

# TRANSPORTATION GREATER WINNIPEG



1946



P R E L I M I N A R Y   R E P O R T   O N

# TRANSPORTATION

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

M A N I T O B A

C A N A D A

NO 3 OF

MASTER PLAN REPORTS

Prepared Jointly By

METROPOLITAN PLANNING COMMITTEE  
WINNIPEG TOWN PLANNING COMMISSION

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## FOREWORD

The Transportation Report is the third in a series of reports dealing with future development of the Greater Winnipeg area. Reports on Background For Planning Greater Winnipeg and on Major Thorofares have been published, and subsequent reports are being prepared on such other phases of the metropolitan planning program as transit; parks, schools and recreation; neighborhood development and housing; business district; and city's appearance

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

The four phases of transportation - rail, air, motor and water - are discussed in this report. Early development and present facilities and problems are outlined briefly, as a basis for discussion of the recommendations and proposals of the metropolitan planning organization.

The proposals embodied herein were prepared by the Metropolitan Plan - Greater Winnipeg, and reviewed and revised by the Citizen Advisory Committee on Transportation. This citizen committee was one of several appointed by the Joint Executive Committee from nominations submitted by organizations throughout the metropolitan area, for the purpose of reviewing proposals on the various phases of the comprehensive plan.

## **RAILWAY TRANSPORTATION**

### RELATION OF RAILWAYS TO URBAN DEVELOPMENT

The services provided by the railways and the location of passenger and freight terminals, yards and tracks, play an extremely important part in the development and growth of an urban area, forming the framework for industry and influencing the daily habits and living conditions of all the people. Any factor in an urban area which exercises such influence, must be carefully considered and integrated as a part of the master plan in order to assure a balanced community development.

A study of the railways in Canada shows that they have already appreciably influenced Dominion settlement and development. Generally, where rail lines converged urban development began, and to a large extent followed the overall framework formed by the railway lines. In the case of Greater Winnipeg, however, the first settlements occurred before the coming of the railways, along the banks near the junction of the Red and Assiniboine rivers. Rivers at that time formed the original backbone of settlement, upon which the railway network was later superimposed. As time passed, the railways provided the best and most reliable means of transportation, and assisted more in the settlement and development of the region than any other factor. The growth of population and industry created a demand for more railway facilities, resulting in the expenditure of large sums for expansion by each railway company. The process of expansion did not follow any preconceived plan of coordination of the various railways and other urban features. In reviewing the present development, it is apparent that improvements in the future should be made so as to achieve a more orderly and efficient physical relationship

It is often and erroneously assumed that railway facilities are fixed forever in their present locations. Obviously, however, this is not so, as evidenced by necessary changes in the past. Population and industry have shifted, expanded and contracted, and with those changes, the railways have been forced to make certain rearrangements in their lines, yards and terminals, and in some instances to merge or use facilities jointly. The improvements made by the Cincinnati Union Terminal development, the Los Angeles consolidation, the Dallas Terminal unification, and by the Toronto joint terminal facilities are examples of such changes in recent years. There is every reason to believe that in the future similar changes will be put into effect in metropolitan areas, especially in view of increasing competitive traffic by air, motor bus and motor truck.

It is extremely important, therefore, that the long-range plan for the railways be studied and related to the other elements of the Greater Winnipeg master plan, and that every effort be made to effect gradually the needed changes in the metropolitan railway structure. Such a plan should permit more efficient or economic railway operation, and provide for fewer disturbances between the railways and other urban features under the master plan.



DEVELOPMENT OF RAILWAYS IN GREATER WINNIPEG AREA\*

The first railway to serve the Greater Winnipeg area was the Canadian Pacific Railway Pembina Branch. Work was started on it in 1874, and by 1878 eighty-five miles of track had been laid from Selkirk to Pembina. The first locomotive in the west was brought down the Red River on barges in 1877, to Point Douglas in Winnipeg, to assist in moving materials needed for railway construction. By 1883, trains were running on a line from Winnipeg to Lake Superior, forming part of the proposed transcontinental line which was completed in 1885.

The Dominion Government had, in 1880, promised the Canadian Pacific Railway a monopoly of through traffic on the prairies for twenty years. In 1888, however, this agreement was withdrawn and the Manitoba Government brought in the Northern Pacific Railway, which by 1896 offered connections to the south and west. Construction on a Northern Pacific connection from Winnipeg to Port Arthur was started in 1898, and completed three years later.

The Northern Pacific Railway and the Great Northern Railway were amalgamated in 1899, under the new name of the Canadian Northern Railway. All Manitoba lines of the Northern Pacific were leased by the Provincial Government and re-leased to the new Canadian Northern Railway. This company thus became the third largest system in Canada, with nearly 1,300 miles of trackage in operation throughout the country by 1902.

By 1915, three great transcontinental railway systems stretched from the Atlantic to the Pacific, and controlled more than 80% of the total railway mileage in Canada. These were the Canadian Pacific Railway, completed in 1885; the Grand Trunk Pacific which was opened for traffic from Winnipeg to Prince Rupert in 1914, forming a complete link from Moncton to Prince Rupert; and the Canadian Northern, which was completed in 1915. The Canadian Pacific Railway had become the world's foremost transportation system, with large investments in steamships and hotels as well as control of more than 18,000 miles of railways. In proportion to population, Canada at this time had more railway mileage than any other country.

East-west traffic on all three transcontinental systems was routed through Winnipeg, and all three established railway yards, shops and terminals in the Greater Winnipeg area. This accounts in some measure for the large proportion of the urban area used for railway purposes.

The latter stages of development of the Grand Trunk Pacific and Canadian Northern Railways occurred at an unfavorable time, when the flow of capital from the London money market diminished, and expenditures increased due to construction requirements in the mountains and rising wage rates. In 1916, a royal commission was appointed to study the status of the three transcontinental railways in Canada. As a result of its findings and later negotiations, operation of the Canadian Northern was turned over to the Canadian Government Railways in November 1918, and management of the Grand Trunk Pacific was given to the government in 1920. In 1922, the government-controlled Canadian National Railway was formed, by amalgamation of the Grand Trunk and Intercolonial in the east; and the Canadian Northern, National Transcontinental and Grand Trunk Pacific in the west.

The Midland Railway of Manitoba was incorporated in 1903 to build lines from Winnipeg to Emerson, Beausejour and Brandon, and between other Manitoba points. In 1909, the Manitoba Great Northern Railway Company, which was incorporated to acquire the constructed and proposed lines of the Midland Railway of Manitoba, took over the lines from the International Boundary to Morden and Portage la Prairie, but left the terminal

\*Source of information: A History of Transportation in Canada - G. P. Glazebrook  
A Statutory History of the Steam and Electric Railways of  
Canada, 1837-1937 - Department of Transport

properties in Winnipeg still in the hands of the Midland Railway. Provincial incorporation of the Midland Railway of Manitoba was declared still operative in 1927, at which time the company obtained running rights over the Canadian National Railways from Portage Junction, near Winnipeg, to the International Boundary.

The Greater Winnipeg Water District Railway single track was built in 1914, for the purpose of supplying materials necessary for construction of an aqueduct to bring water from Shoal Lake to supply Greater Winnipeg. Since the completion of the aqueduct in 1918, the chief function of this railway line has been to patrol the aqueduct and keep in touch with conditions at the source of water supply. In addition, the railway has offered railway service along its route, and carried on a sand and gravel business.

Railway activities in the period since 1923 have consisted of economic expansion, competition between the two transcontinental systems, and consolidation of the Canadian National lines. Improved equipment and service, extension of branch lines, development of terminals, and operation of hotels and steamships were all part of the expansion program. Extension of branch lines included construction of the Hudson Bay Railway, which was completed in 1926.

Severe depression and an alarming decrease in railway traffic volumes interrupted the steady improvement in quantity and quality of service. A royal commission, appointed in 1931 to study railways and shipping, reviewed the possibilities of amalgamation of the Canadian National and Canadian Pacific railways, but did not recommend such a course, for although amalgamation might have lessened the immediate problems, they were not convinced that it would prove the best solution with respect to future operations.

The railways were used to capacity for moving men and supplies during the period of World War II. Since the heavy war demands have begun to decrease, tourist travel is again being encouraged in order to retain high passenger volumes.

The four railways operating in the Greater Winnipeg area at present are the Canadian National Railway, Canadian Pacific Railway, Midland Railway of Manitoba and Greater Winnipeg Water District Railway.







PRESENT RAILWAY FACILITIESProperty

All property owned by the various railways in Greater Winnipeg is indicated in black on Plate 1. While the bulk of this land is owned by the two transcontinental railways the Canadian National Railway and the Canadian Pacific Railway, a small amount is also owned by the Midland Railway of Manitoba, and by the Greater Winnipeg Water District Railway.

Trackage

The Canadian National Railway and the Canadian Pacific Railway also operate the greatest amount of trackage. More trackage is operated by the Canadian National Railway system than by any other railway company on the continent. The main lines of the two transcontinental systems operating through metropolitan Winnipeg form the only rail links connecting the east and west coasts. Branching from these main lines and fanning out in all directions, are twelve or more branch or feeder lines, which serve the passenger and freight requirements of the province. In addition, a large amount of spur line trackage exists to serve industry throughout the area. Some of this is jointly used, some is transfer track, and some industrially owned spur track.

The Midland Railway of Manitoba and the Greater Winnipeg Water District Railway have only a small amount of trackage.

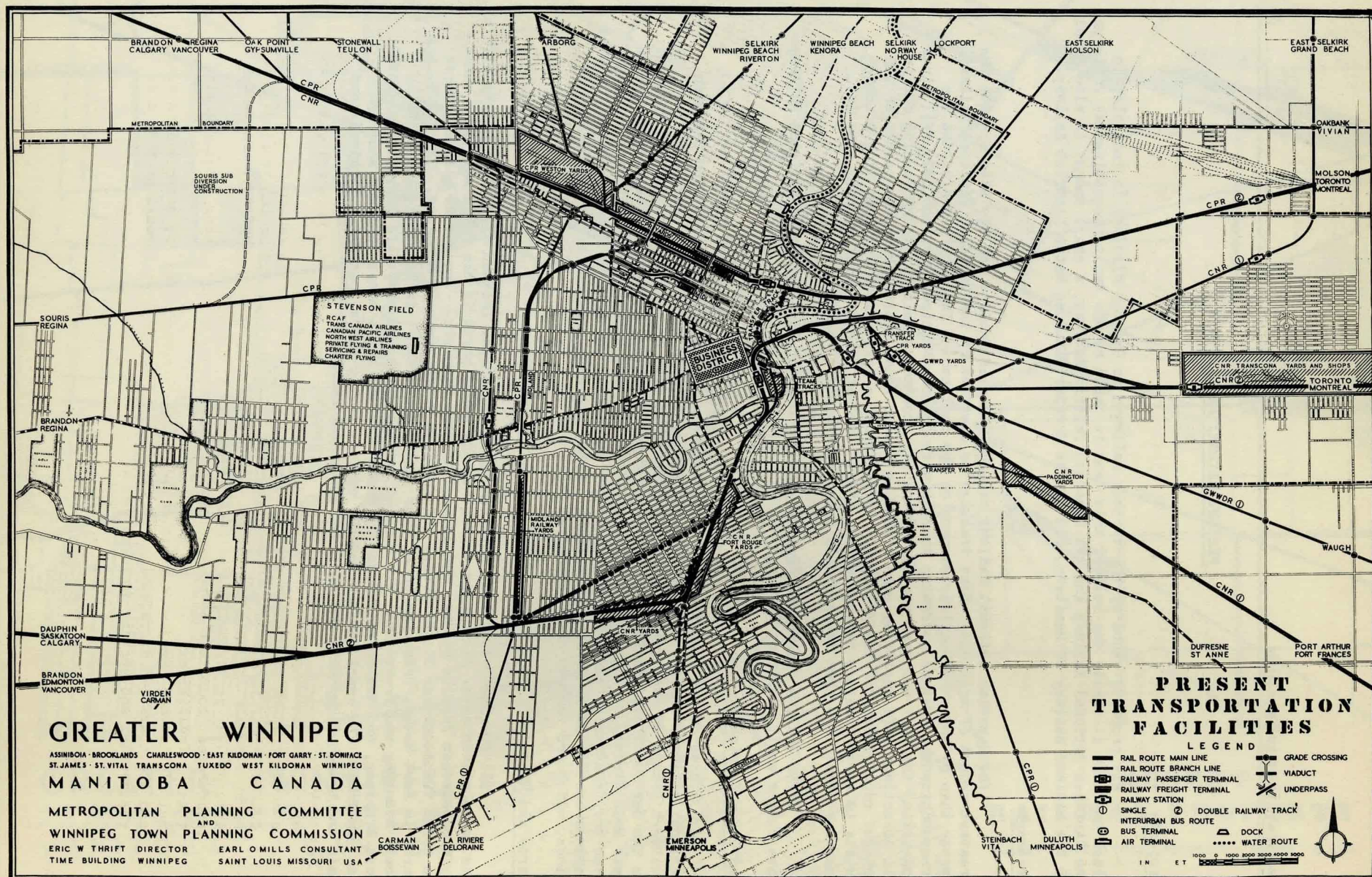
Passenger Terminals

Three of the four railways have their own passenger terminals. The Canadian National Railway terminal is located in Winnipeg, on Main Street at Broadway, on the southern fringe of the business district. There is also a small station in west Winnipeg on the Oak Point subdivision. The Canadian Pacific Railway terminal is on Higgins Avenue near Main Street, on the northern fringe of the business district. The Midland Railway uses the Canadian National Railway passenger terminal. The Greater Winnipeg Water District Railway has its terminus in St. Boniface. There are also a number of points on various lines, which are railway passenger stops.

Yards and Shops

All four railways have their own yards and shops, located at various points within the metropolitan area. The largest individually owned yards in the world are those owned by the Canadian Pacific Railway and located in west Winnipeg. The C.P.R. also has yards in North Transcona and St. Boniface; and shops in Weston in west Winnipeg. The C.N.R. has yards in Fort Rouge, Transcona and at its passenger terminal in Winnipeg; and shops in south Winnipeg and Transcona. The Midland Railway yards and shops are together in south-west Winnipeg, and the Greater Winnipeg Water District has a minor yard and shop in St. Boniface. The exact location of the various yards, shops, passenger terminals and main and branch lines is shown on Plate 2.







PRESENT RAILWAY PROBLEMS

As previously indicated, the early layout and arrangement of the various railways gave little consideration to the orderly future growth of the metropolitan area. As a result, the city is now criss-crossed with a network of main, branch and spur lines, and by the various yards and shops scattered throughout the whole metropolitan area. Railway facilities as presently constituted, hinder the proper development of the street system and of certain residential areas. Industries which have located near rail lines to secure rail service have formed industrial belts and zones which are continually extending along the rail lines, in some cases blighting present or potential residential areas.

Railways are essential to the development of any metropolitan area, and should be encouraged to extend their lines wherever industry requires their service. Industry itself however, should be precluded from indiscriminate location. As far as possible, it should be developed in areas already desirably industrialized, with further expansion directed into areas particularly suited and specifically allocated for the purpose. Great care should be taken that such additional areas are of sufficient size to permit reasonable future industrial growth without creating barriers to other types of desirable development, and so related to residential areas as to be reasonably accessible for employees. With industries concentrated in this manner, railways can be assured of permanency for capital outlay in buildings and equipment in such areas, and other areas may be assured of proper development with freedom from industrial blight.

In a number of places in the Greater Winnipeg area, duplication of railway services exists. Although this may have certain operating advantages both to the railways and to industry, there are cases where it creates definite disadvantages to the rest of the community. Wherever feasible, this duplication should be eliminated within the metropolitan area by the use of joint trackage, relocation of industry, or other suitable means. An example of this condition is found in west Winnipeg and St. James, where the Canadian National Railway Oak Point Subdivision, the Midland Railway and the Canadian Pacific Railway La Riviere Subdivision run parallel and in some cases serve the same industries. A similar condition exists in south Winnipeg, where the C.N.R. Gladstone and Harte Subdivisions are located, and in Charleswood where the C.N.R. Main Line divides into two lines which run roughly parallel to one another through the municipality, converging again at a point approximately three miles east of Portage la Prairie. These and other similar instances create many barriers to the safe and orderly development of the metropolitan area.

Wherever railway crossings occur at grade, there is interference between railway, vehicular and pedestrian traffic. Delay and accidents are caused at such points, creating considerable hardship and expense for all concerned.

Briefly, the difficulties of present railway development in Greater Winnipeg can be summarized as follows:

1. Interference between vehicular, pedestrian and railway traffic at grade
2. Delay and accidents at grade crossings or the alternate expense of grade separations
3. Barriers formed by railway facilities to desirable and necessary balanced expansion of residential and commercial districts
4. Unnecessary division of the metropolitan area into many poorly connected and comparatively isolated districts, with resulting economic and social problems
5. Depreciated residential land values on and along railway rights-of-way, with the accompanying problems of sub-standard residential districts.
6. Insufficient coordination between railway facilities, major streets, trucking and transit facilities
7. Unattractive and run-down appearance of railway approaches to the metropolitan area and the operation of objectionable coal burning locomotives through or near all residential and certain business areas



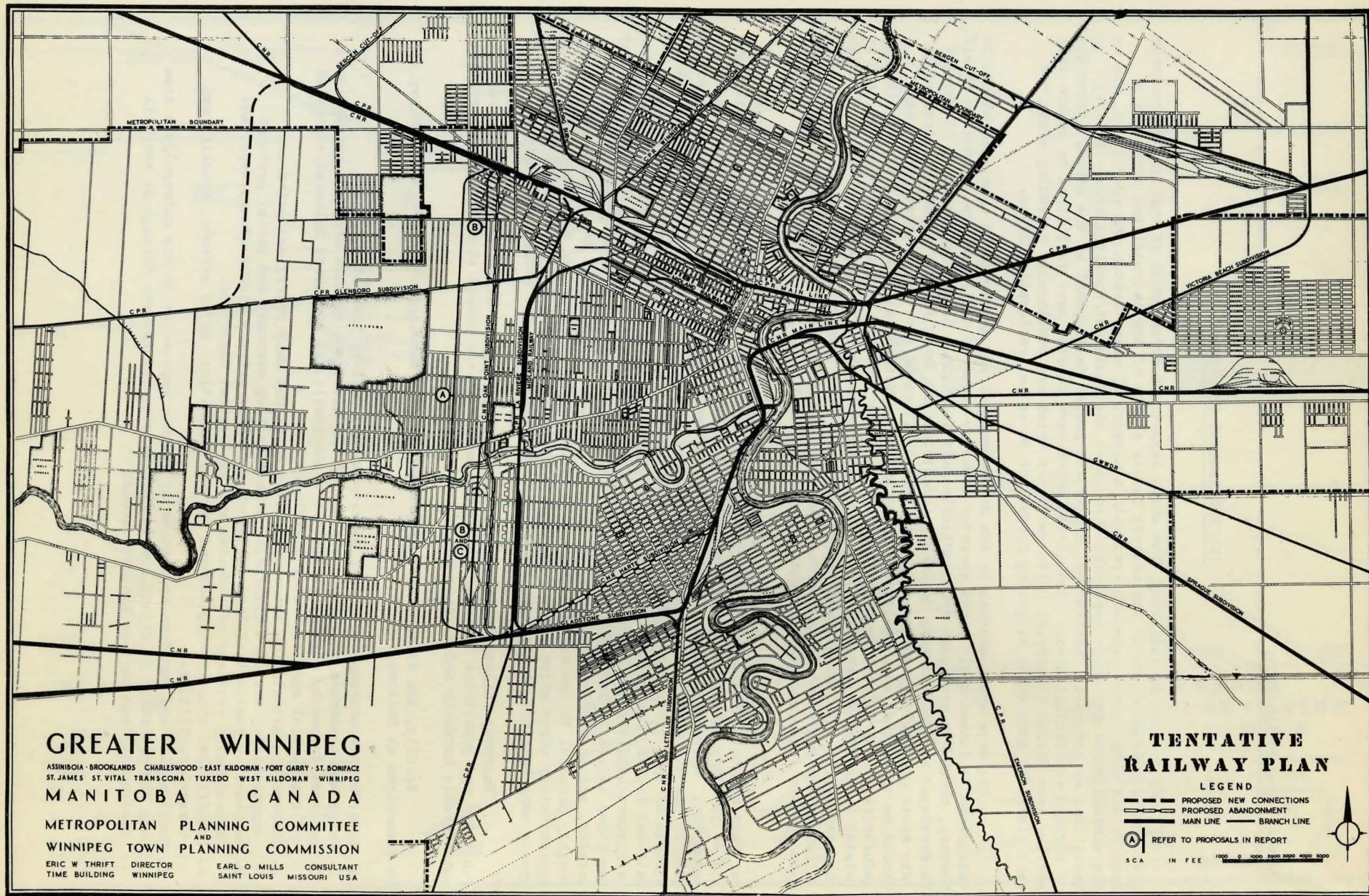


PLATE 3



RAILWAY PROPOSALS

Obviously, all existing problems cannot be overcome immediately or completely. Some may be eliminated, while others may be ameliorated. Moreover, satisfactory solutions will undoubtedly involve changes in other urban features, and in some cases will depend even more upon the proper solution to other urban problems than upon a direct change in railway facilities.

For example, the present situation with respect to grade crossings in metropolitan Winnipeg can be improved by adhering to the major thoroughfare proposals, which recommend that railway crossings be confined to major thoroughfares. Thus, grade crossings would be practically eliminated on minor streets, and hazards could be further reduced by treatment of a limited number of crossings with protective devices or grade separations.

Furthermore, certain areas which are adjacent to railway facilities and have scattered residential development, may be more suitable for industrial use and should, therefore, be zoned accordingly. On the other hand, in areas where railway trackage serves little or no industry, it would be clearly undesirable to develop industrial uses. In such cases, relocation of existing industry and, in some instances, removal of trackage should be carried out as soon as it is feasible.

A coordinated program for common improvements, based upon a comprehensive study of present and potential development of the area, is clearly advantageous to the railways and to the community as a whole.

Several possible changes in railway facilities are outlined in the following tentative proposals. These do not include all advisable changes, nor is it suggested that all of these proposals are feasible immediately. Complete and detailed information has not been made available for study and, therefore, it is undoubtedly probable that additional desirable improvements will be needed and recommended.

In other communities, much improvement has been accomplished in railway operation by the joint use of terminal facilities, and the use of belt lines to connect various lines outside metropolitan areas has made possible the elimination of many extra railway lines within these metropolitan areas. Such plans may be feasible for Winnipeg, and it is recommended that immediate consideration be given to them. Moreover, the advantages of diesel or electric locomotives in urban areas are evident. It is understood that the railways in Greater Winnipeg have already considered the possibility of changing from steam to diesel power, and it is recommended that no effort be spared to speed up this change-over, especially on all locomotives operating within the metropolitan area.

At the present time, it is understood that the railways have tentative plans of their own for expansion, abandonment, or alteration of existing facilities. These plans usually are not made public until final decisions are made. In view of the value and necessity of coordinating all plans for physical improvements in Greater Winnipeg, it is essential that the railways assume their full share of responsibility in cooperating in the effort to plan for a more orderly and efficient metropolitan Winnipeg.

Proposals to improve conditions in Greater Winnipeg are outlined in the following pages.

1 C.N.R. HARTE SUBDIVISION

Present Facilities As shown on Plate 3, Tentative Railway Plan, the C.N.R. Harte Subdivision at present forms a cut-off on the Gladstone Subdivision, by-passing part of the C.N.R. Fort Rouge Yards, providing a slightly shorter route, and connecting to a few spur tracks. Located just south of and parallel to Scotland Avenue, the Harte Subdivision joins the Gladstone Subdivision at the east in the Fort Rouge Yards, and at the west between Taylor Avenue and Wilkes Avenue near Renfrew Street, near the south-westerly limit of the City of Winnipeg. This section of the Harte Subdivision consists of two main lines, each



approximately 2.7 miles long, used for east and west through traffic, and approximately 1 5 miles of spur and side track, serving some fuel yards, an electric power sub-station and a grain elevator

The portion of the Gladstone Subdivision which runs through the Fort Rouge Yards is approximately 3.0 miles long between its junctions with the Harte Subdivision. All traffic now carried by the Harte Subdivision could be diverted to this line by local changes. These include (a) extension of one track of the Gladstone Subdivision between the Oak Point Subdivision and the Midland Railway line to complete the dual track system at that point approximately 0.3 miles; and (b) changes within the C.N.R. Fort Rouge Yards to permit through traffic

Agreement. An agreement exists between the C.N.R. and the City of Winnipeg, providing that after development of the south Fort Rouge Yards is completed, the Harte Subdivision will not be used for through traffic except in case of emergency. A further part of this agreement gives the railway company the right to establish and maintain a right-of-way on the present route of the Harte Subdivision, as a concession in part for its agreement to abandon plans to build a rail line from Portage Junction eastward through south Winnipeg in River Park to connect with the stock yard area in St. Boniface

Problems. Much of the area on both sides of the rail line is developing for residential use. That on the north is of quite a good character, while that on the south between Harrow and Pembina is on a comparatively modest scale, since some parts of it existed before the installation of sewer and water facilities. Recently a number of Wartime houses for veterans were built in this section. The presence of the railway line will not improve this residential development

It has been suggested that the area be devoted to industry, since it is within the four mile free interswitching limit of the railways. However, because so much of the area is now built up in residences, location would be difficult for any industry other than small establishments requiring no rail facilities

Four proposed major thoroughfares - Taylor, Waverley, Harrow and Pembina Highway - are crossed by the two main line tracks of the Harte Subdivision, and one major thoroughfare, Harrow, is crossed by two side tracks. All such crossings are potential locations of future accidents; cause traffic delays and general inconvenience through traffic controls necessary at these points; tend to decrease the efficiency of railway operation; and depress land values. In addition to the four major thoroughfare grade crossings, there are also approximately twenty minor street crossings of the main lines, and two minor crossings of spur tracks, which create the same problems in lesser degree

If the main line rail traffic were transferred to the Gladstone Subdivision, it would involve crossings at only two major thoroughfares, Waverley and Pembina, with Pembina already equipped with an underpass, and no minor street crossings. In such an event, traffic on Waverley might some day conceivably be sufficiently heavy to warrant the construction of a grade separation. In the meantime, however, protective devices would be adequate. There is a far greater possibility that one such railway crossing by a major thoroughfare will be treated satisfactorily than that four major thoroughfare and an indeterminate number of minor street crossings in the same general area should be so treated.

From the standpoint of sound future development, this whole area should be zoned for residential purposes, so that if removal of the line becomes possible in the future, the zoning would not be a hindrance thereto. At the time of writing, a definite decision had not been reached with respect to the proposed zoning for this area.

#### Industry Affected by Proposal

Winnipeg Supply & Fuel Co. Ltd.  
Thos. Jackson & Sons Ltd.  
Export Grain Cleaning Co.  
Simmons Fuel Co.  
Public Fuel Co.  
City of Winnipeg Hydro Sub-Station

Block 20 Scotland Avenue  
Block 21 Scotland Avenue  
Block 31 Scotland Avenue  
Block 40 Scotland Avenue  
Block 41 Scotland Avenue  
Block 50 Scotland Avenue

The Winnipeg Supply & Fuel Co. Ltd. while listed above, actually would not be affected, since it is located east of Pembina Highway. Removal of this section of the Harte Subdivision would mean that this company's spur track would be connected at its east rather than its west end.

The City of Winnipeg Hydro Electric Sub-Station at Harrow Street is served by a side track, but it is used only occasionally and is not essential. The Sub-Station therefore is not affected to any great extent by the removal of this section of the Harte Subdivision and spurs

Of the four remaining concerns affected, three are fuel yards, whose capital outlay for plant and fixed equipment would be quite small. Over a reasonable period of time, all three could relocate without great expenditure. The fourth, the Export Grain Cleaning Company, having a grain elevator and therefore the largest investment, would possibly require more time to relocate than the others

#### 2 ST. BONIFACE HOSPITAL AND ROUSSEAU FUEL SPURS

There are two spur tracks which branch from a single C.N.R. spur east of Des Meurons and extend westward through St. Boniface. One serves the St. Boniface Hospital and the other the properties of the J. A. Rousseau Fuel Company and the Dominion Stucco Company Limited. These two spurs form part of a longer line, which extends from the C.N.R. Main Line at Rue Desautels to the St. Boniface Hospital, crossing Rue Des Meurons just north of Goulet Street. The two spurs concerned form the westward prolongations of the main spur line from the east side of Rue Des Meurons

The St. Boniface Hospital spur consists of approximately 0.99 miles of single track, and runs from a point just east of Rue Des Meurons, westward between Goulet and Berry Streets to the St. Boniface Hospital. The spur also serves the Keewatin Lumber Co. Ltd. property and passes the Manitoba Mushroom Growers Ltd., which requires no rail service.

The Rousseau Fuel spur, consisting of approximately 0.35 miles of single track, runs from a point just east of Rue Des Meurons, westward between Goulet and Bertrand Streets. Both the J. A. Rousseau Fuel Company and the Dominion Stucco Co. Ltd., which it once served, have ceased operation in this area, so the spur could be removed without affecting any industry.

It is proposed that both spurs be abandoned and that all track west of Rue Des Meurons be removed as soon as possible. This could be carried out at once with the Rousseau Fuel Spur, but removal of the St. Boniface spur might require some time to permit relocation of the Keewatin Lumber Co. Ltd. and the establishment of other suitable fuel service to the hospital and its surrounding buildings. Removal of these spurs is indicated on the Tentative Railway Plan, Plate 3

#### Disadvantages in the Use of Existing Spurs

The St. Boniface Hospital and Rousseau Fuel spurs pass directly through a built-up residential section, serving industry which has no reason to be in the midst of a residential district. This industry should be relocated in some industrial section before the residential area in which it is now located becomes badly blighted due to its influence

Both spurs cross the proposed major thoroughfare, Rue Des Meurons, and the St. Boniface Hospital spur crosses the proposed major thoroughfare Traverse Avenue as well. The rail traffic is not heavy enough to justify grade separations, but is sufficient to cause delays, accident hazard and general public inconvenience and annoyance. In addition to the major thoroughfare grade crossings, five minor street grade crossings exist, on Tache, Kenny, Braemar, and two on Enfield Crescent, involving further hazard and inconvenience. It is understood that the City of St. Boniface has already made tentative arrangements to have the Rousseau Fuel spur removed as soon as possible, in order to open up that area for more desirable development. Study should be made of the possible removal of the St. Boniface Hospital spur to improve the whole residential area from Rue Des Meurons to the Red River



Industry and Institutions Affected by Proposal

Rousseau Fuel Spur	No industry affected
St. Boniface Hospital Spur	Keewatin Lumber Co Ltd.
	St. Boniface Hospital

3 C.P.R. WINNIPEG BEACH SUBDIVISION

The present Winnipeg Beach Subdivision consists of a single track, which branches from the C.P.R. main line near McPhillips Street and runs in a general north-easterly direction through North Winnipeg and West Kildonan, crossing the C.P.R. Bergen Cut-off between Powers and McGregor Streets

The section of the Winnipeg Beach Subdivision from the Bergen Cut-off to the C.P.R. main line operates through a developing residential area in the City of Winnipeg, where little industry is in evidence. The area is desirable for residential purposes, and since there is a limited amount of land available for such development in Winnipeg, home building is proceeding apace in this area at the present time. The usual problems in the relationship between railway and residential areas occur here.

The portion of the Winnipeg Beach Subdivision between the Bergen Cut-off and the C.P.R. main line crosses five proposed major thoroughfares. Grade crossings, as pointed out previously, are a potential source of traffic delay, accidents and general inconvenience. In addition to the five major thoroughfare crossings, there are some twenty-six minor street crossings, with similar problems. On the portion of the C.P.R. main line used by Winnipeg Beach Subdivision traffic, there are four major thoroughfare crossings, all with grade separations. No minor street or railway crossings occur on this portion of the line.

It is recommended that a new route be developed which does not cut through a residential area, and that the present track from the Bergen Cut-off to the C.P.R. main line be removed. No detailed route is proposed, since its location will require detailed engineering study.

4. C.N.R. OAK POINT SUBDIVISION

The C.N.R. Oak Point Subdivision in the metropolitan area of Greater Winnipeg consists of a single line and some spur tracks. Its terminus is near the north end of Lake Manitoba, with the line running in a general north-westerly direction from Winnipeg. Not far outside Winnipeg, it crosses the C.P.R. main line near the Bergen Cut-off and operates on a line parallel to the C.P.R. main line into Brooklands. In Brooklands, it turns south through the residential section and parallels the Midland Railway and the C.P.R. La Riviere Subdivision through St. James and Winnipeg, to join the C.N.R. main line near the west junction of the Harte and Gladstone Subdivisions.

It is proposed that traffic on this line through Brooklands, St. James and South Winnipeg be re-routed in one of several ways on the C.P.R. La Riviere Subdivision and/or Midland Railway. Suggested plans for re-routing are:

Plan A. Plan A, requiring complete removal of approximately 5.5 miles of the line, from the point where it leaves the C.P.R. main line to its junction with the C.N.R. main line, would meet the needs of through traffic provided certain connections were made. An extension of the Oak Point Subdivision parallel to the C.P.R. main line for approximately 1.2 miles, with a connection to the Glenboro Subdivision and/or La Riviere Subdivision of the C.P.R., would be required to provide access to the C.P.R. or Midland lines. Another short connection would be required to transfer from the Glenboro Subdivision to the La Riviere Subdivision at some point north of Saskatchewan Avenue, unless the original connection was made to the La Riviere Subdivision.

Traffic could then either follow the La Riviere Subdivision to the C.N.R. main line, where another short connection would be required, or follow the La Riviere Subdivision across the Assiniboine River and transfer there to the Midland Railway line. No new

connection would be required by this latter route, since a connection between the Midland Railway and the C.N.R. main line already exists.

The above indicates possible routes for through traffic. Access would also have to be provided for traffic to and from the industrial spur lines now served by the Oak Point Subdivision.

Plan B. Plan B requires removal of a portion of the line approximately 0.8 miles in length, from the point where it turns south from the C.P.R. line to a point between Notre Dame and Bangor Avenues where the C.P.R. and C.N.R. spur lines connect, and of that portion approximately 2.3 miles long from Portage Avenue south to the point where it joins the C.N.R. main line.

It provides the same facilities for through traffic as does Plan A, but retains the Oak Point Subdivision from north of Bangor Avenue to Portage Avenue. Under Plan B, with the elimination of existing direct connections from the north and south to industry in this area, a connection about 1.2 miles in length would be required from the C.P.R. Glenboro Subdivision to the existing Oak Point Subdivision at Saskatchewan Avenue; and between the Oak Point Subdivision and the C.P.R. La Riviere Subdivision, possibly in the block just north of Sargent Avenue. In this latter connection, existing spur lines could be utilized to some extent.

Only Plan B has been shown on the Tentative Railway Plan, Plate 3. The suggested connection between the Oak Point and La Riviere Subdivisions is not indicated, since its best location will require more detailed study.

Under Plan B, present trackage could be used jointly by the C.N.R. and C.P.R., with the possibility of eliminating some present duplication of facilities in the area. All through traffic, and traffic moving south from the suggested connections, could follow the route outlined under Plan A, by way of the La Riviere Subdivision and/or Midland Railway to the C.N.R. main line.

Plan C. Plan C requires removal of that portion of the line, approximately 2.3 miles in length, south of Portage Avenue to the C.N.R. main line. It differs from Plan B in retaining the existing northerly connection through Brooklands. Connections joining the Glenboro or La Riviere Subdivisions at the C.N.R. main line, or joining the Glenboro Subdivision at Saskatchewan Avenue are not required under this plan. The various spur lines would not be used jointly and existing industry would continue to be served as at present. As in Plan B, however, some form of connection might be required, possibly north of Sargent Avenue to provide further access to the La Riviere Subdivision.

Disadvantages in the Use of the Oak Point Subdivision

That portion of the Oak Point Subdivision under consideration passes through areas of both industrial and residential development. Trackage through built-up industrial areas is required to serve industry located in this area, but trackage through residential areas serves no purpose other than to provide passage through the area. In the case of this portion of the Oak Point Subdivision, service provided by all trackage through residential areas is duplicated by other trackage nearby.

In residential areas, both north of Saskatchewan Avenue and south of Portage Avenue the railway is most undesirable and should be removed. The Village of Brooklands, located in the area north of Saskatchewan Avenue, is divided by the railway. The barrier thus formed is objectionable for the reasons discussed previously and, in this case, the undesirable features are emphasized by the operation of the railway through a school district. South of Portage Avenue, no industry is served by the railway and, except for the presence of the railway, the area itself is quite desirable for residential purposes. Again, the railway passes through a school district.

Plan B would overcome the situation completely, while Plan C would overcome it south of Portage Avenue.



## AIR TRANSPORTATION

HISTORY OF FLYING IN THE GREATER WINNIPEG AREA

The Oak Point Subdivision, from its turn south through Brooklands to its junction with the C.N.R. main line, crosses eight existing or proposed major thoroughfares and eighteen minor streets. Two of these minor streets have grade separations, passing under railway approaches. The remaining twenty-four major and minor street crossings are all at grade and are potential causes of traffic delays and hazards.

Plan B would eliminate six major and fourteen minor street crossings; and Plan C four major and five minor street crossings.

Of the three plans considered, Plan B provides the best practicable solution for overcoming all objectionable features, although it requires more connections and probably greater expenditures than Plan A or Plan C.

Active interest in flying in the Greater Winnipeg area dates back to World War I when the rapid development of civil aviation began. Early records show that airplanes had been operating in the area for some years before the war, and that the first known flight took place in 1911, from the Winnipeg Fair Grounds. The first hydroplane flight in the region was made from the Red River in 1913.

By 1919, the effect of wartime flying was becoming quite noticeable, in the form of commercial ventures, one of the earliest being the Aerial and Transport Taxi Company Limited, which was incorporated in December 1919. By May of the next year, four such companies existed. The first shipment of freight by air in the area was made by a plane flying from Winnipeg to Dauphin, on July 27, 1920. In 1925, Winnipeg was constituted a permanent R.C.A.F. base. Other developments followed, one of the most important being the incorporation of Western Canada Airways in 1926. This company set up a land plane base at Kirkfield Park on the Assiniboine River, and in the following year established a seaplane base on the Red River at Brandon Avenue.

A charter was obtained by the Canadian Pacific Railway from Parliament in March 1919 to own and operate aircraft within and without Canada. This action, probably more than anything else, centered the attention of the Government on the civil air industry, and in June 1919 brought about the passing of the Air Board Act regulating civil aeronautics.

The Manitoba Air Force Association, which was formed in 1926 by a group of war veterans, recommended the formation of a national Aviation League to promote and encourage aviation. Such a league was organized in Winnipeg in 1927, and when later in the same year the Dominion Government offered assistance to flying clubs, this league sponsored the Winnipeg Aeroplane Club, later called the Winnipeg Flying Club. Assistance to flying clubs was part of the Dominion Government policy to encourage interest in and knowledge of aviation and thus provide a reserve of trained flying personnel.

The Winnipeg Aeroplane Club carefully studied the Winnipeg area for a suitable training field, and finally approached the Municipality of St. James for lease of an area of 30 acres for the purpose. This lease was readily granted and, on May 24, 1928, official opening ceremonies were held on the original site of the now greatly expanded Stevenson Field. The field was named after Captain F. J. Stevenson of Winnipeg, a veteran of World War I and one of Manitoba's early bush pilots, who was killed in a crash at The Pas early in 1928.

A weekly air service from Minneapolis was inaugurated by Northwest Airlines in February 1928, but was terminated after a period of three months, to be started again three years later on a daily basis.

One of the first moves of commercial interests to Stevenson Field took place in 1929, when Western Canada Airways moved its land plane operations to the Field in preparation for fulfilling an airmail contract for the Dominion Government.

In 1929, Winnipeg was constituted one of four permanent bases in Canada for civil government air service, which included such flying as patrol and survey operations and was also constituted one of four permanent and non-permanent R.C.A.F. land bases in Canada. The civil government air service work was carried out for the Government by the R.C.A.F. which was maintained at this time on a peacetime basis, composed of Permanent and Non-Permanent branches. The Permanent Force, in addition to its purely military duties, was responsible for the development and conservation of natural resources, for the advance training of civilian pilots, and for the development of air routes. Prior to this, most of the patrol and survey work had been carried out from such bases as Victoria Beach (later



transferred to Lac du Bonnet), Norway House and Cormorant Lake

Experiments with shipments of mail, and letting contracts to private operators, especially in the north country where other services were inadequate were conducted by the Dominion Government, and surveys were made to set air routes connecting the principal centres of population. As a result, Stevenson Field was designated in 1929 as a suitable terminus for a western air mail circuit. The provision of adequate night lighting was stipulated as a condition to this decision. The Government offered to pay one half the cost, but even the balance was beyond the means of the Winnipeg Flying Club, then the sole operators of the Field.

The City of Winnipeg was approached, and agreed to contribute the necessary funds, as well as to provide a yearly sum to cover the cost of operating the lighting system. This transaction marked the first capital outlay in Stevenson Field by the City of Winnipeg and by the Dominion Government. Later, substantial investments in Stevenson Field by the Dominion Government were made as part of government policy to assist in the construction of municipal fields and to bring fields up to standard with the necessary night lighting and weather reporting facilities. This was done to permit establishment of a coast-to-coast airline, which was essential to national defence and important in the rapid development of civil aviation.

In 1930, the C.P.R. became actively associated with air development, when it subscribed jointly with the C.N.R. in a stock investment in Canadian Airways, the largest airline existing in Canada at that time

The Johanneson Flying Service started operations at Stevenson Field in 1932, as a flying training school with a general transportation business

An important development in the growth of Stevenson Field was the decision of military authorities to transfer to the field all local R.C.A.F. land plane operations. Following this decision, land was leased at the field in 1933, and the necessary buildings were erected. It was in this year that the 112th Auxiliary Air Force Squadron was organized. Previous to the move to Stevenson Field, much of the military flying had been by sea plane, based at the Brandon Avenue site on the Red River, but with the steady increase in the use of land planes the need for further accommodation became evident, and the move to a land plane base was necessary.

In 1936, the importance of civil air transportation was officially recognized when the military and civil functions in aviation administration were placed under separate departments of the Dominion Government. At this time, airports and airways became the responsibility of the Department of Transport, while the administration of military aviation remained under the Department of National Defence

In 1937, the C.P.R. was offered the opportunity of combining with the C.N.R. in the joint operation of a transcontinental airline. However, the terms were not satisfactory to the parties concerned, and the C.P.R. turned to other phases of airline operation.

In connection with Stevenson Field, an agreement was passed by the Winnipeg and St. James Councils on May 25, 1937, providing for a joint municipal airport, to be administered by the St. James - Winnipeg Airport Commission. The duties of the commission were to manage, operate, improve and extend the existing airport, and to construct, maintain, operate and manage new airports in addition to, or in extension of, the existing airport. The original 160-acre airport site had by this time been extended to 620 acres, and an additional 175 acres, turned over to the City of Winnipeg as a gift by the executors of the estate of Lady Strathcona and Mount Royal, became part of the new municipal airport.

In the same year, 1937, Trans-Canada Airway policy was developed to give the commercial operation of the Trans-Canada Airway to a public corporation. Under this phase of government policy, Trans-Canada Air Lines developed as a government-sponsored commercial enterprise, and Stevenson Field facilities were expanded to meet the requirements of large commercial transport planes. Larger and heavier aircraft to be used in the

Trans-Canada service required hard surfaced runways of greater length and strength than most of those existing at this time. At Stevenson Field, two hard surfaced runways were constructed and the lighting system was rearranged and extended, the cost being borne by the Dominion Government, the City of Winnipeg and the Municipality of St. James. In the ensuing four years, additional grants were made by the Dominion Government to assist development, apparently without similar contributions by other parties

With the outbreak of World War II came the need for greatly expanded facilities for the training of personnel and the assembling and servicing of aircraft. In 1940, Stevenson Field was turned over to the Dominion Government to operate during the war period plus three years. During this period, not yet terminated, the Government through several of its departments, invested some \$6.5 million for war purposes. The Dominion Government was not in a position to undertake the construction and operation of a major overhaul and repair base, and therefore made arrangements with certain engineering firms to conduct the work. Some \$2.8 million was spent for this purpose in the purchase of tools and equipment and in the construction of the necessary buildings. Such companies as Macdonald Bros. Aircraft, Mid-West Aircraft, Winnipeg Engine Overhaul, Standard Aero Engines and Canadian Airways (later Canadian Pacific Air Lines) participated in the work. Arrangements also included enlargement of the Trans-Canada Air Lines plant. While a good deal of the construction work carried out for military purposes was only temporary in nature, if left at the field by the Government at the end of its contract with the municipalities, it may prove an important asset.

Early in 1940, discussions were held between C.P.R. and government authorities regarding the possibilities of the C.P.R. assisting in the development of Atlantic air operations to provide essential Canada-Britain mail service, and to set up a ferry bomber service between the two countries. With administrative personnel originally recruited almost entirely from C.P.R. employees, the groundwork was laid, and on November 10, 1940, the first flight of Lockheed-Hudsons took off for Britain. This work was carried on and developed until August 1941, when it was turned over in full operation to the R.A.F. Ferry Command.

The official entry of the Canadian Pacific Railway into the field of large scale airline operation came in 1942, with the merger of ten privately owned air companies, operating in all parts of Canada, to form Canadian Pacific Air Lines. This merger resulted from the findings of a survey conducted by the C.P.R. in 1939, of the nation's privately owned airlines, and affected the following companies:

Arrow Airways	The Pas, Manitoba
Canadian Airways	Winnipeg, Manitoba
Dominion Skyways	Montreal, Quebec
Ginger Coote Airways	Vancouver, B.C.
Mackenzie Air Services	Edmonton, Alberta
Prairie Airways	Moose Jaw, Saskatchewan
Quebec Airways	Montreal, Quebec
Starratt Airways	Hudson, Ontario
Wings Limited	Winnipeg, Manitoba
Yukon Southern Air Transport	(Vancouver, B.C.)
	(Edmonton, Alberta)

In addition to its commercial operations, Canadian Pacific Air Lines operated six Air Observer Schools and one Elementary Flying Training School, and managed five aircraft overhaul and engine repair plants during the war years

The decision of the Dominion Government in 1945 that the major airlines should not be controlled by companies operating other forms of transportation, was another step in the development of Trans-Canada Airway policy. Under this policy, Trans-Canada Airlines, operating as a subsidiary of Canadian National Railways, would be given a separate organization with the share capital being held directly by the Government. Canadian Pacific Air Lines, the privately owned system operated by the Canadian Pacific Railway, would also have to be separated from its parent company and operate as a separate entity. Long distance trunk



lines and international lines would be reserved for Trans-Canada Airlines, but other feeder and short lines would be open to privately owned companies. Action on this decision was presumably to take place one year after the cessation of hostilities in Europe, but as far as Canadian Pacific Air Lines was concerned, action was postponed for one year. In August 1946, the Dominion Government announced a change in policy, under which C.P.A. would continue as at present, although it still would not be permitted to operate transcontinental lines.

The most recent attempted development in commercial flying in this area was made by the Graffo Flying Service. On July 1, 1946, this company leased from the City of Winnipeg, for a period of one year, an area of approximately 113 acres in the extreme north-west corner of the city, for the development of a minor airfield for flying training purposes. Due to the close proximity of this field to Stevenson Field and the disturbance to present and future development of the surrounding area, the City of Winnipeg, in September 1946, declined to extend this lease.

#### PRESENT AIRPORT FACILITIES

At the present time, Stevenson Field is the only airfield in operation as such in the Greater Winnipeg area. It is a municipal airport located in the Municipality of St. James in Greater Winnipeg, normally operated by the St. James - Winnipeg Airport Commission, but presently operated by the Dominion Government as a defence measure. Stevenson Field is a land plane base and major repair and overhaul centre. All other sites previously used for this purpose have been abandoned, with the possible exception of the Canadian Pacific Air Lines property on Brandon Avenue. This site, previously used as a waterplane base, repair plant and changeover shop for water and land planes, is presently used for storage purposes and for emergency landings. All present day land plane operations are carried out at Stevenson Field, with seaplane operations largely based at Lac du Bonnet.

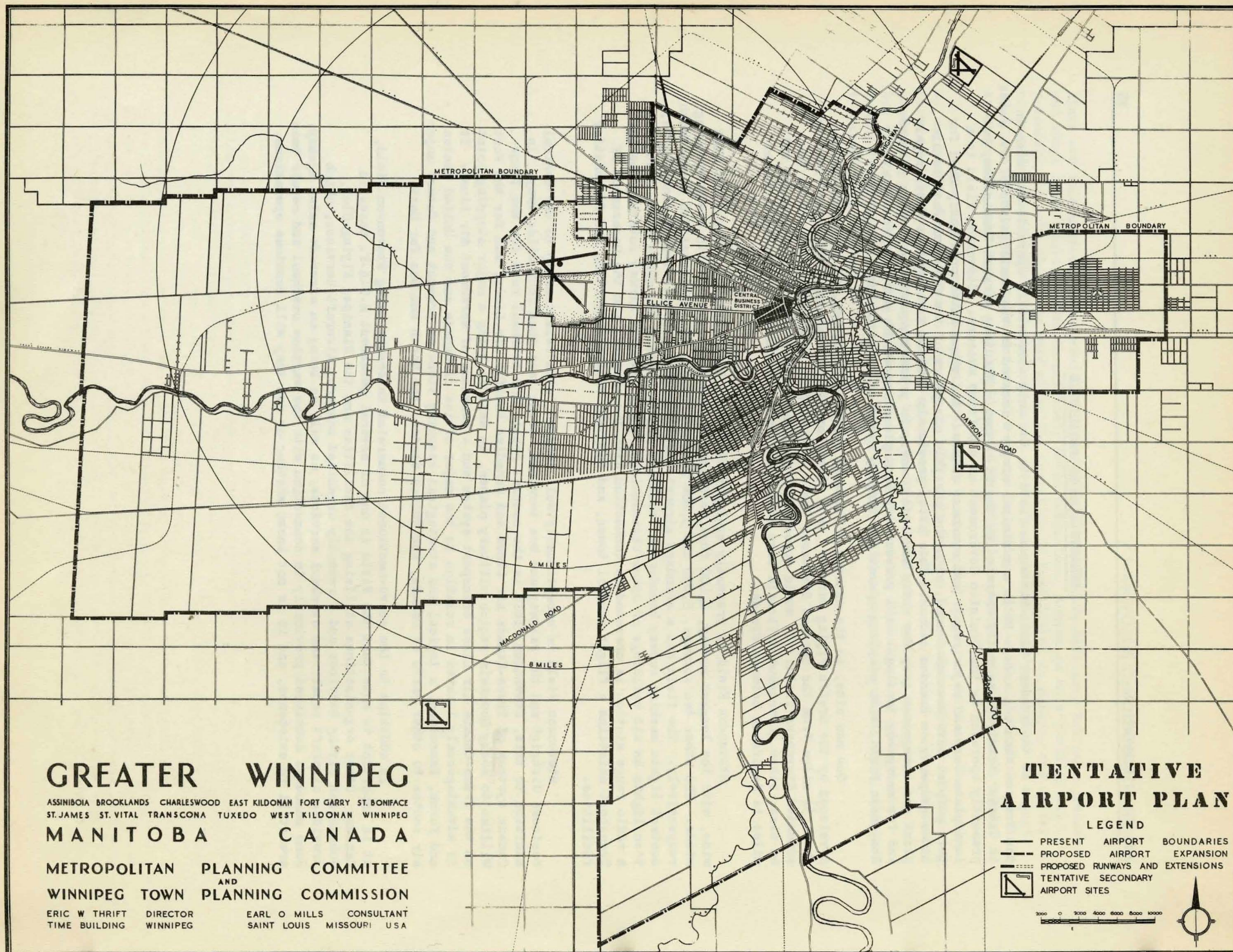
One new site, in the extreme north-west corner of Winnipeg, is presently being developed by the Graffo Flying Service, as a field for flying training. This new field is about  $3\frac{1}{2}$  miles from the present Stevenson Field, and will be considerably nearer to the extended Stevenson Field. It would appear that continued use of the new field might not be wise, since government officials have indicated that a distance of from eight to ten miles is desirable between fields.

Stevenson Field is presently equipped with three hard surfaced runways 150 feet wide, with the longest runway, 4,400 feet, oriented northwest-southeast with the prevailing winds. The other two runways, 3,650 and 3,400 feet in length, run east-west and north-south, respectively. The field has a standard airport lighting system, consisting of floodlights, contact lights marking runway boundaries, boundary lights marking the grass area, obstruction lights on all buildings or other obstructions, and a standard airway rotating beacon. A radio range station is operated in connection with the airport, and the Department of Transport maintains a flight control tower, and complete weather reporting and forecasting facilities.

Stevenson Field is exceptionally well located, with relationship to the central business district and the railway and bus terminal, being less than four miles away. In addition to this, Stevenson Field is the central repair and overhaul base for the Trans-Canada systems of Trans-Canada Air Lines and Canadian Pacific Air Lines, and for the Fort William to Rocky Mountain region military planes, as well as being a major stopping point on the Trans-Canada Air Lines transport system and a terminus of Northwest Air Lines. It is advantageously located in relation to the major cities of Canada and the United States and forms, therefore, a logical and strategical stepping stone on present and future major air routes to other parts of Canada, the United States, the North and the Far East.

In addition to the above-mentioned commercial interests using Stevenson Field, it is important to note that the Field is one of several permanent R.C.A.F. bases in Canada. Other organizations utilizing the facilities are the Winnipeg Flying Club, Johanneson Flying Services and a recently organized concern, Aircraft Services, which provides aircraft repair and overhaul services, as well as being an aircraft sales agency. Some concerns mentioned previously in connection with the wartime overhaul and repair base are still in existence, and it is not known whether or not they will continue operations.







FUTURE DEVELOPMENTSSTEVENSON FIELD

Much thought has been given to the future of aviation. Until the appearance of the atomic bomb, this was often referred to as the 'Air Age', principally due to the remarkable expansion and improvements in military and civil flying. This advancement is merely a beginning, as new discoveries every day are proving. World War II without doubt put great impetus into the forward movement in flying, and fostered and promoted intensive research and experimentation. The great strides made during the war may not be matched in the years to come in new discoveries, but the development of those already made will permit remarkable growth in private and commercial flying.

Stevenson Field is at present adequate for all the uses to which it is put, but recent developments indicate that it may become wholly inadequate for the use of commercial aircraft now planned, under construction, or in present use elsewhere, unless considerable modernization is effected. Trans-Canada Air Lines has recently ordered a number of large Douglas DC-4M transports. These four-engined aircraft will require minimum runways of 6,000 feet, while the longest runway at Stevenson Field is only 4,400 feet. This order by T.C.A. is an example of the trend towards larger planes, capable of carrying greater payloads. If Stevenson Field is to be a major stopping point on existing and future air routes, it is absolutely essential that it be extended, and be provided with modern terminal buildings and facilities.

Experts in airport use and design state that transport planes under construction and being designed will require runways 10,000 feet in length, with obstruction free flyways at the ends of all such runways. They further advise that planes of the future may require still longer runways, and they recommend that too much rather than too little land be provided for such a need.

The St. James - Winnipeg Airport Commission and T.C.A. engineers have made a thorough study of the problem of necessary expansion, and each has prepared and presented to the Dominion Government comprehensive plans for development of Stevenson Field. These plans are generally similar in runway dimensions, calling for three 10,000-foot double runways, with 2,500-foot unobstructed flyways at the ends of each runway. Construction of 6,000-foot runways would likely be the first step, with extension to 10,000 feet following later. The cost of the land required for this extension is reasonable at the present time, and it is strongly recommended that sufficient land be purchased at once to allow for possible expansion beyond the proposed 10,000-foot runways. It is advisable that this action be taken now, to avoid higher prices for land upon which improvements may be made for other purposes. This land, after purchase is made, may be leased for other uses until such time as it is required for airport purposes. Should future developments show that this land is not required, it could be sold outright at a later date, with little risk of financial loss and some possibility of reasonable profit.

Regardless of fine location and other favorable factors, a good percentage of commercial airline routes will be diverted elsewhere if the necessary facilities are not provided in Greater Winnipeg. Cities such as Minneapolis and St. Paul are making plans for airport modernization, and are striving to make their cities major bases on air routes. A joint airport is planned for these two cities, with an estimated expenditure of some \$16 million. If such plans are realized elsewhere, Stevenson Field and Winnipeg may well be by-passed and relegated to a position of secondary importance, with resulting loss of potential revenue and prestige.

The location of an airfield in or near a residential district creates objections which have a tendency to lower property values. This is not an unusual condition and, at least for the present, is one of the prices paid for adequate flying service. It may be possible, however, to mitigate these objectionable features somewhat. Since new runways will have to be built, existing runways are not of great future value, and as a result the location of new runways will not be greatly influenced by those already existing.



One of the existing runways at Stevenson Field is being extended at the present time. It is important, however, that further development of the runways follow a preconceived plan, in order that the future layout of the airport site may satisfy all needs through proper location of runways, terminals and facilities. It is therefore recommended that every effort be made to locate new runways both north and west of the area occupied by the existing runways, to enable planes to reach a higher altitude before passing over the urban parts of St. James and Winnipeg.

Another highly desirable end would be achieved by such a move, in that the extension of a major thoroughfare, Ellice Avenue, could be made without the detour around the south part of Stevenson Field, at present indicated on the Tentative Major Thoroughfare Plan. It is also desirable to have a through secondary street in the vicinity of the easterly field boundary. Movement of runways westward would permit running a north-south street through from Portage Avenue at some point approximately midway between the two major streets, Conway and Madison.

It may be contended that any move such as is here proposed, would entail enormous loss due to the present location of many buildings in the area at the south and east part of the airport. It should be realized, however, that most of the buildings concerned, particularly in the south, are temporary wartime structures, and that all new permanent structures would be located farther north, near the centre of future operations. Many of the present permanent buildings in this area will also be inadequate when future operations develop involving the use of large aircraft presently on order. If the runway system is constructed farther north and west, these buildings could then be put to other use, possibly but not necessarily connected with airport operation. Furthermore, this would make it unnecessary to place such rigid height regulations on adjacent privately owned property, in accordance with Department of Transport requirements. It would largely preclude the possibility of litigation against the airport development which might come from owners who considered their property to be adversely affected by these restrictions.

The following are some of the most important potential uses of Stevenson Field, many of which are already present at the Field and will be extended with any increase in flying.

- Military Flying for Department of National Defense
- Passenger Transportation
- Mail Transportation
- Freight or Express Transportation
- Aircraft Servicing
- Aircraft Testing, Repair and Major Overhaul
- Aircraft Storage
- Flying Instruction
- Private Flying (Pleasure and Business)
- Sight-Seeing and Air Taxi Service
- Charter Service
- Surveys and Exploration
- Aerial Photography and Mapping
- Fishery and Forestry Patrol
- Aircraft and Parts Sales

Interested groups at Stevenson Field are of the general opinion that Stevenson Field is adequate for its present uses, and with contemplated changes, will serve the needs of the larger transport planes now on order. However, these groups also feel that there will be a considerable increase in private flying, and that at some time in the near future, it might be necessary to segregate some of the varied types of flying, such as flying instruction, private flying, sight-seeing and air taxi service and charter service, in order to eliminate congestion and unsafe operating conditions. This would undoubtedly mean that the small light type of aircraft will be forced to find other accommodation. It is impossible to state if or when congestion will be sufficient to make separation of flying services necessary, but it is a very definite possibility for the future, especially if Winnipeg is selected as a stopping point on major air routes at present under consideration.

#### SECONDARY AIRPORTS AND SITES

In some of the larger centres of population in the United States, airport congestion has developed into a very pressing problem, so pressing that use of some major airports has been restricted to certain classes of traffic. New York, Chicago, Los Angeles and Cleveland are examples of cities which have experienced such growth in passenger, freight and mail air traffic, that other types of aviation have been barred from the major fields.

That this growth and traffic congestion will increase many times over is a view held by most persons familiar with past and present developments. Some experts estimate that by 1950, passenger traffic will be approximately seven times that of 1940, and air mail letters only) will be as much as nine times that of 1940.\* Commodity traffic (air express, freight and parcel post) is more difficult to estimate, since rates in 1940 were quite high, and did not create as much demand for air service as did other traffic. A great expansion is expected, however, in this phase too, probably in combination with passenger service.

It would appear that private flying will expand to the greatest degree, particularly in the use of small light aircraft. It has been estimated that, in the United States, three years after hostilities cease, there will be 300,000 civilian aircraft, of which only 3,000 will be used in scheduled air line operations.\* This particular estimate, based upon a variety of factors which will not be detailed here, works out approximately to one machine per 400 persons. On this basis, Greater Winnipeg would have a potential of some 750 machines. It is fairly obvious that this figure is excessive for Winnipeg in the near future, but it does show what is expected elsewhere, and indicates that some large increase can be expected here.

Actual traffic density in the post-war years has been estimated by many persons, with estimates varying from one plane per hundred persons to one per thousand persons. No accurate prediction can be made at the present time, due to the many and varied factors influencing development, but it is fairly certain that the increase will be considerable. This increase will greatly influence congestion at existing airports, will necessitate the separation of flying services at some fields, and will require the construction of additional airports. Eventually, an integrated system of airports may be developed in a locality, with each field serving a specific need or service in the community.

In Greater Winnipeg, the movement of the small, light type of aircraft away from Stevenson Field does not meet with the disfavor that might be expected. While Stevenson Field is presently well equipped with good runways, it is of importance to note that few of the facilities provided there are necessary or even desirable for the small type of aircraft. Essentially, all that is required for such machines are sodded landing strips of adequate width and length, and a wind direction indicator. The hard surfaced runways at Stevenson Field are only used by small planes upon rare occasions and the strict regulation by the control tower of all landings and take-offs at the field proves a hindrance to this type of flying.

Since complete control of all flying is essential at any large base, it is necessary to make non-scheduled flights fit the pattern set by scheduled air line flights. Small aircraft must necessarily be held on the ground or kept in the air, pending the landing and/or take-off of other planes, and much time is therefore wasted, awaiting approval of movements. Additional time is also lost during slack periods of transport operation, by small aircraft not equipped with radio. Whenever possible, communication between control tower and aircraft is carried out by radio, but it sometimes happens that time is wasted in machines not so equipped while attempting to attract the attention of the control tower either from the ground or from the air.

\*Source: 'Airport Planning for Urban Areas', published by the U.S. Department of Commerce, Civil Aeronautics Administration, 1945.



Because of the existence of so many flying restrictions, essential to air transport operation at a large airfield, few pilots of small aircraft would use such fields if other fields with fewer restrictions were available. For small aircraft operation, actual flying time is presently restricted to the daylight hours, and for some operators, flying is restricted to such periods of time as may be available after work and on Sundays and holidays. With the additional restrictions which are necessary at major airports, very little actual flying time is left. Should any marked increase in the number of private fliers take place, the amount of flying time left for each flier would be so small that many would not be able to continue flying. Therefore, from the point of view of the small plane operator, a move to a small plane field, designed for the purpose, would be logical and highly desirable.

One operator at Stevenson Field stated that he would move at once if some other adequate field was made available. Undoubtedly more people would fly if separate facilities were provided and operating restrictions were cut to a minimum consistent with safety.

It would, therefore, seem advisable at this time to consider what potential sites exist, which could at some time be utilized for small plane operation. Possible sites proposed by the Metropolitan Plan - Greater Winnipeg are indicated on Plate 4. Authorities have varying opinions as to the actual number of planes which will use such facilities, but this would not affect the basic requirements, since they are the same for one or more planes, and it is therefore possible to plan for one or more fields without knowing actual future densities. At the time of actual design and construction, however, density figures will be important.

As previously mentioned, a small light airplane can land almost anywhere that a fairly smooth strip of land is provided, but there are many refinements to this first requirement, and many other conditions which will help to make a successful venture of such accommodation. Such additional features may be discussed under the following headings, and while they do not cover all aspects of location determination, they do give sufficient information for planning purposes. In addition, these headings may be assigned weight factors, for use in comparing two or more potential sites. The weights indicated were suggested as average values in the United States and might have to be altered somewhat due to existing conditions in this vicinity.

Item	Weight Factor*
1 Topography	10
2 Physical Features	14
3 Meteorology	14
4. Location with respect to community and neighborhood	10
5 Transportation Facilities	11
6. Accessibility	11
7. Legislative Control	5
8 Utilities at or near site	5
9. Cost	10
10. Miscellaneous	10
Total	100

#### 1 Topography

Both the actual site and the immediate surrounding territory should be considered. Streams, railways, highways, and the like, act as landmarks and assist pilots to locate a field. Hills and generally rough country make for difficult landings and take-offs and tend to cause 'bumpy air'. The actual site should be level, or such that it can be made level inexpensively. It is advantageous to have surrounding country slope downwards away from the site.

\*Source: Local Planning Administration', published by the International City Managers Association, 1941

## 2. Physical Features

The area must be large enough for the proposed use, and should provide for parking and storage of planes as well as for future extension. Sites approaching a circle or square in shape are considered most desirable, since they permit multi-directional landing strips. The site should have good drainage, with top soil suitable for production of good sod, and sub-soil adequate for support of buildings and possible future hard surfaced runways. The presence of water storage tanks, high tension wires, high buildings and other projecting structures should be avoided, since they make for difficult landing and take-off conditions and constitute distinct safety hazards. The field should be so oriented that the longest runway may be located in the direction of the prevailing wind. Buildings should be located to leeward, or to one side of such a runway.

## 3 Meteorology

Meteorological conditions are of less importance to private flying than to commercial flying, since non-scheduled flights can generally be arranged to suit conditions. However, certain features are of special note. Fog and shifting winds cause considerable trouble, as do snow drifts, dust and smoke. Fields should not be located to leeward of manufacturing districts, or in areas where soil is light or sandy. Rugged terrain and high buildings cause objectionable air currents and should be avoided where possible.

## 4. Community and Neighborhood

Present and future use of the neighborhood should be considered, since it is likely to affect the usefulness and efficiency of the airport. Tall structures interfere with clear approaches and reduce both number of available sites and useable area of sites. Residential, potential residential, and agricultural areas usually prove the best locations, but airport activities often prove objectionable for some distance from the field. These objectionable features include noise (which can be reduced with future plane improvements), dust (which can be controlled), night lighting (which is unlikely in a private field), danger to life and property (which, according to U.S. government publications, is a negligible feature in actual experience), street traffic congestion (which can be controlled by adequate planning for major fields, and which is not applicable to small private fields, since they are not likely to be within heavily built-up areas). It is claimed that these objectionable features tend to depress values, especially land values. Many of the objectionable features are highly debatable, but the net result at many airports has been a lowering of land values. This feature should be thoroughly examined.

Although at the present time most civilian pilots in training in this area are in the low income bracket, it is generally assumed that persons in the higher income brackets are those who buy aircraft and do more flying. It is therefore assumed that private fields should be located near the homes of those who do the flying, and it would seem advisable to determine more accurately, for this area, the location of the homes of potential flyers.

It is generally understood to be desirable to locate fields on the side of the city from which most aircraft will approach, to avoid extensive and low flying over built-up sections of the city.

Recreational facilities, while not essential to private airports, are desirable features and could be factors in the success of a field. Such facilities could include golf and tennis at any site, and swimming, boating and fishing where water facilities are at hand.

## 5. Transportation Facilities

Coordination of large airports with the major thoroughfare plan, the transit plan and the railway plan is essential. In the case of small fields, the above is desirable but not essential. It is necessary, however, that these minor fields be well served by highway and that adequate bus service be available. Without such service, the field is not likely to succeed.



## 6. Accessibility

Airfields must be close to the city, and easily reached. At the present time the airplane has no advantage over automobile and bus for short trips up to sixty miles, and little advantage up to one hundred miles. Thus, for flying to have any advantage over these other forms of transportation, it is essential that unnecessary time loss be eliminated. Moving to and from the airfield is the main cause of lost time. For private fliers not contemplating trips, but planning on taking training or indulging in pleasure flying, time is also an important factor.

## 7 Legislative Control

Under this heading should be considered police protection, fire protection, sanitary regulations, safety measures, building code requirements, and zoning.

## 8. Utilities

Water, sewerage, electric power, telephone and telegraph are essential features at any major airport, and are desirable at a small field. Some source of water is essential if only for purposes of fire protection. The availability of these utilities, and the cost of actually bringing them to the field, will affect site location to a marked degree.

## 9. Cost

While the actual cost of a basic grass plot satisfactory for landing and take-off purposes may be a minor item, consideration should be given to all possible factors affecting cost, working on the assumption that the field may develop at some time in the future to a busy field, possibly paying for its own operating and maintenance costs. These factors should include the cost of:

- Land;
- Development by grading, leveling, surfacing, draining and possibly landscaping;
- Bringing utilities to the field;
- Removing hazards and obstructions;
- Providing transportation;
- Financing; and
- Miscellaneous construction and development.

Comparative future revenues should also be considered, since it has been demonstrated throughout the world that very few airports have produced sufficient revenue to pay for operating and maintenance costs. It would appear advisable to investigate the possibilities in this regard in great detail, in order that any steps which could ease the burden as the field develops could be ascertained. Large airports are considering such auxiliary enterprises as restaurants, coffee shops, car parking, sale of gas and oil, storage of aircraft and recreational facilities, in addition to other sources of revenue normally available for airport operation. However, for small fields, few of these sources would be available. Possible sources of revenue exist in aircraft rentals, in the utilization of unused portions of fields for agricultural purposes, and in the provision of recreational facilities. Some other sources would likely be discovered upon investigation of the particular site chosen.

## 10. Miscellaneous

Problems to be discussed under this heading are of a more indefinite nature, often determined by actual site location. Such considerations as attitude of the public, publicity and the like, should be included here.

In addition to the features previously discussed, it must be noted that certain government regulations in regard to airport location must be met, and in meeting these regulations very definite restrictions are placed upon the areas available as potential sites.

The most important of these is the general policy of providing an air traffic pattern or zone around each airport to permit free maneuvering of aircraft in the air prior to landing or shortly after taking off. This has not been of particular importance in the past, but is becoming more so with the use of modern multi-engined transports requiring fairly wide turning radii. Present indications are that a four to five mile radius will be required. This would indicate that no two fields could be closer than eight to ten miles apart, measured centre to centre of fields.

In the United States, similar though less stringent regulations are outlined by the Civil Aeronautics Administration, with the turning radius assigned to minor fields being set at two miles and to major fields at four miles. This makes the distance between a major and minor field six miles, and between two minors, four miles. Leniency in such regulations makes possible the location of more fields considerably closer to the city.

Local government officials have indicated that such leniency would be in order in Canada in the case of 'airparks'. However, it would have to be definitely understood that the particular field or fields for which the regulations were eased, would be restricted from expanding beyond certain fixed limits, in order that danger of collision would not be permitted to develop. In any case, complete proposals would have to be presented to the proper officials, and receive their approval before any action could be taken.

A further restriction concerns the location of airfields on the path of major air routes. Should a minor field, catering to small aircraft, with a relatively low ceiling, be placed near the centre of a route between two cities, say 300 miles apart, no objection would likely be raised, since the transports would be at the top of their flight and well above the ceiling of the small aircraft. However, in the immediate vicinity of a stopping point on an air route, transports fly at a considerably lower level, and the ceiling of small planes might have to be fixed at a very low point, say 1,000 feet. It would be better to locate these fields a mile or two to one side of such major air routes and permit unlimited ceilings. This, of course, would not apply over cities where aircraft must fly sufficiently high to permit gliding to a landing field in the event of engine failure.

## AIRPARK SITE DEVELOPMENT

The foregoing has indicated in some detail a few of the many aspects of site location, which is the prime consideration of the town planner. Some remarks were also made in regard to features which might be required in a field which developed beyond the single landing strip. It might also be of interest to outline a few of the basic features of the actual airpark.

Airparks should be in the form of country clubs, in outlying areas, and not in the heart of quiet, residential neighborhoods. The simplest type of field or park consists of a sodded landing strip, preferably running in the direction of the prevailing winds, and having dimensions approximately 2,500 by 300 feet. A wind-sock or wind direction indicator provides the only other basic requirement. Such a field would be sufficient to permit two directional landings and take-offs. In the case of a seaplane base, only a wind-sock would be required. As the need for additional facilities was felt, a hangar, fuel supply and auto parking space could be added. It is of prime importance that facilities be added only as required, since some facilities may never be required, and their provision costs money, which may not be easily obtained for an airfield in its infancy.

As the need for expansion and better flying facilities grows, more landing strips may be added. The basic strip may be extended to form 'X', 'L' or 'T' shapes, depending on the shape of the space available. Such landing strips permit four directional landings and take-offs. With the extension of the single strip to provide multi-directional landings and take-offs, all corners of landing strip intersections should be plainly marked. A north direction marker should also be provided at some time. It might be noted that the fewer the landing strips available, the wider they should be - 300 feet is recommended for single strips.



The recommended pattern of runways sufficient for small fields is a triangular one which permits six-directional landings and take-offs. Additional strips provide still better conditions, but are seldom if ever found or required for fields catering to small, light aircraft.

#### SEAPLANE SITES

It has been said that any city on a river, lake or ocean bay can have a seaplane base. Such a statement is probably true enough, but the important thing is whether or not there is a need or desire for such a base.

As far as large scale commercial operations are concerned, no great need can be shown for such operations in southern Manitoba. In the north country, however, nearly all flying is done in pontoon or ski-equipped planes. It is quite possible, however, that if a base could be set up in the Winnipeg district, the movement of freight and passengers to and from the north would be greatly facilitated. At the present time, the mining country is served partially by planes based at Lac du Bonnet, and partially by planes loading and unloading at the end of rail, bus and truck lines. A seaplane site at Winnipeg might permit cheaper and faster movement of passengers and certain articles of freight from the Winnipeg area, since at the present time they must first be sent to Lac du Bonnet, or other water-land base to obtain service. A desire for such a base has been expressed locally, and the possibility should be considered, especially in conjunction with a land base.

Pontoon-equipped planes requiring overhaul are at present forced to fly to a combination land-sea base where they can change from pontoons to wheels. They can then fly to Stevenson Field for the necessary overhaul. A combination land-sea base in the Winnipeg area might be advantageous in this respect. Such a base previously existed on the Red River at Brandon Avenue, and was used largely for seaplane repair and changeover from pontoons to wheels and vice versa. Due to its location in a built-up area, and to the fact that a certain number of river craft operated up and down the river near the base, its use was restricted.

As far as private flying is concerned, prospects of a land-sea base close at hand should be very interesting. Flying for business and pleasure could be extended to include trips to all lakes large enough for landings and take-offs. Sportsmen should be especially in favor of such a base, since it would save much valuable time and provide access to many lakes at present impossible to reach in the time usually available. Emergency use could also be made of such a base.

#### RECOMMENDATIONS

The following is a summary of recommendations made with respect to the development of air transportation in Greater Winnipeg.

##### 1 Location of Airport and Runways

It is recommended that the general area of the major airport, Stevenson Field, and the location of future runways be moved north and west. It is understood that negotiations with the Dominion Government are in progress, for the fixing of boundaries, location of runways, dimensions and similar details. There are two reasons for this recommendation.

(a) Present runways are located so that all incoming and outgoing aircraft fly at a low altitude over urban development in Winnipeg and St. James, thereby creating an objectionable condition and depressing property values. The suggested location would cause aircraft to fly at a higher altitude over urban areas, with resulting decrease in the objections to the airport. It would further cause less restriction of the use of surrounding property through height regulations.

(b) The proposed major thoroughfare, Ellice Avenue, must be diverted at Stevenson Field, and through traffic must detour around the southern boundary of the field. Movement of the field northward would make it possible to extend Ellice Avenue westward without creating a diversion. Movement of the field westward would make it possible to locate a north-south secondary thoroughfare between the proposed major thoroughfares, Conway Street and Madison Street.

Implementation of this recommendation would require removal of the existing railway line north of the present boundary of Stevenson Field. A new track is now being laid farther west to connect with the C.P.R. Main Line at the Woodman Junction.

##### 2 Early Action on Development

It is recommended that early action be taken on the development of Stevenson Field extensions. While Greater Winnipeg and Stevenson Field, in particular, are strategically located in regard to present and future major air routes, other centres are proceeding rapidly with their plans for airport modernization. Unless there is early action, the Stevenson Field development and airline routes may well be diverted to these other centres with the result that Winnipeg's airport may become a rather minor field, which could not provide the air service for Greater Winnipeg of a good, major airport.

##### 3 Modern Facilities

It is recommended that plans be prepared to provide the necessary modern terminal buildings and facilities. It is recognized that existing buildings are inadequate for present uses, and are rapidly becoming obsolete. Therefore, in order to provide adequate facilities at the field, detailed study should be given to the requirements of the airport buildings.

##### 4. Acquisition of Land

It is recommended that the land necessary for the extension and development of Stevenson Field be acquired as soon as possible, and that sufficient land be obtained for all possible developments. Land prices are not excessive at present, and while all of it may not be required in the very near future, it may save a great deal in land costs, if all the necessary land for future development is secured at the present time. Such land as is not required immediately can be leased for other uses in the meantime.

##### 5. Secondary Airport Sites

It is recommended that secondary airport sites should be selected and, where possible, set aside for this purpose. It is recognized that rapid development of flying



may cause removal from Stevenson Field of what are considered some of the minor activities. This would mean the establishment of minor or secondary airfields. Several possible sites should be agreed upon as soon as possible, and the services of qualified airport authorities should be secured to review proposals and further investigate the whole Greater Winnipeg area and its airport problems, in order to secure the best possible plan for the development of flying facilities in this area.

#### 6. Improved Service to the United States

It is recommended that the present schedule of flights be reviewed in an effort to improve connections with flights from such points as Minneapolis to other points in the United States. Improved schedules would encourage travellers from the south, who are at present unable to reach Greater Winnipeg without making unduly long stop-overs en route.

## WATER TRANSPORTATION

Water transportation in Greater Winnipeg at the present time is not of major importance, largely because of the short shipping season, and also because of the competition provided by the railways and by motor bus and trucking concerns which operate throughout the year. Water traffic is largely unscheduled freighting to and from points on Lake Winnipeg, and is restricted to the period between the middle of May and the end of October.

During this period, some ten boats operate to and from fisheries, lumber mills, mines and similar points, carrying miscellaneous freight. Two of the ten boats also carry passengers, although only one could be considered an excursion boat. During 1945, approximately 9,100 tons of freight were transported.

In addition to these, one small boat operates on short evening excursion trips from Kildonan Park, and eighteen privately owned pleasure craft are licensed to operate in the area.

The regulation of the use of the navigable waters in this area is governed by the by-laws of the Winnipeg and St. Boniface Harbour Commission. This commission administers the by-laws, and supervises the district included within the municipal boundaries of the cities of Winnipeg and St. Boniface, and the municipalities of East and West Kildonan.

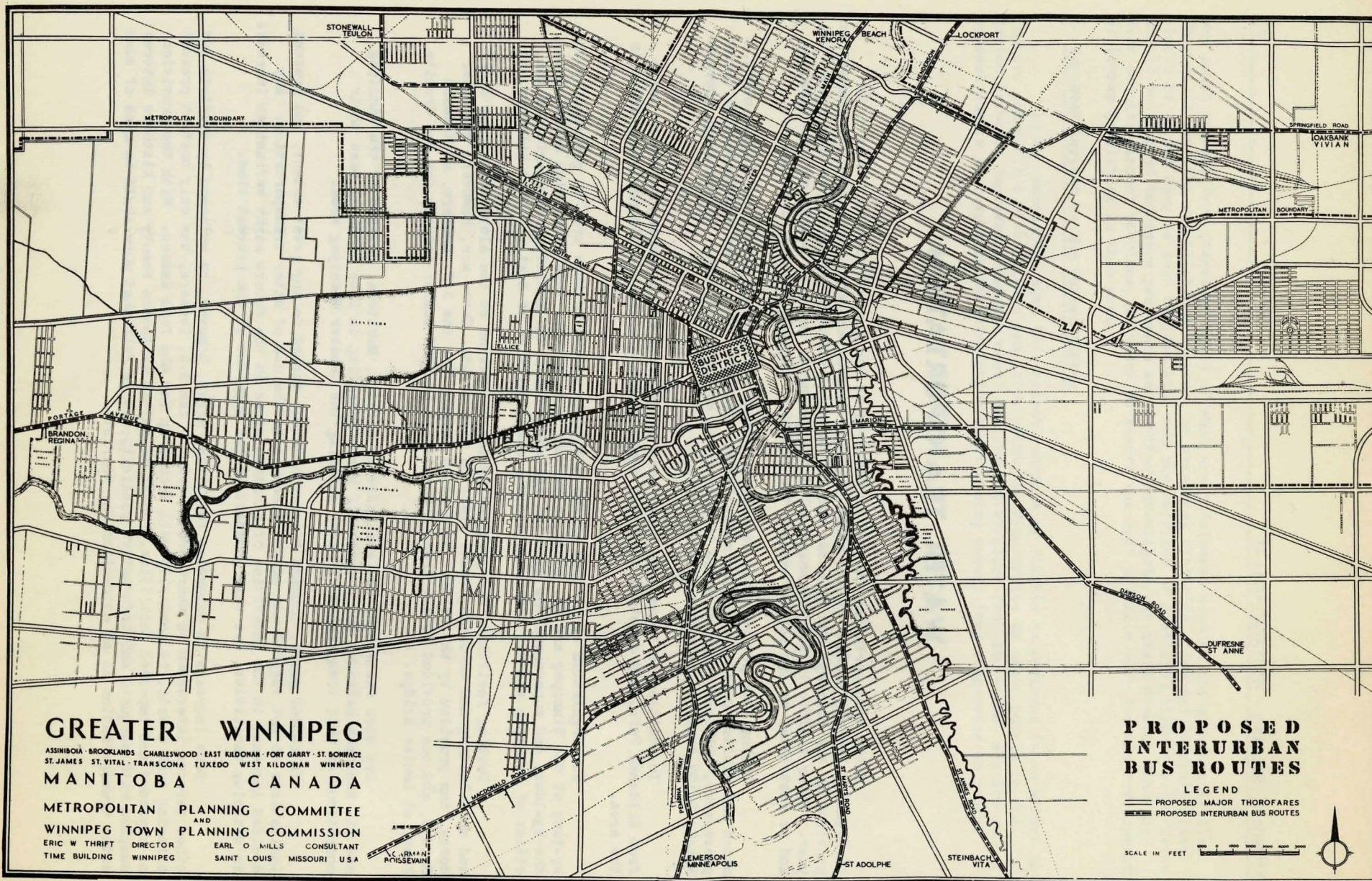
Docking facilities are provided by the Commission at the Alexander Street dock, and most loading and unloading takes place at this point. There are, however, two other docks, one provided by the Selkirk Navigation Company for the S.S. Keenora, at Redwood Bridge, and one provided by the Brown & Rutherford Limited lumber company for the Granite Rock, at Louise Bridge.

Dry dock facilities are available at Selkirk, Manitoba, outside of the Winnipeg and St. Boniface harbour, and a number of boats operating on Lake Winnipeg base their operations at this town, seldom if ever entering the Greater Winnipeg area.

In recent years, tonnage figures have not varied to any great extent, and present indications do not suggest any marked increase in the use of water transportation. Any decided increase in the activities of Manitoba mines in the future might warrant an increase in shipping facilities, but this prospect is not apparent at the present time.

Some increase in excursion facilities might, however, be welcomed by tourists and other persons interested in short scenic trips. The S.S. Keenora, the only boat at present offering such a trip, is generally well booked up for the full season. With the provision of expanded and improved facilities, routed to points of scenic beauty and historic interest coupled with adequate and informative publicity, it is felt that more could be made of such water transportation as an attraction for tourists.







# MOTOR BUS TRANSPORTATION

## EXISTING FACILITIES

Plate 5 shows the distribution of inter-urban motor bus routes through the metropolitan area, and indicates the present extent of the inter-urban bus connections from Greater Winnipeg to other areas. There are at present twelve individual bus companies operating scheduled bus lines between Greater Winnipeg and points both inside and outside the province. Of these twelve companies, four operate two or more separate routes. The present and proposed routes of these lines through the metropolitan area are shown on the Inter-Urban Motor Bus Transportation table.

All twelve bus lines base their Manitoba operations at the Graham Avenue bus depot, which is operated by the Manitoba Bus Terminals. In addition, other stops are made by some buses in or near the business district, for the purpose of loading and unloading passengers and baggage. These stops include the Euclid bus depot on Main Street near the public market, the Frontenac Hotel on Notre Dame Avenue East, and the Tourist Hotel on Provencher Avenue in St. Boniface.

The main bus depot on Graham Avenue is too small and is poorly located in relation to the street system. Access is at present difficult, by way of narrow, congested streets. The depot is located on a portion of a large lot used by the T. Eaton Co. Ltd. for customer parking purposes, and due to the heavy use of this parking lot, the streets bordering the depot are particularly congested, and the depot itself is used as a general waiting room and meeting place. Graham Avenue, upon which the depot faces, is presently used to a great extent by transit motor buses. The depot concourse is very narrow, and is frequently filled with people waiting for transit and inter-urban buses. The result is congestion and general inconvenience and delay.

Loading facilities at this depot are presently insufficient and the bus turning area at the rear of the depot is complicated by the entrance and exit of buses from both Hargrave and Carlton Streets.

Passage of buses through the metropolitan area is in some cases over major or proposed major thoroughfares, but is often over minor and even residential streets. Due to the location of secondary bus depots, routing of buses is sometimes rather circuitous, and movements are not as free as would be desirable.

Bus depot officials indicate that franchises for bus lines have been obtained and the routes put into operation to all areas presently offering sufficient traffic volume to justify service. It would seem, however, that with normal expansion and growth, and with improved highway facilities and publicity, more routes might be developed to advantage.

Present equipment of nearly all bus companies is inadequate, and new equipment difficult to obtain. It is felt that conditions will improve and that equipment shortcomings will be rectified and services improved as the materials problem is relieved.

## RECOMMENDATIONS

Plans should be made for the construction of a new, modern bus terminal, designed to fit the needs of present and future inter-urban transportation. The new site chosen should be in a less congested area, although close to the business district, with convenient connections to the airport and railway terminals. Sufficient space should be provided for off-street loading and unloading, auxiliary facilities, and necessary future expansion. The site should offer easy access to two or more major streets, and good transit service should be available within easy walking distance.

The present bus depot is being enlarged and improved, with construction at present under way. While the alterations will undoubtedly improve present conditions considerably, the present site is not good, and the bus depot should be considered as a temporary expedient.



only, to be replaced in the near future by a more adequate and modern terminal, more suitably located.

Present bus routes should be adjusted to fit the major thorofare pattern, and after the depot alterations have been completed and pending the construction of a modern terminal, all buses should enter the loading area from Hargrave Street, and leave by Carlton Street. All inter-urban bus traffic should be removed from congested Graham Avenue, and should follow a major thorofare, preferably St. Mary Avenue

As far as is possible, consistent with convenience and good service, every effort should be made to minimize the use of secondary depots and concentrate loading and unloading operations at the main bus depot.

Future routing of inter-urban buses should be studied, and improved highways related to major thoroughfares should be provided.

Every effort should be made to improve buses or replace them with modern carriers

The present good relations between the transit and transportation companies is commendable, and it is advocated that this spirit of cooperation be fostered.

## INTER-URBAN MOTOR BUS TRANSPORTATION

PRESENT AND PROPOSED TRANSPORTATION ROUTES THROUGH METROPOLITAN AREA

BUS LINE	DESTINATION	SCHEDULED TRIPS	PRESENT ROUTE		PROPOSED ROUTE		ROUTE MILES			
			Outbound	Inbound	Outbound	Inbound	Present		Proposed	
1. BEAVER BUS LINE	1) Stonewall 2) St. Adolphe	2 Daily 3 Wed. 4 Sat. 4 Sun.	Carlton, Cumberland, Edmonton, Notre Dame, Keewatin, Logan, Rosser Road, #7 Highway	#7 Highway, Rosser Road, Logan, Keewatin, Notre Dame, Hargrave	Carlton, St. Mary, Memorial Blvd., Colony, Balmoral, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway	#7 Highway, Rosser Road, Logan, McPhillips, Notre Dame, Balmoral, Colony, Memorial Blvd., St. Mary, Hargrave	4.5	4.5	4.9	4.9
		2 Daily 3 Thurs. 4 Sat.	Carlton, Graham, Main, Water, Tache, St. Mary's Road	St. Mary's Road, Tache, Water, Main, Graham, Hargrave	Carlton, St. Mary, Main, St. Mary's Road	St. Mary's Road, Main, St. Mary, Hargrave	12.0	12.0	11.6	11.5
2. EAGLE BUS LINES	Sta. Anne Hadsashville	1 Daily 2 Sat. 2 Sun.	Carlton, Graham, Main, Notre Dame East, Provencur, (Tourist Hotel), Rue Aulneau, Cathedral, Des Neurons, Marion, Dawson Road	Dawson Road, Marion, Tache, (St. Boniface Hospital), Notre Dame East, Main, Graham, Hargrave	Carlton, St. Mary, Main, Marion, Dawson Road	Dawson Road, Marion, Main, St. Mary, Hargrave	11.9	11.7	11.4	11.4
3. EASTERN BUS LINES	Basilridge Morris Cloverleaf	Daily 2 Sat. to Oakbank Highway	Carlton, Graham, Main, (Euclid Station), Redwood, Hespeler, Kelvin, Henderson Highway	Springfield Road, Henderson Highway, Kelvin, Hespeler, Redwood, Main, Graham, Hargrave	Carlton, St. Mary, Main, Rorie & connections, Disraeli, Kelvin, Henderson Highway	Henderson Highway, Kelvin, Disraeli, Rorie & connections, Main, St. Mary, Hargrave	5.0	4.9	4.4	4.3
4. GREY GOOSE BUS LINES	1) La Riviere Deloraine 2) Ninette Elgin 3) Vita 4) La Broquerie 5) Inwood Hodgson 6) Stonewall Teulon Arborg 7) Winnipeg Beach Gimli	2 Daily  Daily 2 Sat. Daily 2 Sat. Daily 2 Sat. 2 Sat. 2 Sat. 2 Sat. 2 Sat.	Carlton, St. Mary, Osborne, Pembina Highway, Clarence, #3 Highway Same as above Carlton, Graham, Main, Water, (Tourist Hotel), Tache, St. Mary's Road, St. Anne's Road Same as above Carlton, Cumberland, Edmonton, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway Same as above Carlton, Graham, Main, (Euclid Stn.) Selkirk Highway	#3 Highway, Clarence, Pembina Highway, Osborne, St. Mary, Hargrave Same as above St. Anne's Road, St. Mary's Road, Tache, Water, Main, Graham, Hargrave Same as above #7 Highway, Rosser Road, Logan, McPhillips, Notre Dame, Hargrave Selkirk Highway, Main, Graham, Hargrave	Carlton, St. Mary, Osborne, Pembina Highway, McGillivray, #3 Highway Same as above Carlton, St. Mary, Main, St. Mary's Road, St. Anne's Road Same as above Carlton, St. Mary, Memorial Blvd., Colony, Balmoral, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway Same as above Carlton, St. Mary, Main, Selkirk Highway	#3 Highway, McGillivray, Pembina Highway, Osborne, St. Mary, Hargrave Same as above St. Anne's Road, St. Mary's Road, Main, St. Mary, Hargrave Same as above #7 Highway, Rosser Road, Logan, McPhillips, Notre Dame, Balmoral, Colony, Memorial Blvd., St. Mary, Hargrave Same as above Selkirk Highway, Main, St. Mary, Hargrave	7.7 7.7 10.0 10.0 4.5 4.5 4.7	7.8 7.8 10.0 10.0 4.6 4.6 4.6	7.6 7.6 9.6 9.6 4.9 4.9 4.8	7.7 7.7 9.5 9.5 4.9 4.9 4.7
5. HEADINGLY BUS LINE	Headingley	2 Daily Sat. Nite Lido Plage	Carlton, Portage Ave., #1 Highway	#1 Highway, Portage Ave., Hargrave	Carlton, St. Mary, Portage Ave., #1 Highway	#1 Highway, Portage Ave., St. Mary, Hargrave	12.1	12.1	12.2	12.2
6. MOORE'S TAXI LIMITED	Whitemouth Kenora	Daily 2 Fri. 2 Sat.	Carlton, Graham, Main, Selkirk Highway	Selkirk Highway, Main, Graham, Hargrave	Carlton, St. Mary, Main, Selkirk Highway	Selkirk Highway, Main, St. Mary, Hargrave	4.7	4.6	4.8	4.7
7. NORTHERN MOTOR COACH	Beausejour, Gull Lake, Grand Beach	Daily	Carlton, Graham, Main, Selkirk Highway	Selkirk Highway, Main, Graham, Hargrave	Carlton, St. Mary, Main, Selkirk Highway	Selkirk Highway, Main, St. Mary, Hargrave	4.7	4.6	4.8	4.7
8. NORTHLAND GREYHOUND BUS LINES	Morris, Emerson, Fargo, Minneapolis	4 Daily	Carlton, St. Mary, Osborne, Pembina Highway	Pembina Highway, Osborne, St. Mary, Hargrave	Same as present outbound route	Same as present inbound route	10.9	10.9	10.9	10.9
9. RED RIVER MOTOR COACH	1) Lookport East Selkirk Libau 2) Beausejour Lac du Bonnet Pine Falls	Daily 2 Sun. Daily	Carlton, Graham, Main, Redwood, Hespeler, Kelvin, Henderson Highway Carlton, Graham, Main, Selkirk Highway	Henderson Highway, Kelvin, Hespeler, Redwood, Main, Graham, Hargrave Selkirk Highway, Main, Graham, Hargrave	Carlton, St. Mary, Main, Rorie & connections, Disraeli, Kelvin, Henderson Highway Carlton, St. Mary, Main, Selkirk Highway	Henderson Highway, Kelvin, Disraeli, Rorie & connections, Main, St. Mary, Hargrave Selkirk Highway, Main, St. Mary, Hargrave	5.0 4.7	4.9 4.6	4.4 4.8	4.3 4.7
10. STONY MOUNTAIN BUS LINE	Stony Mountain	2 Daily	Carlton, Cumberland, Edmonton, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway	#7 Highway, Rosser Road, Logan, McPhillips, Notre Dame, Hargrave	Carlton, St. Mary, Memorial Blvd., Colony, Balmoral, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway	#7 Highway, Rosser Road, Logan, McPhillips, Notre Dame, Balmoral, Colony, Memorial Blvd., St. Mary, Hargrave	4.5	4.6	4.9	4.9
11. STUART'S BUS LINE	1) Beausejour Lac du Bonnet Pine Falls 2) Lundar Erskdale Ashern	Daily Daily	Carlton, Graham, Main, Redwood, Hespeler, Kelvin, Henderson Highway Carlton, Portage, Colony, Balmoral, Notre Dame, McPhillips, Logan, #7 Highway	Henderson Highway, Kelvin, Hespeler, Redwood, Main, Graham, Hargrave #7 Highway, Logan, McPhillips, Notre Dame, Hargrave	Carlton, St. Mary, Main, Rorie & connections, Disraeli, Kelvin, Henderson Highway Carlton, St. Mary, Memorial Blvd., Colony, Balmoral, Notre Dame, McPhillips, Logan, Rosser Road, #7 Highway	Henderson Highway, Kelvin, Disraeli, Rorie & connections, Main, St. Mary, Hargrave Logan, McPhillips, Notre Dame, Balmoral, Colony, Memorial Blvd., St. Mary, Hargrave	5.0 4.8	4.9 4.6	4.4 4.9	4.3 4.9
12. WESTERN CANADIAN GREYHOUND BUS LINES	1) Portage Dauphin Roblin Yorkton 2) Portage Winnedosa Russell Yorkton 3) Portage Dauphin Roblin Yorkton Saskatoon 4) Portage Brandon Virden 5) Portage Langruth Alonsa 6) Treherne Brandon Souris, Regina	Daily Daily Daily 4 Daily Daily Daily	Carlton, Portage, #1 Highway Same as above Same as above Same as above Carlton, Portage West to Headingly, then West on South side of Assiniboine Carlton, St. Mary, Osborne, Pembina Highway, Clarence, #3 Highway	#1 Highway, Portage, Vaughan, Graham, Hargrave Same as above Same as above Same as above East on South side of Assiniboine to Headingly, Portage, Vaughan, Graham, Hargrave #3 Highway, Clarence, Pembina Highway, Osborne, St. Mary, Hargrave	Carlton, St. Mary, Portage, #1 Highway Same as above Same as above Same as above Carlton, St. Mary, Portage, #1 West to Headingly, then West on South side of Assiniboine Carlton, St. Mary, Osborne, Pembina Highway, McGillivray, #3 Highway	#1 Highway, Portage, St. Mary, Hargrave Same as above Same as above Same as above East on South side of Assiniboine to Headingly, #1 Highway, Portage, St. Mary, Hargrave #3 Highway, McGillivray, Pembina Highway, Osborne, St. Mary, Hargrave	13.9 13.9 13.9 13.9 14.7 7.7	13.9 13.9 13.9 13.9 14.7 7.8	13.9 13.9 13.9 13.9 14.7 7.6	14.0 14.0 14.0 14.0 14.8 7.7
13. WINNIPEG ELECTRIC COMPANY	Selkirk	15 Daily 14 Sat. 14 Sun.	Carlton, Graham, Main, Selkirk Highway	Selkirk Highway, Main, Portage, Hargrave	Carlton, St. Mary, Main, Selkirk Highway	Selkirk Highway, Main, St. Mary, Hargrave	4.7	4.6	4.8	4.7



# INTERURBAN MOTOR BUS TRANSPORTATION

REPORT OF THE BOARD OF TRANSPORTATION

Line	Route	Motor Buses	Passengers	Fares	Operating Expenses	Income	Net Profit
1	1st St. to 10th St.	10	1000	\$100.00	\$200.00	\$100.00	\$100.00
2	1st St. to 15th St.	15	1500	\$150.00	\$300.00	\$150.00	\$150.00
3	1st St. to 20th St.	20	2000	\$200.00	\$400.00	\$200.00	\$200.00
4	1st St. to 25th St.	25	2500	\$250.00	\$500.00	\$250.00	\$250.00
5	1st St. to 30th St.	30	3000	\$300.00	\$600.00	\$300.00	\$300.00
6	1st St. to 35th St.	35	3500	\$350.00	\$700.00	\$350.00	\$350.00
7	1st St. to 40th St.	40	4000	\$400.00	\$800.00	\$400.00	\$400.00
8	1st St. to 45th St.	45	4500	\$450.00	\$900.00	\$450.00	\$450.00
9	1st St. to 50th St.	50	5000	\$500.00	\$1000.00	\$500.00	\$500.00
10	1st St. to 55th St.	55	5500	\$550.00	\$1100.00	\$550.00	\$550.00
11	1st St. to 60th St.	60	6000	\$600.00	\$1200.00	\$600.00	\$600.00
12	1st St. to 65th St.	65	6500	\$650.00	\$1300.00	\$650.00	\$650.00
13	1st St. to 70th St.	70	7000	\$700.00	\$1400.00	\$700.00	\$700.00
14	1st St. to 75th St.	75	7500	\$750.00	\$1500.00	\$750.00	\$750.00
15	1st St. to 80th St.	80	8000	\$800.00	\$1600.00	\$800.00	\$800.00
16	1st St. to 85th St.	85	8500	\$850.00	\$1700.00	\$850.00	\$850.00
17	1st St. to 90th St.	90	9000	\$900.00	\$1800.00	\$900.00	\$900.00
18	1st St. to 95th St.	95	9500	\$950.00	\$1900.00	\$950.00	\$950.00
19	1st St. to 100th St.	100	10000	\$1000.00	\$2000.00	\$1000.00	\$1000.00
20	1st St. to 105th St.	105	10500	\$1050.00	\$2100.00	\$1050.00	\$1050.00
21	1st St. to 110th St.	110	11000	\$1100.00	\$2200.00	\$1100.00	\$1100.00
22	1st St. to 115th St.	115	11500	\$1150.00	\$2300.00	\$1150.00	\$1150.00
23	1st St. to 120th St.	120	12000	\$1200.00	\$2400.00	\$1200.00	\$1200.00
24	1st St. to 125th St.	125	12500	\$1250.00	\$2500.00	\$1250.00	\$1250.00
25	1st St. to 130th St.	130	13000	\$1300.00	\$2600.00	\$1300.00	\$1300.00
26	1st St. to 135th St.	135	13500	\$1350.00	\$2700.00	\$1350.00	\$1350.00
27	1st St. to 140th St.	140	14000	\$1400.00	\$2800.00	\$1400.00	\$1400.00
28	1st St. to 145th St.	145	14500	\$1450.00	\$2900.00	\$1450.00	\$1450.00
29	1st St. to 150th St.	150	15000	\$1500.00	\$3000.00	\$1500.00	\$1500.00
30	1st St. to 155th St.	155	15500	\$1550.00	\$3100.00	\$1550.00	\$1550.00
31	1st St. to 160th St.	160	16000	\$1600.00	\$3200.00	\$1600.00	\$1600.00
32	1st St. to 165th St.	165	16500	\$1650.00	\$3300.00	\$1650.00	\$1650.00
33	1st St. to 170th St.	170	17000	\$1700.00	\$3400.00	\$1700.00	\$1700.00
34	1st St. to 175th St.	175	17500	\$1750.00	\$3500.00	\$1750.00	\$1750.00
35	1st St. to 180th St.	180	18000	\$1800.00	\$3600.00	\$1800.00	\$1800.00
36	1st St. to 185th St.	185	18500	\$1850.00	\$3700.00	\$1850.00	\$1850.00
37	1st St. to 190th St.	190	19000	\$1900.00	\$3800.00	\$1900.00	\$1900.00
38	1st St. to 195th St.	195	19500	\$1950.00	\$3900.00	\$1950.00	\$1950.00
39	1st St. to 200th St.	200	20000	\$2000.00	\$4000.00	\$2000.00	\$2000.00
40	1st St. to 205th St.	205	20500	\$2050.00	\$4100.00	\$2050.00	\$2050.00
41	1st St. to 210th St.	210	21000	\$2100.00	\$4200.00	\$2100.00	\$2100.00
42	1st St. to 215th St.	215	21500	\$2150.00	\$4300.00	\$2150.00	\$2150.00
43	1st St. to 220th St.	220	22000	\$2200.00	\$4400.00	\$2200.00	\$2200.00
44	1st St. to 225th St.	225	22500	\$2250.00	\$4500.00	\$2250.00	\$2250.00
45	1st St. to 230th St.	230	23000	\$2300.00	\$4600.00	\$2300.00	\$2300.00
46	1st St. to 235th St.	235	23500	\$2350.00	\$4700.00	\$2350.00	\$2350.00
47	1st St. to 240th St.	240	24000	\$2400.00	\$4800.00	\$2400.00	\$2400.00
48	1st St. to 245th St.	245	24500	\$2450.00	\$4900.00	\$2450.00	\$2450.00
49	1st St. to 250th St.	250	25000	\$2500.00	\$5000.00	\$2500.00	\$2500.00
50	1st St. to 255th St.	255	25500	\$2550.00	\$5100.00	\$2550.00	\$2550.00
51	1st St. to 260th St.	260	26000	\$2600.00	\$5200.00	\$2600.00	\$2600.00
52	1st St. to 265th St.	265	26500	\$2650.00	\$5300.00	\$2650.00	\$2650.00
53	1st St. to 270th St.	270	27000	\$2700.00	\$5400.00	\$2700.00	\$2700.00
54	1st St. to 275th St.	275	27500	\$2750.00	\$5500.00	\$2750.00	\$2750.00
55	1st St. to 280th St.	280	28000	\$2800.00	\$5600.00	\$2800.00	\$2800.00
56	1st St. to 285th St.	285	28500	\$2850.00	\$5700.00	\$2850.00	\$2850.00
57	1st St. to 290th St.	290	29000	\$2900.00	\$5800.00	\$2900.00	\$2900.00
58	1st St. to 295th St.	295	29500	\$2950.00	\$5900.00	\$2950.00	\$2950.00
59	1st St. to 300th St.	300	30000	\$3000.00	\$6000.00	\$3000.00	\$3000.00
60	1st St. to 305th St.	305	30500	\$3050.00	\$6100.00	\$3050.00	\$3050.00
61	1st St. to 310th St.	310	31000	\$3100.00	\$6200.00	\$3100.00	\$3100.00
62	1st St. to 315th St.	315	31500	\$3150.00	\$6300.00	\$3150.00	\$3150.00
63	1st St. to 320th St.	320	32000	\$3200.00	\$6400.00	\$3200.00	\$3200.00
64	1st St. to 325th St.	325	32500	\$3250.00	\$6500.00	\$3250.00	\$3250.00
65	1st St. to 330th St.	330	33000	\$3300.00	\$6600.00	\$3300.00	\$3300.00
66	1st St. to 335th St.	335	33500	\$3350.00	\$6700.00	\$3350.00	\$3350.00
67	1st St. to 340th St.	340	34000	\$3400.00	\$6800.00	\$3400.00	\$3400.00
68	1st St. to 345th St.	345	34500	\$3450.00	\$6900.00	\$3450.00	\$3450.00
69	1st St. to 350th St.	350	35000	\$3500.00	\$7000.00	\$3500.00	\$3500.00
70	1st St. to 355th St.	355	35500	\$3550.00	\$7100.00	\$3550.00	\$3550.00
71	1st St. to 360th St.	360	36000	\$3600.00	\$7200.00	\$3600.00	\$3600.00
72	1st St. to 365th St.	365	36500	\$3650.00	\$7300.00	\$3650.00	\$3650.00
73	1st St. to 370th St.	370	37000	\$3700.00	\$7400.00	\$3700.00	\$3700.00
74	1st St. to 375th St.	375	37500	\$3750.00	\$7500.00	\$3750.00	\$3750.00
75	1st St. to 380th St.	380	38000	\$3800.00	\$7600.00	\$3800.00	\$3800.00
76	1st St. to 385th St.	385	38500	\$3850.00	\$7700.00	\$3850.00	\$3850.00
77	1st St. to 390th St.	390	39000	\$3900.00	\$7800.00	\$3900.00	\$3900.00
78	1st St. to 395th St.	395	39500	\$3950.00	\$7900.00	\$3950.00	\$3950.00
79	1st St. to 400th St.	400	40000	\$4000.00	\$8000.00	\$4000.00	\$4000.00
80	1st St. to 405th St.	405	40500	\$4050.00	\$8100.00	\$4050.00	\$4050.00
81	1st St. to 410th St.	410	41000	\$4100.00	\$8200.00	\$4100.00	\$4100.00
82	1st St. to 415th St.	415	41500	\$4150.00	\$8300.00	\$4150.00	\$4150.00
83	1st St. to 420th St.	420	42000	\$4200.00	\$8400.00	\$4200.00	\$4200.00
84	1st St. to 425th St.	425	42500	\$4250.00	\$8500.00	\$4250.00	\$4250.00
85	1st St. to 430th St.	430	43000	\$4300.00	\$8600.00	\$4300.00	\$4300.00
86	1st St. to 435th St.	435	43500	\$4350.00	\$8700.00	\$4350.00	\$4350.00
87	1st St. to 440th St.	440	44000	\$4400.00	\$8800.00	\$4400.00	\$4400.00
88	1st St. to 445th St.	445	44500	\$4450.00	\$8900.00	\$4450.00	\$4450.00
89	1st St. to 450th St.	450	45000	\$4500.00	\$9000.00	\$4500.00	\$4500.00
90	1st St. to 455th St.	455	45500	\$4550.00	\$9100.00	\$4550.00	\$4550.00
91	1st St. to 460th St.	460	46000	\$4600.00	\$9200.00	\$4600.00	\$4600.00
92	1st St. to 465th St.	465	46500	\$4650.00	\$9300.00	\$4650.00	\$4650.00
93	1st St. to 470th St.	470	47000	\$4700.00	\$9400.00	\$4700.00	\$4700.00
94	1st St. to 475th St.	475	47500	\$4750.00	\$9500.00	\$4750.00	\$4750.00
95	1st St. to 480th St.	480	48000	\$4800.00	\$9600.00	\$4800.00	\$4800.00
96	1st St. to 485th St.	485	48500	\$4850.00	\$9700.00	\$4850.00	\$4850.00
97	1st St. to 490th St.	490	49000	\$4900.00	\$9800.00	\$4900.00	\$4900.00
98	1st St. to 495th St.	495	49500	\$4950.00	\$9900.00	\$4950.00	\$4950.00
99	1st St. to 500th St.	500	50000	\$5000.00	\$10000.00	\$5000.00	\$5000.00
100	1st St. to 505th St.	505	50500	\$5050.00	\$10100.00	\$5050.00	\$5050.00







WINNIPEG - CITY PLANNING