parking facilities Appendix D, which summarizes data on meter operation in numerous cities in the United States indicates that this procedure has been adopted as an equitable means of financing necessary facilities

Off-Street Parking

The provision of off-street parking facilities is at best an expensive process, which must be financed in the long run by parkers, by citizens of Greater Winnipeg at large, or by business concerns in the areas benefited, through fees for services provided, taxes or donations In any case, it is essential that a complete picture of the problem be developed in order that essential services may be provided where required, at the least possible cost

It is necessary to discover the present and future demand, according to magnitude, kinds of space and location, the price people will pay for space, and the distance they will walk to get it. These and similar details are lacking now and can only be provided through a detailed parking survey. It is therefore recommended that a complete detailed parking survey be conducted, preferably by or under the direction of recognized traffic engineering authorities Suggested for this task, since it is understood that there are no qualified and experienced organizations in Canada, are the United States Public Roads Administration Public Works Agency, the Institute of Traffic Engineers, the National Conservation Bureau and the National Safety Council, all of which are now providing this service in the United States Such a survey could be conducted separately, or in conjunction with the Origin and Destination traffic survey already recommended.

In the partial parking survey and study of existing parking facilities made by the Planning Office in 1947, it was not possible to measure the extent of existing deficiencies, nor to estimate accurately how much more acute the condition will be in the future Data accumulated, however, does give an accurate picture of all existing parking facilities and of the conditions under which they operate. It further indicates where demand is high and where some additional facilities are required.

It is apparent that even with the most efficient use of existing street parking space, steadily increasing numbers of vehicles and increasing use of these vehicles will necessitate the provision of additional off-street parking space The extent and kind of facilities required can best be determined by means of the previously recommended parking survey.

As street parking regulations become more restrictive, long time parkers will be forced to park farther away from the central core of the business district, either in unrestricted street parking spaces, or in off-street lots located within reasonable walking distance These lots may also be used as an inducement to farmers coming into the city to shop more conveniently. Non-residents in general have a greater distaste for traffic congestion than have the city motorists, and must therefore be provided with easily accessible space if they are to park downtown.

In addition, it has been found elsewhere that as parking demand increases, permanent lot or garage parking facilities are necessary in the central area for short time parkers While need for action on this phase of the parking problem may not appear quite so urgent as it is in larger cities, it does require immediate consideration, since available land suitable for this purpose is gradually being developed for other permanent uses

Consideration must be given to the type of lot to be provided before the best locations for proposed municipal parking lots can be determined. It is apparent that until more detailed information is available with respect to actual demands for space by short time parkers, all of the lots necessary to meet the requirements of this group cannot be developed. This type of lot would have to be located within a block or two of Portage Avenue or Main Street, or both, and would entail a considerable capital outlay, since the City owns no suitable property in the area, and land and building values are generally quite high.

It is obvious that short time parking lots are required, and it is recommended that as suitable property in the area becomes available to the City, it should be taken up and held for parking purposes. The necessary legislation providing power to develop and operate lots has already been obtained. Due to the ribbon development along Portage Avenue and Main Street, it is reasonable to expect that parking demand will be concentrated in similar fashion. Lots to serve this short time demand must therefore be close to these thorofares Unless the Central Business District extends to a much greater depth in the next few years, a number of comparatively small lots will serve better than one or two lots with correspondingly greater capacity. These sites should, however, be of sufficient size that as parking requirements increase in the central area, further parking space can be provided together with space for the necessary ramps for multiple deck parking structures

Based upon existing data with respect to parking demand, considerations of future demand, desirable walking distance, and other factors influencing location, it is considered that four or five sites of this type would be sufficient for some time to come. Three sites will likely be required between Main Street and Memorial Boulevard. One of these should be south of Graham Avenue near the developing medical and dental centre; one should be near the automotive repair and parts sales centre south of Graham near Main Street, and the third should be located near Ellice Avenue midway between the first two suggested sites. A fourth site seems desirable immediately west of Main Street and north of Notre Dame Avenue and a fifth site might be required near the Dominion Public Building and the proposed major thorofare connecting the City of St. Boniface to the Central Business District. At some future date, additional sites may be required on either side of Main Street north of Portage Avenue. This is extremely likely if a new bridge is constructed at Disraeli Street and connected to Portage Avenue, and if the one-way street system on Princess and King Streets is developed as proposed in the Major Thorofare report.

Provision of facilities will also be required for the use of long-time parkers if presently indicated trends continue to develop. These facilities should be located a block or two farther out than those suggested for short-time parkers, and parking fees may be somewhat lower. Since land for these sites is more distant from the area of peak land values, it should be obtainable at substantially less cost and should be more readily available. It is suggested therefore that since the required legislation has been obtained, action can be started to procure a number of parking areas through lease, purchase or expropriation, selecting such sites as are now vacant or utilized by undesirable or relatively inexpensive establishments Actual development of these lots might be guided by the layouts suggested in Appendix E.

'Fringe parking lots, as lots at the outer edges of the business district are usually described, are frequently combined with express transit service in other urban areas Such a plan is not recommended for Winnipeg at this time as a likely solution, but eventually may prove desirable when traffic volumes have increased considerably and when conditions for improved transit service permit.

Recommended for consideration in the acquisition of parking sites is the recently developed 'interior block' plan. This use of areas in the rear of business establishments for parking purposes has been found to be much more economical than the use of lots with street frontage, particularly when the land is purchased at a value determined by use of the Somers Curve of Land Values, which indicates the relative decrease in value of property at increasing distances from the street line *

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* See An Economic Study of Interior Block Parking Facilities, published by Yale University Bureau of Highway Traffic, with funds from the Eno Foundation for Highway Traffic Control, 1946.

Just how these facilities should be financed and operated is a matter of City Council policy. It is evident, however, that the City should take the initiative in providing them since acquisition by the City is the only means of insuring permanent use of these properties for parking purposes and, moreover, private interests seldom can produce the capital necessary to do so. Financing is usually accomplished by assessments against all properties, or properties specially benefited, by bond issue, fee, parking meter revenues, grant, donation or by combinations of any or all of these methods. While it is possible to operate short time parking facilities at a profit through parking fees alone, it is suggested that this is not entirely equitable, and that acquisition, construction and operating costs be furnished through a combination of several of the above mentioned sources of revenue. Appendix F indicates how parking facilities could be operated on a fee basis only, granting certain basic assumptions.

Actual operation of developed municipal parking lots could be carried out by the City itself, by private interests on a lease or fee basis, or by private interests after sale of facilities by the City. Whatever the method adopted, the City should assume the responsibility for coordinating not only those facilities developed by the City, but also all other parking facilities offered for public use. This control might be exercised by the newly formed Traffic Board, or by some other body specifically set up for the purpose, such as the Parking Authority recommended in the Major Thorofare report. As a coordinating body, the Traffic Board or Parking Authority should be responsible for all on-street and off-street parking, both publicly and privately operated. Its duties should include the provision of adequate parking facilities either by the public or by private enterprise both on and off the street, the establishment of reasonable rates and standards of service and appearance, and the approval of designs for both lots and garages

In general, the numerous small parking lots presently located throughout the central area are extremely desirable, but use space less efficiently than do larger lots. Wherever two or more of these areas adjoin, efforts should be made to consolidate and extend them to produce more desirable sites

This report makes no specific recommendation for the establishment of parking garages at any particular locations It may be necessary, however, to give serious consideration to the establishment of such parking garages, particularly if adequate space for parking lots becomes difficult to obtain or if the value of the land is so high that parking lots cannot be developed and operated economically. It is therefore proposed that action be taken first towards the acquisition of a few parcels of land for parking lot purposes. Operating experience with these lots will be invaluable and will indicate whether or not the development of additional lots and of parking garages is desirable and feasible

The developer of a parking garage should give consideration to reserving approximately one-third of the ground floor for other revenue purposes, to augment the return on the original investment and to provide space for an essential land use

Consideration should also be given to economies in garage design. In recent years, garage designs have been almost entirely of the 'open-deck' type, which although unheated has been found to be more acceptable in the United States than the earlier enclosed garage This is primarily due to lower construction cost, which in the United States has averaged about one-quarter to one-third of that for the enclosed garage *

It is recommended that the design of existing buildings be investigated with a view to the development of roof-top parking areas It is suggested that the desirable off-street parking requirements proposed for new buildings might be provided either inside the building or on the roof

Transit

In general, vehicular traffic is much more involved and subject to greater delay

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* Traffic Manual, published by Traffic Engineering and Safety Department, American Automobile Association, Washington, D.C , 1946.

GREATER WINNIPEG

ASSINIBOIA BROOKLANDS CHARLESWOOD EAST KILDONAN FORT GARRY ST BONIFACE
ST. JAMES ST. VITAL TRANSCONA TUXEDO WEST KILDONAN WINNIPEG

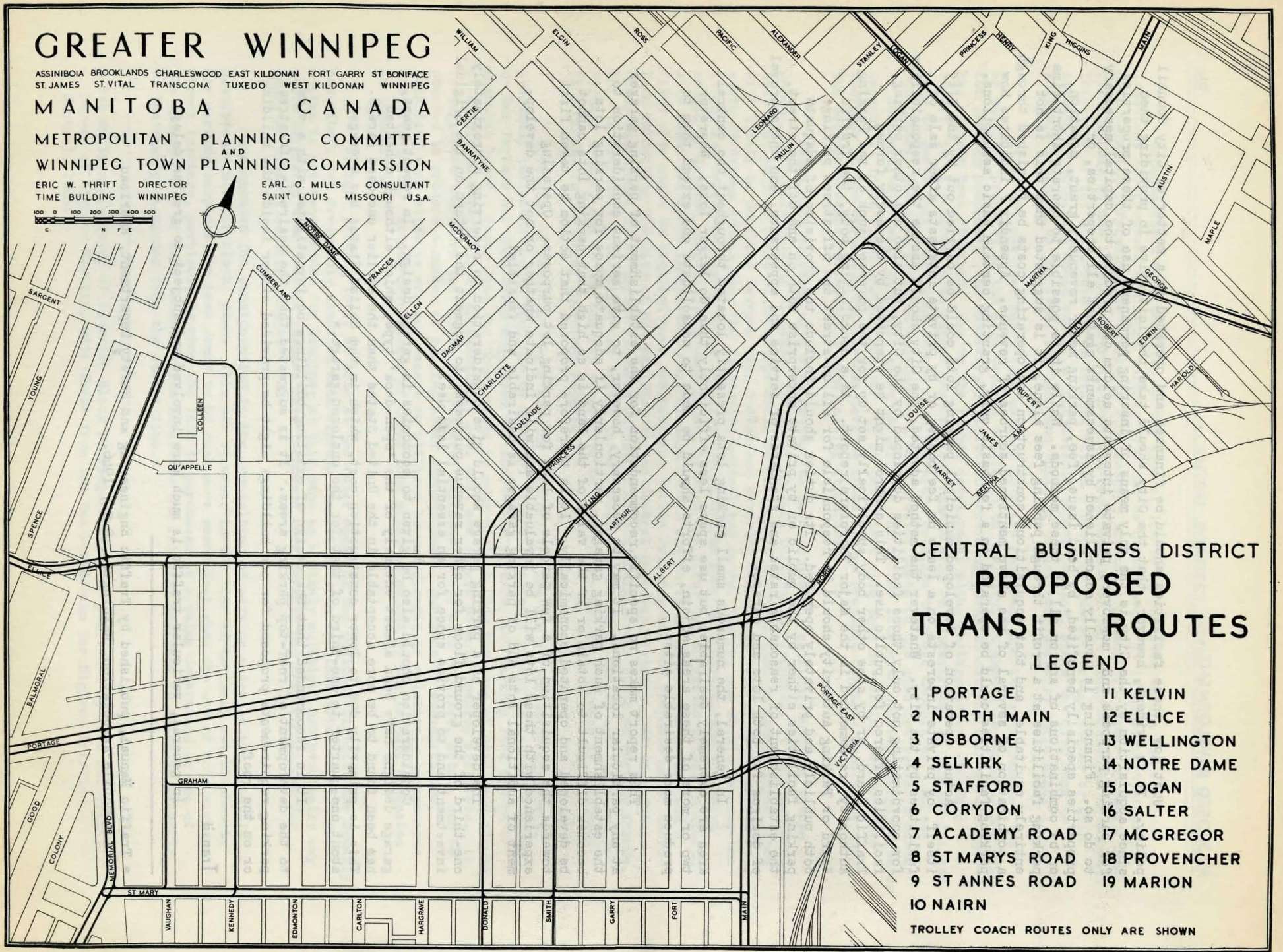
MANITOBA CANADA

METROPOLITAN PLANNING COMMITTEE
AND
WINNIPEG TOWN PLANNING COMMISSION

ERIC W. THRIFT DIRECTOR
TIME BUILDING WINNIPEG

EARL O. MILLS CONSULTANT
SAINT LOUIS MISSOURI U.S.A.

100 0 100 200 300 400 500
C N F E



CENTRAL BUSINESS DISTRICT

PROPOSED TRANSIT ROUTES

LEGEND

1 PORTAGE	11 KELVIN
2 NORTH MAIN	12 ELLICE
3 OSBORNE	13 WELLINGTON
4 SELKIRK	14 NOTRE DAME
5 STAFFORD	15 LOGAN
6 CORYDON	16 SALTER
7 ACADEMY ROAD	17 MCGREGOR
8 ST MARYS ROAD	18 PROVENCHER
9 ST ANNES ROAD	19 MARION
10 NAIRN	

TROLLEY COACH ROUTES ONLY ARE SHOWN

PLATE 16

within the Central Business District than it is elsewhere. Consequently, transit vehicles of all types frequently take nearly as long to traverse a few blocks in this area as they take to complete either the inward or outward bound trips. It seems logical therefore to route transit vehicles over as few blocks of the central area as is possible while still conveying transit passengers to and from transfer points or points within reasonable walking distances of their origins or destinations.

The problems of traffic congestion have been covered elsewhere in this report, except in their relation to transit. As a user of street space, on the basis of space occupied per passenger carried, the transit vehicle is without doubt the most efficient known. It follows that to reduce congestion, motorists must be persuaded to abandon the freedom of movement provided by their automobiles in favor of the services provided by transit vehicles The modern transit vehicle is designed to provide economical transportation and more recently developed types are smooth riding and comfortable. Two factors which are necessary in making transit sufficiently attractive to win the motorist are personal comfort and speed of service

In regard to the former item, the equipment now being provided through the transit company's modernization program assures comfort to those who are not forced to stand, but more vehicles must be provided to permit that comfort to be realized by a greater number. At the same time, the transit passengers must arrange their times of travel and business firms their working hours to reduce the heavy peak demand for service.

Speed of service outside the central area is generally satisfactory but within this area leaves much to be desired. Improvement is dependent less upon speed of vehicle than upon elimination of delays. While the increase in passenger cars and commercial vehicles is largely responsible for congestion, the transit vehicles themselves must share the responsibility, due to heavy concentrations of transit routes on certain streets coupled with excessive turning and looping within the Central Business District. To some degree at least, transit routes should be distributed upon more streets and through routing be established wherever possible. The transit passenger, for his part, must accept the fact that he may be obliged to walk farther to his destination.

Applying this to present transit service, it is apparent that steadily increasing delays are encountered by trolley coaches routed around the downtown loop. This might be relieved somewhat by removal of certain transit loading stops around the loop, but the relief would be offset by congestion developed through greater use of fewer stops, and one of the prime purposes of the loop, the distribution of loading, would be defeated. The elimination of turns, coordination of signal lights, development of a one-way street system and other traffic engineering developments would undoubtedly reduce delays to some extent, but it seems doubtful if any or all of these together would provide the whole solution. It is recommended therefore that as the modernization program progresses and new trolley coach routes are developed, the principal of through routing be applied to a greater extent, and the routing of trolley coaches all around the loop be abandoned. The loop itself could continue in use, with portions of it being utilized in the through routes

In a previous report, on Transit outside the Central Business District, it was proposed to replace street cars as far as possible with trolley coaches. In that report, it was indicated that only Main Street and Portage Avenue were likely in the long run to continue as street car routes. It seems reasonable to assume, however, that development of transit vehicles may produce a form of trolley coach adequate to serve these heavily patronized transit routes, thus permitting complete removal of street cars.

For this reason, in Plate 16, which proposes transit routes in the Central Business District, only trolley coach routes are shown. The Central Business District in the future will undoubtedly be served by some motor buses, but since motor bus routes are capable of considerable adjustment and are largely dependent upon the development of the trolley coach system, they have not been shown on the map.

The trolley coach system as proposed, attempts to provide as much of the metropolitan area as possible with direct access to the Central Business District. While every effort is made to utilize the proposed major thorofare system, some deviation from this precept is necessary in the central area where major thorofares converge, to avoid too heavy concentration of transit vehicles and resulting overall traffic congestion. Provision is made for the

through routing of transit vehicles by utilizing new connecting routes, or by bringing transit vehicles to the existing trolley coach loop, to which all trolley coaches have access.

It should be pointed out that certain of the routes proposed are dependent upon the implementation of public works proposals outlined in the Major Thorofare report and in a previous section of this report. The needs of mass transportation as herein illustrated further emphasize the urgency of these public works.

Transportation

Rail Transportation

Within the Central Business District, no specific changes are recommended with respect to rail transportation, with the exception of the operation of the Canadian National Railway freight terminal As previously mentioned, terminal loading operations occupy much of Water Avenue, rendering this street less useful as a major thorofare and communication route between the Central Business District and the City of St. Boniface. It is recommended that loading operations be confined strictly to railway property.

Motor Transportation

As mentioned in the Transportation report, the present bus terminal is inadequate and contributes to increasing traffic congestion in the Central Business District. It is recommended that the terminal be relocated at a more commodious site better suited for this use, near the outskirts of the central area and close to major thorofares and transit service Until such time as this move is made, it is recommended that inter-urban buses be routed over major thorofares, as proposed in the Transportation report. In particular, the use of Graham Avenue, not designated as a major thorofare, should be discontinued in favor of St. Mary Avenue In connection with trucks, the recommendations previously made in the traffic section of this chapter with respect to designation of trucking routes, use of light delivery vehicles and development of a union truck terminal are re-emphasized.

Air and Water Transportation

No specific recommendations are proposed for consideration in the Central Business District for either air or water transportation.

APPENDICES

Appendix A. Estimated Cost of Street Widening to Permit Street Parking

The following estimates are based on the premise that, in the long run, it would require less money and time to purchase all lots and buildings affected by necessary alterations and to resell surplus land and buildings, than to purchase only those portions actually required.

The street selected for this sample study lies in the downtown area, off Portage Avenue and Main Street, but where land values are high. Estimates are based on widening one side of the street only.

Total length of street	290 feet
Length from property line to property line	280 feet
Available for parking (25' corner clearance)	230 feet
Parking capacity (20' per car)	12 cars

CASE 1 - Where Land Required for Widening has Buildings on it

Land - Loss on purchase and resale, due to reduced depth.

Assessed value	$144,240	
Probable purchase price (200%)	288,500	
Loss at 5% (Somers Curve of Land Values indicates about 4%)		$14,400

Buildings - (on 205' frontage) Cost of construction changes and loss on purchase and resale

Construction changes, at $1 per cu. ft.		41,000
Assessed value	$304,725	
Probable purchase price (200%)	609,450	
Loss at 25%		152,400

Services

Curb removal and repairs, at $2 per lin. ft Sidewalk removal, at $2 per sq. yd. Sidewalk replacement, at $3 per sq yd. Pavement widening, at $3.05 per sq yd. Asphalt entire width, at $1.30 per sq yd.	5,000
Utilities - 5 poles at $400 per pole	2,000
Total Cost of Widening	$214,800
Cost per Car Space (Capacity 12 cars	17,900

CASE 2 - Where Land Required for Widening has no Buildings on it.

Total Cost of Widening (land, services and utilities, $14,400; $5,000; $2,000)	$ 21,400
Cost per Car Space (Capacity 12 cars)	1,800

OFF-STREET PARKING - LOTS

NO.	NAME	LOCATION	PARKING	CAPACITY (CARS)	AREA (SQ. FT.)	HEATED STALLS	SIZE OF STALLS	FEES PER MONTH
1	Private Parking Area	S. Portage, W. side of Good	Private	6	1,500	-	-	-
2	Service Motor Club	S. Portage, W. side Colony	Public	20	7,400	-	-	-
3	Mall Service Station Imperial Oil	Colony & Memorial Blvd.	Public	7	6,800		-	-
4	Film Exchange Lot	S. Portage, E. side Colony	Private	8	1,600	-	-	-
5	Dominion Business College	S.W. corner Osborne & Cooper	Private	10	1,300	4	-	-
6	Albert Motors Imperial Oil	E. side Vaughan, S. Graham	Public	12	3,600	-	-	$2.00
7	Walsh & Graham Auto Serv. #1 N.S. #11	S. E. corner Vaughan & Graham	Public	6	6,700	6	-	3.00
8	Moore s Taxi Co.	Vaughan & first lane N. of Graham	Public	12	2,000	8	-	5.00
9	Bank of Montreal	Lane S. Portage, Vaughan & Kennedy	Private	8	2,800	8	8 x 15	3.00
10	Private Parking Area	Lane S. Portage, Vaughan & Kennedy	Private	16	4,800	2	-	-
11	Singer Sewing Machine Co.	Lane S. Portage, Vaughan & Kennedy	Private	3	400	4	-	-
12	Albert Motors Imperial Oil	W. side Kennedy S. Graham	Public	6	1,500	-	-	2.00
13	Hyman Surgical	W. side Kennedy, N. St. Mary	Private	32	6,000	-	-	-
14	Public Parking Area	E. side Kennedy N St. Mary	Public	12	2,100	-	-	-
15	Medical Arts Building	S. Graham, Bet. Kennedy & Edmonton	Private	5	2,250	-	-	3.00
16	Dr. J Hollenberg	S. Graham, Bet. Kennedy & Edmonton	Public	35	6,000	-	8 x 15	-
17	Campbell & Hyman	S. Graham, Bet. Kennedy & Edmonton	Private	10	1,500	-	8 x 15	1.00
18	Medical Arts Building	S. Graham, Bet. Kennedy & Edmonton	Private	32	8,700	26	-	3.00
19	Star Storage Lot	S.W. corner Edmonton & St. Mary	Private	16	6,000	-	-	-
20	Public Parking Area	E. side Edmonton, N St. Mary	Public	16	3,000	-	-	-
21	Aberdeen Hotel	W. side Carlton, S. Graham	Guests	6	750	-	8 x 15	-
22	White Rose Service Station	W side Carlton, S. Graham	Public	20	11,000	29	8 x 15	2.00 S. 3.00 W.
23	C. H. Enderton & Co.	E. side Edmonton, S. Portage	Public	15	5,100	14	8 x 15	2.00 S. 3.00 W.
24	Safeway Store	W. side Carlton, S. Portage	Customer	18	7,200	-	8 x 15	-
25	Tooney McColl Frontenac #485	W. side Carlton, N. Graham	Public	27	10,000	24	8 x 15	3.00
26	T Eaton Co. Ltd.	W. side Carlton, N. St. Mary	Employee	75	17,400	38	8 x 15	1.00
27	T. Eaton Co. Ltd.	S. Graham, Bet. Carlton & Hargrave	Customer	225	52,000	30	8 x 15	-
28	T. Eaton Co. Ltd.	E. side Carlton, S. Portage	Customer	80	20,100	-	8 x 15	-
29	T. Eaton Co. Ltd.	Included in Information for #28	Customer					
30	T. Eaton Co. Ltd.	W. side Donald, S. St. Mary	Customer	138	36,000	-	8 x 15	-
31	Moore's Taxi Ltd. Imperial Oil	E. side Donald, S. Graham	Public	15	1,800	15	8 x 15	3.00
32	Walsh & Graham Auto Serv. #2 N.S. #74	E. side Donald, S. St. Mary	Public	20	8,500	20	8 x 15	2.00 S. 3.00 W.
33	Miller Service Station, North Star #19	W. side Smith, S. Portage	Public	35	11,300	22	8 x 15	3.00 U. 4.00 H.
34	Mrs. Wright	W. side Smith, N. St. Mary	Public	14	4,600	6	-	1.00
35	Private Parking Area	W. side Garry, S. Portage	Private	6	560	6	-	-
36	St. Regis Hotel	E. side Smith, S. Portage	Guests	24	5,400	-	-	-
37	G. & G. Tire Sales	W. side Garry	Public	13	4,500	-	-	-
38	Graham Furniture	E. side Smith, S. Graham	Public	16	4,800	-	-	25¢ per day
39	Public Parking Area	E. side Smith, N. St. Mary	Public	30	6,000	-	-	-
40	Cecil Hotel Parking	W. side Garry, S. St. Mary	Guests	15	1,800	-	-	-
41	Van's Auto Service North Star	W. side Garry, S. St. Mary	Public	11	4,600	-	-	1.00
42	Bob s Transfer	W side Garry, S. Graham	Public	36	6,600	-	-	1.00
43	Pat Lyon's Service Station, McC.F. #8	W. side Garry, S. Graham	Public	8	9,500	8	8 x 15	3.00 S. 4.00 W.
44	Palace Garage Parking Lot	W. Garry, N. Graham	Public	60	12,000	60	8 x 15	3.00 S. 4.00 W.
45	Private Parking Area	W. Garry N. Graham	Private	14	2,700	8	-	-
46	Black & Armstrong	W. Garry, S. Portage	Public	30	6,000	30	8 x 15	3.00 S. 4.00 W.
47	Private Parking Area	W. Garry, S. Portage	Private	6	1,100	-	-	-
48	Durant & Stanley Lot	E. side Garry, S. Portage	Private	7	2,000	-		-
49	Private Parking Area	E. side Garry, S. Portage	Private	7	2,500	-	-	-
50	Graham & Garry Tire Sales	Graham & Garry	Public	12	4,400	-	-	-
51	United Refrigerator	E. side Garry S. Graham	Private	15	4,800	-	-	-
52	Mrs. Johnson	E. side Garry S. Graham	Public	10	1,800	-		1.00
53	Mrs. Wright	E. side Garry, N. St. Mary	Public	6	1,600	-	-	1.00
54	Windsor Hotel	E. side Garry, S. St. Mary	Guests	29	7,200	-	-	-
55	Brown Bros Service & Sales, N.S. #76	S.W. corner Graham & Fort	Public	32	13,500	16	8 x 15	3.00 U. 4.00 H.
56	Hurst Block	W. side Fort, N. Graham	Private	14	3,500	10	-	-
57	Dent's Sausage Mfg.	W. side Fort, S. Portage	Private	7	2,700	4	-	-
58	Private Parking Area	W. side Fort, S. Portage	Private	8	2,100	4	-	-
59	Moore's Taxi	E. side Fort, S. Portage	Public	36	12,000	21	8 x 15	5.00 Incl. Car Wash
60	Private Parking Area	E. side Fort, S. Portage	Private	6	3,000	-	-	-
61	K. & S. Service Station	S.E. corner Graham & Fort	Public	14	9,000	10	-	3.00 U. 4.00 H.
62	Private Parking Area	E. side Fort, S. Graham	Private	11	2,150	-	-	-
63	Private Parking Area	W. side Main, N. St. Mary	Private	6	2,000	-	-	-
64	Private Parking Area	W. side Main, S. Graham	Private	8	1,800	-	-	-
65	Private Parking Area	W side Main, S. Portage	Private	4	800	4	-	-
66	Consolidated Motors	E. side Main, S. Wesley	Private	6	1,000	-	-	-
67	Consolidated Motors	E. side Main, S. Wesley	Customer	40	5,600	-	-	-
68	Breen's Storage Lot	E. side Main, S. Wesley	Private	30	30,000	-	-	-
69	Public Parking Lane	E. Main, S. Water	Public	9	1,700	-	-	-
70	Public Parking Lane	E. Main, S. Water	Public	6	800	-	-	-
71	Federal Building	E. Main, N. Wesley	Employee	24	3,750	-	8 x 15	-
72	Davies Service Station North Star #1	Main Street at Water	Public	50	20,000	42	8 x 15	3.00 U. 4.00 H.
73	Water Street Service Garage	N. side Water, W Victoria	Public	26	12,100	26	8 x 15	3.00 S. 4.00 W.
74	J. B. Carter Co.	N. side Water, W. Cass	Customer	20	2,100	6	8 x 15	-
75	H. L. McKinnon Co.	N. side Water, W. Cass	Customer	20	4,000	6	8 x 15	-
76	Scott Bathgate	N.E. corner N.Dame E. & Victoria	Employee	25	5,850	10	8 x 15	-
77	Public Parking Area	N. Notre Dame E. E. Victoria	Public	6	900	-	-	-
78	Private Parking Area	N side N. Dame E., E. Main	Private	5	400	-	-	-
79	Corona Hotel	N. side N. Dame E., E. Main	Guests	10	1,950	-	8 x 15	-
80	Private Parking Area	S. side Portage E., E. Main	Private	17	4,250	-	-	-
81	Private Parking Area	S. side Portage E., W. Victoria	Private	17	5,500	-	-	-
82	Federal Building	S. Thistle, E. side Victoria	Employee	32	7,500	32	8 x 15	-
83	Public Parking Area	Thistle & Victoria	Public	7	1,350	-	-	-
84	Winnipeg Electric Co.	S. Lombard, E. side Mill	Private	6	800	6	-	-
85	Canada Packers	N. Thistle, E. of Victoria	Private	10	2,400	-	-	-
86	Dominion Radiator Ltd.	W side Victoria, N. Portage E.	Employee	8	1,600	-	-	-
87	Alex Margulis Co.	N. side Portage E., W. Victoria	Public	40	9,000	-	-	3.00
88	Telephone Serv. Sta. (E.D.Lenz) B.A. Oil	N. side Portage E., E. Main	Public	40	10,000	24	8 x 15	3.00 U. 4.00 H.
89	Inter-Provincial Trading Corp. Ltd.	N.E. corner Portage E. & Main	Public	87	30,400	52	8 x 15	3.00 S. 4.00 W.
90	Nash Taxi	S. side Lombard, E. of Rorie	Public	16	3,000	16	8 x 15	3.00 S. 4.00 W.
91	Private Parking Area	S. side Lombard, E. of Rorie	Private	8	1,200	-	8 x 15	-
92	Nor-West Service Station	S. side Lombard, W. of Victoria	Public	23	3,700	10	8 x 15	2.00 U. 3.00 H.
93	Scott Bathgate Co.	S. side Lombard, W. of Mill	Private	6	2,000	6	8 x 15	-
94	General Steel Wares	N. side Lombard, W of Victoria	Private	18	5,000	12	8 x 15	-
95	McKay's Garage & S. S. North Star #21	N. side Lombard, E. of Rorie	Public	100	24,100	60	8 x 15	1.00 U. 3.00 H.
96	Annex Auto Serv.(S. Astreich) McC.F.	N side Lombard, E. of Rorie	Public	60	21,000	60	8 x 15	2.00 S. 3.00 W.
97	J. E. Boles N. S. #63	S. side McDermot, E. of Main	Public	80	20,800	65	8 x 15	2.50 U. 3.50 H.
98	Private Parking Area	N. side McDermot, E. of Main	Private	16	3,400	16	8 x 15	-
99	Imperial Oil Service Station	N. side McDermot, E. of Rorie	Public	12	1,200	-	8 x 15	1.00
100	Marshall-Wells Co. Ltd.	S. side Bannatyne, E. of Rorie	Private	20	8,000	20	8 x 15	-
101	McKay's Garage (See #95)	S. side Bannatyne, E. of Rorie	Private	4	1,000	-	-	-
102	Feely Motor Co. Ltd.	S. side Bannatyne, W of Rorie	Public	14	6,200	14	8 x 15	3.00 S. 4.00 W.
103	Northern Electric Co.	S. side Bannatyne, E. of Rorie	Private	8	1,500	-	-	-
104	Knight's Service Station N.S. #72	S. side Bannatyne, E. of Main	Public	24	9,500	24	8 x 15	3.00 S. 4.00 W.
105	Knight's Service Station Lot	S.E. corner of Bannatyne & Main	Public	19	7,700	-	8 x 15	2.00
106	Blackie & Douglas	N. side Bannatyne, E. of Main	Public	26	8,400	16	8 x 15	3.00 U. 4.00 H.
107	Private Parking Area	E. side Bertha, N. of Market	Private	21	2,800	-	-	-
108	Private Parking Area	S. side Elgin, E. of Main	Private	9	1,500	-	-	-
109	Main & James Service Station N.S. #18	S.E. corner Main & James	Public	20	6,000	20	8 x 15	2.50 S. 3.50 W.
110	Private Parking Area	S. side James, E. of Main	Private	20	10,000		-	-
111	Private Parking Area	S. side James, E. of Main	Private	8	2,300	-	-	-
112	Brewery Products Ltd.	S. side James E. of Louise	Private	12	1,500	12	8 x 15	-
113	Private Parking Area	S.W corner James & Bertha	Private	20	6,800	-	-	-
114	Private Parking Area	Elgin Ave., E. of Transfer Rlwy.	Private	15	2,000	-	-	-
115	Private Parking Area	N. side James, E. of Main	Private	16	3,000	4	-	-
116	Cornwall Hotel	S. side Rupert, E. of Main	Guests	24	5,100	-	-	-
117	Brunswick Hotel	N. side Rupert, E. of Main	Guests	20	5,000	-	-	-
118	Private Parking Area	N. side Rupert, W. of Louise	Private	16	4,500	-	-	-
119	Globelite Battery Co.	N. side Pacific at Louise	Private	30	7,500	-	-	-
120	M. Smith Service Station, N.S. #70	N. side Alexander at Main	Public	15	5,500	4	-	-
121	M. Smith Service Station N.S. #70	Information included in #120	Public					
122	Occidental Hotel	S. side Logan, E. of Main	Guests	6	1,250	-	-	-
123	Private Parking Area	W side Colony N. of Portage	Private	6	1,000	-	-	-
124	Private Parking Area	W. side Colony, N. of Portage	Private	10	2,700	-	-	-
125	Colony & Ellice Serv. Station N.S. #3	W. side Colony, S. of Ellice	Public	16	3,000	6	8 x 15	2.00 Annual 4.00 W.

D - Day
N - Night

H - Heated
U - Unheated

S - Summer
W - Winter

C - Cars
T Trucks

Appendix C. Average Monthly Parking Meter Revenue

Population Group	Total Cities in Group	Having Meters**		Types of Meters in Use***			Gross Revenue**		
		Number	Per Cent	Automatic Only	Manual Only	Both	Number of Cities Reporting	Amount Collected	Average Revenue Per Meter
Over 500,000	14	4	28.6	2	1	1	4	$ 42,425	$6.84
250,000 to 500,000	23	14	60.9	10	3	1	14	171,373	7.20
100,000 to 250,000	55	40	72.7	15	17	7	28	181,274	6.30
50,000 to 100,000	106	59	55.7	27	27	5	41	190,825	5.91
25,000 to 50,000	212	120	56.5	55	57	6	77	238,379	6.42
10,000 to 25,000	662	251	37.9	103	130	12	137	282,550	5.82
5,000 to 10,000	962	189	19.6	96	89	0	126	153,166	5.22
Under 5,000	*	37	*	22	15	0	16	8,694	4.50
All Cities	*	714		330	339	32	443	$1,268,686	$6.10

Source: The Municipal Year Book, 1947, published by the International City Managers' Association, Chicago.

Notes:

* The U.S. Bureau of Census classifies as urban places only those with more than 2,500 population, but there are several places with parking meter installations that fall outside of this classification. Therefore, no 'per cent of total' calculations have been made in the table for the smaller cities.

** Data summarized from 714 cities in the United States for September, 1946.

*** Automatic meters operate upon insertion of coin. Manual meters require movement of lever after insertion of coin.

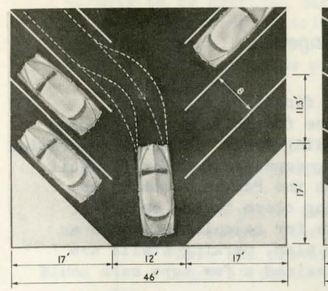
Appendix D. Disposition of Parking Meter Receipts

Population Group	Number of Cities	Disposition of Revenues				
		General Fund	Off-street Parking	Traffic Regulation	Combination	Not Reported
		(a)	(b)	(c)		
500,000 to 999,999	4	3	1	-	-	-
250,000 to 499,999	14	10	-	4	-	-
100,000 to 249,999	38	25	-	7	1 (b&c)	6
50,000 to 99,999	48	33	-	3	1 (a&c)	11
40,000 to 49,999	23	13	-	3	1 (b&c)	6
30,000 to 39,999	49	29	3	5	1 (a&b)	10
20,000 to 29,999	57	28	1	6	1 (b&c)	21
10,000 to 19,999	124	63	2	13	1 (b&c)	45
Total	357	204	7	41	6	99
Percent	100	57 1	2	11.4	1.7	27.8

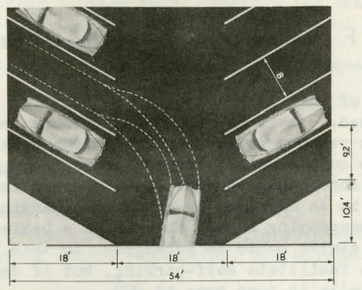
Source: Municipal Year Book for 1946, as reprinted in Factual Guide on Automobile Parking for Smaller Cities, published by Public Roads Administration, Washington, D.C , September 1947

Note: Data summarized from 357 cities in the United States for February 1946.

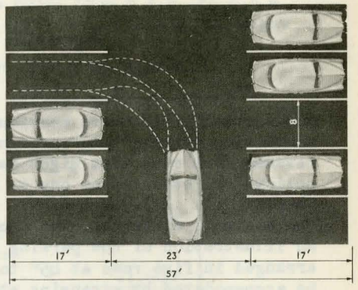
Appendix E. Parking Lot Design Standards



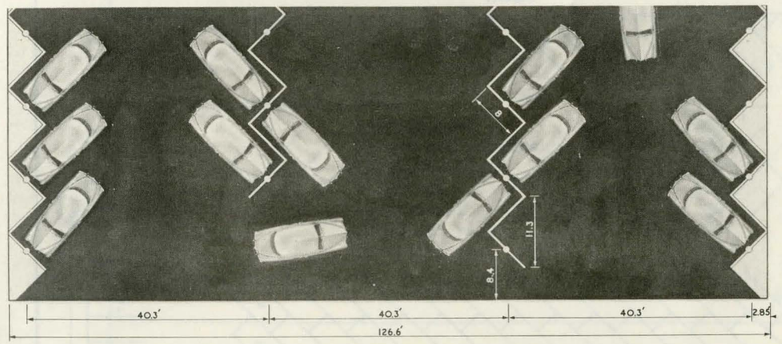
PLAN 1 — TWO ROWS SELF PARK NG ·45°ANGLE 280 SQ. FT. PER CAR
USED WHERE EASE OF PARKING IS DES RAB E AND LAND COST S REASONABLE. MOST COMMONLY USED LAYOUT.



PLAN 2 — TWO ROWS SELF PARK NG 60° ANGLE 270 SQ. FT PER CAR
USED WHERE LOTS TOO NARROW OR TURNOVER TOO HIGH FOR 90° PARKING REQUIRES LESS SPACE THAN 45° PARKING



PLAN 3 — TWO ROWS SELF PARK NG 90° ANGLE 224 SQ FT PER CAR
USED WHERE COST OF LAND IS HIGH BUT WHERE TURNOVER DOES NOT REQUIRE ANGLE PARKING. REQUIRES LESS SPACE THAN 45° OR 60° PARKING.



PLAN 4 — HERR NG BONE PATTERN SELF PARK NG 45°ANGLE 270 SQ FT PER CAR
USED N LARGE OTS WHERE EASE N PARK NG S DESIRABLE AND LAND COST S REASONABLE REQU RES ESS SPACE THAN 45° PARK NG N P AN

GENERAL DESIGN FEATURES

LOTS DESIGNED WITH PERMANENT PARK NG FIXTURES

AISLES ARRANGED FOR ONE-WAY CIRCULATION

NGRESS AND EGRESS AT SEPARATE PO NTS

AREA PROVISIONS INCLUDE AISLE, RESERVOIR CORNER AND END SPACES

ADEQUATE CAR DOOR CLEARANCE PROVIDED

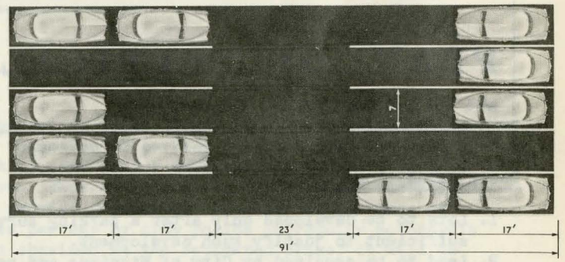
ALL SELF PARKING PLANS PERMIT LOCK NG OF CARS, ELIMINATE DELAY AND DO NOT REQUIRE A WAIT NG ROOM

LOT WIDTHS SHOWN N TABLE ARE TYPICAL OF THOSE AVAILABLE FOR PARKING AND TO WHICH STANDARDS SHOULD BE ADAPTED

TYPICAL APPLICATION OF PARKING LOT LAYOUTS

LOT WIDTH (FEET)	PLAN NUMBERS	ROWS OF CARS	NUMBER OF AISLES	AISLE WIDTHS (FEET)	LOT CAPACITY
40	3			23	$\frac{L}{8}$
50		2		16	$2\frac{(L-17)}{11.3}$
60	3	2		26	$\frac{L}{4}$
80	AND 2 COMBINED	3	2	12 AND 16	$2\frac{(L-17)}{11.3}+\frac{(L-10.4)}{9.2}$
90	AND 4 COMBINED	4	2	13.8	$2\frac{(L-17)}{11.3}+2\frac{(L-14.2)}{11.3}$
100	AND 3 COMBINED	4	2	12 AND 20	$2\frac{(L-17)}{11.3}+\frac{L}{4}$
110	2	4	2	19	$4\frac{(L-10.4)}{9.2}$

L AISLE LENGTH IN FEET



PLAN 5 — FOUR ROWS ATTENDANT PARKING 90°ANGLE 159 SQ. FT. PER CAR
USED ONLY WHERE ATTENDANTS ARE PROVIDED AND USUA LY WHERE LAND COST IS HIGH REQU RES LESS SPACE THAN OTHER PARK NG LAYOUTS.

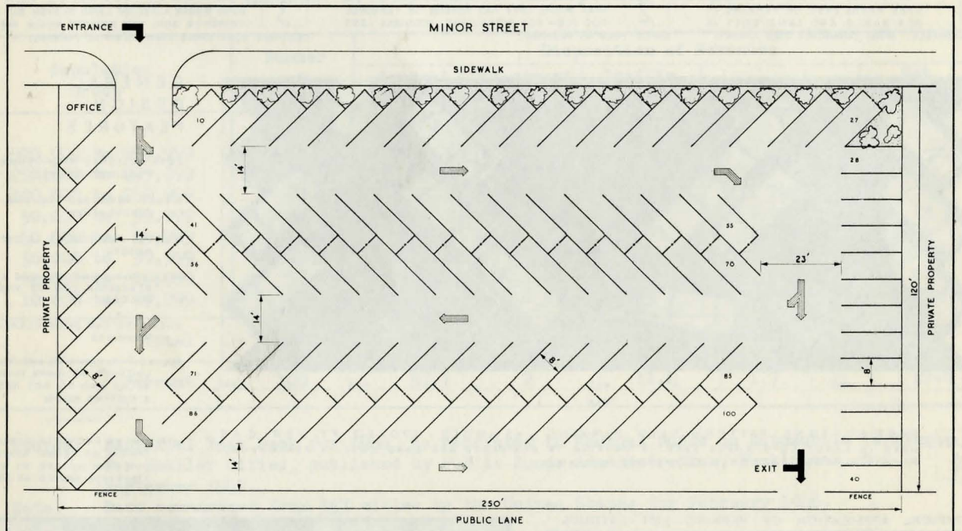
PARKING LOT DESIGN STANDARDS

METROPOLITAN PLAN GREATER WINNIPEG

ADAPTED FROM STANDARDS PROPOSED BY THE AMER CAN AUTOMOB LE ASSOC AT ON

Appendix F Typical Off-Street Parking Development

In the Parking section of this report several methods for financing off-street parking facilities were mentioned. It is proposed here to show the feasibility of financing short time parking lots through revenue derived entirely from parking fees In actual operation revenue from such fees might be supplemented, reduced or replaced, depending on City Council policy, by revenue from one or more other sources, as discussed in the Parking section of Chapter III Illustrated here is an example for short time parking close to the centre of the business district The accompanying sketch is used as a basis for calculations, and as an illustration of how parking stalls could be arranged. In this plan, parking stalls are arranged in five rows at 45° to facilitate self-parking, but if desired a few more cars could be accommodated by arranging stalls in four rows at 90°



PLAN OF TYPICAL PARKING LOT

METROPOLITAN PLAN GREATER WINNIPEG

Basic Assumptions Used:

1. Lots to be developed only after a parking survey has shown that parking demand is sufficient to justify such development
2. Land to be acquired by City of Winnipeg and paid for by bond issue Bond interest, amortization and taxes, as well as all operating expenses to be paid from operating revenue
3 Cost of removing existing buildings to be offset by salvage value
4. Operation to be supervised by City of Winnipeg, possibly through a parking commission or authority, but actual operation could be carried on by a private operator on a fee basis

5 Lots to be operated during daytime only, possibly for ten hours from 8 a.m. to 6 p.m., until operating experience shows a need for extension of service to evening and night hours Floodlighting might then be provided.
6. Heater outlets to be provided only if operating experience indicates economic justification.

CAPITAL REQUIREMENTS			
Purchase price land plus existing structures			$115,000
Improvements surfacing, planting, painting adjacent walls and providing fences with gates, and suitable frame office)			11,500
Total			$126,500
ANNUAL EXPENSES			
Carrying Charges - Bond Principal and Interest, based on issue of 3¼% 20-year bonds			$ 8,700
Operating Expenses - Taxes		$2,300	
Depreciation		200	
Upkeep and repairs		1,000	
Light and heat		150	
Telephone		100	
Advertising		50	
Attendant wages		5,000	
Operating fee		1,000	9,800
Total			$18,500
ANNUAL INCOME			
Based on an average fee of 25¢ with a daily turnover rate of 2½ cars for 100 stalls over 300 operating days			$18,750
NET ANNUAL INCOME			$ 250

Revenue over and above annual expenses could be placed in a reserve fund to be used for contingencies, amortizing debt, reduction of parking fees, or for provision of additional parking facilities, floodlighting, and heater outlets If desired, parking lots could be equipped with parking meters This would obviate the need for attendants thus reducing operating costs and would provide greater net revenue. Observance of regulations could be checked several times per day by city police on regular motorcycle patrol In the event that land cannot be obtained at the estimated price, it will be necessary to insure higher turnover, to raise parking fees, or to provide some other source of revenue

WINNIPEG - CITY PLANNING