

PLAN FOR THE NATIONAL CAPITAL

CANADA



1950

GENERAL REPORT

SUBMITTED TO THE NATIONAL CAPITAL
PLANNING COMMITTEE



NATIONAL CAPITAL PLANNING SERVICE
OTTAWA

JACQUES GRÉBER,
Hon. F.R.A.I.C., M.E.I.C., M.I.P.T.P., Hon. S.L.A.T.P., S.A.D.G., S.C., S.F.U.
Professor at the Town Planning Institute of the University of Paris
CONSULTANT

JOHN M. KITCHEN, M.B.E., M.R.A.I.C., M.I.P.T.P.
EDOUARD FISET, M.R.A.I.C., S.A.D.G.F., M.I.P.T.P.
ASSOCIATES

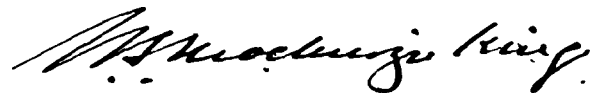
FOREWORD

Canada's Capital has grown up in a magnificent setting of intimate, imposing and enchanting scenery. Ottawa's growth, however, has reached a point of urban development which is rapidly depleting and endangering its natural assets. To be worthy of Canada's future greatness, its Capital must be planned with far-reaching foresight. This book presents to the Canadian people a remarkable preview of what it is believed will best serve this all-important end.

The Master Plan herein set forth organizes and protects a vast area of urban, rural and wooded territories. It answers the urgent needs for wise community planning and efficient traffic and transportation facilities; it corrects deficiencies resulting from unplanned undertakings in the past; it enhances the possibilities of preserving that which is, as yet, unspoiled.

Such foresight, if followed by timely action, will save enormous capital expenditures. The cost of unplanned development is already only too self-evident.

The vast amount of research, technical knowledge and imagination, of which this work by Mr. Gréber and his assistants is so eloquent an expression, cannot fail, if given due appreciation and support, to result in the attainment of a Capital City of which Canadians of our own and future generations will be increasingly proud.

A handwritten signature in black ink, appearing to read "A. H. Macdonald King". The signature is fluid and cursive, with a large initial "A" and "H" and a long, sweeping "K" at the end.

November 18th, 1949

PREAMBLE

This report is a descriptive and justificative memorandum of the studies undertaken as essential to the formulation of a comprehensive plan for the development of the National Capital Region.

It constitutes a restatement of the Preliminary Report of December 31, 1948, to the National Capital Planning Committee, as presented by the Federal District Commission to the Government, April 27, 1949, and tabled by the latter in the House of Commons, April 29, 1949.

The original text has been amended, completed, and made more specific, in light of its examination by the National Capital Planning Committee, March 1, 1949, and of the report drafted under its direction and transmitted to the Federal District Commission, on the 29th day of the same month.

This Report is presented in four parts, i.e.:

Part I - General Survey

Part II - Justification of Proposals

Part III - Schedule of Execution

Part VI - General Recommendations

The necessarily limited number of illustrations contained in the Preliminary Report has been considerably augmented and is now comprised of all the documents assembled in the Album of plans and graphs which accompanied the Preliminary Report, as well as numerous photographs, diagrams and drawings intended to facilitate the proper understanding of the subjects investigated and operations recommended. The most important illustrations, the sizes of which preclude their inclusion within the present volume, are assembled in an Atlas accompanying this Report, with appropriate references to each of the chapters to which they are related. These, with the original drawings, and numerous documents prepared since the work of the National Capital Planning Service was initiated, constitute the full record of the project; they are at the disposal of the administrative authorities and their technicians at the offices of the National Capital Planning Service.

Two key diagrams show the extent of the areas studied within the limits of the urban region, both in respect to existing conditions and to projects contemplated.

Moreover, four scale models have been prepared by the Graphics Division of the National Film Board, under the direction of the National Capital Planning Service for exhibition and inspection purposes:

- 1 - Relief plan of the region of the Capital. Scale: 1" = 3000'.
- 2 - General model of the central part of the urban region. Scale: 1" = 100'.
- 3 - Detail model of the civic centre of Ottawa with alternate variations relevant to the sites of proposed public buildings. Scale : 1" = 30'.
- 4 - Detail model of Parliament Hill and of related parts of Wellington Street. Scale: 1" = 30'.

INTRODUCTION

The present comprehensive plan of the National Capital, of which this Report is the outcome, follows previous similar studies and, in turn, might be the subject of eventual adjustments and revisions in keeping with the requirements of the future development of the Capital.

Like his illustrious predecessors, Sir Wilfrid Laurier and Sir Robert Borden, the Right Honourable W. L. Mackenzie King has repeatedly expressed his fine determination to provide for Canada a Capital worthy of the growth and progress of this great nation, thus interpreting the national pride and aspirations of its people.

In 1936, while visiting the International Exhibition in Paris, Mr. King, whom I, as Chief Architect, had the honour to accompany, and who was fully conversant with planning projects executed in Philadelphia under my direction, invited me to come to Ottawa to study the planning of the administrative centre of the City. This study was commenced in 1937, in co-operation with the Department of Public Works and the Federal District Commission, and work on its realization was pursued up to September 1939, when it was interrupted by the outbreak of the World War.

The plans then envisioned were confined to a limited area of the City of Ottawa, but the Prime Minister, in his desire that Ottawa should be truly representative of Canada as its National Capital, had in mind a work of greater magnitude. Toward the fulfilment of this desire, the proposals made on the subject in my Report of June 1939, hereunder set forth, contained the basic outline of the now organized National Capital Planning Committee.

On August 22nd, 1945, I received from the Honourable Alphonse Fournier, Minister of Public Works, the following cablegram:

IN LIEU OF ANY OTHER MEMORIAL OF THE WAR JUST ENDED THE GOVERNMENT HAS APPROVED OF FURTHER DEVELOPMENT OF CANADA'S NATIONAL CAPITAL AND ITS ENVIRONMENT ON BOTH SIDES OF THE OTTAWA RIVER STOP WE ARE DESIROUS THAT BASIC PLAN AS LAID BY YOU AND PARTIALLY CARRIED OUT SHOULD BE FURTHER EXPANDED TO INCORPORATE NEWLY DEFINED AND CONSIDERABLY ENLARGED LIMITS STOP THE PRIME MINISTER HAS ASKED ME TO ASCERTAIN FROM YOU IF YOU WOULD BE PREPARED TO UNDERTAKE SUCH A COMMISSION STOP PLEASE ADVISE IF YOU CAN COME IMMEDIATELY.

I deeply appreciated the great honour extended to me by the Federal Government and immediately obtained, from my Government, its permission to entrust to my assistants my work as General Inspector of Reconstruction and Town Planning in France, in order to enable me to undertake the task to which I was called by the Canadian Government.

On arrival in Ottawa, October 2nd, I was interviewed by the press to whom I stressed the importance of the work and the example given by Canada in dedicating as a National War Memorial the master plan of the Capital. *Such work was to be a national scheme, to be accomplished with the co-operation of Canadian architects, engineers and technicians, under the guidance of a National Capital Planning Committee.*

A general programme of work contemplated was submitted to the Federal Government on November 16, 1945, and confirmed a previous report submitted to the Right Honourable the Prime Minister on June 7th, 1939, relative to work which I had been already privileged to undertake for the Federal Government at that time.

Extracts from those two reports follow hereunder:

***1 - Report, to the Right Honourable the Prime Minister,
June 7th, 1939.***

I understand that the question may be considered of eventually creating a District Capital for the Dominion of Canada, along the principle of the District of Columbia in the United States.

As I have no qualifications for discussing the need for a Federal District Capital from the political or general administration viewpoint, I beg to submit to you the following remarks, limited to the *purely city planning problem*.

Several examples of regional planning and comprehensive by-laws on city development, in Europe and in America, show that this particular problem, even when it affects a large number of municipalities, may be *successfully studied and solved without deeply changing their respective administrations*, but by organizing, only for the purpose of their *better co-ordinated planning and common zoning and building legislation, a central Planning Board*, specially appointed to elaborate and to control the execution of the plans and the enforcement of the by-laws.

Representatives of the different cities and towns included in the regional area, determined according to its physical conditions and eventual needs, should be members of the *Planning Board*, as well as delegates of the various Departments interested. The Board should act under the authority of the Government as an inter-departmental and arbitrating agency. Jurists, hygienists, engineers of the various technical services co-operating in urban and rural development, architects, landscape artists, also representatives of historical and touristic organizations, should be consulted by the Board, and work under the co-ordinating advice of a City Planner as chief consultant.

An executive committee, selected from amongst the General Board, should prepare the studies, plans and reports to be submitted to the Board meetings for discussion and final approval.

This short description is inspired from the *Comité Supérieur de l' Aménagement de la Région Parisienne*, which includes the whole agglomeration of more than six hundred cities, townships and villages directly connected with the city of Paris, within a radius of approximately twenty miles from the centre of the city, and depending upon several different *départements* or prefectural administrations.

Other regional plans in France are being prepared along similar principles for all important urban centres.

The New York Regional Plan, the Philadelphia Tri-State Planning Corporation (Pennsylvania, New Jersey and Delaware), are other examples of similar central authorities, entrusted with a *purely technical work, without interfering with the existing Town or State administrations*.

If a comparison could be made with the Capital City of Canada, it seems quite logical that such a Planning Board could be organized under the leadership of an enlarged and completed Federal District Commission, working with the collaboration of the Cities' and Towns' administrations involved within the delimitation of the Capital Region, and under the superior authority of the Federal Government.

2 - Memorandum . on work preliminary to the master plan of the National Capital, November 16, 1945.

... The first work to be prepared is the civic survey. (A list of requirements for general documentation was then submitted.)

A general meeting of all the technicians, likely to supply information for the regional survey, was held in the auditorium of the Art Gallery on November 9.

...While our executive service was being organized and basic plans were under way, we had to solve urgent questions on local problems with Messrs. Sutherland, Brault and Rankin, of the Department of Public Works, in co-ordinating previous plans and their relation to the present scheme.

Conclusion

1. As stated in several addresses and in press interviews, the work entrusted to me is of national character, and, to make its success sure and rapid, I should like to act as *Consultant to a National Capital Planning Committee, working in full co-operation with the Federal District Commission*.

2. An organization should be created as soon as possible, which would form a suitable unit, with board room, clerical and stenographic services, with special filing, documentation and draughting room accommodations. This organization,

appointed under the authority of Honourable the Minister of Public Works, should work under my immediate direction in conjunction with the National Capital Planning Committee.

3. *The working staff* should be composed of English and French speaking Canadian architects and engineers.

As a tentative nucleus I would suggest:

(a) Civic and regional surveys: Mr. J. M. Kitchen with the necessary staff.

(b) Master Plan: Mr. E. Fiset, in charge of the necessary staff, would also act as Mr. Greber's representative to generally co-ordinate the work of (a) and (b), and assure permanent correspondence with Mr. Greber while abroad.

Mr. Sutherland, Mr. Brault and Mr. Rankin would give their assistance and advice, as they so efficiently did for previous work.

4. Technical advisers to the National Capital Planning Committee would be consulted during the preparation of the project, as and when needed.

5. The plans and other documents, to be prepared under my direction. as per list of services (see page 5), will be embodied in a General Report, which will be used, after its approval, as the Chart of future development of the Region defined by Order in Council P. C. 5635, of August 16, 1945, and will serve as master plan and programme for the further study of the local plans of all municipalities included in the region.

6. The undertaking of the present work is remarkably opportune, as many operations involved in it, such as grading work, road making, widening or repairing, landscape or planting work, draining, filling in, construction of country bridges, etc., are particularly suitable to emergency re-employment, calling for non-specialized labour.

The major and gradual operations, of further emergency, to undertake according to *schedule of work to be established*, will help the reconversion of various public works and building industries and trades. This second and extended class of operations will give employment both to skilled and non-specialized labour, to a long range of craftsmen, mechanics, engineers and artists, all directly interested in the post-war programme of work.

7. Therefore, the appropriation to be made for the accomplishment of the Plan and report will be *largely paid by saving of expenses, time and researches* which would undoubtedly occur by lack of co-ordinated and comprehensive preplanning. In other words, the *budgets of federal, provincial and municipal operations* to be undertaken for a period of at least 25 years, will be enlightened, the work made easier and more efficient, and the service to the public more satisfactory.

The money spent to foresee and prevent is a sure investment of public funds.

P.C. No. 6721

*Extract from certified copy of a Minute of a Meeting of the Committee
of the Privy Council, approved by His Excellency the Administrator on
the 31st October, 1945*

The Committee of the Privy Council have had before them a report, dated 25th October, 1945, from the Minister of Public Works, stating:

That under the authority of Orders in Council P.C. 63/185 dated January 28, 1937, and P.C. 2013 of August 17, 1938, Mr. Jacques Gréber, S.F.U., S.C., S.A.D.G., City Planner and Architect of Paris, France, was engaged to make a study and submit a scheme of development of Government buildings to be erected along the bank of the Ottawa River on either side of the Parliament Buildings, and to also submit plans for the further development of the areas adjacent to Wellington Street and Mackenzie Avenue;

That under the authority of Order in Council P.C. 5635 of August 16, 1945, an area comprising some 900 square miles, more or less, adjoining the City has been defined as the National Capital district and it has been decided to re-engage Mr. Gréber to make a study of that area with a view of preparing plans for a suitable long-term development of such area as a National War Memorial;

That Mr. Gréber will be required to:

(List of Services)

1. Direct the preparations of graphic survey, basic plan and various cartograms, diagrams, photographic illustrations, etc., including guidance for research and graphic representation of all elements of the survey, by advice and documentary examples, bibliography, etc.
2. Direct the preparation of the proposed master plan, by advice and furnishing personal preliminary drawings and sketches, in Ottawa or from Paris, as previously done.
3. Direct the preparation of proposed by-laws, zoning ordinances and planning programmes.
4. Direct the preparation of eventual scale model.
5. Study and advise on the eventual local operations while final report is being prepared.
6. Direct the preparation of the final report and basic plans.

Illustration 1

ADMINISTRATIVE BOUNDARIES
WITHIN THE NATIONAL CAPITAL REGION
1948

DELIMITATION OF THE NATIONAL CAPITAL REGION

P.C. No. 5635

August 16, 1945.

Extract from certified copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on the 16th August, 1945

The Committee of the Privy Council have had before them a report, dated 29th May, 1945, from the Right Honourable W. L. Mackenzie King, the Prime Minister, representing that the Joint Committee of the Senate and House of Commons appointed to review special problems arising out of the location of the seat of Government in the City of Ottawa and other matters made a report on the first of August, nineteen hundred and forty-four, recommending inter alia:

3. That for the said purposes "National Capital district" be defined as follows:

PLATE 3 OF
ATLAS

Commencing- at a point where the division line between the Townships of McNab and Fitzroy in the Province of Ontario meets the south shore of the Ottawa river; thence southwesterly along the said division line to the line between Concessions 2 and 3 in the Township of Fitzroy; thence southeasterly along the last-mentioned line to the line between Lots 15 and 1G in the said Township; thence northeasterly along the last-mentioned line and across Concessions 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 to the line between the Townships of Fitzroy and Torbolton; thence southeasterly along the last-mentioned line and continuing along the line between the Townships of Huntley and March to meet the line between the Townships of March and Goulbourn; thence northeasterly along the last-mentioned line to the line between the Townships of Goulbourn and Nepean; thence southerly along the last-mentioned line to the line between Lots 30 and 31, Rideau Front in the Township of Nepean; thence northeasterly along the last-mentioned line to the line between Concessions 2 and 3, Rideau Front, in the Township of Nepean; thence southerly along the last-mentioned line to the line between the Townships of Nepean and North Gower; thence easterly along the last-mentioned line and continuing along the line between the Townships of Gloucester and Osgoode to meet the line between the Townships of Gloucester and Cumberland; thence northwesterly along the line between the Townships of Gloucester and Cumberland and continuing along the line between the Townships of Gloucester and Cumberland to its intersection with the south shore of the Ottawa river; thence crossing the Ottawa river in a straight line to its north shore to the point where the line between the Townships

of Templeton and Buckingham, Province of Quebec, intersects the river; thence northerly along the last-mentioned line to the line dividing the Gore of Templeton from Range 1 in the Township of Portland; thence westerly along the last-mentioned line and continuing westerly along the line between Range 4 and Range 5 in the Township of Wakefield to the line between the Townships of Wakefield and Masham; thence northerly along the last-mentioned line to the line between Ranges 4 and 5 in the Township of Masham to the line between the Townships of Masham and Onslow; continuing westward along the line between Range 11 and Range 12 in the Township of Onslow to meet the line between the Townships of Onslow and Bristol; thence southerly along the last-mentioned line to its intersection with the north shore of the Ottawa river; thence southwesterly in a straight line across the Ottawa river to the place of beginning, comprising 900 square miles more or less.

Illustration 2

FEDERAL- PROVINCIAL- MUNICIPAL ORGANIZATION FOR THE NATIONAL CAPITAL PLAN

CREATION OF THE NATIONAL CAPITAL PLANNING COMMITTEE

March 8th, 1946.

(Federal District Commission By-law No. 28)

Pursuant to the provisions of By-law No. 27 of the Federal District Commission, as approved by Order in Council P.C. 5634, August 15, 1945, under which the Commission is' empowered to appoint a committee, or committees, for the planning, development, improvement and beautification of the National Capital District be it enacted as By-law No. 28 of the Federal District Commission:

That a committee shall be formed to be known as the National Capital Planning Committee consisting of seventeen members which shall be the permanent planning body for the National Capital District, the boundaries of which are defined by the said By-law No. 27.

The Committee shall consist of the Minister of Public Works of the Government of Canada, the Chairman of the Federal District Commission, two members appointed by the Corporation of the City of Ottawa, one member appointed by the Corporation of the City of Hull, and twelve members appointed by the Federal District Commission of whom two shall represent The Engineering Institute of Canada, two The Royal Architectural Institute of Canada, one the County of Carleton, Ontario, one the County of Gatineau, Quebec, and six others. The Committee shall be directly responsible to the Commission for its actions.

The members of the committee shall be Canadian citizens of standing and repute who by training and experience, or by virtue of their position, may be considered to have an especial interest, either from a national or local viewpoint,

in the preparation and execution of suitable plans for the co-ordinated development of the National Capital District. The Commission shall have the right to replace any member at any time for cause and to fill vacancies as they occur.

The function of the Committee shall be to draw up a master plan of the National Capital District as it considers desirable and to advise the Commission on its subsequent and gradual development over a term of years having in mind at all times the necessary interest of the people as represented by the Government of Canada, the Government of the Provinces of Ontario and Quebec, the cities of Ottawa and Hull and other municipalities within the National Capital District.

The Committee shall meet in Ottawa as often as is necessary and shall hear and carefully consider representations at any time from any municipal or governmental body within the National Capital District and from such other bodies or associations as they may decide to hear, to the end that all interested bodies may help to formulate and design a master plan which will have behind it the maximum amount of public support and approval. All questions at issue in the Committee shall be decided by a majority vote. The members of the Committee shall serve without remuneration but they shall be paid their actual disbursements for expenses necessarily incurred in the discharge of their duties. The Secretary of the Commission shall act as the secretary of the Committee.

The Committee shall appoint, and have charge of, such staff as it requires for the proper and prompt carrying out of its functions and shall fix their remuneration and length of service. Mr. Jacques Gréber, Paris, France, shall act as consultant to the Committee and during his time spent in Ottawa shall have direct charge of the detailed work of the staff. During his absences from Ottawa, the Committee shall appoint one of the staff to act in charge.

All expenses of the Committee shall be paid by the Commission from funds appropriated by the Government of Canada for such purposes. The Commission may accept, however, if it so decides, any moneys which might be contributed by any other governmental body towards defraying a portion of the necessary expenses of the Committee. All expenditures so made shall be subject to the audit of the Auditor General in the same manner as other public moneys.

The Committee shall submit a report to the Government of Canada, through the Commission, from time to time as required, and at least annually, on its activities and of expenditures made on its behalf.

Passed this 8th day of March, 1946.

FEDERAL DISTRICT COMMISSION,

Ottawa, Canada.

(Sgd.) F. E. BRONSON, *Chairman.*

(Sgd.) H. R. CRAM, *Secretary.*

MEMBERS OF THE NATIONAL CAPITAL PLANNING COMMITTEE AND ITS SUB-COMMITTEES

1949

F. E. BRONSON, B.Sc., M.E.I.C.,
Chairman

L. L. COULTER, Ottawa, Ont.,
Controller of the City of Ottawa

E. L. COUSINS, C.B.E., M.E.I.C., Toronto, Ont.
Representing the Engineering Institute of Canada

C. G. COWAN, Ottawa, Ont.
D. P. CRUIKSHANK, O.B.E., Rockcliffe Park, Ont.,
Representing Carleton County, Ont.

CHARLES DAVID, F.R.A.I.C., Montreal, P.Q.
Representing the Royal Architectural Institute of Canada

Hon. A. FOURNIER, P.C., K.C., M.P., Hull, P.Q.,
Minister of Public Works

DR. RODOLPHE LEDUC, DDS., Maniwaki, P.Q.
Representing Gatineau County, P.Q.

A. S. MATHERS, F.R.A.I.C., Toronto, Ont.,
Representing the Royal Architectural Institute of Canada

DAVID MACMILLAN, M.E.I.C., Ottawa, Ont.
Alderman of the City of Ottawa

ALPHONSE MOUSSETTE,
Mayor of the City of Hull, P.Q.

WATSON SELLAR, C.M.G., Ottawa, Ont.
Auditor General

DR. ARTHUR SURVEYER, M.E.I.C., Montreal, P.Q.,
Representing the Engineering Institute of Canada

H. R. CRAM, B.Sc., M.E.I.C., Ottawa, Ont.,
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DAVID MACMILLAN

Information Sub-Committee

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Sub-Committee on Aesthetics

GASTON AMYOT, M.R.A.I.C., Quebec, P.Q.,
Member of the Federal District Commission

CHARLES DAVID

J. A. EWART, M.R.A.I.C., M.E.I.C., Ottawa, Ont.

Member of the Federal District Commission

A. S. MATHERS

Legal Sub-Committee

WATSON SELLAR

Past Members of the Committee

YVES BERNIER, M.E.I.C., former City Engineer, Hull, P.Q.
(Sept. 1948-March 1949)

Col. J. P. CARRIERE, M.E.I.C., former City Manager, Hull, P.Q.
(May 1946 - Dec. 1947)

G. GOODWIN, former Controller of the City of Ottawa

F. MACRAE, former Controller of the City of Ottawa

SCOPE OF THE PROJECT

In establishing a National Capital Region in accordance with the recommendations of the Joint Committee of the Senate and of the House of Commons, and pursuant to the provisions of the Order in Council of August 16, 1945, the Federal Government defined an area comprising some 900 square miles surrounding the City of Ottawa, as the National Capital Region, with a view to the preparation of plans for the long-range development of this territory.

Consequently, the first concern of the National Capital Planning Service was to initiate studies to determine the present and future needs of this large region, and to secure the basic information upon which to chart its planning. This analytical study forms the first part of this Report under the heading of "General Survey".

It would have been comparatively easy, following a superficial survey of present conditions and trends, to have drafted a theoretical plan which, from the natural and magnificent setting of the region, could have been quite attractive, but such a procedure would have lacked practical value, and the expenditure involved would have been unwarranted.

The National Capital plan has a dual purpose: it aims primarily at the planning and mapping of the development of the group of municipalities which form the Capital Region, with a view to ensuring the comfort and well-being of their inhabitants and facilitating all their activities; but also, it must aim at the planning of a capital, an undertaking which involves manifold problems relative to its life and special functions: Parliament, Government, diplomatic life, and national and international conventions, in an atmosphere of dignity, orderliness and welcome.

The duty rests on the Capital to set the example for other Canadian cities, in their adoption of planning procedures suited to the needs of modern living.

Another aspect of the problem results from the size of the region committed to us for study. Planning operations, strictly speaking, have been limited to the urban nucleus. The additional territory, so wisely included in the region, requires no planning operations, but merely the application of protective regulations, in order to preserve the rural character and wooded areas. Such protection has the double advantage of leaving undisturbed the present life of this territory and ensuring the preservation of the remarkable natural setting in the midst of which the Capital has developed. The preservation of this setting constitutes the guarantee for the growing prosperity of tourism, major industry of a capital.

Illustration 3

NATIONAL CAPITAL REGION - EXISTING CONDITIONS

Illustration 4

AERIAL VIEW OF THE CITIES OF OTTAWA AND HULL. THE REGION OF THE CAPITAL IS ENHANCED BY THE WIDE SWEEP OF THE OTTAWA RIVER. NOTE, IN THE CENTRE, THE CHAUDIERE FALLS AND PARLIAMENT HILL OVERSHADOWED BY THE SMOKE OF INDUSTRIES.

PLATE 1

KEY DIAGRAM OF PLANS OF EXISTING CONDITIONS

PART I

GENERAL SURVEY

Importance of the Survey

The merits of a planning project in large measure rest upon the care and the method exercised by the planner in the preparation of a clearly expressed record of the general survey of existing conditions.

Hence, the purpose of the documentary survey is to assemble, co-ordinate and express graphically, as much as possible, all data which characterize the site and the human activities which have taken root and tend to develop within its physical framework.

These particulars relate to geographical, physical and human conditions considered in their multiple aspects. The essential factors of this complicated analysis have been assembled in the text and its accompanying graphic illustrations. The documentary files comprise many other particulars, in statistical or graphic form, which, if included, would have unnecessarily burdened and complicated the presentation of this Report. Nevertheless, they have been utilized in the preparation of the analytical part of our work and are largely referred to in our conclusions. Moreover, they are at the disposal of the various technical bodies which may require them for reference or study.

On the other hand, *these investigations are being continued and the data kept up to date*, in order that they may retain their full practical value. Without such continuity of information, a town planning project would be of little use, as the eventual development of the overall plan, in all its details, depends upon this complementary source of information. Such documentary files will be a sure and unquestionable guide in the evolution of the project, during the course of its gradual execution.

However, as the amount of research material compiled in the formation of documentary files is almost limitless, the town planner is liable to be attracted by the mirage of unessential statistics to the detriment of the main objective, which is to ensure, as speedily as possible, the sound technical and economical improvement of the living conditions of the whole community. We have therefore limited our investigations to essential facts fully justifying the corrective proposals and new developments suggested in Part II of the Report.

To the documentary files containing the material facts, there must be added the initiative and experience of the planner and of his associates, in that which concerns the numerous imponderables of the urban problem, which cannot be readily expressed in terms and plans.

In the course of the study and investigation of the various urban problems referred to us, it frequently has been found that human knowledge of such problems is even more important than an excessive amount of data, painstakingly gathered, the usefulness of which, in the hands of a theoretician, might be, in large measure, nullified. Constant contact with, and earnest study of the more subtle aspects of this complicated problem, are essential to the successful utilization of the documentary files.

Aware of the paramount importance of the preliminary analysis, we have not hesitated to devote to it the necessary length of time, in order to expedite, clarify and render more useful the elaboration of our conclusions.

PHYSICAL CONDITIONS

Geographical Site

The region of Ottawa is most favourably located on a site which offers unlimited possibilities for an ideal urban development. Topography, land and water, urban, rural and forest areas, demography, interurban communications, in brief, the two fundamental elements of human geography, natural assets and human achievements, are ideally concurring to facilitate the development and enhancement of the territory involved in our studies.

The region of 900 square miles comprises 536 square miles in the Province of Quebec, and 364 square miles in the Province of Ontario.

The Ottawa River is the boundary between the two provinces, but more exactly it forms the central feature of their common attraction.

PLATE 1 and
2 OF ATLAS

The Capital Region extends 35 miles north-west - 20 miles north-east - 15 miles south-west-15 miles south-east from the Peace Tower.

Ottawa lies 126 miles from Montreal and 265 miles from Toronto.

The United States border is distant 45 miles.

With its tributaries, the Gatineau River on the north, the Rideau River and Rideau Canal on the south, the Ottawa River forms the framework of the urban development.

PLATE 4
OF ATLAS

The regional territory comprises 19 square miles of present built-up areas, 479 square miles of farmlands, 332 square miles of woodlands, and 70 square miles of water (rivers and lakes).

Relief - The general slope of the northern part of the region is toward the south and southeast and that of the southern part towards the north and northeast to the depression or valley occupied by the Ottawa River, but many local irregularities of slope occur chiefly owing to the irregular formation of the drift deposits. North of the Ottawa River, the general slope of the bedrock valleys, and consequently that of the surface, is toward the southeast.

Illustration 5

GEOGRAPHICAL RELATIONSHIP OF THE NATIONAL CAPITAL REGION

The highest part of the region is on the pre-Cambrian upland, where the "mountain" has an altitude of nearly 1,300 feet above sea level. The lowest part is in the valley of the Ottawa River below the city of Ottawa, where the surface of the water at low stages has an altitude 127 to 132 feet above the sea. In the city of Ottawa the highest part of Parliament Hill has an altitude of nearly 300 feet.

The lowland in the northwestern portion of the region, north of the Ottawa River, has a general altitude of 300 to 450 feet, the highest part northwest of the town of Aylmer rising to nearly 475 feet. South of the Ottawa River, in the southwestern part of the region, the general altitude is from 250 to 350 feet, but isolated hills rise somewhat higher, the highest point 3 miles west of Stittsville having an altitude of nearly 470 feet. In the southeastern part of the region the highest part of a drift ridge which extends southeastward from Bowesville, has an altitude of 400 feet, but the general altitude along the Rideau River is about 300 feet. The drift ridge near Bowesville ends abruptly on the east side of the Rideau valley between Black Rapids and Rideau Junction but continues to a lower altitude on the west side of the river, from the vicinity of Merivale to near Bell's Corners. In the eastern part of the region, deeply underlain by drift, the general relief is less and the general altitude is from 225 to 275 feet.

Climate

*Prepared by B. W. BOVILLE, BOA., Meteorologist,
with permission of the Controller, Meteorological Division,
Department of Transport*

The Ottawa region is situated in temperate latitudes and lies in the associated prevailing westerly air stream. Weather disturbances of varying intensity move generally from west to east in the prevailing stream and pass through this region at periods of about 2 to 5 days apart. The energy for and the intensity of these disturbances are derived mainly from surges of warm air moving up from the southwest, and of cold air moving down from the northwest.

These disturbances cause most of the weather variations in the region and are usually accompanied by rather marked temperature changes. Thus, apart from the normal seasonal variations in weather, abrupt changes also take place at short intervals.

The intensity of the cold and warm air surges and the tracks of the travelling storms change considerably from month to month and year to year. This causes great variations in the climate from year to year and conditions in one year give no reliable indication of what might be expected in the following year.

Apart from the general pattern of weather of the temperate latitudes the climate is affected to a minor extent by the local geography of the area.

The Great Lakes have a considerable influence on our climate and to a lesser extent the valleys of the Ottawa and St. Lawrence rivers. The major effect of the Great Lakes is in modifying the temperatures. Cold waves which in winter frequently drop temperatures in the Prairies to 50 degrees below zero are warmed passing over the Great Lakes and do not cause such severe temperature drops at Ottawa.

Severe cold waves at Ottawa occur when the air moves directly down from the north and avoids the relatively warm Lakes. The wind-roses show that the frequency of northerly winds is rather low, and, similarly, the occurrence of severe cold waves, although not uncommon, is rather infrequent.

The modifications of the climate due to the Great Lakes vary with proximity to the Lakes. The average daily temperature in January is 11 degrees warmer at Toronto than at Ottawa. Winter snowfall at Toronto averages about 20 inches less than at Ottawa and this is largely due to the fact that with higher

temperatures a greater portion of the precipitation at Toronto falls as rain. In other respects the Toronto climate is much the same as Ottawa.

Illustration 6
TEMPERATURE: CITY OF OTTAWA

Average conditions at Montreal are very similar to Ottawa, except that Montreal has more precipitation. The average winter snowfall at Montreal is about 30 inches greater than at Ottawa. This can partly be attributed to the fact that bad weather, from storms moving up the east coast of the United States through the Maritimes, often funnels along the St. Lawrence river valley to Montreal but does not reach north of the valley to Ottawa.

In general, Ottawa has a fairly typical continental temperate climate with a very variable weather pattern which may change radically from day to day. Variations are also caused by local geography and these are most apparent in the winter season.

B. W. BOVILLE.

Geology - Nature of the ground

*Prepared by R. E. DEANE,
Geological Survey
Department of Mines and Resources*

PLATE 5 OF
ATLAS

Geology, in its broadest sense, affects man in every walk of life. It deals with the history of our earth; the minerals in the earth; the rocks on which we stand, on which we build lines of communication, and on which we erect our temples; the soils and water on which we depend for daily sustenance.

The geology of the National Capital Region is varied and complicated. The oldest rocks, dating back possibly a billion years, are the intrusive, or granitic

Illustration 7

SUNSHINE, RAIN AND SNOW: CITY OF OTTAWA

rocks so familiar to us in the Gatineau Mountains. Ancient seas invaded this area about 400,000,000 years ago and deposited, on top of the granite rocks, the material that forms our sedimentary rocks - the shales, limestones, and sandstones. Later, when the land rose and the seas withdrew, the rocks were gradually worn down until the surface was not much different from that of today. Another great change took place about a million years ago. The climate became colder and glaciers advanced from the north over this area. Possibly four such glacial ages, separated by three interglacial periods, with climate such as we enjoy today, occurred. The final retreat of the ice left some of the rocks bare and covered others with great thicknesses of drift or soil. The great load of ice had depressed the land so that the sea again invaded parts of the region and left layers of sand, silt, and clay to mark its borders. Finally, after the ice disappeared, the land again rose to give us a topography much as we see it today.

Two contrasting types of topography in this region are related to the two different kinds of rocks. The topography of the highlands north of Ottawa River, in which we find the pre-Cambrian rocks, is rugged, with rock hills and precipitous slopes. The topography of the lowlands south of the river is gently sloping or undulating. In this area we find the Palaeozoic sedimentary rocks and the deep soils left by the glaciers and the sea.

The oldest, or pre-Cambrian rocks, are part of the Canadian Shield. They comprise the rough, irregular highlands lying north of the Ottawa River. The glaciers left the hard, resistant rocks bare, or with only a thin covering of soil so that their general use is limited to forestry, mining, and recreation. Minerals such as mica, hematite, magnetite, apatite, pyrite, galena, molybdenite, and brucite have been found in varying quantities.

Illustration 8
PREVAILING WINDS: CITY OF OTTAWA

In the Ottawa Valley, and to the south, the rocks we see are in the Palaeozoic sedimentary rocks, mainly sandstone, limestone, dolomite and shale. The first three have been used for building stone for many years. They also find a limited use for crushed stone, and in the production of cement, glass, and brick.

Glacial and marine deposits cover much of the bedrock. The deposits of glacial drift include till, a mixture of boulders, sand, silt and clay, and stratified sand and gravel. In the pre-Cambrian area the drift is thin or absent, but on the Palaeozoic sedimentary rocks the drift may be as much as 50 feet thick. Marine deposits of stratified sand, silt, and clay cover large tracts of the Capital Region, particularly in the lowlands. Sands are generally found at the higher elevations along the old shorelines of the sea, whereas, the clays and silts are more common in the valleys and depressions. The sequence usually seen in building excavations is as follows; at the surface marine sands, marine clays, and silts containing fossil shells. banded clay, till, and finally bedrock. One or more of these layers above the bedrock may be absent. Marine clays are used for the manufacture of brick and tile; sands and gravels find their use in concrete and road metal.

The numerous lakes and small streams of the pre-Cambrian area provide an adequate water supply. South of Ottawa River, wells dug in the drift or marine deposits yield water for domestic use. In the sedimentary rocks, sandstone contains the most water, limestone and shale the least.

A thorough geological investigation preliminary to the construction of dams and large industrial plants is essential because of the variable and complicated nature of the bedrock and glacial or marine deposits.

R. E. DEANE

Vegetation

The Agriculture, Scenic Beauty and Wealth of the National Capital Region

*Prepared by DR. E. S. ARCHIBALD, Director
Experimental Farms Service
Department of Agriculture*

The agricultural and natural scenery of Ottawa and the surrounding areas in Ontario and Quebec is beyond doubt more beautiful and attractive than any to be found in almost any Capital City of any other nation in the world. Each season of the year offers its own special charm to the inhabitants and the tens of thousands of visitors who come to Ottawa both on business and pleasure. Nowhere else in Canada is there a more delightful and inspiring transition from winter to spring. Nowhere else in close proximity to the city are there such wonderful attractions for fishermen, summer visitors, or autumn huntsmen. Nowhere else are there three such magnificent rivers centering on a Capital City, each offering a different landscape. As is customary in all such great watersheds, there are splendid areas of rich alluvial soils in which agriculture thrives. Even the rugged Gatineau country has beautiful pockets of land in close proximity to Ottawa.

The Ottawa Valley is a watershed in itself and has many more attractive agricultural areas, while the slower moving Gatineau River finds its way through areas, a high percentage of which may be rated as profitable agricultural soils. As might be expected in such terrain, there is a very wide variety of soil types peculiarly adapted to certain crops, from heat loving plants of the market gardens to the forest soils. This great diversity of soil types already carries with it a wide diversity in land use. There are still undeveloped fields for exploration in the development of newer crops, more adaptable varieties in general agriculture,, and in specialized horticulture; while forest conservation, the introduction of newer species, and the reforestation of lands best suited to that purpose, although beautiful in their present state, are as yet practices in their infancy.

Agriculture in this area and adjacent areas in the Ottawa watershed, is devoted primarily to the production of animal products. Dairying predominates particularly in the Ottawa milk shed, where fluid milk is the prime product, yet followed closely by the production of high quality cheese and butter as seen from the many factories scattered throughout this region.

In the more rugged areas of the Gatineau hills and in the upper reaches of the Ottawa, meat production predominates -primarily beef cattle-but many

areas such as Pontiac County produce high class lamb and mutton. This part of the National Capital Region is also well known throughout the North American Continent as a producer of high class seeds, such as peas, oats and barley. This is illustrated by the long line of winnings at such famous international seed shows as the International Grain and Hay Show at Chicago, and the Royal Agricultural Winter Fair at Toronto.

Unlike horticultural development, the industries of dairying, meat production and seed production, are well served by the most modern and excellent dairy companies in the City of Ottawa, a meat packing company in the City of Hull, and seed cleaning plants scattered throughout the district. The Ottawa area has not been widely known-as an important horticultural area. There are, however, a considerable variety of crops grown very largely for consumption within the region. A full line of vegetable crops, including such heat loving crops as tomatoes and sweet corn, is grown by numerous market gardeners. Small fruits such as raspberries, strawberries, currants and gooseberries are widely grown throughout the area, and in recent years apple production has developed to a considerable extent until now there are several commercial orchards that are being operated on a profitable basis. Hardy plums and a few varieties of hardy pears are grown to a limited extent. Other fruits such as cherries and grapes are not grown commercially, and peaches will not survive the rigorous winters even in backyard gardens. Until such time as a canning factory is established, acreage will be limited to the demands of the local fresh fruit and vegetable market.

The economic significance of this agricultural development is often taken too much for granted. Although the Capital City is not primarily noted as an industrial city, nevertheless the industries of Ottawa, Hull and towns in the National Capital Region are primarily established for the purpose of servicing agriculture and forestry. These two industries in turn are the major support of the city in food and employment. This very happy relationship cannot be ignored in future years. The existing excellent relationships between the production of foodstuffs and building materials for the Capital must be maintained on the most harmonious basis.

Speaking agriculturally, the Capital City is and should be the logical headquarters for research for the Ottawa region and the larger territory in this climatic zone. Equally, it is but logical that it should be the administrative headquarters for agricultural research, which is a Federal responsibility for all Canada. Thus, Ottawa is particularly favoured by having such institutions as the Central Experimental Farm, the headquarters for Science Service in Agriculture, including the most valuable research unit in animal diseases located in Hull, and the Biological Division of the National Research Council. It is of particular interest to note that these phases of research, which have grown with the years, have

PLATE II
LAND SURFACE COVERAGE
WITHIN AND CONTIGUOUS TO ULTIMATE URBAN AREA

existed in or near the Capital City for nearly seventy years, while it is only within the last two decades that our great neighbour to the south has realized the great need of a similar federal institution and has established on the outskirts of Washington a tremendous and beautifully equipped agricultural research unit at Beltsville, Maryland. That institution, just as the Central Experimental Farm at Ottawa, is more and more appreciated by city and rural people as a research centre where reliable information is acquired for the benefit of the region itself, as well as for the nation as a whole.

The history of each and every Division, and the tremendous amount of work conducted at the Central Experimental Farm, are sources of pride to those who have accomplished them, as well as to the producers of food, fruit, flowers and trees throughout this area. More far reaching, however, are examples such as the creation of varieties of cereals, either at the Central Experimental Farm or under its direction elsewhere, which have opened up the great Prairie Provinces for agriculture and are protecting farmers in all parts of Canada by guaranteeing safer production and better quality products.

It is unfortunate that Ottawa is not so far advanced in its influence on the great industry of forestry, yet the accomplishments in agriculture and now in Science Service in Forest Entomology and Forest Pathology, have had a profound influence on all branches of the forest industry throughout Canada.

This region, too, is served in agriculture and forestry education by very active provincial units such as the Kemptville Agricultural School, the excellent work of County Representatives, and the Agronomes in the Province of Quebec and Agricultural Representatives in Ontario. Consequently, in the domains of production, beauty, education and industry, these three great valleys which converge at the Capital City offer unique service to this great Capital centre of the young and growing Dominion of Canada.

E. S. ARCHIBALD.

Hydrography - Waterways and Lakes

Flood Conditions

The region is drained by the Ottawa River and its tributaries. The Ottawa River is the main stream and flows generally in an easterly direction across the region. The river has not an even gradient, but consists of a series of lake-like expansions or stretches where the gradient is very low, separated by falls and rapids. At the Chaudiere Falls near Ottawa the river falls 25 to 30 feet over flat-lying limestone and, above the falls, a series of rapids separated by short stretches of water occurs. Above Deschenes Rapids, near Britannia, the river occupies in part a broad rock valley and forms an extensive lake-like expansion known as Lake Deschenes, some two miles in width, which extends to the southwestern portion of the area. From Lake Deschenes, in a northwesterly direction, the river is navigable almost to the westerly extremity of the region in the vicinity of Fitzroy Harbor, immediately westerly from which occurs the power dam at Chats Falls. Below the city of Ottawa the river has a very low gradient and flows in a valley largely underlain by marine clays, the bedrock being rarely exposed.

Gatineau River, the second largest stream in the area, joins the Ottawa River from the north, opposite the city of Ottawa. Within the region its waters are dammed for power development purposes at Farmers Rapids, situated some four miles north of its junction with the Ottawa River, for which distance the banks of the river are formed of marine clay and the gradient of the river is very slight. Throughout the upper part of its course it flows in a deep rock valley cut in the pre-Cambrian upland, and is characterized by rapids and falls, with intervening stretches where the flow is relatively slow because of low gradients.

Rideau River, coming from the south, enters the Ottawa River at the city of Ottawa where it falls some 50 feet over the limestone escarpment which forms the south bank of the Ottawa. On top of the escarpment, the river is divided by Green Island, forming twin falls, which, from their curtain-like appearance, were named Rideau Falls by the early explorers. The use of this historic name was extended to the river and to the many lakes in which it finds its source and from which it flows to the Ottawa River. Throughout the greater part of its course within the region, the Rideau River occupies a valley which is floored by drift deposits, the bedrock outcropping at only a few places. Rapids and falls occur at places where the bedrock outcrops, as at Black Rapids, north of Manotick, Hog's Back, within four miles of the centre of Ottawa, and south of Cumming's Bridge, within the city.

Much could be said on the distinctive characteristics of these rivers, consequent to the differing natures of the lands through which they flow. The Gatineau drains the northern countries, regions of mountains and forests; the Rideau drains the southern countries, flat areas of marsh and farm lands. The former is active

and brisk, and in the spring continues to roar turbulently, while the Rideau is beginning to resume its normal leisurely and placid course. The Ottawa River, which is the confluent of both rivers, forms the boundary between two Provinces, each with its inherent demographic, racial and religious characteristics, and also marks the division between two regions, each distinctly characterized geologically. On the north, the Laurentians with their low-lying mountains, their multitude of lakes and rivers and their wild life, extend without interruption to the great north; and on the south, the flat and more hospitable lands, characteristics of the highly productive and fertile lands of southern Ontario, are endowed with a much milder climate.

Numerous smaller streams, especially in their lower portions and in the areas where drift deposits are thick, occupy narrow steep-sided valleys. Of these, the principal are the Lapêche River and Chelsea Creek, each tributary to the Gatineau River; the Quyon River and Breckenridge Creek on the northeast shore of the Ottawa River; Green Creek on the south-eastern shore; and the Carp and Mississippi Rivers in the southwesterly portion of the area. Much of the drift covered portions of the area, particularly in the southerly portion, are, however, only slightly dissected by stream erosion, and there are comparatively large areas in which the nearly level surface of the drift deposits is almost entirely untrenched by streams.

Terraces, cut chiefly in the marine sands and clays, occur along the valleys at considerable heights above the present drainage channels in the eastern part of the region. They occur along the lower portions of the Gatineau and Ottawa River valleys, along the Rideau valley and in the area drained by Green Creek. They are especially well developed south of the city of Ottawa and along the Ottawa River valley and its tributaries below the city of Ottawa.

In the northern portion of the region there are many lakes, McGregor, Grand, Lapêche, Philip, Harrington and Meach Lakes being the principal. Such are quite characteristic of the Laurentian formations, where lakes, rivers and streams are perhaps as numerous as in any other region in the world. Two smaller lakes occur in the pre-Cambrian upland area, i.e., Kingsmere and Pink. In the lowland area, except for the lake-like expansions of the Ottawa River previously referred to, there are relatively few lakes, the largest of which is Constance Lake.

Flood Conditions-The Ottawa River, which traverses the region from west to east, is a waterway of considerable magnitude. Its course, within the region, is characterized by a series of falls and rapids, between which are long stretches of navigable waterways. These in places widen out to form large lake-like expansions, in some instances two miles in width, of which Constance Bay and Lake Deschenes are characteristic. In such areas the contiguous shore lands slope gradually toward the water fronts, while at the points of bedrock outcroppings, where occur the rapids and falls, the shore line is characterized by rock escarpments, of more or less magnitude, the whole providing a magnificent scenic waterway.

Typical of such northern waterways, the seasonable water flow of the Ottawa River varies from that of quiet placidity in the summer and fall seasons to extreme turbulence following spring thaws, particularly where rapids and waterfalls occur and at the narrow parts of the river. The following statistics covering water levels and flows gives specific data in this connection:

OTTAWA RIVER WATER LEVELS

PLACE OF READINGS: Britannia, west of Deschenes Rapids.

PERIOD OF READINGS: Years 1902 to 1947.

	HIGH WATER (42 readings)	LOW WATER (39 readings)
Average Elevation	195.4	189.8
Lowest Elevation	193.1 (1915)	188.0 (1937)
Highest Elevation	198.4 (1909)	191.1 (1927 and 1928)
Water Discharge	<i>Low</i> of 63,300 C.F.S. with water elevation 193.1 (1915) <i>High</i> of 181,200 C.F.S. with water elevation 196.6 (1943)	<i>Low</i> of 6,900 C.F.S. with water elevation 188.8 (1911) <i>High</i> of 31,500 C.F.S. with water elevation 191.0 (1932)

PLACE OF READINGS: Rideau Canal Locks.

PERIOD OF READINGS: Years 1876 to 1947.

	HIGH WATER (49 readings)	LOW WATER (48 readings)
Average Elevation	142.7	129.5
Lowest Elevation	136.3 (1931)	126.9 (1914)
Highest Elevation	149.2 (1909)	132.5 (1928)

The periods of extreme high water levels give rise to flood conditions which in the urbanized areas of Ottawa, Hull and vicinity are the cause of extensive property damage, in lowlying adjacent land areas. Such conditions are of frequent occurrence, particularly in lowlands situated on the northerly side of the river from Brewery Creek easterly to and beyond the Gatineau River, and including much of the waterfront development fringing the Gatineau and Ottawa Rivers in the village of Pointe-Gatineau. Such conditions likewise occur along both shore lines of the Ottawa extending westerly from Val-Tétreau and Ottawa West to beyond the villages of Deschenes and Britannia.

Similar conditions are of frequent occurrence on the Rideau River: the nature of the river bed is at points such that the timely provision of water channels through the ice is invariably essential if the heavy water flow incidental to spring thaws is to be controlled and flooding prevented. Local authorities are alert to this situation, but, despite organized efforts, conditions develop and the onrush of water presents itself with a suddenness such that its destructive force cannot be offset. Within the precincts of the Ottawa area the land so affected

Illustration 9

FLOODING OF THE OTTAWA AND GATINEAU AREAS AT THEIR CONFLUENCE

In the spring the rivers rise turbulently, occasionally causing considerable damage and creating acute problems involving the control of floods, reforestation and the regulation of construction on low-lying lands

lies east of the Rideau River from the vicinity of Cumming's Bridge to Hurdman's, and on both sides of the river from Hurdman's southerly to a point three-quarters of a mile west of Billings Bridge.

In the matter of flood control, the Provincial Government of Ontario has recently brought to bear on the problem the full resources and facilities of its specialized Departments of Public Works, Agriculture, Lands and Forests and Highways, in an effort to evolve solution which obviously lies with the utmost co-operation between the Provincial Government and local organizations. The Ontario Minister of Planning and Development, the Honourable Dana Porter, admirably expressed the nature of the problem in saying:

There are two vital aspects of the problem of flood control. At the time of flood, the most pressing desire is to get rid of water. At that time, for a short period, counted in days, for a few days, water is a menace. It wreaks destruction. Yet a few months later, when the dry season begins, we are faced with the opposite extreme. In the season of drought the most pressing need is for more water. Measures that are merely designed to get rid of as much water as quickly as possible contribute nothing in themselves towards any permanent solution.

The real problem is one of conservation of water. To hold back, to store, to check the flow, by all means that science, experience, knowledge and common sense have to offer. Water that can be saved, water that can be checked and released gradually, is that much less water to swell the crest at times of peak. It is also water that may later relieve in some degree the effects of drought.

The great natural place for the storage of water is underground. It has been said that, except the oceans, there is no reservoir for water so vast and effective as the soil. Measures that result in a greater absorption of water in the ground, and check a quick and wasteful run-off, all play an important part in any program of water conservation. Simple conservation practices have been devised and tried with success to accomplish this. They consist of contour farming, terracing, the use of grass crops on sloping land, the provision of small ponds, strip cropping, the protection of streams. All these simple commonsense measures are done to make the soil absorb more water, to make the soil more like a sponge, or, if you like, a blotter. Any general program of practices of this kind requires co-operation of individuals. It needs voluntary agreement as to the best way of carrying them out amongst the owners of the farms themselves.

The final method to achieve this end is reforestation on lands that have proven unsuitable for agriculture. Where there is forest, snow melts more slowly, and thus releases water more gradually. Moisture is retained in the soil. Streams tend to maintain their flow even in dry seasons. Forest tends to improve underground water levels.

Illustration 10
CITY OF OTTAWA: HISTORICAL PICTURE

2

HISTORY

History of the National Capital

Prepared by

DR. GUSTAVE LANCTOT,
*President of the Royal Society of Canada,
and former
Deputy Minister of Public Archives.*

Capital of the largest country in the two Americas, Ottawa profiles, in sharp relief, against an azure sky, an imposing and sculptural outline of monuments, churches and dwellings that rise, tier upon tier, from the height of her hills. Unfolding before her, at the confluence of two rivers, is a landscape of unique charm in which the variety of aspects adds itself to the harmony of the vistas:

the broad-bosomed Ottawa between the graceful waterfalls of the Rideau and the boisterous, leaping Chaudiere, in front of the compact clustering of Hull houses, and beyond, the verdant countryside divided into fields and woods, quickly rising in a succession of benches towards the picturesque Laurentians, heavily wooded with oak, birch and maple which the autumn suddenly transforms into a blaze of colour and mantles in raiment of gold, purple and bronze. Around her Parliament Hill, girdled by the Ottawa River, and her Sandy Hill which the Rideau skirts, are grouped or scattered, in a far-flung periphery, her grey stone or red brick dwellings, verdure bordering the length of her avenues pleasantly shaded by the broad canopies of stately elms and magnificent maples.

A city barely a century old, proud of her political rank, situated between French Quebec and British Ontario, Ottawa is above all a government city, rapidly developing, becoming more beautiful and rising to the level of world-wide importance of a young country, suddenly grown into a real international power by reason of its natural resources, its trade and industry, and, still more, because of its economic and military role during those two periods of war and crisis that convulsed the life of nations and continents.

Ottawa is the eldest daughter of the great river the name of which she proudly bears, a name given because it was the route taken for their annual navigations by the Outaouats, that is to say the men of the forest. From time immemorial, garbed in skins, their faces painted in many colours, they came down, every spring, in bark canoes laden with furs, and traded with the Eastern tribes at the meeting place at Tadoussac. The "road that walks", according to the Indian expression, the Ottawa continued to serve as the great trade artery, after the arrival of the Europeans in the St. Lawrence, in 1535, with Jacques Cartier, the country's discoverer and first explorer. The first white man to appear before the site of the Capital was, in 1610, Nicolas de Vigneau, an *engagé* of the Quebec post, founded two years before. Three years later, in June 1613, Champlain himself, the founder of New-France, camped on the spot. He described the "arcade" formed by the Rideau Falls and the rampaging cascade which the Indians, by reason of its boiling eddies, named Asticou, in French the Chaudiere. Confronted by this impassable barrier, all the voyagers were forced to portage, that is to say, to lift their canoes from the water and carry them the full distance of the dangerous rapids. Thus, throughout the whole French Regime, there landed before Parliament Hill, the natives of many nations, as well as the traders and explorers, the missionaries and soldiers of France: the chiefs Tessouat and Kondiaronk, the *coureurs des bois* Radisson and Perrot, the discoverers Du Lhut and La Vérendrye, the Jesuits Jogues and Brébeuf, the officers de Troyes, d'Iberville and Lamothe-Cadillac. Under British rule, until the construction of the railways, the Ottawa remained the main artery, because it was the shortest, of transportation and communications. The first Englishman to ascend its course was, in 1761, the trader Alexander Henry. In the years that followed, there tramped by the foot of the surging, foam-flecked rapids the most famous barons of the Beaver Club, Frobisher, McTavish and Alexander Mackenzie, also two celebrities of their day, Lord Selkirk, founder of

Manitoba, and Sir John Franklin, the Arctic explorer. All used the bark canoe which, with a firmly gripped paddle and a song on their lips, canoeists, called the *voyageurs*, propelled tirelessly, as they wended their way, by countless rivers and lakes, from Montreal to the Pacific Coast.

Then, suddenly, in 1800, there arose, alongside the trader, the man of tomorrow, the settler. He was Philemon Wright, of Woburn, Massachusetts. He took up residence with five families on the opposite shore, on the present site of the city of Hull. What with the felling of the trees of the forest and the growing of cereals, the settlement progressed so rapidly that in 1806, the first rafts of timber descended the river on their way to Montreal. Following the close of the Napoleonic wars, the year 1818 witnessed the arrival of the first group of numerous emigrants, disbanded soldiers, who were given land grants at Richmond, along the Rideau River. Their passing led an adventurous pioneer, Jehiel Collins, to construct the first house, a kind of tavern, in the future Ottawa at the terminal point of navigation, at the spot where Duke and Wellington Streets intersect. Round this area, known by the name of Richmond Landing, the transfer point of immigrants and goods coming from Montreal, a few houses and outbuildings were soon erected, and such were the modest beginnings of the Canadian capital.

A project of great military importance which had been under consideration for a long time took shape simultaneously. During the war of 1812, the capture of Toronto and the march of an American army on Montreal, that threatened to sever communications by the St. Lawrence River between Quebec and Ontario, revealed the necessity of finding an alternate route beyond all danger of occupation by the enemy. Following several technical reports and surveys on the subject, the General Staff decided in favour of a route which, making use of the Ottawa and Rideau rivers, would link, beyond all hostile attacks, the two Laurentian ports of Montreal and Kingston. In April, 1826, Lieutenant-Colonel John By, of the Royal Engineers, was appointed to direct the construction of a canal which, by making use of the course of the Rideau, would ensure uninterrupted navigation between Montreal and Kingston. In September, following a final examination of the land, the officer adopted the direction followed by the Rideau canal. The foundation of the Canadian capital may be dated from that month.

The work, started in June, 1827, with the corner stone being laid by the Governor-General, Lord Dalhousie, on September 29, was pressed forward so energetically by the Corps of engineers that it was possible to inaugurate the canal, May 29, 1832, with the passage of a steamer, the *Pumper*, bearing Colonel By and a party of specially invited guests. The cost of the undertaking amounted to about \$4,000,000.

During the five-year period its construction entailed, the work on the canal had attracted and detained many workmen and unskilled labourers who settled on the present site of Ottawa. Their presence, in turn, attracted craftsmen of every trade, merchants and shopkeepers, so much so that the locality, which took the name of Bytown in honour of the builder of the canal, soon numbered a

population of about 1,000 souls. In the absence of any war, the canal was never used for military purposes, but, on the other hand, it did open up to settlement a region of fertile land, facilitated the transportation of goods and agricultural products, and contributed in various ways to the development and progress of a whole vast area straddling two provinces.

At this time, the felling of trees and the floating of logs constituted the sole regional industry. In winter, the forests bordering on the rivers echoed to the mighty axe strokes of woodsmen operating in many scattered shanties. With the advent of spring, hundreds of thousands of logs, floated from the upper reaches of the Ottawa and the Gatineau, were assembled in the basin, at the head of the canal. At this point, raftsmen formed them into large rafts on which were erected several cabins that served to house the cooks and their assistants and the crews handling the rafts. This whole industry, log cutting and floating, required enormous quantities of provisions and goods for the loggers and raftsmen, whose stay in the locality increased tenfold, from year to year, the trade of the shopkeepers and artisans, and contributed to a steady growth of the population, so much so that in 1841, the latter amounted to more than 3,000 souls. To which was added, as early as 1852, the construction of several sawmills, which soon doubled the production and trade of Bytown and Hull, her neighbour.

From earliest times until the dawn of the last century, the bark canoe had served the purposes of exploration, the fur trade and military transportation. A craft that lent itself to quick locomotion, when dexterously handled, it was also noted for its wonderful load capacity. With the advent of colonists there came the Durham boats, solid rowing-boats, slower travelling but more staunch and better suited to the transportation of heavy and cumbersome loads. Then, as early as 1821, steamboats made their appearance on the river. The first of these steam-propelled boats was called the Union. The fare, in round figures, from By-town to Montreal cost \$5, and to Kingston \$6. Finally, in 1854, a first railroad, operating from Prescott to Bytown and connecting with the Montreal-Toronto line, marked the inauguration of a regular service, with the trains travelling at a speed of ten miles an hour.

With the expansion of the lumber industry and the increase in the agricultural population of the region, the village of the early days had grown from year to year, to the extent of becoming the county town of the district as early as 1842; it also boasted of having three weekly newspapers since 1836. Constituted a town municipality by a statute enacted in July 1847, afterwards disallowed by royal revocation, Bytown resumed her title of town in January 1850 and chose her first mayor, John Scott, a lawyer. Constantly growing in numbers, importance and prosperity, proud of a population of 10,000 souls, the ambitious little town soon sought and secured legal status as a city, in January 1855, with the right to exchange the too common name of Bytown for the more rare and harmonious appellation of Ottawa.

Illustration 11

THE CHAUDIERE FALLS

Original drawing by Colonel John By – 1826

In the meantime, United Canada, which consisted of the Provinces of Ontario and Quebec, since 1841, had not yet finally settled on the location of her capital. Her parliament held its first sessions in Kingston, to the dissatisfaction of all the members. A member proposed that the sessions be held alternately in Quebec and Toronto, while the representative of the county of Carleton suggested that Ottawa be chosen. Finally, in November 1844, Montreal became the capital, but forfeited her title, as early as 1849, following a riot that culminated in the burning of the legislative building. Unable to make a definite selection, the Legislative Assembly decided to sit alternately every four years in Quebec and Toronto. This system of a movable capital, entailing the transportation of library, archives, furniture and staff proved to be difficult, complicated and quite costly. The question again arose of choosing, finally, a permanent capital. Six cities claimed that honour: Montreal, Quebec, Toronto, Kingston, Hamilton and Ottawa. The youngest and the least populated, the last named presented, on the other hand, at least at that time, an impressive array of advantages: remoteness from the frontier, security from all threat of occupation, facility of communications with all the large cities of the country, favourable location on the boundary line of two provinces, half-way between all points, the centre of a promising region, and remarkable beauty of the site and surroundings. Lastly, the clinching argument after the question of

Illustration 12

CHAUDIERE FALLS: PRIMITIVE STAGE

Lithograph by W. S. Hunter Jr.

Illustration 13

GATEWAY OF RIDEAU CANAL – BYTOWN 1841

Engraving by W. H. Bartlett

Illustration 14

RIDEAU FALLS: PRIMITIVE STAGE

Lithograph by W. S. Hunter Jr.

Illustration 15

LOCKS ON RIDEAU CANAL, 1841

Engraving by W. H. Bartlett

Illustration 16

OTTAWA IN 1855

Lithograph by E. Whitefield

strategic situation, nothing short of her selection could make an end of the intense rivalry between the two principal aspirants, Montreal and Toronto. Confronted with these reasons, Queen Victoria advised the government, December 31, 1857, that she was choosing Ottawa as the capital of United Canada, a selection the Legislative Assembly barely confirmed by a vote of 64 to 59.

Without loss of time, and resulting from an architectural competition, construction of the Parliament and government buildings was started immediately after acceptance of the plans of architects Fuller and Jones. Chosen as a site for the halls of the nation was the eminently favourable headland flaunting its escarpment above the broad bend of the Ottawa River between Nepean Point and Victoria Island. The spot affords a magnificent view of the scenery, harmonious and picturesque, interspersed with cultivated plateaux and wooded hills, with, as a background, the summits of the Laurentians undulating softly, mauve-tinted in the evening, against the blue sky of the distant horizons. On September 1, 1860, the Prince of Wales, later King Edward VII, laid the corner stone of the main tower, but it was not until June 8, 1866, that the first legislative session, held in Ottawa, opened in the stately Parliament building, a happy blending of Gothic style enhanced by sculptures and native stone of beige and greyish tint. On that day, to the great pride of her 20,000 citizens, Ottawa witnessed the fulfilment of her dream, for long apparently chimerical, of becoming the capital of the country.

Soon, there was to occur a great event that had been in the making for years. This occurrence would once again enhance the eminence of Ottawa and suddenly exalt her political and national role. Following several conferences, the four provinces of Quebec, Ontario, Nova Scotia and New Brunswick formed, July 1st, 1867, a confederation that took the name of Dominion of Canada. Ottawa now became the capital of a very vast country which soon trebled its dimensions by the acquisition of the North-West Territories and by the annexation of two new provinces, British Columbia in 1871 and Prince Edward Island in 1873, with the result that the young capital now governed a country stretching from the Atlantic to the Pacific, and from the Arctic to the United States boundary.

Risen to the rank of an autonomous colony, endowed with enormous resources-ranging from the fisheries and the coalfields of Nova Scotia, the forests of New Brunswick, Quebec and Ontario, the fur-bearing animals of the North-West Territories to the wheat-fields of Manitoba, the woods and the mines of British Columbia-Canada still grouped but a small population of 3,000,000 inhabitants, scattered in seven provinces, but united by a common allegiance and the steel bonds of her railways extending from Halifax to Vancouver. However, there soon developed, slowly yet surely, a substantial agricultural advancement and a solid industrial expansion, under the aegis of Sir John A. Macdonald's national policy, expansion and advancement which increased the Canadian population to 5,000,000, while the Capital was to witness a rise in the number of her citizens from 43,000 souls in 1891 to 60,000 in 1901.

Suddenly, a new mastery asserted itself in the government of the country. An intense propaganda set in motion such an annual influx of immigrants that in 1911 the population rose by successive leaps and bounds to 7,000,000 souls, an increase of 2,000,000 in ten years, while Ottawa, keeping pace with the growth of the country, was extending her boundaries and swelling the number of her inhabitants to 90,000, a remarkable figure for a city in existence but 60 years. While a growing political autonomy was becoming more marked, an Imperial preference policy was increasing commercial exchanges to unprecedentedly high levels, so much so, that Laurier, the moving spirit of this progress on the two fronts could rightly exclaim: "The twentieth century will be Canada's century".

At this very hour, the first world war was touched off. To the appeal of nations to right and freedom, Canada answered magnificently: volunteers for the most part, 620,000 men took up arms and four divisions fought gloriously on the European front, notably at Ypres, Courcelette, Festubert and Vimy. Therefore, in the face of such splendid collaboration, neither Great Britain nor the United States could deny to Canada's representative, Sir Robert Borden, the right and the honour to affix his signature to the Treaty of Versailles. By one stroke of the pen, the country attained national independence and acquired the stature of an international power, accessions confirmed by the Imperial Conference of 1926 and embodied in the Statute of Westminster. From then on, Canada signed her

own treaties and appointed her own ambassadors, while accrediting to her country diplomatic representatives from abroad. From a political capital, Ottawa rose to the rank of an international capital.

The war, however, had dealt her a hard blow: in February, 1916, a fire set by a German hand destroyed her first Parliament Building. Soon rebuilt according to a broader plan of architect John Pearson, the magnificent monument, which retained the Gothic style, dominates, since 1920, with its lofty Peace Tower, the whole city and surrounding landscape. In those wars, with the creation of new departments and the multiplication of administrative services, the population showed a rising curve, to which the construction of new commercial buildings and apartment houses also contributed, so much so, that it reached the figure of 120,000 souls in 1930.

During the trying years of the economic crisis, first felt in 1929, political Ottawa, like the remainder of the country, fought gallantly, and lent a helping hand wherever distress was experienced. The capital was directing a sound economic recovery on all fronts when she extended a triumphal welcome, in May, 1939, to His Majesty George VI and his gracious Queen Elizabeth. In the course of this visit, a unique occurrence in recorded history, the sovereign of the British Empire presided over a sitting of the Canadian House of Commons.

Three months later, there broke out the second world war, a still more terrible conflict because it was more systematically barbarous. Once again, in defence of justice and civilization, the country girded its armour: this time, one million Canadian men and women joined the armed forces and soldiers from the land of the Maple Leaf outdid themselves in deeds of valour on the battle-fronts of Italy, France and Holland. At the same time, Ottawa assumed all controls, raised stupendous amounts of public monies, improvised a huge industry, exported overseas immense quantities of arms and munitions, wheat and provisions. In due proportion to its population, no country made such a gigantic military, economic and financial contribution, a contribution that had its counterpart after the war in the form of extraordinary help to impoverished and devastated European nations. Today, once again, the war has enhanced Canada's fame as never before and revealed this country, which is not yet fully aware of its potentialities, as a real international power of the first magnitude.

On the other hand, by centralizing around its departments manifold organizations and boards, the war had rapidly augmented the population of Ottawa which now reached a total of 165,000 souls. At the same time, the Capital revealed herself a tourist centre of rare attraction. A quite natural result, moreover, for beside her political importance are to be found the interest of her public monuments, the charm of her site and the attractiveness of her surroundings. Residence of the governor general, a university and episcopal city, she can offer convention members hotels with every modern comfort, to specialists the Parliamentary Library, the National Archives and the scientific museums; to the ordinary

Illustration 17

OTTAWA- 1876

Drawing by B. Brosius

tourists, the Royal Canadian Mint, historical museums, the Archives and the National Gallery. For hikers, here are Rockcliffe, the Driveway and the gardens of the Experimental Farm. On leaving the city, the visitor finds himself, within a few minutes, in the Gatineau National Park, at the gateway to a hunting and fishing paradise, the great wild beauty of which is spangled with blue lakes and green rivers. No region in the world presents to the eyes a spectacle comparable with the dazzling enchantment of the Gatineau forest in the autumn of the year with its marvelous tapestry of gold, crimson and glowing purple.

A political capital, Ottawa has for long shown concern to improve herself by town planning and prove worthy of her role and her future. The initiative for her beautification is due to Sir Wilfrid Laurier who, as early as 1896, asked that she become "the Washington of the North". From this idea stemmed, in 1899, the first improvement commission which became subsequently the Federal District Commission. This organization carried out a number of landscaping and improvement projects. In 1938, Mr. Jacques Greber, the internationally renowned

French town planner, conceived, as an excellent beginning, the plans for Confederation Square and the Elgin Street boulevard. Then, in 1945, on the initiative of Prime Minister W. L. Mackenzie King, the government asked him to draw up a comprehensive plan embracing the whole city and taking in the whole region, from the Laurentians to the Rideau Lakes and from Perth to Montebello. In the course of several years of study, the project has taken shape and broadened in scope, and will soon enter the stage of practical application. It contemplates adding to the splendor of the natural surroundings, and to the distinction of her public buildings, the advantages of an airy city, freed from traffic congestion, rid of the obstruction of railway tracks, crossed by wide avenues and circling autostrads, providing space for new imposing structures to house departments, museums, theatres and convention halls, not omitting turfed, treeshaded parks. A new Ottawa should emerge from this plan which envisions a co-ordinated group of communities harmoniously developing in a setting of beauty, In the course of the years, from this town planning, loftily conceived and farseeing, allying the aesthetic and the practical, might emerge in this city of Ottawa a capital distinguishable by the union of art and nature, the compass of her surroundings, the style of her monuments, the attractiveness of her avenues, the charm of her parks, and the perfect appointment of her modern services, so much so that this capital would proudly rise to the level and greatness of the national and international role which this new world power, named Canada, a country of the future, is called upon to play in not too distant morrows.

GUSTAVE LANCTOT.

Urban Evolution of the Capital Area

PLATE 6 OF
ATLAS

The urban area which now includes Ottawa, Hull and their environs, owes *its birth* to its favourable location at the confluence of three large rivers. These waterways were the natural conveyors of lumber originating from the nearby forests.

Its early growth was due largely to the construction of the Rideau Canal and, later, to the choice of Ottawa as the nation's Capital. As in the case of all new settlements, subsequent railway installations provided the incentive for rapid development.

However, during the evolution of the city, the relative importance of these functions has been reversed. The present activity and prosperity of Ottawa are chiefly due to its status as the National Capital, in the life of which industry now forms a secondary part.

Illustration 18

GROWTH OF BUILT- UP AREAS FROM 1810 TO 1945 FOR OTTAWA- HULL AND VICINITY

Born of the search for transportation and water power, the original settlement was established along the Chaudiere Falls on the Hull side. With the extensive works necessitated by the construction of the strategic canal by Colonel By, new settlements developed on each side of the locks. Later, when Barracks Hill was chosen as the site for Government Buildings, these settlements became the core of urban expansion.

The introduction and expansion of railway lines within the growing community, while promoting its development, have become the major detriments

to its rational and harmonious growth. The ever increasing encirclement of the city and the ruthless cutting through of its growing surface by railroads nullified the benefits brought by the latter and their satellite industries, to the detriment of the welfare and comfort of the citizens. These same influences which, in the past, provided the incentive for recurring phases of increased activities and expansion, and which later proved to be definitely adverse to its best interests, now become potent factors in the reorganization of the Capital.

The *characters* of the central areas have been determined by the activities of the early settlement, and, other than by commercial and industrial expansion have been subject to little change. The residential districts immediately surrounding commercial and industrial areas show evidence of the detriments attached to such growth. The Chaudiere Falls area has continued to develop industrially, expanding year after year, gradually encroaching with its plants, warehouses and railway sidings on residential zones, and congesting traffic on both sides of the river. The downtown area continues to expand commercially and semi-industrially, constantly encroaching on contiguous residential areas which thus become overcrowded. Rideau Street, Dalhousie Street, Sparks Street and Bank Street have shown commercial growths which have penetrated adjacent streets and deteriorated former residential sections. Thus, from the very outset, commercial, semi-commercial, industrial and semi-industrial areas have been allowed to expand to the detriment of adjacent residential districts which, furthermore, have followed a constant evolution under the pressure of added demands for services. The north end of Bronson Avenue, once the choice residential area, has had its properties converted into small apartments or replaced by flats. Metcalfe Street, where heavy traffic was formerly prohibited, has undergone a similar change. Sandy Hill undergoes the encroachment of commercial activities, despite the desire of its citizens to have it retain its residential character. Residential areas have continuously regressed from the commercially active sections of the city. Statistics fail to show any diminution in the number of dwellers in such central residential areas, while clearly indicating that outlying districts have grown rapidly.

If the city continues its expansion without proper control provided by adequate zoning, there is little doubt that those residential areas will continue to deteriorate. Such conditions are frequent in large cities, especially of commercial or industrial characters.

The search for space, the constant pressure from various activities, together with the improvement of roads and public transportation, are factors which have fostered the expansion of suburban areas. As distances increased, outlying areas have shown a tendency to spread promiscuously, rather than to form outside nuclei. New and continuous developments occurring along the main lines of communication, have given to the latter the twofold and irreconcilable character of highways and commercial streets. Such developments are more common in the westerly sections of the Ottawa and Hull areas, than in the easterly extensions.

In an effort to safeguard their normal development, certain residential areas have tried to protect themselves in various ways; some, like Ottawa South, by developing a spirit of neighbourliness and by spontaneous adoption of protective measures, and others, like Rockcliffe, by resorting to legislative exclusion and control.

The city's expansion is now hampered by the lack of proper communications. As its development tends to follow along its westerly arteries, distances have become prohibitive, and those arteries have failed to meet the dual functions of shopping streets and through highways. Consequently, with a view to further integration within the central area, recent developments have utilized lands which had hitherto remained vacant because of their proximity to undesirable neighbourhoods (Mann Avenue Housing Project), or have been located within densely populated areas in the centre of the community, or failing this, have found new sites well located but poorly linked with the centre (Manor Park and Wrightville Housing Projects).

In growing communities, in which the road systems are inadequate, uncontrolled developments occur along existing highways and are the origin of ribbon developments. One of the marked advantages of a *master plan* lies in its *prior designation of the location of the different areas of activity*, limiting the development of the central area and fostering the creation of self-contained satellite communities within a comprehensive system of open spaces, with the view of avoiding the incongruity attached to such continuous and uncontrolled outgrowths. Such procedure permits of the organization of the necessary circulatory system by eliminating the defect of multiple traffic functions existing in central areas.

Subdivision of the land - The early settlers' urgent demand for land, the immense spaces involved, and the difficulties of access thereto, together with the lack of survey facilities, have determined, to a large extent, the artificial limits of counties and townships and the subsequent arbitrary gridiron subdivisions. The system was expeditious and quite practical for the distribution of lands which could not be properly surveyed.

Those methods ignored entirely the topography- of the land, and boundaries were established without consideration of natural features, which in older countries, *form the basis of land subdivision*.

The townships, on both sides of the river, were formally divided into "concessions" or large regular quadrilaterals, varying in size in different townships. Within the present urban area, on the Ontario side, the original concessions measured 100 chains¹ in width and were divided into 200-acre lots of 20 chains by 100 chains, a right-of-way one chain in width being reserved between each concession, and at every fifth lot. On the Quebec side, the concessions were 80 chains in width but variable in length. Lots measured 26 chains by 80 chains and generally there was a one-chain right-of-way between the concessions.

¹ 1 One chain measures 66 feet; 80 chains are a mile long and 10 square chains are equal to one acre.

The present street layout in the urban area of the Capital cannot be understood without some knowledge of the system of land subdivision used in the early days. Even more than the physical elements, this form of subdivision was the basic factor which determined the directions, widths and spacings of roads and the subdivision of land into lots. Such a system was developed without regard to the requirements of modern towns and cities; on the contrary, the physical elements and activities of urban development have been integrated into the resulting framework, in an unsuccessful effort to adapt them to it.

Influence of the location of public buildings on the distribution of population. The locations of *public buildings*, particularly Government administrations, were factors which had direct bearing on the distribution of population (See Plate IV). Their personnels gradually became domiciled in groups contiguous to these buildings, as confirmed by our studies of the densities of such groupings in relation to their places of work.

Character of the urban expansion. The diagrammatic comparisons of the plans of city development from 1810 to 1945, and the plan of their superimpositions (See Illustration 18), show tentacular expansions, particularly in a westerly direction, during the first quarter of the twentieth century, followed by a sporadic tendency toward the east and south; though hampered by railroad interferences, such tendency was very marked during subsequent years.

Our studies for the delimitation of further extensions, and of the characters of their future layouts, take cognizance of existing development, *much of which cannot now be eliminated*, while an effort is made to correct the defects of gridiron land division, suitable for the development of farmlands, but most detrimental to rational community planning.

In Chapters 3 to 7 of the General Survey we have endeavoured to analyse the adverse factors associated with the development of existing urban centres, and have concentrated our efforts toward their correction by the adaptation of sound planning principles, with the view to avoiding proposals which, while ideal for entirely new developments, are impractical for already developed grounds. Chapter 4, Part 2, is devoted to the study of proposals in relation to such gradual and practical rehabilitations.

PLATE III

DISTRIBUTION OF POPULATION

DEMOGRAPHY

Population Growth -Density

The constant growth of population is clearly indicated by the parabola in diagram 19 which shows a firm tendency towards a continuous and progressive increase.

The total population of the region is approximately 273,000, i.e., 212,000 in Ontario, 61,000 in Quebec. The following table gives the population, as per 1947 census, in the 30 municipalities:

Ontario -

City of Ottawa	164,266
Town of Eastview	10,293
Village of Rockcliffe Park	1,599
Township of Nepean	19,963
Township of Gloucester	12,743
Fitzroy	612
Torbolton	1,958
March	626
	<hr/>
	212,060

(In whole or in part - 8 municipalities)

Quebec -

City of Hull	39,400
Town of Gatineau	4,800
Town of Aylmer	3,800
Village of Pointe-Gatineau	3,000
Village of Deschenes	543
Village of Wakefield	299
Village of Templeton	-
Village of Quyon	-
Township of Eardley	845
Municipality of Onslow	472
Municipality of Onslow South	750

Forward		212,000
<i>Quebec - Con.</i>		
Municipality of Masham North	415	
Municipality of Sainte-Cecile-de-Masham	-	
Municipality of Wakefield	-	
Municipality of Wakefield East	490	
Municipality of Hull East	-	
Municipality of Hull West	924	
Municipality of Hull South	2,556	
Municipality of Templeton North:	-	
Municipality of Templeton West	-	
Municipality of Templeton East	-	
East part of Templeton East (estimated 3,000)	3,000	
		61,294
Approximate total		273,354

(In whole or in part - 22 municipalities)

The population density is in general small. As an example, the population of the City of Ottawa is distributed as follows:

OTTAWA - DENSITY OF POPULATION (1947)

Ward	Population	Acreage	Density per acre
Victoria	11,389	612.2	18.6
Dalhousie	17,529	420.3	41.7
Elmdale	20,171	765.5	26.4
Wellington	18,611	329.7	56.4
Capital	14,842	519.5	28.5
Riverdale	13,911	774.6	18.0
Central	16,728	373.9	44.8
St. George's	20,575	537.7	38.3
By	11,143	201.3	55.4
Ottawa	13,197	229.9	57.4
Rideau	6,170	335.0	18.4
	164,266	5,099.6	32.2
Water		909.6	
	164,266	6,009.2	27.3

In population, which is 238,000, the urban region of the Capital ranks fifth among the urban centres of the country.

Illustration 19

OTTAWA HULL AND ENVIRONS FORECAST OF POPULATION TRENDS

The estimated figure of urban population of 250,000 in 1950, as foreseen by the authors of the Holt Report made in 1915, has been almost verified by the facts: 238,000 in 1947. It therefore now seems that the total population of the Capital area might easily reach one-half million by the end of the twentieth century. However, even from the most likely tendencies, it is impossible to determine, fifty years in advance, whether or not the development of the Capital Region will justify a still larger population, due to its major function as the Capital and the possible expansion of industry. If such should be the case, we have envisaged two alternate solutions, submitted in Part II.

Illustration 20

COMPARISON OF OTTAWA TO HULL AND THEIR SATELLITE COMMUNITIES

Origin of Population - Religions

The present distribution of English and French speaking populations in the Capital Region is symbolically representative of the whole Canadian people, as shown on graph 21. It is a positive demonstration of the wisdom of Queen Victoria when she selected Ottawa as the future Capital of Canada in 1857, although at that time the predominant element in Ottawa was of British descent. But gradually, commerce, industry and public administration brought to both sides of the river a continuous addition of French speaking population, which has now stabilized in a balanced proportion the two basic components of the Canadian population, reflecting the demographic status of the nation.

Similar comment may be made about the proportion of religious denominations, with a slight difference in favour of the Roman Catholic faith, due to its French and Irish components, (Graph 22).

Illustration 21

COMPARATIVE POPULATION BY RACIAL ORIGIN
CENSUS - 1941

Illustration 22

COMPARATIVE POPULATION BY RELIGIONS
CENSUS - 1941

Illustration 23

LOGGING ON THE GATINEAU

Following the cutting of the timber and its transportation by waterways, two subsequent characteristic activities in the exploitation of forests, which is a primary industry in Canada and in the Capital region, are illustrated.

Water transportation is effected by loggers who, with the lumberjacks, are generally recruited within rural areas for this seasonable activity, and form a characteristic class of the population.

Illustration 24

WOOD INDUSTRIES FACING PARLIAMENT HILL

The logs are assembled and retained within “booms” or enclosures formed of floating timbers linked together by chains, and are thus conveyed to their destinations, where they are stored in enormous piles, prior to their processing.

The immense quantities of timber utilized, and the installations essential to its treatment, constitute an undesirable industry in an urban centre and particularly in a Capital City, due to the danger of fire, the hazard of which was manifested by the conflagration of March 1946, which threatened the destruction of the interprovincial Bridge.

ACTIVITIES

Civil servants - Consequent to the demographic quantitative survey, analysis of the active population shows, by graph 25, the predominance of civil servants, expressive of the function of the Capital. This includes not only the official census of civil servants directly occupied in governmental work (about 32,000), but also the various professions indirectly depending upon the Government and public administration. Such conditions produce direct effects on the economic life of the Capital by the *stabilization* of domestic trade and of economic activities generally, through the maintenance of a *relatively high level of incomes*, in comparison with other Canadian urban centres, as shown by graph 41. It goes without saying that these factors in turn have definite bearing on the physical planning of the urban centre and on contemplated planning projects.

Industrial workers - Besides this predominant occupation, industries within the Capital Region indicate a substantial tendency towards normal development, a desirable factor in prosperity and urban equilibrium. In 1947, the region contained 264 different industrial activities,² the largest establishments being those connected with the lumber industry, especially those of the town of Gatineau and the Chaudiere Islands. The City of Hull is primarily an industrial City, with its own distinctive characteristics which further accentuate its difference with Ottawa, a difference which has stemmed from the racial, religious and administrative dissimilarities of the two cities.

Others - As the predominantly major urban centres of the region, Ottawa and Hull are the commercial cores serving the lesser urban entities throughout the Ottawa Valley. Commensurate therewith, large occupation groups are engaged in the service and distribution trades comprised within retail, wholesale and warehousing activities. Further, being centrally located within a highly developed dairy farming and agricultural producing area, in itself engaging large numbers of agricultural workers, Ottawa and Hull are the normal trading centres arising from such activities.

Lack of accurate information covering farming communities precludes determination of the exact percentage of agricultural workers.

² Information from the pamphlet, "The Ottawa Market".

Plate IV

RESIDENCE DISTRIBUTION OF CIVIL SERVANTS

PLATE V

EXISTING INDUSTRIES

Illustration 25

OCCUPATION OF WAGE- EARNERS OTTAWA, HULL AND VICINITY 1941 CENSUS

It is a fact that most of the artificial capitals, limited as they are to their governmental and administrative functions, are economically burdensome to their nations, unless they have acquired the normal character of self-supporting communities. Ottawa presents this fortunate condition of not being a huge metropolis with complex problems, but a city of reasonable importance, spacious and uncongested. It is already basically fitted for a well-balanced and self-supporting community life, through normal enhancement of commercial and industrial activities, within a large frame of farm and wood lands, completing the cycle of collective life of a total population which might double in number within the next two generations.

LAND USES

Urban, Suburban and Rural Zones -Detailed Survey of Built-up Grounds

The study of land uses includes:

1 - Land distribution, as to built-up areas for different purposes, street surface, open spaces, rural land, water, etc., for most of the municipalities of the region, presented in the form of comparative diagrams, giving the actual surface dimensions. See graphs 27 to 33 inclusive.

2 - General land uses within urban areas, obtained by inspections and inquiries in each municipality and summarized for each city block. See plate VI.

3 - Detailed land use plan giving up to date use of every property lot, either in monochrome (see illustration 34) or in colours (plate VII).

PLATE 7 OF
ATLAS

Such research has been made for the cities of Ottawa and Hull, the towns of Aylmer, Eastview and Gatineau, the townships of Nepean and Gloucester, the municipality of Hull South, the villages of Rockcliffe and Pointe Gatineau.

The land use plans give not only the representation of the different activities, industrial or commercial, and the density of residential blocks, but also the present state of development of the grounds owned either by the Government, the municipalities, or the various public or semi-public institutions.

An important element of the land use plan is the survey of subdivisions, existing or proposed, providing an exact knowledge of the present stage of physical development of new streets, in view of the incorporation or co-ordination of existing elements, and the revision, if need be, of those that are still in the preparatory stage.

These surveys also serve as a guide in the planning of co-ordinated lay-outs and make it possible to establish, following a detailed critical study, the percentage of occupation of the land for each of the different modes of utilization.

PLATE VI

LAND USE PLAN ESTABLISHED BY STREET BLOCKS

Illustration 26

AREA COVERED BY DETAILED LAND USE SURVEY

Illustration 27

LAND USE DIAGRAM OF URBAN AREA WITHIN OTTAWA- HULL AND VICINITY

Illustration 28

LAND USE DIAGRAM OF CITY OF OTTAWA

Illustration 29

LAND USE DIAGRAM OF CITY OF HULL

Illustration 30

LAND USE DIAGRAM VILLAGE OF ROCKCLIFFE PARK

Illustration 31

LAND USE DIAGRAM TOWN OF AYLMER

Illustration 32

LAND USE DIAGRAM OF TOWN OF EASTVIEW

Illustration 33

LAND USE DIAGRAM TOWN OF GATINEAU

Illustration 34

EXISTING LAND USE BY LOTS

PLATE VII

**LAND USE PLAN
CITY OF HULL**

THE LACK OF APPROPRIATE ZONING REGULATIONS IS EVIDENT FROM THIS ILLUSTRATION,
IN WHICH CAN BE SEEN THE IRRATIONAL DISTRIBUTION OF THE VARIOUS TYPES OF LAND
USE: HOUSING, COMMERCE, INDUSTRY, ETC.

LAND AND BUILDING VALUES

Possibilities of Increased Land Values Through Planning

A survey of land and property values is an essential factor in relation to existing conditions. It not only shows the real estate situation, but gives a clear conception of increments and depreciations. It brings to light the causes influencing such conditions from whence possible remedies can be determined. It is the safest guide for sound and practical planning.

The best town planning project is bound to fail if the financial possibilities of its execution have been overlooked. Therefore, a careful study of *land values and building values* is essential, before any solution or proposal is elaborated.

It is obvious that, if the basic plan of existing conditions, from which an accurate visualization of possible improvements may be obtained, contains a detailed representation of the present value of every part of the territory, the town planner will be able to concentrate his proposals on land of low value, and avoid utopian operations on parts of the city where high land values already show little chance for substantial increase.

From this viewpoint, the land value plan of Ottawa, Hull and vicinity is an excellent guide for the planner; its direct relation to the urgent problems to be solved is obvious : railroad situations, blighted areas, congested and unsanitary housing, are clearly incident to sections of the cities where land values are comparatively low. Improvement of such sections is therefore made possible, and, by fostering land revaluation, becomes a *profitable operation*.

In countries like France, England and Germany, by applying the principle of "*excess-condemnation*", that is the acquirement of lands in excess of actual needs, it has been possible to effect many improvements and to rapidly repay their costs from the resale of such excess lands at enhanced values and from the appreciated assessable values of the lands bordering on the improvements. Similar operations carried out on lands of high value would only result in the increase of municipal debt or taxes.

Further, those countries have town planning laws which in effect reduce the cost of expropriations by a more efficacious use of zoning by-laws than present Canadian provincial legislations offer to local authorities.

As explained in the various chapters of Part II (Justification of Proposals), *the land value element* has been taken as the commanding basis for the study of most of the proposed operations.

Illustration 35

BUILDING VALUE PLAN
IN THE CENTRAL PART
OF
OTTAWA AND HULL

(OTTAWA - 1947)

PLATE VIII

LAND VALUE PLAN OF OTTAWA, HULL AND VICINITY

THE SURVEY OF LAND VALUES PERMITS THE DISTRIBUTION OF AREAS UPON WHICH NEW PROJECTS WILL TEND TO ENHANCE TO THE MAXIMUM THE VALUES OF CONTIGUOUS LANDS WITH RESULTING PROFIT TO THE COMMUNITY.

HOUSING

Housing Densities and Classes -Housing Conditions

In general, housing standards within the urbanized regions of Ottawa, Hull and their environs compare favourably with other North American cities of similar size, and are superior, in many respects, to some cities less favourably situated from the points of view of natural environment and the natures of their industrial enterprises.

However, as in most cities, rapid and insufficiently controlled growth and lack of foresight, coupled with the aggressive demands of industrial progress and the evils of unregulated real estate speculation, have ultimated in defective and blighted areas, and depreciated land values.

Within the whole region an extensive analysis has been made of housing in relation to population density, to types of houses and their occupancies, and to rentals and earnings.

Diagram 36 shows the number of persons per household, in relation to the type of housing, i.e., single family, double family, apartments and row-houses, in the urban area. Detailed land use plans, at the scale of 200' = 1 inch, give the relative distributions and locations of the various types of dwellings.

In diagram 37, the numbers of persons occupying households is shown in relation to the number of rooms occupied, to emphasize abnormal crowding of certain households; and in diagram 38, the number of rooms per household by type of housing, showing the relative percentage of various types of households in regard to the number of rooms available.

Diagram 39 shows the large percentage of insufficient accommodations, as, for instance, 82.8 per cent of families of 9 persons live in houses of less than 9 rooms, while only 5.4 per cent of couples live in one room dwellings. This is confirmed by the diagram showing the percentage of rooms per person: 60.1 per cent of the one room dwellings house more than one person, and 11.2 per cent of the nine room houses are occupied by families of more than 9 persons.

Diagram 41 gives an interesting comparison of family earnings in Ottawa and in other comparable cities in Canada. In Ottawa, the percentage of low earnings is slightly lower, while the percentage of higher earnings is greater than in the other cities, owing to the predominance of civil servants in the Capital.

Illustration 36

PERSONS PER HOUSEHOLD BY TYPE OF HOUSING
1941 CENSUS
OTTAWA AND HULL

Illustration 37

HOUSEHOLDS BY ROOMS AND OCCUPANTS
1941 CENSUS
OTTAWA AND HULL

Illustration 38

ROOMS PER HOUSEHOLD BY TYPE OF HOUSING
1941 CENSUS
OTTAWA AND HULL

Illustration 39

HOUSEHOLDS WITH LESS THAN ONE ROOM PER PERSON
1941 CENSUS
CITY OF OTTAWA

Illustration 40

MONTHLY RENTS BY TYPE OF HOUSING
1941 CENSUS
OTTAWA AND HULL

Illustration 41

FAMILY EARNINGS
1941 CENSUS
OTTAWA AND HULL, MONTREAL, VANCOUVER AND WINNIPEG

Illustration 42

MONTHLY RENTS FOR HOUSING
1941 CENSUS
OTTAWA AND HULL, MONTREAL, VANCOUVER AND WINNIPEG

Diagram 42 compares Ottawa with other Canadian cities in regard to monthly rents. For the same reason (function of the Capital) monthly rents in Ottawa are decidedly higher, while in the other cities, low rents show a higher percentage, especially in Winnipeg.

In diagram 40, monthly rents are analysed for each type of housing. The co-ordinated study of such diagrams, with plans of population density, of location, and of land and building value, gives a rather accurate presentation of housing conditions in the Ottawa-Hull region.

The detrimental factors presented within the above referred to diagrams show distinct tendency to manifest themselves within common areas of depressed housing, i.e., population density in the form of crowded households, low rentals,

doubled-up families and dwelling accommodations of subnormal standards and conveniences. Further, such conditions invariably occur within areas of low land and building values, traceable in almost every instance to such factors as the proximity of railroad lines and yards, industry and certain types of commercial nuisance, and to the development of lands initially unsuited for housing.

Graphic Charts Nos. 45, 46, 47 and 48 have been predicated on data provided by the Federal Government by a special survey made in 1941 and deal with Ottawa solely. A similar survey made in 1951 would provide current statistics which would permit the information now presented being revised and the establishment by comparative diagrams of the evolution of the trend of housing conditions thus analysed.

The present graphs provide the bases of comparison within the limits of Ottawa between the different categories of housing and the relative conditions of economic and social factors which affect them. Such study and analysis of housing conditions, will disclose the various causes of these detrimental factors, i.e., railways, low-lying lands, lands unsuitable for housing construction, uncontrolled commercial and industrial developments, lack of open spaces, and the absence or insufficiency of zoning regulations. Remedial measures to such conditions are set forth in the second part of this Report.

Hotel Facilities

To accommodate the various classes of floating population within the Capital, consisting of Members of Parliament, officials from Provincial Governments and administrations, diplomats and members of foreign missions, delegates from all parts of Canada and of foreign countries to the great number of functions and conventions of all kinds, political, economic, scientific, etc., and for touristic purposes, Ottawa and Hull have an insufficient number of hotels. The approximate number of available bed accommodations is 1,950.

By reason of this state of affairs, a large number of rooms are rented in private homes where comfort is limited. Tourists' needs, which are decidedly important and constantly increasing, are met through the renting of cabins within ribbon developments along highways outside of the cities, a most unsatisfactory remedy for deficient hotel capacity, and too often blights on the landscape.

Hotels of various types should be built in appropriate places, not only in the central area but also in the quieter sections of the urban and suburban areas.

Present Zoning Conditions

Despite specific recommendations made within the Todd Report (1903), the Holt Report (1915) and the Cauchon Report (1923), comprehensive zoning has not yet been implemented in the City of Ottawa. Restrictive by-laws have been enacted sporadically and largely at the demands of property owners whose interests were, or already had been jeopardized.

Illustration 43

And

Illustration 44

BLIGHTED HOUSES, THESE REGRETTABLE CONDITIONS DO NOT ARISE FROM POVERTY, BUT FROM LACK OF FORESIGHT AND REGULATION RESULTING IN BLIGHT AND MISUSE IN THE DEVELOPMENT OF LAND.

Illustration 45

CROWDED HOUSEHOLDS
1941
CITY OF OTTAWA

Illustration 46

PREVAILING LEVELS OF HOUSING AND CONVENIENCES
1941
CITY OF OTTAWA

Illustration 47

DOUBLED- UP FAMILIES
1941
CITY OF OTTAWA

Illustration 48

LOW RENTS
1941
CITY OF OTTAWA

By means of private deed restrictions, real-estate developers have long recognized the necessity for protection, but, from lack of knowledge of the fundamentals involved, in many instances, only succeeded in perpetuating conditions which in the ultimate, proved detrimental. On the other hand, such restrictive by-laws as have been enacted, while in some measure serving to ameliorate conditions, have had the effect of forcing, the conditions against which protection was sought into contiguous areas not so restricted, although equally meriting Such protection. In the City of Hull, by-laws controlling the use of land have been enacted and consolidated, but in a manner such that, comprehensively considered, they in large measure nullify the objectives initially intended. In adjoining municipalities control through zoning is in instances entirely lacking, while in others, such zoning as has been the subject of legislative action, is either too restrictive or has been predicated on erroneous premises, conditions which in either case will ultimately result to their detriment.

Illustration 49

UNATTRACTIVE HOUSING IN THE URBAN REGION OF THE CAPITAL

Illustration 50

EXISTING ZONING AND BUILDING- USE AREAS
OTTAWA – HULL
AND ENVIRONS

Throughout the area there is evidenced the effects of mushroom outgrowths, due to urgent needs, lack of previous planning and unrelated hasty subdivisions, with no provision for the essential human needs of community life. Any urban development is bound to degenerate if composed in the aggregate of successive groups of houses, in relation to which no space has been reserved for schools, churches, commercial centres, community halls, playgrounds and open spaces for rest and relaxation. Its inhabitants will necessarily have to seek elsewhere for these amenities, provide them through costly and wasteful displacements, or forego that concept of living of which these amenities are essentially the complements.

Within the various communities comprising the Capital region, some have elaborate but inadequate local by-laws, in cases too rigid, while neighbouring townships or villages entirely lack any such provisions. In others, existing zoning by-laws are inefficiently implemented, are in large measure nullified by multiple amendments or are drafted without relation to the physical plan of the community. This lack of vital balance may be harmless in an isolated and newly established community, but in a group of neighbouring communities, it becomes detrimental to the whole if certain of the components are deficient in this respect.

A comprehensive zoning system, in which every by-law is carefully adapted to the character of each part of the developed area, prevents inadequate uniformity of the whole, and inhuman monotony of habitat.

Zoning must be flexible in its adaptations to the various classes of residential properties, in order to meet the needs and aspirations of various types of families. In doing so, the new community will not differ from the old village, from which inspiration can always be safely taken. There is a more urgent need for the fostering of community welfare in the town of the twentieth century, due to the complexities as well as the advantages which come with progress. A soul-less housing development, a mass of crowded tenement houses, may provide essential shelter, but lack the elements necessary for happy living. One of the merits of town planning is to protect mankind against this modern menace. The incidence of such wise policy on economics, and on social equilibrium, is obvious.

PLATE IX

**EXISTING HIGHWAY SYSTEM
OTTAWA - HULL
AND ENVIRONS**

WITHIN THE CENTRE OF THE CITY, INTERURBAN ROADS LINK UP WITH COMMERCIAL ARTERIES, WHICH THUS ARE UTILIZED IN COMMON FOR THROUGH, LOCAL AND SERVICE TRAFFIC, OFTEN ACCOMMODATING FIXED PUBLIC TRANSPORTATION LINES. SUCH CONDITIONS RESULT IN CONGESTION AND CONFUSION AS SET FORTH IN THE TEXT.

Illustration 51

CONFEDERATION PLACE AND RIDEAU STREET

8

TRAFFIC SYSTEM

Road System of Interurban and Suburban Traffic Main Highways

Ottawa and Hull are the meeting points of several provincial roads:

Province of Ontario :-

Road No. 15 from Perth connected to Road No. 7 from Toronto. Smith Falls,

Road No. 16 from Prescott,

Road No. 17 from Hawkesbury and Montreal through Ottawa to Pembroke and North Bay,

Road No. 31 from Morrisburg (Metcalf Road).

Illustration 52

APPROACHES TO INTERPROVINCIAL BRIDGE ON THE OTTAWA SIDE. Railway lines traversing the heart of the City parallel to the historic Rideau Canal and cross the Ottawa River at Nepean Point over the steel- trussed interprovincial bridge, which also accommodates vehicular traffic. These approaches provide a striking example of a utilitarian project executed without consideration for the natural beauty of the site.

Province of Quebec:-

Road No. 8 from Montreal through Hull to Fort Coulonge and Pembroke, Road No. 11 from Maniwaki and Mont-Laurier.

Secondary Highways

Ontario:-

Russell Road from Ottawa to Russell,
MacArthur Road to Cyrville, Bowesville Road to Manotick,
Merivale Road to City View and Prescott Highway.

Quebec:-

Mountain Road from Hull to Breckenridge, Mine Road to Chelsea,
Perkins Road to Saint-Pierre-de-Wakefield and Poltimore, Masham Road from Wakefield to Saint-Louis-de-Masham.

Illustration 53

TEMPORARY DISPOSAL OF SNOW ON A WIDE THOROUGHFARE (ELGIN STREET).

Illustration 54

SNOW REMOVAL ON NARROW AND OBSTRUCTED THOROUGHFARES NECESSITATES SPECIALIZED EQUIPMENT AS WELL AS INVOLVED AND COSTLY TRANSPORTATION (BANK STREET).

Several roads originally established as base lines to concession limits and transverse highways serve the outskirts of the urban area.

On the other hand, many urban roads, already congested by local traffic which limits their function to that of local streets, are further overloaded by interurban and through traffic, which imposes upon them the additional function of highways. Action should be taken to remedy this state of affairs.

Existing entrances of main roads into the Capital pass through suburban developments, and are of insufficient width. It is almost impossible to improve them by reason of the abutting buildings. Hence, they offer neither facility nor safety for rapid circulation, and are decidedly lacking in that sense of dignity and welcome which should be associated with entrances to a Capital City. They presently make use of the following routes:

Montreal Road (No. 17) through Eastview,

Russell Road from Cumming's Bridge to Hurdman's Bridge,

Metcalfe Highway (No. 31) through Bank Street and ribbon development south of Billing's Bridge,

Richmond Road (No. 15) and Carling Avenue in Ottawa, Aylmer Road (No. 8) and Chelsea Road (No. 11) in Hull.

Street System

Rectangular layouts, generally disregard the topography, the traffic capacity, and the function of each thoroughfare. Whatever be that function, through traffic, commercial or residential, the width of the vehicular channel, its profile, its crossings and parking facilities, have been overlooked. Their characteristics are largely those commensurate with that of *subdivisions in blocks for building purposes*, rather than for traffic circulation.

In the central part of Ottawa, the average width is 66 feet for north-south streets and 60 feet for east-west streets. Narrower streets are exceptional. A pre-established functional plan would have provided for wider streets for general traffic and for more economical street layouts for access to residential areas.

It is obvious that the width and the cross-section of a public road must be considered in relation to traffic circulation.

A standardized width applied to all streets (66 feet, for instance) is wholly inadequate if the street is to meet the demands of a large thoroughfare, and is excessive if the street is to fulfil merely the local function of residential or commercial service.

A great number of planted streets in the city of Ottawa may be cited as excellent examples of residential streets. They create an atmosphere of quietness and privacy; they are fresh and shady in summer, and are most attractive in the spring and especially during the colourful autumn season. Even during the long and snowy winter, they hold unforgettable charm. In this respect Ottawa possesses

PLATE X

TRAFFIC FLOW DIAGRAM

FROM THIS ILLUSTRATION CAN BE REALIZED THE DEGREE OF CONCENTRATION IN THE TRAFFIC CIRCULATION, THE CONGESTED CONDITION OF CERTAIN ARTERIES, AND THE EVIDENT DEFICIENCIES IN THE CIRCULATORY SYSTEM, NOTABLY IN THAT WHICH CONCERNS THE EAST-WEST ARTERIES.

Illustration 55

COMMERCIAL TRAFFIC ON WELLINGTON STREET

the particular charm of a city built among trees. Such important factors of beauty, despite their minor defects, must not be spoiled for the sake of easier mechanical equipment, but on the contrary must be carefully maintained and developed throughout the whole Capital Region.

Traffic Density

At certain points of the road system within and leading to the Capital the congestion at the peak hours becomes more and more serious, by reason of the fact that the rational circulation of constantly increasing automobile traffic has not yet been organized.

In 1947, 40,000 motor driven vehicles were registered in the Capital area, and during the touristic and sports seasons, summer and winter, a large number of cars from various parts of Canada and from the United States, increase the traffic and parking problems. Solutions to the traffic problem are set forth in

Part II; they are of three different natures: traffic regulation, street widening and new arteries, and have been applied at appropriate points, for all the operations proposed.

Furthermore, the enforcement of rational zoning by-laws and the provision of new alternative traffic routes will gradually modify traffic movements to an extent such that a large amount of present movements will be eliminated or channelized to more appropriate thoroughfares. Wellington Street, in the central area, ought to be entirely limited as the access of Government, Parliament and other public buildings, and its functions so exclusively reserved. Rideau, Sparks and Dalhousie Streets, commercial streets, are not suitable as arteries for through cross-town traffic, which neighbouring parallel streets can be made to provide for. Even Bank Street, another commercial street, can similarly be relieved by giving Lyon and O'Connor Streets better southern outlets.

It has been proven by experience in many other cities that rational systematization of traffic facilities is a more efficient and more economical remedy than the improvement of presently congested streets through costly expropriations.

The so-called "bottleneck", or eastern part of Confederation Place, is probably the city's worst point of traffic congestion. In 1938-39, comprehensive plans were prepared for the treatment of this important part of the city. However, only the T-shaped intersection of Elgin and Wellington Streets was completed, the completion of the eastern section of the square being deferred, due to the intervention of the Second World War, while Elgin Street was temporarily graded, in view of the Royal Visit in May 1939. It was understood that the plans then submitted for final grading of the street and the completion of the eastern part of the Plaza would have been carried out in 1939 or 1940, giving a wider approach to Rideau and Sussex Streets by the elimination of the Daly Building and by providing double-deck parking facilities on part of its site, thus ensuring more practical parking in the immediate vicinity of the Chateau Laurier.

Present plans for this part of the city include the proposals made in 1939 as an interim improvement, which will be further developed and extended, when the ultimate implementation of the present proposals will be possible.

The problem of snow removal- likewise complicates the situation within the centre of the City, as well as in residential and suburban districts.

The parking problem in Ottawa has become a matter of major concern. Despite the utilization of many vacant lots and unbuilt grounds for temporary parking, approaches to business sections, administration buildings and hotels are crowded by parked cars occupying space which should be utilized entirely for through traffic.

The plan of traffic accidents shows their relationship to insufficient and crowded main arteries.

We submit in Part II, Chapter 3, several remedial suggestions to ameliorate these conditions generally, and particularly at several points of extreme congestion.

PLATE XI

THE COLOURED AREAS INDICATED IN THIS PHOTOGRAPH OF THE CENTRE OF OTTAWA SHOW VACANT LANDS UTILIZED PRECARIOUSLY FOR AUTOMOBILE PARKING. THEIR NUMBER IS INDICATIVE OF THE MAGNITUDE OF THE DEMAND AND THE NECESSITY TO DISTRIBUTE ULTIMATE PARKING ACCOMMODATIONS IN CONFORMITY WITH A RATIONAL PLAN.

PLATE XII

TRAFFIC ACCIDENTS IN 1947

THE PLAN IS INDICATIVE OF THE HAZARDS AND DISADVANTAGES OF STREETS UTILIZED FOR ALL PURPOSES AND HAVING INADEQUATE INTERSECTIONS FOR INTENSIVE TRAFFIC CIRCULATION.

Illustration 56

NEPEAN BAY, OTTAWA. RAILWAY AND INDUSTRIAL ENCROACHMENT WITHIN
THE CENTRAL AREA OF THE CAPITAL.

TRANSPORTATION

Railroads

If space in this purposely condensed report had permitted, we could have quoted at length the Holt Report of 1915, especially its Survey of Transportation Facilities.

Thirty-four years ago, with conditions far less complicated than now, the key of the plan for the National Capital was the railway problem. The Holt Report stressed as its major recommendation "that the pivot, on which hinges the success or failure in carrying out any comprehensive plan, lies in the proper solution of the problem of steam railway transportation".

The entire analysis of the then existing conditions and of future needs was set out in its first Chapter on Railways and Terminals. We are now confronted with the same problem, but aggravated by thirty-four years of growth of the cities, in size and density, and in traffic and transportation requirements.

Initially, the railroad rights-of-way were determined by the following factors:

Low cost of construction

Hence their adaptation to topography under the easiest possible conditions;

The location of existing industries

Certain lines were constructed with the object of servicing established industries. For instance, the installation of the trackage now serving industries, warehouses and freight yards in the vicinity of the Chaudiere, was initially predicated on demands for service by the lumber industry already established in this area;

The competition between railroad companies

Originally, more than half a dozen companies operated separate rights-of-way either for through traffic or terminal traffic within the region. These companies ultimately were integrated in the two main companies, i.e., the Canadian National and Canadian Pacific Railways, while the New York Central Railway still operates a terminal line. In many instances, lands have been unnecessarily divided by lines of the different companies, a condition which joint action would have precluded by the use of common rights-of-way.

The railroad lines were originally established on the outskirts of a limited urban area, without regard to future urban extensions and without provision for grade crossings.

It is therefore obvious that the railroad facilities were organized strictly in keeping with the demands of railroad operations and their immediate economy, to the detriment of the normal growth and life of the community. Such locations of railroad rights-of-way failed to take into account their ultimate effects on land values and, consequently, on the financial equilibrium of the municipalities. This seeming lack of consideration for vital aspects of collective life is readily explained by the fact that the railroad was, then, the predominant factor in the prosperity of new settlements. Unfortunately, the disadvantages attached to such lack of foresight could not but be felt sooner or later, and finally have resulted in today's regrettable conditions.

PLATE XIII
EXISTING RAILROAD CONDITIONS
OTTAWA - HULL AND ENVIRONS

Illustration 57

UNION STATION- ADJACENT FREIGHT YARDS AND RAILWAY INSTALLATIONS

Illustration 58

INTERPROVINCIAL BRIDGE VIEWED FROM HULL

Eleven different lines traverse Ottawa and Hull, and segregate the whole in isolated parts. More than one hundred and fifty grade crossings obstruct circulation and constitute dangers within the urban area. More than one hundred streets lack outlets by reason of the railway-created obstacles. Residential developments are scattered in a framework of tracks, warehouses, factories and railway depots, with their concomitant noises, smoke and danger. Industries, naturally following railway facilities, add to the blight already caused by railway barriers, and both railway operations and industrial development are hampered by crowded surroundings, with no opportunity for expansion.

Railway operations are complicated in consequence and result in loss of time, labor and money. Facilities are insufficient for the present volume of passengers and freight. Freight yards in the centre of the Capital, several single track lines, lack of space for new industrial sidings, slow shunting, distances of several miles from the station to the yards and round houses, in brief, it can be stated, that city expansion and building density is as much a detriment to railway operations and efficiency, as are the railways to the normal and economic life of the city and the safety of the inhabitants.

A complete remodelling of railway facilities was highly justified in 1915. Its emergency is now a matter of *vital importance* for both railway and urban improvement.

The solutions proposed in 1915 in the Holt Report, as described in Chapter 14, Part I, "Report of the Federal Plan Commission", did not take sufficiently into account the possible expansion of the Capital and its importance on the national as well as on the international level.

An acceptable solution for today is always a costly experience when subsequent needs have not been foreseen. Conditions which had already evolved in 1915, have, since, considerably changed. By reason of the part played in the Second World War, recent and continuing mining discoveries, and enormous industrial expansion, Canada has become a nation of the first order. The planning of its Capital, to make it worthy of its national potentialities, now entails problems vastly greater and entirely different from those existing prior to 1940.

The Government and the Joint Committee of the Senate and the House of Commons clearly indicated the reasons which inspired their decision to plan the National Capital region. Hence, it behooved us to act accordingly by formulating, in respect to railway revisions, proposals intended to meet future needs. These are described in chapter two of Part II.

Illustration 59

And

Illustration 60

RAILWAY AND INDUSTRIAL INSTALLATIONS WITHIN THE CENTRAL AREA OF THE
CAPITAL, BETWEEN WELLINGTON AND SOMERSET STREETS

Views taken from Somerset Street Viaduct

Illustration 61

RAILWAY VIADUCT IN THE CENTRE OF HULL

Street Cars and Buses

There are, today, no less than twelve individual transportation companies serving the National Capital Region.¹ In addition, there is one railway company serving commuters from the western Gatineau River front.

Seventy per cent of the present facilities did not exist ten years ago, and the development of these lines in large measure can be directly attributed to wartime requirements. These companies enjoy a thriving existence due to the construction of groups of homes and industrial establishments. The prodigious growth of public transportation is indicated by the fact that thirty years ago the cities of Ottawa and Hull were served by but one electric railway.

Areas served:

For the purpose of studying the areas served, it is advisable to divide the region into two sectors: the northern sector extending north from the Ottawa River, (in the Province of Quebec) and the southern sector extending south from the Ottawa River (in the Province of Ontario), and to divide each sector into zones. In the northern sector the area contained within the municipal limits of the City

¹ This survey was completed in 1948.

PLATE XIV

DISTRIBUTION OF STREET CARS AND BUSES OTTAWA TRANSPORTATION COMMISSION

ALL "OTTAWA TRANSPORTATION COMMISSION" STREET CAR AND BUS ROUTES SERVING IN COMMON THE AREAS EAST AND WEST OF THE RIDEAU CANAL PASS THROUGH CONFEDERATION PLACE. WITH THE EXCEPTION OF THAT ROUTE MARKED 209, ALL LINES ARE RADIAL IN CHARACTER AND HAVE A COMMON FOCAL POINT. ALLEVIATION OF THIS SITUATION AND THE CREATION OF NEW ROUTES WILL NOT BE POSSIBLE UNTIL THE ADOPTION OF A MORE FLEXIBLE FORM OF TRANSPORTATION, AND THE PROVISION OF NEW TRAFFIC ARTERIES.

PLATE XV

**DAILY VOLUME AND DISTRIBUTION OF PASSENGERS
OTTAWA TRANSPORTATION COMMISSION**

ROUTES COMPRISING THE PUBLIC TRANSPORTATION SYSTEM ACCENTUATE THE CONGESTION ALREADY CREATED BY GENERAL TRAFFIC (SEE PLATE X). CONGESTION IS PARTICULARLY ACUTE IN COMMERCIAL STREETS IN THE PROXIMITY OF CONFEDERATION PLACE.

of Hull is one zone, while the remaining portion is divided into western, northern and eastern zones. The Ontario sector, south of the Ottawa River is similarly divided, the City of Ottawa forming one zone, and the remaining area is divided into western, southern and eastern zones.

Northern Sector

The City of Hull within its municipal boundaries is now served by a new bus service known as the *Hull City Transport*. In addition to the provision of urban transportation, this company also operates several suburban lines.

The City of Hull formerly had a street car service the inadequacy of which was such that the Municipality declined to renew its franchise. In 1946 a bus franchise was granted to the Hull City Transport Company to serve in lieu of the electric company. Hull City Transport operates an all bus service, which, by its nature, is flexible and can be made to meet the needs of the city as it expands.

It is well to remember, however, that the narrow streets and limited space at intersections have caused the *Hull City Transport Company* to use a vehicle of short wheel base and hence of small capacity.

The western zone of the northern sector has three bus lines which meet present requirements adequately.

The *Hull City Transport* has a suburban service to the village of Deschenes. The *Gatineau Bus Company* services the town of Aylmer, while points west of Aylmer are served jointly by the *Pontiac* and *Gatineau Bus Companies*.

The service rendered by these companies is commensurate with present needs in the western zone.

The northern zone is served by the *Gatineau Bus Company*, the *Hull City Transport* and the Canadian Pacific Railway. This zone differs from most others in that it has a high percentage of seasonal traffic to cope with. The *Gatineau Bus Service* caters to regular traffic, while the *Hull City Transport* provides a service well designed to meet the requirements of the multitudes that swarm to the Gatineau National Park throughout the entire year. The Canadian Pacific serves the west bank of the Gatineau River with a commuter's service summer and winter.

The eastern zone of the northern sector, which is predominantly industrial, is served by the Gatineau Bus Company, and an interurban service furnished by the Provincial Transport, a company which is affiliated with the Colonial Coach Lines serving the Province of Ontario. Generally speaking, the Gatineau Bus Company carries most of the industrial workers commuting from Ottawa and Hull to the industrial areas of Gatineau, Buckingham and Masson.

This outline of the transportation system, north of the Ottawa River, in the National Capital Region, can be summarized in a few words: with the exception of the Commuters Service on the Canadian Pacific Railway, the overall system is entirely flexible, and can be extended to meet the needs of the areas concerned commensurate with the expansion of the various communities and developments.

Southern Sector

The City of Ottawa within its municipal boundaries is served by the *Ottawa Transportation Commission*. This commission came into existence in October, 1948, when the Corporation of the City of Ottawa purchased the *Ottawa Electric Railway*.

While the commission operates six different street car routes and four bus routes, the service cannot be termed adequate to meet the needs of a rapidly growing population.

The congestion that prevails in the central area creates a serious problem, *not of operation* but *of routes*, certain aspects of which are dealt with in chapters 3, 4 and 6 of Part II.

One of the commission's tram lines extends outside the municipal limits of the city to Britannia Park, a distance of seven miles from Confederation Place.

The western zone of the southern sector is served by one urban street car line of the *Ottawa Transportation Commission*; three suburban bus companies, i.e., the *Capital, Richmond* and *Nepean Bus Companies*, and one interurban bus line operated by the *Colonial Coach Company*. Up until two or three years ago, the service in this zone was entirely inadequate. However, the additional service of the Nepean Bus Company has alleviated a situation which was becoming increasingly difficult with the rapid growth in Nepean Township, south of the Richmond Road.

Interurban bus lines carry passengers easterly from Renfrew, Arnprior, Carleton Place, Smiths Falls and intervening points into the Ottawa terminal. This zone, at present, is well serviced by public transportation.

The southern zone has one interurban and two suburban bus companies serving it. The *Greer Bus Company* serves the communities adjacent to the Merivale Road. Communities abutting the Prince of Wales Highway to Prescott use the interurban service of the *Colonial Coach Lines*. The *Uplands Bus Company* furnishes suburban service as far as the airport on the Bowesville Road and the Research Council Building on the Morrisburg Highway. The *Uplands Bus Company* also serves the newly developed subdivisions in the Billings Bridge area. The *Colonial Coach Lines* serve to carry passengers from Metcalfe by way of the Morrisburg Road into the City of Ottawa. Public transportation facilities in this zone are sufficient to meet present demands.

Illustration 62

CONFEDERATION PLACE VIEWED FROM THE UNION STATION

In the *eastern zone* the *Capital Bus Lines* provide two suburban bus routes to the city from Russell and from the Village of Navan. The *Cyrville Bus Company* provides a service for the market gardeners of Cyrville and intervening points. The Town of Eastview, the Village of Overbrook, the New Manor Park Subdivision, the Airforce Station at Rockcliffe and the Research Council are provided for by the constantly increasing service of the Eastview Bus Company.

People who live adjacent to the Montreal Road east of the Research Council are catered to by commuters service starting at Rockland and serving Cumberland and other communities bordering on the Montreal Road. This zone has sufficient service to meet its present requirements, and it is considered that the companies serving it will be able to meet any demands placed on them by increased population in the area.

The principal activity within the area is the business of Government, which is concentrated in or adjacent to the central business district of Ottawa, a condition which overloads the public thoroughfares, and gives rise to a very congested transportation system which funnels through Sparks, Queen and Bank Streets, and over Confederation Square to Rideau Street. To this activity is added traffic movements incident to retail trade and the servicing of centralized industries. Fifty to sixty thousand street car and bus passengers pass through this bottleneck each day. Queen and Sparks Streets are extremely narrow in relation to the loads they carry. Parked cars force motorists out into the path of the street cars, thereby slowing traffic to a crawl, not only in the rush hours, but throughout the entire day.

None of the bus lines mentioned above operates a properly designed terminal within the urban area.

PUBLIC BUILDINGS AND SERVICES

Administration

Government Departments

With the constant rise of Canada as a nation, the number of Government departments has gradually increased and commensurate therewith the number of employees. Thus, new needs for dwellings and-circulation have developed, conditions which underlie the principles of decentralization of public services recommended in Part II of this Report.

The Second World War gave rise to the establishment of new services many of which have become permanent in nature, while existing departments have been extended.

Almost all vacant grounds in the Capital have been occupied by temporary Government buildings, and many services are scattered in rented premises, generally in obsolete buildings unsuited for office work, and in cases impossible to protect against fire.

Municipal Administration

Since the destruction of the former City Hall by fire, the municipal administration has been housed in part of a commercial building, and police headquarters occupy dilapidated quarters. The county court house and jail are also outmoded and inadequate for the needs of a growing population.

As remedial measures for this lack of proper accommodation for the present, and in preparation for the future, which must provide for the needs of all administration in the next fifty years, we submit in Parts II and III, a series of proposals for new essential constructions, as well as those of less pressing necessity.

Education

Superior and Secondary

Ontario-Since the foundation of its first college, a century ago, the University of Ottawa has developed gradually on its original site, close to the centre of the city.

Illustration 63

THE JUSTICE AND CONFEDERATION BUILDINGS are indicative of the incorporation of outmoded forms and of structure awkwardly aligned to streets. They involve excessive concentration of employees.

Illustration 64

THE JACKSON IS ONE OF SEVERAL COMMERCIAL STRUCTURES occupied by Government departments. The building, located on a commercial street, was expropriated in 1940 by the Government to meet wartime needs.

Illustration 65

THE WEST BLOCK, PARLIAMENT BUILDINGS. Due to an excessive adaptation of the picturesque and of forms having medieval inspiration, the function of the structure has been rendered subservient, resulting in difficult working conditions, inadequate lighting and environments adverse to operational efficiency.

Illustration 66

A LABORATORY OF THE NATIONAL RESEARCH COUNCIL

Illustration 67

NATIONAL RESEARCH COUNCIL BUILDING

Illustration 68

TEMPORARY BUILDINGS OCCUPIED BY THE DEPARTMENT OF NATIONAL DEFENCE

(66) The new laboratories of the National Research Council located within a park, are functional and satisfactory in aspect, while the main building (67) is a prototype of buildings of classical inspiration, and is ill-adapted to its function.

(68) Most of the available sites in the Capital have been occupied by temporary buildings erected in the war emergency. Although, as structures, they have been ingeniously conceived, they are obstacles to the construction of permanent buildings, they mar the beauty of the parks they occupy and are definitely fire hazards.

Illustration 69

Since the fire of 1931, the administrative services of the City of Ottawa have occupied part of a commercial structure, the TRANSPORTATION BUILDING (at right photograph) situated close to the Union Station on Rideau Street, a main commercial artery.

Carleton College, a fast growing institution, will require grounds and buildings for its full development.

Normal, technical, collegiate and high schools are in cases insufficient for their needs and badly distributed within the urban area. New establishments must be provided for on grounds which should be reserved for this purpose in relation to probable urban extensions within the Ontario part of the Capital.

Quebec - In Hull the high schools, colleges, technical and secondary schools present characteristics similar to those in Ontario, but, due to the different systems of education in the two provinces, the *public* schools in one are known as *private* schools in the other.

Elementary education

The survey of school establishments hereunder gives the characteristics of elementary, private and public schools, now existing in different areas of the National Capital Region.

In particular, this table shows the rather irregular distribution of the various establishments, and the insufficient playground space reserved per pupil in a large number of relatively old schools.

School Survey - Ottawa, Hull and Vicinity (See Plate XVI)

ONTARIO REGION

Public

	Ottawa	Rockcliffe	Eastview	Nepean	Gloucester	Total
Number of schools	18	1	1	8	8	36
Number of pupils	8,691	210	236	1,940	921	11,998
Area of playgrounds in square yards	94,317	38,720	4,840	142,780	82,280	362,937
Number of square yards per pupil	10.8	184	20.5	73.6	89.3	
Average number of square yards per pupil			30.2			
Average number of acres per school			2.08			
Average number of pupils per school			333			

<i>Separate (Catholic)</i>	Ottawa	Eastview	Nepean	Gloucester	Total
Number of schools	35	4	2	4	45
Number of pupils	9,246	1,650	336	818	12,050
Area of playgrounds in square yards	62,279	29,229	3,922	45,980	141,410
Number of square yards per pupil	6.7	17.7	11.7	56.2	
Average number of square yards per pupil		11.7			
Average number of acres per school		.63			
Average number of- pupils per school		268			

High and/or Secondary

	Ottawa	Nepean	Total
Number of schools	5	1	6
Number of pupils	5,440	610	6,050
Area of playgrounds in square yards	30,125	9,680	39,805
Number of square yards per pupil	5.5	15.9	
Average number of square yards per pupil		6.6	
Average number of acres per school		1.4	
Average number of pupils per school		1009	

Plus

	Number of pupils
12 Convents or Seminaries	1,143
2 Colleges	1,365
1 University	3,399

QUEBEC REGION						
<i>Public (Catholic)</i>		Hull	Deschenes	Pointe- Gatineau	Town of Gatineau	Total
Number of schools		14	1	2	2	19
Number of pupils		5,226	112	540	685	6,563
Area of playgrounds in square yards		43,798	1,111	26,997	18,889	90,795
Number of square yards per pupil		8.4	10	50	27.6	
Average number of square yards per pupil			13.8			
Average number of acres per school			1.0			
Average number of pupils per school			345			
					Town of	Total
<i>Separate (Non-Sectarian)</i>			Hull	Hull South	Gatineau	
Number of schools			1	3	2	6
Number of pupils			276	62	98	436
Area of playgrounds in square yards			2,000	3,630	7,260	12,890
Number of square yards per pupil			7.2	58.5	75.1	
Average number of square yards per pupil			29.5			
Average number of acres per school			44			
Average number of pupils per school			73			
Plus						
				Number of pupils		
1	Convent				38	
2	Colleges				450	
2 High Schools-Hull					563	
SUMMARY						
		<i>Ontario Region</i>		<i>Quebec Region</i>		Total
		Schools	Pupils	Schools	Pupils	Total
	Number of Elementary Schools	81	24,048	25	6,999	106
	Number of Secondary Schools	6	6,050	2	563	8
	Number of Convents or Seminaries	12	1,143	1	38	13
	Number of Universities and Colleges	3	4,764	2	450	5
	Total	102	36,005	30	8,050	132
Percentage of total population		17.6%		17.9%		17.6%

Religious Institutions

No written description could better depict the places of worship of the various denominations within the urban area than Plate XVII. At the present time certain sections are well provided for, while in other sections districts have developed without any provision of land, which would ensure, within each residential unit, the indispensable facility of a spiritual meeting place.

Large religious institutions, mostly Roman Catholic, exist in both the Ontario and Quebec areas, and others are contemplated within urban extensions already developed.

Illustration 70

THE ROMAN CATHOLIC CATHEDRAL - NOTRE DAME, SUSSEX STREET

Illustration 71

THE ANGLICAN CATHEDRAL - CHRIST CHURCH, SPARKS STREET

Hospitals

Hospital facilities serving the urbanized area of Ottawa, Hull and vicinity are insufficient. Bed accommodations of the major institutions in the area, as set forth in the attached tabulation, number only 2,237. This accommodation is relatively low for a population of 276,000 souls, and especially for a community which is the only extensive urban centre within a vast semi-rural territory.

Ottawa

Civic Hospital (General)	852	beds
General Hospital (General)	350	"
Grace Hospital (Maternity)	56	"
St. Vincent Hospital (Incurables)	220	"
Perley Home (Incurables)	101	"
Royal Ottawa Sanatorium (Tubercular)	213	"
Strathcona Hospital (Infectious)	145	"
Carried forward	1,937	"

Hull

Carried forward	1,937	beds
Hôpital du Sacré - Coeur (General)	145	"
Sanatorium Saint - Laurent (Tubercular)	155	"
TOTAL	2,237	"

A general health survey, embracing the question of hospital accommodations, has been undertaken by each provincial department of health, at the instigation of the federal Department of Health and Welfare. This survey, which will cover the Ottawa and Hull areas, will permit the establishment of a programme for hospital accommodations on sound lines. The direct role of the town planner in this field consists in the recommendation of satisfactory sites for contemplated hospital structures, but

Illustration 72

THE NATIONAL MUSEUM houses the Art Gallery and a Division of the Department of Mines and Resources

indirectly he will contribute to the general improvement of health and welfare, by making provision in future layouts for better housing conditions and by reserving open spaces necessary for recreation as well as for general hygiene.

Cultural Institutions

The main *municipal library*, donated by the Carnegie Foundation, has a total of five branch libraries¹, three of which serve respectively the Rideau Street, Ottawa South and the west end areas, while two are operated in public schools, i.e.,

¹ in 1949.

Illustration 73

THE ADMINISTRATIVE BUILDING OF THE EXPERIMENTAL FARM IS LOCATED WITHIN A FRAME OF VERDURE. Notwithstanding the adoption of archaic forms and rigidity of composition, this building provides an example of the principle which might advantageously be followed for future developments.

Illustration 74

DUE TO LACK OF SPACE, MANY GOVERNMENT SERVICES ARE HOUSED IN OBSOLETE BUILDINGS. The headquarters of the National Film Board occupy an abandoned mill, in which the employees serve under deplorable hygienic and working conditions, and hazard of fire. Furthermore, this structure mar one of the most beautiful sites in the Capital, the Rideau falls, and the immediately contiguous French Embassy, one of the finer buildings in the City. The brick chimney- like structure shown in the photograph, adjacent to the main entrance, is a sewer ventilation shaft.

Brandon Avenue and New Edinburgh. While they have acquired a most valuable collection of 204,900 books (1947), their accommodations are obviously inadequate for a Capital city.

Theatres are also lacking in Ottawa. Opera, music and dramatic performances are given in privately owned theatres, especially cinemas, and even in an indoor sports arena, the Auditorium, which is better suited for wrestling and boxing matches, hockey games, rodeos and pageants, and if need be for popular concerts. Its normal seating capacity is 5,000, capable on emergency of extension to 8,000. The municipally owned Lansdowne Park embraces structures intended especially for exhibitions, sports and conventions, and offers temporary relief to this deficiency of theatrical facilities, but it constitutes precarious and inadequate accommodations. This state of affairs has been the subject of many recriminations, not only on the part of theatre-goers, but also on the part of enlightened citizens.

In Hull, there is a private institution provided with a large hall that may be used for banquets, balls and occasionally for presentations of dramatic art. Parochial halls and movie theatres are the only places available for cultural functions.

The National Museum houses important collections of natural history, mineralogy, prehistoric life, primitive art and the Fine Arts (National Gallery). For lack of exhibit and storage space, collections are inadequately displayed and in instances even remain uncrated. The building is poorly designed for exhibits and art displays, and the large outmoded structure, of Tudor style of architecture, rests on unstable ground, which has resulted in its present poor structural condition.

Gradually, several community centres have been opened within schools in various parts of the urban area, but no comprehensive system has been evolved, in spite of the commendable efforts and surveys of various citizens' organizations.

The National Film Board, a governmental agency within the Department of Reconstruction, constitutes the basis of a nationwide cultural and educational institution, for which there is urgent need to construct permanent fireproof quarters, equipped with operational facilities adequate to the provision of the services expected from such an organization.

The Capital region has neither *zoological* nor *botanical* garden, apart from the flower gardens and the arboretum of the Experimental Farm. The latter is above all a scientific institution concerned with research and acclimatization, rather than a public botanical garden.

The capital region also lacks a *national stadium* for large athletic meets and competitive sports. The municipal stadium at Lansdowne Park and the Ottawa University Oval are available for moderate-sized sports gatherings.

PLATE XVI

DISTRIBUTION OF SCHOOLS (SCHOOLS SHOWING CHARACTER, LOCATION AND CAPACITY RELATED TO 1945 POPULATION: OTTAWA- HULL AND VICINITY)

THE LOCATION OF SCHOOL SITES INDICATED ARE CLOSELY RELATED TO THE PRINCIPAL POPULATION GROUPS. BILINGUALISM AND THE VARIOUS RELIGIOUS DENOMINATIONS MOTIVATE THEIR RELATIVELY HIGH NUMBER.

In Ontario, the public schools are non-sectarian, a condition which is reversed in the Province of Quebec, where the public schools are Roman Catholic and all others, with the exception of certain private school, are denominational.

PLATE XVII

CHURCHES

(CHURCHES SHOWING DENOMINATION AND LOCATION RELATED TO 1945 POPULATION:
OTTAWA- HULL AND VICINITY)

THIS PLAN SHOWING THE DISTRIBUTION OF PLACES OF WORSHIP INDICATES THE DIVERSITY OF RELIGIOUS DENOMINATIONS. IT IS INTERESTING TO COMPARE THIS PLATE WITH THE PRECEDING PLATE, "SCHOOLS", WHICH TOGETHER PROVIDE A GENERAL PICTURE OF THE RELIGIOUS AND ETHNIC GROUPS IN THE URBAN REGION.

PLATE XVIII

TRUNK SEWER SYSTEM (OTTAWA- HULL AND VICINITY)

THE SEWER SYSTEM AS EXISTING ARE INDICATIVE OF LACK OF FORESIGHT IN THEIR BASIC CONCEPTIONS. ON BOTH THE ONTARIO AND QUEBEC SHORES OF THE OTTAWA RIVER, EFFLUENTS OF THE SEWER SYSTEMS ARE THE CAUSES OF WATER POLLUTION. FROM THE FUNCTIONAL AS WELL AS FROM THE POINT OF VIEW OF HYGIENE, THE SYSTEMS ARE UNSATISFACTORY.

PLATE XIX

WATERWORKS SYSTEM (OTTAWA- HULL AND VICINITY)

THE EXISTING WATER DISTRIBUTION SYSTEM ON THE ONTARIO SIDE, THOUGH GENERALLY INADEQUATE FOR THE REQUIREMENTS OF THE POPULATION, SERVES THE MUNICIPALITIES OF OTTAWA AND EASTVIEW AND LIMITED AREAS OF THE TOWNSHIPS OF NEPEAN AND GLOUCESTER. FORTUNATELY IT IS EQUIPPED WITH A MODERN FILTRATION PLANT AND AN INEXHAUSTIBLE SOURCE OF WATER SUPPLY, CAPABLE OF EXTENTION TO MEET THE NEEDS OF THE WHOLE URBAN REGION. ON THE QUEBEC SIDE THE WATER INTAKE SERVING THE CITY OF HULL IS NOT FROM DEEP AND FAST FLOWING WATERS AND THE SYSTEM IN GENERAL IS TECHNICALLY UNSATISFACTORY.

Public Utility Installations

The study of general sanitation and water supply is being pursued under the direction of expert engineers working in close contact with our Service, which provides them with the necessary data so that their proposals will conform with existing conditions and future projects embraced within the master plan for the Capital.

Examination of the plans of existing sewers indicate (Plate XVIII) the lack of comprehensive planning in relation to the various jurisdictional areas comprising the urban region. The various parts of the urban area serviced by sewers are equipped with combined systems, through which the conjoined surface and waste waters empty directly into adjacent waterways without having been previously treated. The Ottawa River is thus polluted for several miles downstream. Brewery Creek, in Hull, which could be a point of great attraction, is similarly polluted by waste waters and refuse.

The Ottawa River is the source of water supply of the two waterworks systems of Ottawa and Hull. In the opinion of experts, the Ottawa water filtration plant can be extended to meet the requirements of a population of more than one half million inhabitants, and is generally considered to be a model plant. The Hull plant suffers from technical defects, chief of which is the handicap of having its source of supply located at a point where the water is stagnant. (See Plate XIX).

With the necessity for extension of the existing electrical distribution system to conform with the demands of growing urban expansion, consideration should be given to the desirability of avoiding unsightly installations on public highways and the necessity in particular areas of installing mains in underground conduits, procedures which should be initiated in existing installations, particularly on major streets, public places and residential developments.

OPEN SPACES

Sports -Physical Education

The actual superficial area of the open spaces in the urban zone of the Capital, as indicated in the following Table, is only 809.5 acres for an urban population of 238,000 inhabitants, an average of 3.4 acres per thousand persons.

However, it should be noted that there exists the nucleus of a system of parks, remarkably developed by the Federal District Commission, and comprising the driveways bordering the Rideau Canal and Dow's Lake, Lady Grey Drive, Island Park Drive and the Experimental Farm, also the expropriation of lands and works now initiated along the Rideau and Ottawa Rivers on both the Ontario and Quebec sides, and Cartier Park in Hull. Furthermore, in the proximity of the urban area, Gatineau Park, the area of which is progressively increasing, provides important elements of rest and recreation.

Urban Parks

Ottawa public gardens

Rockcliffe Park	70	acres
Central Park (Clemow Avenue)	16	"
Brewer Park (End of Bronson Ave.)	39	"
Commissioner Park (Dow's Lake)	4	"
Green Island Park (Mouth of Rideau River)	6	"
Nepean Point and Major's Hill Park	21	"
McDonald Park (Charlotte St.)	7	"
Anglesea Square (York St.)	3	"
Strathcona Park (Range Road)	8	"
St. Luke's Park (Frank St.)	1.5	"
Minto Park (Elgin St.)	1.5	"
Dundonald Park (Somerset St)	2	"
Plouffe Park (Preston St)	4	"
McNab Park (Gladstone Ave.)	3	"
Reid Farm Park (Sherwood Drive)	6	"
Ballantyne Park (Main St. Ottawa East)	1	"
	<hr/> 193	acres

PLATE XX

**OPEN SPACES IN RELATION TO 1945 POPULATION
OTTAWA-HULL AND VICINITY**

THE OPEN SPACES SHOWN COMPRISE THOSE IN PUBLIC AND PRIVATE OWNERSHIPS AND INCLUDE LARGE INSTITUTIONS SURROUNDED BY PARKS, ALSO CEMETERIES. THE DISTRIBUTION OF EXISTING OPEN SPACES IS NOT IN CONFORMITY WITH THE REQUIREMENTS OF THE POPULATION, THE DENSITIES OF WHICH ARE INDICATED BY DOTS, EACH OF WHICH REPRESENTS 20 PERSONS.

Illustration 75

VIEW OF PARLIAMENT BUILDING IN WINTER

THE OTTAWA VALLEY, while having intermittent periods of extreme cold in winter and heat in summer, in general has a temperate climate and is endowed with a particularly vigorous and abundant flora.

The towers and spires of the public buildings of the Capital give the City a picturesque and romantic silhouette, and the charm of its component lands is naturally enhanced by the abundance and grace of its great elms and bluetinted conifers, and by the richness of its lawns and parks. An aerial view conveys the impression of a city concealed within a mass of verdure.

	Forward	193 acres
<i>Hull public gardens</i>		
Fontaine Park (Papineau St.)	4 acres	
Sainte-Marie Park (Saint-Redempteur St.)	1.5 "	
Larocque Park (Brodeur St.)	2 "	
St. John Park (Montcalm St.)	2 "	
Moussette Park (Val Tetreau)	17 "	
	<hr/> 26.5 "	
<i>Parks under the control of the F.D.C.</i>	590.0 "	
	<hr/>	
		616.5 "
Total		<hr/> 809.5 "

Illustration 76

PATTERSON'S CREEK, DRIVEWAY, OTTAWA

It is true that the Arboretum of the Experimental Farm (61.0 acres) in a measure provides for recreation, but does not constitute in itself a public park; *it is a place for study*, the scientific character of which must be protected.

Federal District Commission parkways, forming the driveway system, extend for a length of 22 miles.

Forest reservations (Gatineau Park, south of Kingsmere)	5,606.0 acres
---	---------------

Physical education:

Urban playgrounds	394.0 acres	
School playgrounds	145.0 acres	
	<hr/>	539.0 acres

For an urban area of this importance, and for the present population of close to one quarter million inhabitants, it will be necessary to make provision for more open spaces and grounds for physical education, to be distributed to the extent possible in keeping with the population densities of the various districts.

Illustration 77

And

Illustration 78

PARKS BORDERING THE RIDEAU CANAL, OTTAWA

Illustration 79

FAIRY LAKE - HULL

However, it should be noted that the built-up districts are in great part very abundantly planted: the streets are almost all bordered with trees, and family dwellings situated within gardens to an extent such that an aerial view of the region gives the appearance of a park rather than a densely urbanized area.

Sports

The stadium at Lansdowne Park has a normal seating capacity of 10,000, and, when occasionally augmented by bleacher-seat accommodation, of 14,000.

The University Oval Stadium can accommodate 1,500 spectators.

In Ottawa, Hull and vicinity, local sports grounds, and private playgrounds and sports clubs, principally tennis, provide satisfactory but limited accommodation for certain parts of the urban area, but no overall system of physical education has yet been developed. Ten golf clubs, of various quality, of which five are situated between Hull and Aylmer, two in the Ottawa area, one in Hull (Glenlea), one in the Gatineau Valley and one in the Town of Gatineau, contribute to the

Illustration 80

THE EXPERIMENTAL FARM FORMS A CENTRAL PARK WITHIN A RESIDENTIAL AREA OF THE CITY OF OTTAWA, AND ITS AVENUES CONSTITUTE A PART OF THE DRIVEWAYS OF THE FEDERAL DISTRICT COMMISSION.

Illustration 81

LANSDOWNE PARK - EXHIBITION GROUNDS AND FILED SPORTS ACCOMMODATIONS

system of open spaces of the- region. Some additional golf facilities ought to be reserved in the north-eastern and south-eastern areas, where further urban development is expected.

Nautical sports should also be more largely developed. The Britannia Boat Club is the only one of sufficient importance in the western part of the region, where the Ottawa River forms a splendid lake for yachting and boating. Similar facilities should be developed in its eastern part, from Nepean Point down stream, as those afforded by the Ottawa Rowing and New Edinburgh Clubs are insufficient.

The number of beaches and swimming pools are decidedly inadequate, although the advantages to be derived from such, are well exemplified at Britannia Park by the utilization of a magnificent site on the Ottawa River.

Illustration 82

WINTER SPORTS – GATINEAU PARK

Illustration 83

CAMP FORTUNE – GATINEAU PARK

Illustration 84

NAUTICAL SPORTS - LAKE DESCHENES

Within short distances from Ottawa and Hull, Gatineau Park offers inexhaustible opportunities for sport enjoyment, in summer and winter. It is partially and very well developed by the Federal District Commission and is gradually being extended on a progressive annual basis.

The valley of the Gatineau River, the innumerable lakes surrounded by rocky and wooded escarpments, the picturesque Masham Valley, the pastoral river banks of the Mississippi, Ottawa and Rideau Rivers, the Rideau Lakes and the numerous tributaries of these waterways provide a system of green spaces for rest, hiking, cycling, motoring, boating, fishing, hunting, camping, picnicking, horseback riding, skiing and, the most salutary of all recreations, living close to nature.

Illustration 85

COUNTRY CLUB – NEAR OTTAWA

12

RECREATION AND TOURISM

Recreation

Recreation, particularly outdoor recreation, is everywhere considered to be an essential element in human activities. Canada, in common with other advanced countries, recognizes this principle and, through its Department of National Health and Welfare, maintains a service, the purpose of which is to aid and guide municipalities, in their efforts to set up facilities for complete programmes of recreation.

In the preceding chapter, reference was made to grounds intended for physical culture activities, which in many cases are confused with general recreational spaces, but which are particularly located in the interior of the urban zone

Illustration 86

MUNICIPAL PLAYGROUND - ELGIN STREET, OTTAWA

in densely populated districts in the *proximity of schools*, while recreation can also be exercised to its full value at the exterior of the urban zone and serve as a link between the city and centres of touristic attractions.

An intensive survey of this aspect of social activities is at date under way within the Ottawa region, under the sponsorship of the Recreational Division of the Canadian Welfare Council, in conjunction with the Capital District Recreational Planning Survey and with the assistance of social organizations and municipal services. As in the case of surveys relating to traffic and sanitation facilities, the National Capital Planning Service has worked in close collaboration with investigators, placing at their disposal general information already assembled along with particulars of proposed recreational accommodations, while participating in the exchange of points of view.

In the Provinces of Ontario and Quebec, the organization of recreation is definitely a municipal responsibility, stimulated by the assistance, collaboration and support of the Provinces and of the Federal Government. In the *City of*

PLATE XXI

EXISTING OUTDOOR RECREATION AL FACILITIES
OTTAWA - HULL AND VICINITY

Illustration 87

PUBLIC BEACH AT HOG'S BACK

Illustration 88

PICNIC GROUNDS – PHILLIP LAKE
Developed by the Federal District Commission

Illustration 89

GATINEAU PARK – PANORAMIC VIEW OF THE KINGSMERE AREA

Ottawa, the Ottawa Recreation Commission, recently organized, is achieving very satisfactory results in the co-ordination of existing recreational activities and, within the limit of available space, the provision of new facilities.

Under the auspices of the Civic Playgrounds Committee, (a committee of the City Council) there is maintained an efficient staff comprised of a Commissioner, directors and supervisors, who operate an established system of civic playgrounds, playfields and beaches, the facilities and equipment of which have been greatly augmented in recent years, on the basis of a continuing programme of expansion.

In the city of Hull, the *Œuvre des Terrains de Jeux* is a parochial organization concerned with the planning of leisure time activities within the city, and maintained by the *Fédération des Œuvres de Charité*, assisted by a provincial grant. The *Commission Municipale de Récréation*, directly responsible to the City Council, is its executive. Among other things, it is charged with the purchasing and equipping of recreation grounds within the city limits.

Within the bounds of municipalities so organized, the Federal District Commission plays an unobtrusive but important part where recreation is concerned by the provision of recreational space, such as Commissioner Park in Ottawa and Jacques Cartier Park in Hull. The supervision of the latter has been entrusted

Illustration 90

ONE OF THE NUMEROUS SHADY TRAILS WHICH ADD CHARM TO THE GATINEAU
PARK

Illustration 91

MEACH LAKE

Illustration 92

PHILIP LAKE

Illustration 93

MISSISSIPPI RIVER

to the *Commission Municipale de Récréation*. In rural areas, participation by the Federal District Commission is considerable, embracing picnic grounds, beaches, ski trails, etc., and, on the whole, it would appear that it will greatly expand its activities in this connection in the future. The systematic organization of Gatineau Park, and incidentally of other grounds in the region, constitute for the Capital major factors in the planning for recreation. This aspect of the part played by the Federal District Commission is of primary importance and in the future will undoubtedly be still greater.

School playgrounds form an essential element in the development of recreation, but in many cases the space so allotted is insufficient, while the use of such is limited to pupils solely during school terms.

A further asset to the recreation programme is that provided by private enterprise, commercial or controlled, which is not negligible.

At date, there is no comprehensive scheme of organization for the planning and realization of a recreational programme within the Capital Region as a whole. The objective should not be that of usurping control of existing activities but rather of bringing local authorities in this field within a co-ordinated jurisdiction,

Illustration 94

GREEN LAKE, NEAR GRACEFIELD, QUE.

in which connection a central advisory board would undoubtedly be beneficial to all concerned. The National Capital Planning Service, from the nature of its activities, can be a contributing factor to such a co-ordinating agency.

Tourism

It is unnecessary to emphasize the advantages accruing from tourism as a factor in the prosperity of the National Capital. Thanks to its magnificent setting, the success of tourism is already considerable but it is important to organize and plan for its development, to safeguard the very reason for its existence, that is to preserve and enhance the *naturally beautiful setting of the Capital*, which any untimely and uncontrolled expansion of tourism might readily and permanently disfigure.

There are many attractive places within the Capital Region. Unfortunately, their accessibility is often very difficult and in cases they are even out of reach. Only a few touristic highway circuits provide practicable approaches and in instances they are lacking in continuity throughout their courses.

Part II, chapters 8 and 9, deals with our proposals in this connection.

Illustration 95

AERIAL VIEW OF THE CAPITAL

The configuration of the land is remarkable but its harmony is compromised by insufficiently controlled urban development

13

AESTHETICS

Natural Assets and Commendable Achievements

The National Capital Region, situated on both sides of the Ottawa River, is a harmonious blend of forests, farmlands and water, of which the Capital City is the center.

The flat lands on the Ontario side and the nonchalant courses of its rivers make, with its pastoral scenery, striking contrast with the Quebec side, its undulated hills riddled with lakes, traversed by turbulent streams and covered by thick growths of trees.

Illustration 96

VALLEY OF THE GATINEAU RIVER
In the foreground is Chelsea Rapids Dam

South of the Ottawa River, most of the land is occupied by farms and marshlands, interspersed by countless wooded areas, over which the pine and the elm tower majestically. The north fringe of the Ottawa River has the same characteristics, while the Gatineau Hills, have a reverse proportion of forests and farmlands. All of this land of low lying hills, multiple lakes, streams and small valleys, in which farms rest between its wooded slopes, has a hospitable character of amenity and charm, most of which is still unspoiled.

Illustration 97

PHILIP LAKE
GATINEAU PARK

Illustration 98

DAM AT HOG'S BACK

The inhabitants of the region have long been conscious of this beauty, and have tried to take full advantage of it for their own enjoyment, although sometimes the parcelling out of the land has been detrimental to its scenic aspects and to its accessibility to the public.

It is desirable that the region be surveyed to ascertain to what extent these individual developments are detrimental to the public interest, and in what ways future developments should be subjected to control.

The Gatineau River, which has many magnificent vistas, is difficult of access in many places because of land topography and private ownerships. When this accessibility is possible, reservations should be provided for public recreation and enjoyment.

Illustration 99

FALLS OF THE RIDEAU RIVER AT HOG'S BACK

The Rideau River has several beauty spots opened to the public, such as Hogs Back and Black Rapids, but those places are very limited, and do not provide facilities for proper enjoyment by local citizens.

The Gatineau mountains and lakes, in part owned by the Federal District Commission, which has already executed valuable works of preservation and enhancement, likewise lack adequate accessibility. Kingsmere Lake is entirely surrounded by privately owned grounds. The only road along Meach Lake is bordered by private cottages which very often mar the scenery and preclude travellers from finding a place of rest along its shores. Harrington Lake, which is approximately 15 miles from the Peace Tower, is entirely undeveloped and reserved for the exclusive enjoyment of two or three owners. The road following its shores is impassable for vehicles, and to reach Philippe Lake, from the central area, cars must make a detour of some 40 miles. As such conditions are decidedly inconvenient to the public, and, as this lake will undoubtedly be ultimately integrated in the park system, its natural scenic beauty should be made available under proper policies of preservation and enhancement.

Lapeche Lake and its region offer similar possibilities for the proper development of its natural assets, but McGregor and Saint-Pierre-de-Wakefield Lakes, though possessing equivalent scenic beauty, have, in places, lost much of their attractiveness through uncontrolled private developments.

Within the urban area, and along the Ottawa River, there is not enough accessibility for the public to its shores. The land is either privately owned and occupied for residential or industrial purposes, or it is still entirely undeveloped and difficult of access. In Ottawa and Hull, only a few riverside parks are opened to the public. Fortunately, the Federal District Commission has acquired additional land west of Cartier Park in Hull, and paralleling the Ottawa shoreline between Lazy Bay and Woodroffe, for park and parkway development.

The areas on each side of the Ottawa River, at the points where the Gatineau from the north, and the Rideau from the south reach its waters, are wonderfully endowed by nature. The strange horizontal stratas of grey rocks overhanging its south shore, its bushy banks, the foaming falls of the Rideau River, and the Gatineau rapids on the opposite shore, seem to conspire to make this nature spot an unforgettable composition, the rugged charm of which grips the onlooker and carries him back, in spite of the close proximity of the city, into a past seemingly filled with the calls of the early guides and the gleam of the campfires.

The attraction of the Capital lies in this grim and strongly conjuring character, which has not yet been divested of the charm of its large wooded vistas, its picturesque canals and falls; the grandeur of its monuments and parks.

The towers and gables of its public buildings give to it a picturesque and romantic skyline. The natural charm of its surroundings are skilfully enhanced by the number and the gracefulness of its aged elms and blue-tinted evergreens, as well as by the exuberance of lawns and parks. A bird's-eye view of the city leaves the impression that it is wrapped in green.

Illustration 100

THE SMOKE OF INDUSTRIES OPPOSITE PARLIAMENT HILL

Deficiencies

But progress, through the exploitation of its natural forces, and the ill-considered use of the land, has somewhat begun to stifle and mar the scenery.

Across the river from the stately buildings of the nation are piles of unsightly and disorderly industrial materials, factories, railway sidings, warehouses, and chimney stacks spreading soot, smell and smoke. The beauty of the Chaudiere Falls is hardly perceptible from portions of an antiquated bridge and 'roadway laboriously finding their way through this unsightly mass of structures. The hill and Parliament Buildings can only be seen occasionally through such environments.

Within the city and the surrounding municipalities, there are many planted streets, which enhance the residential districts, but there are also too many streets which have been denuded of this natural element. Such streets, by comparison,

Illustration 101

THE CHAUDIÈRE FALLS BORDERED BY INDUSTRIAL INSTALLATIONS

Illustration 102

AERIAL VIEW OF CHAUDIÈRE ISLANDS ENCUMBERED BY INDUSTRIAL
DEVELOPMENTS

Illustration 103

INTERSECTION OF ELGIN AND COOPER STREETS, OTTAWA

Ottawa abounds in tree-bordered streets. In the heart of the City, magnificent elms and maples, while providing shade and freshness, in large measure serve to screen incongruous structures.

offer depressing aspects. Buildings bordering upon them, whatever be their particular architectural merits, seem to be disorderly, and clash with neighbouring structures. Houses often are too close to each other, and their individual designs, which may have merit when isolated, are shocking and unaesthetical.

Illustration 104

INTERSECTION OF METCALFE AND SOMERSET STREETS, OTTAWA

Illustration 105

SOMERSET STREET WEST AT THE INTERSECTION OF BELL STREET, OTTAWA

The aspects of commercial streets reveal the absence of zoning and the lack of regulations controlling the volume of buildings, display advertising and the installation of utilitarian fixtures.

Colours have been used without any relation to the shades of the neighbouring structures, and the perspective of a street is often inharmonious in forms and bulks, to which trees might have brought some degree of unity.

There has been no control of the design and location of public utilities except on Elgin Street from Laurier Avenue northerly and on Wellington Street from Confederation Place to Bank Street.

Illustration 106

DALHOUSIE STREET AT THE INTERSECTION OF RIDEAU STREET, OTTAWA

Illustration 107

KENT STREET AT THE INTERSECTION OF QUEEN STREET, OTTAWA

The main streets in the centre of Ottawa are encumbered with all the elements detrimental to traffic circulation and aesthetics: tramway lines, with the added inconvenience of bilateral parking, overhead wiring and its supporting poles, transformers, outside fire escapes, uncontrolled outdoor advertising, etc.

In commercial and semi-commercial streets particularly, utilities have encroached to such an extent that, in instances, the streets have become crowded to the limit by telephone, power, light and tram posts, and, the sky can be seen only through a network of wires and transformers. Nothing is more depressing than the appearance of such streets, and nothing is so unworthy of the National Capital, particularly when this disorder is within a stone's throw of the Parliament Buildings.

No architectural control having been enforced on commercial streets, their appearance is deplorable. If passers-by raise their eyes above the fallacious brilliance of the show-

Illustration 108

QUEEN STREET BETWEEN O'CONNOR AND BANK

Illustration 109

PHOTOGRAPH TAKEN AT THE INTERSECTION OF QUEEN AND METCALFE STREETS,
OTTAWA

windows, they will see an unbelievable heap of volumes, forms and colours, which have arisen without any regard to adjoining structures.

Lack of control has permitted the use of outdoor stairways and fire escapes, and incongruous commercial signs. Such conditions are common to most cities, it is true, but the Capital is the first city which should take appropriate action to stop those undesirable features.

The nation is young and vigorous, its natural resources had to be exploited, its markets maintained and expanded, and it is only natural that some of the refining elements, which seem to have little to do with such materialistic aspirations, have been overlooked. But now Canada has reached its maturity and is becoming conscious and proud of its assets. Therefore, it is ready to revise and improve its ways of living and expanding, and in doing so is taking full cognizance of its intellectual and artistic culture.

REVIEW OF PREVIOUS TOWN PLANNING STUDIES

The Todd Report on Parkway System, to the Ottawa Improvement Commission (1903)

In the year 1903, the late Frederick G. Todd of Montreal, a noted Canadian landscape architect, was engaged by the Ottawa Improvement Commission to outline a comprehensive scheme of park and parkway development for the City of Ottawa and its environs. Though the scope of his report did not go beyond beautification, Mr. Todd expressed strongly for the first time the necessity of collecting all data necessary to make a comprehensive plan. His outlook on the subject was broad and tended to evolve a general scheme rather than attempt to go into details.

Remembering that the Report was written in 1903, the following quotation is indicative of this attitude:

Ottawa is at present a manufacturing city of considerable importance, and is destined to become great in this respect, owing to its immense water power. The industries, however, should be so regulated that they will interfere as little as possible with the beauty of the city, for a Capital City belongs to a certain extent to the whole country, and should not be placed in such a position that any one man, or company of men, can have it in their power to seriously mar its beauty, and thus throw discredit on the nation. As a Capital City, the park and open spaces should be numerous, and ample boulevards and parkways should skirt the different waterways as well as connect the principal parks and the different public buildings. . . To preserve the great natural beauty of the city as a heritage for the Dominion of the future, and at the same time to allow of the development to the greatest possible extent of the magnificent industrial opportunities of Ottawa, presents a problem of such magnitude that to attempt to discuss it in this report would be practically impossible. It seems to me, however, that this question must be faced sooner or later, and these two important considerations which often conflict so seriously, made to work together for the future beauty and prosperity of the city, otherwise the industrial development of the city will be sacrificed to its aesthetic development, or what it is probably of greater present danger, that much of the natural beauty of the city will be sacrificed to its industrial growth.

He emphatically stressed the importance of having a general plan of the park and parkway system in the city and its environs, which would be the basis for extensive works in future years. This recommendation was not conformed

with and up until the date of this report the Ottawa Improvement Commission had nothing upon which to base its activities except the general guidance provided by Mr. Todd, and in many instances his recommendations were not followed or received such an interpretation that the Federal District Commission had afterwards to devote much time and energy in rectifying the mistakes of its predecessor. Flower beds had to be removed from the driveways, concrete ponds demolished in Strathcona Park, and other similar works had to be undertaken throughout the city. Time has aided in obliterating such scars by the weathering of concrete and the growth of trees and shrubs. Had Mr. Todd's recommendations been followed, all such duplications of costs would have been avoided.

It is a matter of regret that financial limitation, as well as the lack of a comprehensive plan, have precluded the implementation of many desirable and important specific recommendations contained within the report, the execution of which has now become more difficult. Particularly to be regretted is the failure to implement its recommendations relative to the control of industrial development, an undertaking which, if then initiated, would have minimized or avoided much of the undesirable development now existing.

The Todd recommendations which have been adopted, or can still be made the subjects of consideration, may be listed under the following headings:

Large Natural Parks or Reserves.

Suburban Parks.

Boulevards and Parkways.

City Parks.

1 - Large Natural Parks or Reserves

Two forest reserves were recommended by the author; one of 2,000 acres along the Gatineau River between Ironside and Old Chelsea; the other on both sides of Meach Lake.

The first proposal is no longer feasible due to extensive cottage and agricultural developments. However, it is recommended that this area be included in the controlled rural belt and be subject to special regulations, thus preserving the remnants of the forests to which Mr. Todd refers.

The acquisition of the west shore of Meach Lake by the Federal District Commission in 1940-48, as part of the development of Gatineau Park, will retain this area as a forest reserve. The Federal District Commission has since extended the areas to be reserved for the Gatineau Park. The present report recommends still further extensions, especially on lands near the urban area, with the view of bringing the parkway to the doorstep of the Capital.

2 - Suburban Parks

Mr. Todd suggested certain additions to Rockcliffe Park which were carried out by the Ottawa Improvement Commission, as well as the inclusion of the shores of Hemlock or Mackay Lake in this scheme. The inclusion of the east shore of the lake within the park system is strongly recommended; on the west side, the public has been denied access to the lake by the extensive building of private homes.

Mr. Todd suggested that a park be located along the south banks of the Ottawa River between the Remic and Little Chaudiere Rapids. In 1947 land along this shore was acquired by the Federal District Commission. This land still lends itself to the creation of a park and parkway system, but in view of its large surface and proximity to the urban center, it is suggested that certain areas be reserved for public buildings or other specific uses.

Hurdman's Bridge was recommended by Mr. Todd as a suitable area for a large urban park (40-45 acres). The area suggested is along the river between the bridges and the gas works. A park and playgrounds, related directly to major improvements in this vicinity, are now recommended in the same area. Their execution is still possible due to the unsuitability of this ground for other purposes.

To round out the park system, the author strongly suggested a park along the Ottawa River between the Gatineau River and Brewery Creek. This land has been acquired by the Federal District Commission in recent years but has not been developed. Extension of the park system is recommended eastward, on low grounds not suitable for other purposes, across the river from Rockcliffe.

3 - Boulevards and Parkway

He suggested that a boulevard be constructed from Rideau Hall to Parliament Hill along the banks of the Ottawa River. Lady Grey Drive was built in accordance with this recommendation by the Ottawa Improvement Commission. The reasons giving rise to this recommendation do not now hold the same importance. We are of the opinion that Sussex Street, widened and properly treated with reservation of land on the river side, could make an equally good approach to Rideau Hall. To terminate this scheme he suggested' an imposing traffic circle at the junction of Mackenzie Avenue and Confederation Place. Our plans, prepared in 1938, the execution of which was interrupted by the outbreak of war in 1939, had made allowance for such a traffic circle. The ultimate plan now envisioned embraces provisions adequate to ensure continuous traffic circulation in this area, toward Sussex Street.

A parkway was visualized by Mr. Todd to connect the west end of the Experimental Farm with the Ottawa River in the vicinity of Island Park Drive. However, Mr. Todd recommended that this parkway follow the high ground so

that pleasant vistas could be opened up. The location of Island Park Drive is such that very little scenic beauty is available to the user as it is located on the low ground. A scenic driveway, inspired by the same principles, can still be created on high grounds south of Carling and west of Merivale Road.

He further suggested that this parkway be connected eastward along the Ottawa River and ultimately, through the Broad Street railway area, to Wellington Street. This recommendation, which was never lost sight of by the Federal District Commission, is incorporated in the present report.

Mr. Todd recommended that the banks of the Rideau River be developed as a parkway with a wide right-of-way to preserve its natural beauty. He recommended that this drive should start at Cumming's Bridge and ultimately join the Rideau Canal drive in the vicinity of Bronson Avenue. Much of this development is still feasible on the south side of the Rideau River and land was acquired by the Federal District Commission in 1947 for this purpose. This riverside park and parkway system can still be extended further. The Federal District Commission is taking steps now with this objective in mind.

As part of the development of the forest reserves along the Gatineau River, Mr. Todd recommended that a parkway be constructed through the heart of Hull. "so that this first part of the drive from the Parliament Buildings or from the centre of the city to these reserves may be more agreeable than at present." The importance of beautiful drives connecting the Gatineau Hills with the centre of the built-up area is strongly emphasized, and recommendations are made in this connection covering the exact locations of parkways and boulevards and their treatment, (Part II, chapter 3).

4 - City Parks

Mr. Todd considered that Patterson's Creek could be made one of the most beautiful parks in the vicinity of Ottawa and made recommendations regarding its boundaries and the type of development required. These recommendations have not been carried out with the simplicity indicated in the Todd Report, but this park should be extended when opportunity permits.

Report of the Federal Plan Commission

(Holt Commission)
(1915)

This Commission, under the Chairmanship of Sir Herbert S. Holt, and generally referred to as the "Holt Commission", was appointed under Order in Council dated September 8, 1913, and was a joint undertaking on the part of the Federal Government and the Cities of Ottawa and Hull.

The comprehensive recommendations contained within the report are dealt with in detail but special attention is drawn to the following features, i.e.:

1. That improvements in the area of the Capital at Ottawa and Hull should not be attempted without first establishing a Federal District and securing for the Federal authority some control of local government.
2. That the pivot, on which hinged the success or failure in carrying out any comprehensive plan, lay in the proper solution of steam railway transportation.
3. That the extension and development of Government Buildings should be carried out on a comprehensive plan.
4. That there should be proper control of residential and manufacturing districts by enforcing building restrictions.
5. That there be developed a broad and forceful policy of park lands.

Illustration 110

HOLT REPORT, SCHEMATIC PLAN OF RAILWAY SYSTEM

As fundamental to the solution of the railway problem, the Commission recommended control by a single authority of all railway trackage and terminals. The general scheme of railway revision recommended was the creation of a union passenger terminal on the site of the existing passenger station (since carried out), the development and extension respectively of two general freight areas -- one east of the Rideau Canal and south of Laurier Avenue, and one at Broad Street, and the provision of a tunnel paralleling Wellington Street and connecting the union passenger terminal and the eastern freight area with the Broad Street freight area, thus providing through traffic facilities for all passenger and local freight trains between the easterly and westerly lines approaching the City.

From the points of view of transportation and industry, any amelioration thus obtained undoubtedly would have been temporary and insufficient, and, above all, would have rendered impossible the rehabilitation of the central area of the Capital, and compromised traffic circulation between the east and west railway and industrial centres by trucking movements on streets running between and on Wellington Street and Laurier Avenue.

Under this proposal there was envisioned the abandonment of portions of the then existing Canadian Northern Railway and the Canadian National Railways to form a common approach east of Hurdman's Bridge with the Canadian Pacific and Ottawa and New York Central lines. Similar abandonments were recommended in the cases of the cross-town line of the Canadian National westerly to Graham's Bay, the Prescott Branch and Sussex Street Branch of the Canadian Pacific, the Chaudiere Branch of the Canadian National, and North Shore lines of the Canadian Pacific Railway in the Province of Quebec.

At the date of the Holt Report, these proposals might have constituted perceptible progress, but they would have perpetuated and aggravated the regrettable barrier of railways and yards along the Rideau Canal, despite the provision of several bridges to ensure east-west circulation. Moreover, all possibility of replanning that part of the City, which is very central and well favoured by nature, would have been nullified, and the extension of the railway installations would have been realized at the expense of a district which offered the best conditions for residential development. The envisionment of an industrial centre in this area was, to say the least, undesirable. Further, the City of Hull was definitely placed in the position of being unable to rehabilitate the depreciated lands bordering upon the Canadian Pacific right-of-way crossing the city diagonally.

Commensurate with railway revisions, certain areas were recommended for the segregation of heavy industries, i.e. in Ottawa, one to the east at the junctions of the railway approaches and one on the west at the Chaudiere Falls and extending westerly along the south shore of the Ottawa River; and in Hull, one at the Chaudiere Falls and one in the vicinity of Leamy Lake.

Illustration 111

HOLT REPORT. SCHEMATIC PLAN OF PROPOSED HIGHWAY SYSTEM

To alleviate growing traffic congestion and to improve street connections between the business areas east and west of the Rideau Canal, it was recommended that a *diagonal street on a viaduct over the railway and canal* be constructed from the intersection of Laurier Avenue and Elgin Street to the intersection of Rideau and Dalhousie Streets. Further to this end and in the desirability to free Wellington Street from heavy truck traffic, the Holt Report suggested that Laurier Avenue be developed as the main east and west traffic artery, a project which

involved the widening of this avenue throughout its entire length and the provision of a tunnel through the cliff at its westerly extremity connecting Laurier Avenue West with Albert Street. In addition, it was recommended that Somerset Street be developed as a cross-town artery and that it be widened from Bronson Avenue westerly to Wellington, also that Elgin Street, Bank Street and Bronson Avenue be widened for through-artery purposes.

Additional recommendations covering the extension and widening of a number of existing streets within the cities of Ottawa and Hull were made to the end that traffic circulation might be facilitated.

In Ottawa, it was suggested that there be extended George Street to St. Patrick Street, Lisgar Road from Dufferin to Springfield Roads, Chapel Street to Nicholas Street and Echo Drive south to and across the Rideau River, while it was envisioned to widen Dalhousie, Sussex, Main, Riverdale and Broad Streets for their entire lengths and Nicholas Street between Rideau Street and Laurier Avenue, Nicholas Street south of Gladstone Avenue, Gladstone Avenue from Nicholas Street to the Rideau River, Wellington Street west of Bronson Avenue, Scott Street west of Wellington Street, Carruthers Avenue from the Ottawa River to Carling Avenue, and Carling Avenue from Bronson Avenue to Richmond Road.

In Hull, the widenings of Main, Hotel-de-Ville, Saint-Laurent Streets and Laurier Avenue were recommended.

Reference was made to the utilization of abandoned railway rights-of-way as highways, and to the necessity for the provision of connections with highways leading to Toronto, Montreal and other major cities, and detailed submissions relative to the essential factors involved in so doing were made available, as also were recommended highway widths.

Specifically the utilization of abandoned railway rights-of-way is referred to in two instances, i.e. a cross-town parkway replacing the Canadian National cross-town line, extending from the Rideau River to beyond the western limits of the City, and a parkway connecting the Experimental Farm with Wellington Street and the Ottawa River front and situated parallel to and west of Preston Street. Additional parkways recommended and forming part of the major traffic system were those along Green Creek from the Ottawa River to Walkley Road, a diagonal parkway running south-easterly from Deschenes Rapids to the Merivale Road and sweeping easterly to the Rideau River, and parkways beginning at Green Island at Sussex Street and extending along each side of the Rideau River into the open country at Hogsback. Further parkways parallelling the Ottawa River, Brewery Creek and the Gatineau River were the subjects of recommendation.

Extensive parks and playgrounds were recommended, including the acquirement of lands in the Laurentian Hills for a National Park, and the development of Dow's Lake and its adjacent lands as a recreational centre was strongly urged.

Illustration 112

HOLT REPORT. PLAN OF CENTRE OF CAPITAL

Any critical review of the Federal Plan Commission's Report of 1915 must necessarily be tempered by a recognition of those transitions which have occurred since the date of its preparation and which have definite bearing upon fundamentals affecting present day conditions. It is remarkable, however, that the authors made a very accurate estimate of the probable extension of the urban area and of its population for a period of thirty-five years, i.e., 250,000 inhabitants in 1950. The trend of population growth in the intervening years has proved the degree of accuracy attending the predictions of the experts in 1915.

The report's primary recognition that steam railway revisions formed "the pivot on which hinged success or failure in carrying out any comprehensive plan" was basically sound, although the degree to which such were envisioned was limited by conditions then existing but since intensified. The extraordinary effects of the general use of the automobile as a major factor in transportation, and their direct bearing on urban and interurban traffic, could not then be predicted. Could such have been foreseen, it is obvious that the principle of trackage eliminations and

the adoption of rights-of-ways so released for arterial highway purposes would have been pursued further and certain major recommendations, contained within the report, if adopted, would have proved detrimental, and necessarily would have demanded ultimate further revisions. This situation in all probability gave reason to the recommendations for the numerous street extensions and widenings outlined and for failure to recognize the detrimental factors attached to the perpetuation and extension of railway and industrial facilities in central city areas. The retention of the Union Station and the relocation and extension of the local freight yards immediately south of Laurier Avenue and extending east of the Canal to Waller Street, is an instance in point. Had this recommendation been carried out the resulting condition, without question, would have been much more detrimental rather than beneficial.

Within limitations the report as at the date of its submission could have been acceptable, but in light of developments during the transitional period to date it obviously would have been, in many fundamental aspects, decidedly inadequate to meet present-day conditions.

Nevertheless, we consider the Holt Report to have been a progressive step toward the development of the National Capital, and in many respects, found it to be most helpful in the pursuit of our studies. In many instances, we have included within our report recommendations made in the Holt Report which were obviously desirable in their contributions to the betterment of traffic conditions, transportation and living, together with the enhancement of dignity and spaciousness within the Capital.

The incredible contribution of Canada toward the victorious conclusion of the second world war has been reflected in the rise of the Canadian Confederation to the rank of one of the greatest nations of the world. The function of its Capital has, therefore, become more complex and incomparably greater than what it was in 1915 or even in 1938-39, when we were initially called by the Federal Government to advise on the future development of government owned grounds in the Capital.

This new situation requires different and broader solutions than what would have appeared to be adequate in 1915 or even in 1938-39.

The long range work of planning must necessarily be the result of repeated efforts and every step towards the final objective has its value. The Holt Report is, in many respects, the foundation of our present work as, we trust, our present recommendations will be to those who will follow us, in their adaptation to unforeseen and new conditions which will inevitably arise in the future.

Illustration 113

CAUCHON REPORT, 1922 - PLAN OF PROPOSED RAILWAY REVISIONS

The Cauchon Report (1922)

A further plan and report was prepared by the late Noulan Cauchon, planning consultant to the City of Ottawa until his death in 1935, and one of the best known of Canadian town planners. While this report was unofficial, in the sense that he was not retained by the Government to execute it, it comprises the co-ordination of extensive studies of the Capital area pursued by the author over a period of some fifteen years.

The Cauchon Report was formulated and released in April, 1922. It suggested the creation of a Federal District on a basis which would overcome previous objections to such a project, *by providing for the control of physical features and public utilities* within Ottawa, Hull and their environs, and leaving all other provincial and municipal prerogatives undisturbed.

Previous proposals had always taken for granted that the creation of a Federal District involved legislative union between the two cities of Ottawa in Ontario, and Hull in Quebec, under the control of the Dominion Government, and implied necessity for the disfranchisement of the citizens on both sides of the Provincial boundary, and the complete loss of municipal autonomy.

The Cauchon proposal submitted that there be created a Federal District Commission empowered by enactment of the Dominion Parliament to control and develop the physical features and public services of a large area embracing the cities of Ottawa, Hull and environs. Under this legislation it was proposed that the municipalities be given the power to transfer voluntarily to the Federal District Commission the exercise of such of their powers, granted under their respective provincial acts, as they might see fit. Under such proposals it was not the intention to involve the immediate appropriation of large sums of money by the Dominion Government, but rather that there be created a body of experts to plan and guide development; to see that what was done was done right and as an integral part of a larger plan, which would be considered and developed when circumstances required and permitted.

The proposed reorganization of railway trackage and terminals was designed to eliminate unnecessary duplications of trackage, maintenance and operational expense, and included the elimination of all level crossings on running trackage - industrial spurs apart. The railway revision plan retained the present central station but provided through-traffic facilities by a tunnel paralleling Wellington Street and connecting with the existing Chaudiere trackage which, by the provision of a new crossing of the Ottawa River, provided the sole interprovincial railroad communication. This, coupled with a total revision of trackage within the City of Hull released such rights-of-way and the Interprovincial and Prince of Wales Bridges solely for highway purposes. Similarly, the provision of a joint short line westerly, coupled with the relocation of make-up yards east of Elwood Junction, permitted the amalgamation of all main lines approaching Ottawa to operate through east-west traffic under union terminal auspices, and of the abandonment of existing east-west C.P.R. (South Shore) and C.N.R. (Cross Town) trackage for highway purposes.

Railroad rights-of-way radial to the City, which became released from railway use, were to be converted into fast radial highways, the embankments of which were to be broadened out to accommodate electric trackage in the centre, with motor roads alongside; existing grade separations were to be retained and added to, whilst the rights-of-way were to be maintained free of access, except approximately every half mile to provide for rapid communications within the city. These rapid facilities were predicated on the extension of line-distances, thereby increasing the availability of land areas suitable for residential development. In principle such fast radial highways were to be extended into the surrounding country

paralleling existing railroads, thus taking advantage of existing and future grade separations, relieved from interruptions, delays and congestions of local traffic, and permitting of sound organic function.

To provide additional much needed electric power for industrial purposes, it was proposed to erect a new dam at the Little Chaudière. By raising the water at the Little Chaudière, the water level of Lake Deschenes would have been brought into the heart of the cities of Hull and Ottawa, and the lake thus extended would have become a suburb of the Capital, navigable from shore to shore up to Chats Falls. The proposed dam was destined to accommodate railroad and radial trackage as well as highway right-of-way.

The spur of the Laurentian Hills which reaches down to the shore of the Ottawa River, at the point of the proposed power dam, it was recommended, should be made a National Park beginning from the highway crossing the dam and thence widening out as it extends northerly, including all the hilly ground reaching further and further into the north as time and circumstance permitted.

Besides the Mountain Park it was recommended that the Capital District be endowed with an extensive system of inner parks and parkways to assure health and amenity to the increasing population. The larger of such internal areas were to be determined on the principle that land which was too low or expensive for natural sewerage should be reclaimed for public use and land which was too high to reach by normal average city water service pressure should be withheld from settlement and diverted to public park use on the ground of economy in providing such services.

A unique proposal contained within the Cauchon report was the Ottawa - Cardinal Canal as an all Canadian alternative to the St. Lawrence International Deep Waterway, bringing the level of Lake Ontario to Ottawa. The alignment of this canal to the St. Lawrence River would have coincided with the alignment of the then proposed irrigation main ditch to utilize the waters of the Rideau watershed. This latter scheme involved making an artificial reservoir of the Mer Bleue for irrigation storage purposes.

The railroad reorganization and highway system were stressed as vital to the efficient determination of zoning dispositions for land use and to the obviation of congestion, the stabilization of values and the assurance of amenities of civic life.

Tentative and alternative schemes were studied for dealing with the Rideau Canal within and without the city and for the distribution of irrigation from the Rideau River throughout much of the district to increase fertility and insure crops, to render gardens and small holdings tenable and profitable adjacent to the city and its markets.

The Rideau River was determined in general as the median line of the future between residential areas on the west and industrial activities on the east of it. Prevailing winds are from the west and north-west, insuring the drifting away

from residential and business sections and towards the open country of all objectionable smoke, dust and odors. A substantial section of this open country is a peat bog and sparse of population.

Large industrial areas in this vicinity and contiguous to proposed railroad yards were defined, as also were large areas entirely east of the City on the Ottawa River, both on the Ontario and Quebec sides.

The Cauchon report embodies much in the way of recommendations which are fundamental to the basic consideration of the planning of the Capital Area and which to some extent, have fallen within the purview of the present report.

While only a period of some seven years intervened between the dates of the Holt Commission and the Cauchon reports, it is a matter of interest to query just to what degree and in what particulars the transition of factors affecting urban conditions within that period had bearing upon the obviously differing approaches to the solutions recommended.

First Studies by Jacques Gréber (1937-39)

The Federal Government retained my services in 1937, 1938 and 1939 as consultant in relation to the development of Government-owned lands in the centre of the City.

The plans, which primarily embraced the whole of Parliament Hill and Nepean Point, dealt with the landscape design of the grounds and approaches to the Government Buildings, as well as the architectural treatment of such buildings. They also comprised suggestions or recommendations covering the utilization of certain sites.

As it was important to examine the relationships of such undertakings to adjoining areas, a preliminary plan of Ottawa was submitted, accompanied by a report setting forth the advantages of a master plan from the point of view of the co-ordination of proposals as well as of economics, in order to orient the execution of future developments.

Lacking a complete analysis of existing conditions and future requirements, this preliminary plan was merely a superficial outline. Nevertheless, it comprised many new suggestions and co-ordinated or endorsed, according to cases, certain proposals envisaged and in some cases studied in previous plans. Thus the development of a main transurban artery was recommended on the Canadian National right-of-way traversing the City from east to west. The plan likewise envisaged the linking up of Scott Street and Wellington Street providing a new westerly outlet toward Westboro and Britannia. The partial or total use of other

rights-of-way as arteries of penetration was also recommended, among which were the Canadian Pacific rights-of-way linking Billing's Bridge and the Prince of Wales Bridge, and those of the present belt line from Hurdman Bridge to Sussex Street. These highway proposals, as also other operations of lesser importance, have been retained within the present report.

The studies then made of landscaping and architectural treatment of the central area are also basic to the detail plans now submitted. (See photographs of the model prepared in 1938-Illustrations 117 and 118).

Certain detail operations were partially executed. These were, principally, the development of the site on which the Government had previously decided to locate the National War Memorial, 1914-18, known as Confederation Place, and the widening of Elgin Street. The Confederation Place project was executed only to the extent which concerned the War Memorial Terrace and its planted surroundings. The erection of the memorial and the development of its immediate site, having to be completed for the Royal Visit in May 1939, were undertaken only in so far as the westerly extremity of Confederation Place was concerned. Work on the approach from the east, essential to improve traffic conditions at that congested point, was postponed and its resumption was offset by the outbreak of the war of 1939-45.

For similar reasons proposals then envisaged for the improvement of Elgin Street were likewise postponed, its widening being limited to that part situated between Laurier Avenue and the Memorial, while its regrading to improve its profile was temporarily omitted to ensure the termination of the work then undertaken prior to the Royal Visit.

The completion of these operations is therefore included in our present proposals (See Part II, Chapter 3).

Illustration 114

MAJOR'S HILL PARK WAS THE FIRST SITE PROPOSED FOR THE WAR MEMORIAL IN OUR
STUDIES OF 1938

Illustration 115

FIRST SKETCH OF THE AREA SURROUNDING THE MEMORIAL WITHIN MAJOR'S HILL
PARK PROPOSED IN 1938

Illustration 116

PLAN OF CONFEDERATION PLACE AND MAJOR'S HILL PARK AS PROPOSED IN 1938

Illustration 117

And

Illustration 118

A SCALE MODEL MADE IN 1938 OF THE CENTRAL AREA OF OTTAWA WAS LIMITED TO THE DEVELOPMENT OF GOVERNMENTAL LANDS. It is evident that such local studies have benefited from being co-ordinated with the general plan of the Central Region. Moreover, it is to be noted that, while the planning programme has been extended, the principle of the developments concerning traffic and aesthetics remains the same, i.e., the bridge over the Rideau Canal at Albert and Slater Streets, terminated by two axial motifs, and the development of the westerly extremity of Wellington Street on the axis of Lyon Street.

PLATE XXII

ROCKCLIFFE PARK

Illustration 119

CHAMPLAIN BRIDGES AND THE PARKS OF THE FEDERAL DISTRICT COMMISSION

15

THE FEDERAL DISTRICT COMMISSION

In 1893, Sir Wilfrid Laurier, Prime Minister of Canada, expressed a desire to see Ottawa become "the Washington of the North" and acknowledged the Federal Government's responsibilities in the beautification of the Capital City of Canada. Six years later the initial step towards the realization of this hope was taken in the setting up of the Ottawa Improvement Commission, which was to co-operate with the Corporation of the City of Ottawa in improving and beautifying the city. By the terms of the Act passed by Parliament, it was authorized to "purchase, acquire and hold real estate in the City of Ottawa and the vicinity thereof, for the purpose of public parks or squares, streets, avenues, drives, or thoroughfares, and for their maintenance".

In 1927, the Ottawa Improvement Commission was reorganized and renamed the Federal District Commission by Act of Parliament, and at that time permission was granted to extend its operations to the hitherto excluded Hull area.

Illustration 120

RIDEAU CANAL BEFORE THE WORK OF EMBELLISHMENT

Illustration 121

COMMENCEMENT OF THE WORK OF EMBELLISHMENT IN 1910

Illustration 122

THE ENHANCEMENT OF THE RIDEAU CANAL WITHIN A FRAME OF VERDURE BY THE FEDERAL DISTRICT COMMISSION IS AN EXAMPLE TO BE FOLLOWED IN THE DEVELOPMENT OF OTHER WATERWAYS TRAVERSING THE URBAN AREA.

Illustration 123

THE MOUTH OF THE GATINEAU RIVER VIEWED FROM ROCKCLIFFE PARK

Illustration 124

THE GREENHOUSES AND NURSERIES OF THE FEDERAL DISTRICT COMMISSION IN
ROCKCLIFFE PARK

Since its inception, the Federal District Commission has carried out park works of vast scope, such as the extension of the driveway system, the improvement of Dow's Lake, the construction in co-operation with the City of Ottawa of Confederation Place, the construction of the Champlain Bridges and their island parks, as well as the construction of Jacques-Cartier, Brébeuf and Flora Parks in Hull. It initiated the acquisition and development of the Gatineau Park. The Commission also assumed responsibility for the maintenance of all Federal Government grounds.

The importance of the Federal District Commission to the welfare of the people of the urban area is indicated by the fact that the bulk of the parks owned by the cities of Ottawa and Hull are maintained by the Commission, a consequent relief to civic budgets. It also materially assists traffic conditions in the area through its responsibility for snow removal from and maintenance of the driveways which are the only satisfactory limited access arterial road system in the urbanized area.

In 1946, by amendments to the Federal District Commission Act, Parliament gave to the Commission authority to co-ordinate construction and development work on Government-owned lands within the boundaries of the National Capital Region. It was also designated as the governmental agency responsible to Parliament for the preparation of plans for the National Capital. Thus, after forty-seven years, authority was vested in the Commission to make comprehensive study of and execute developments, with a view to improving the general welfare of the people, rather than to superficially embellish the urban area.

Illustration 125

AERIAL VIEW OF THE CAPITAL

16

CONCLUSIONS OF THE DOCUMENTARY SURVEY

One word should sum up the conclusions of this survey: *Optimism* - highly justified by natural conditions, unspoiled spaces, unlimited forest reservations and a harmonious balance of urban, rural and industrial life - in other words, by a natural setting which offers great possibilities for corrective and extensive planning, and equally justified by the energy of the inhabitants, who by their genius and courage, in less than a century, have made the young Capital one of the most efficient, prosperous and admired cities in the world. Such conclusion is not a mere compliment; it is the result of statistical research, surveys, inspections and topographical and social enquiries, which gave us a complete diagnosis, and, we dare say, a most favourable one, as basic and sure guidance for the preparation of the proposals contained in the following Part of this Report.

As a whole, the geographic, climatic, physical, demographic, economic, social and aesthetic surveys do not reveal any irremediable conditions.

PLATE XXIII

URBAN AREA OF THE NATIONAL CAPITAL REGION, IN 1945

Illustration 126

CENTRE OF OTTAWA AROUND 1865

The human geography of the region, that is the relation between the physical and human elements pertaining to the community life of the whole, is remarkably balanced, due to the fact that open space is still generously distributed and that the few existing congested areas can be easily relieved. The indispensable corrective remedies required do not necessitate drastic measures nor radical interventions, but rather progressive accomplishments. Even the conclusions arrived at for

Illustration 127

GENERAL VIEW OF OTTAWA IN 1869

revision of existing railroad conditions, with the far-reaching and gradual modifications involved, will provide cumulative ameliorations from all points of view: exploitation, traffic circulation, renovation and revaluation of land, and future financial resources. Whatever may be the cost of these ameliorations, they will ultimately prove to be sound and rapidly paying investments through increment of values, provided that the conclusions of the survey are actively and broadly followed in the execution of the plan.

We are not any less optimistic for the plan from the aesthetic point of view, which generally incites the criticism of prudent but unenlightened economists or taxpayers, when spoken to in terms of beauty. In the Ottawa region, the protection and enhancement of aesthetics are easy to obtain at a very low cost, as natural beauty remains unspoiled at many points and is not entirely beyond reclamation where inconsiderate enterprise has marred the landscape. The remedial measures resulting from our enquiries and encouraging inspections can be expressed in terms of regulations rather than in works to be undertaken. They will maintain natural beauty more effectively than by artificial ornament. In such matters action will be largely negative, and will have the merit of attaining its objective at no cost.

We know, from precise and authentic documents what Ottawa was forty years ago, at the beginning of this century, and now we can see what has been accomplished through responsible institutions such as the Federal District Commission, despite two long and costly wars, followed by a serious financial crisis, and without juridical means adapted to the development of town planning. Therefore, we have no right to doubt that greater things can be accomplished in the forty or fifty years to come, particularly with the availability of a planning conception of the whole, which, if forcefully pursued, will avoid errors and waste.

PLATE XXIV

KEY DIAGRAM OF PLANS OF PLANNING STUDIES
(PLANS OF PROPOSALS)

PART II

JUSTIFICATION OF PROPOSALS

PREFACE

The documentary survey has established the schedule of assets and liabilities of conditions within the territory to be studied - a balance sheet which on the whole is very favourable, but which bears certain defects and dangers. Therefore, the survey forms the basis of the general diagnosis.

The scope of the project is to study the remedies necessary for recognized deficiencies and to develop to the maximum all existing advantages.

The Master Plan forms the synthesis of all the operations involved in the realization of such programme, of which it is the condensed graphic expression.

The proposals and recommendations herein set forth in detail qualify and explain the projects comprising the Master Plan.

This work thus constitutes a guide in the solution of all questions of technical, social, administrative and aesthetic orders incident to the gradual implementation of the whole.

The plan and its accompanying report are but *directing* documents. They form the general skeleton of development for the region and do not treat any operations in detail. The ultimate formulation and execution of each project will be the subjects of further local studies. However, in exceptional and urgent cases, we have been called upon to provide immediate solutions, the detail plans of which were either incorporated in the Master Plan or elaborated in keeping therewith in co-operation with the authorities responsible for their realization.

Illustration 128

MASTER PLAN OF THE CAPITAL

GENERAL COMMENTARY ON THE PROJECT

In compliance with the scope of the task entrusted to us, and in light of basic data derived from investigations and surveys made, we have conducted our studies with the sole object of reaching conclusions in keeping with present and estimated requirements based on existing tendencies.

Our task consisted of *two inseparable but differing programmes*, comprised of complementary elements.

(a) In the first instance, it was required to develop the physical framework of expansion for the *National Capital*, organizing its life for a period of at least two generations, without compromising the more remote future.

A Capital is the *reflection*, the *symbol*, of the whole nation. The Capital of Canada, as in all federated states, such as in the case of Washington, or Berne, has *special* importance: it is the city which, to every Canadian and to all foreigners, must be representative of all of the ten confederated provinces, without, however, prejudicing the attributes and prerogatives of their respective capitals.

Chosen for this noble role by a far-seeing and wisely inspired Queen, the little Ontario town of Ottawa, the outgrowth of the pioneer village of By-town, rapidly became a large city, and, with distances gradually losing their significance, blended itself with the neighbouring villages and localities around the beautiful Ottawa River, formerly a *frontier* but now a *link* between the two provinces of Ontario and Quebec, which are symbolic of Canadian greatness.

Extending beyond this initial symbolic development, Ottawa has since become truly representative of the *whole of Canada*.

The large neighbouring metropolitan cities of Montreal and Toronto, those of the prairies and of the oceanic shores, retain their prestige, and leave to the Capital its constitutional, national and international mission. There is neither competition nor rivalry, because their respective functions are clearly defined.

The planning of the Capital is therefore a *national undertaking, of which each Canadian can be proud* and through which national desires and aspirations can be expressed through material accomplishments. The first accomplishment, initiated

by the Federal Government, will go down in history: it is the decision that the planning of the National Capital be *dedicated to the memory of Canadians who gave their lives to the nation in the second world war*.

This heroic symbol will be materialized in the heart of the territory of the Capital, not by an allegoric sculptural composition, sometimes subject to controversies, *but by an objective reality : the living panorama of the Capital*. Other, tangible tokens of national unanimity and of effective participation of the Federal Capital in the greatness and progress of each of the ten provinces will be similarly integrated in the material expression of its plan.

Another factor reinforcing this imperative co-ordination of the project -one of the last decisions of the Right Honourable Mackenzie King prior to his relinquishment of office as Prime Minister following a long and distinguished career--was to give to the Federal District Commission increased authority permitting the incarnation of national aspirations within the realization of this great undertaking.

Then the task of the National Capital Planning Service, in charge of technical studies, was clear:

To give to the fundamental functions of the Capital elements essential to its expanding activities, parliamentary, governmental, diplomatic, social, and intellectual life, within a frame of dignity and hospitality as host to its innumerable guests, official dignitaries, delegations to national and international conventions, and summer or winter tourists.

The problem would have been relatively simple if involving unoccupied ground, as, for instance, the synthetic compositions of Capital cities, artificial and ostentatious in character, but such as could not provide the economic equilibrium possessed by areas already urbanized.

(b) The second imperative demand, lay in the recognition of the territory of the Capital area as an already urbanized region, the place of living and of work of its citizens. We have reviewed the extraordinary growth of its demographic occupations, involving a present population of more than a quarter of a million inhabitants.

Two principal cities, Ottawa in Ontario and Hull in Quebec - mixed population, differing legislative and educational systems, -two provincial entities within which we must recognize their respective administrations, customs, language and aspirations; far from being a difficulty in our work, these conditions merely *intensified our interest*.

The superimposition of differing but complementary factors - *of complex data but common needs* - required, without doubt, long and meticulous research in the preliminary survey. We have brought to it all our care, knowing by experience that there is no insoluble urban problem if the essential data are known.

In the pursuit of solutions, which would resolve the two different aspects of the problem, that of the Capital, and that of the existing urban agglomeration, in which, while thinking of the future, it was desirable to disturb to a minimum its daily life, while at the same time satisfying immediate demands, we have deliberately *avoided theoretical solutions*, predicated perhaps on desirable ideals, but indifferent to the main factor of realization - *economics*. We have retained within our recommendations only such feasible operations as have withstood full investigation as to their being implemented soon or in a reasonable length of time. This prudent principle does not preclude the fulfilment of far-reaching plans, it requires only the right appreciation of revaluation possibilities and of the *time-element*, two essential factors often forgotten in town planning matters.

A master plan presents the future aspects of a city, but does not imply the hasty and disorderly execution of all its contained operations: some can and must be realized without delay; some can be integrated within subsequent programmes, although they may be of an urgent character; but they are all subordinated to *financial means*. Others can be indicated as desirable, and, for their eventual realization, lands can be reserved, even although they may be subject to inevitable amendments resulting from future conditions, unforeseeable at the time of the preparation of the Master Plan.

Above all, we must remember, if we wish to produce a useful and practical work, that a master plan is a flexible creation rigourously *conditioned* to the needs of the inhabitants of the studied territory. The plan *cannot be imposed* upon the people, but if, by the seriousness of its study, it answers their real needs, it naturally will appear to them as the medium through which their aspirations can alone be satisfied. The town planner does not labour for *his own satisfaction as a technician, but for the welfare of the people*, in whose interests he is responsible for furthering the attainment of wholesome living, work and environmental conditions.

What then, briefly expressed, are the characteristics of our plan?

The planning of the region of 900 square miles, which is the area of attraction incident to the Capital, involves, primarily, the establishment of a highway system through the improvement of existing roads and the creation of additional roads, to facilitate traffic movements throughout the region. Specific classification of roads is predicated upon their particular functions, and the nature and speed of the vehicular traffic to which they are or will be subjected: utilitarian transportation, interurban communications or pleasure driving.

In the centre, the urban region is delimited by a perimeter, intended to prohibit tentacular and linear extensions of constructions abutting upon highways. To that effect an area, zoned as a greenbelt, frames this perimeter and is subjected

to regulations to protect the area comprised within the greenbelt against undesirable development. Outside of the extreme limit of this greenbelt, the territory will retain its rural character, with the exception of limited and controlled minor and appropriate developments.

Within the greenbelt and rural areas, sites having outstanding scenic value, and particularly those bordering lakes and rivers, are subjected to special regulation to ensure the preservation of their natural charms and rustic characters.

In short, outside of the urban area, the regional plan is a work of protection of rural life on the one hand, and of preservation of the natural landscape on the other, in order to retain in perpetuity all elements having recreative or touristic values.

PLATE 9 OF
ATLAS

With reference to the urban areas situated in the centre of the Capital Region, various proposals have been studied and are dealt with in Part II of this report. A summarized description is given hereunder.

The fundamental factor arising from the documentary survey was *the problem of existing railway conditions*, which, following lengthy and incisive study, produced various alternative solutions, the advantages and defects of which were duly considered, and final decision made in co-operation with competent authorities of the railway companies on a basis which will result in railroad revisions involving the removal of all trackage from the interior to the periphery of the urban area.

This solution of the railway problem provides opportunity for the *reorganization of traffic circulation generally*; railway rights-of-way which will be released will be utilized in the provision of a new system of main arteries and parkways. From this will result inestimable advantages in the amelioration and systemization of all traffic movements within the interior of and around the urban zone.

Within the reorganized frame of circulatory arteries, *the new built-up areas* will be rationally distributed, and given the characters of complete self-contained groups rather than districts lacking the elements of community life, and suffering the major detriment of necessitating interminable and superfluous daily traffic movements.

In this organization of urban development, conceived with a nuclear tendency, and within which there have been taken into account existing conditions that cannot be disturbed but can be gradually improved, we define the limitation of urban expansions and tentacular developments by the establishment of a greenbelt.

The urban area will be controlled in its various parts by limitations of population densities, obtained through flexibility in the regulation of structural occupancy of the land, easier to control than an arbitrary population density.

Likewise is considered the problem of sub-standard housing and its renovation; also measures to be adopted to ensure protection for existing and future residential areas.

Illustration 129

FIRST PLANNING STUDY OF THE CENTRE OF THE CAPITAL

The life and the development of the National Capital and of its neighbouring towns and municipalities necessitate the erection of public buildings in accordance with a studied programme of *harmonious distribution and decentralization*. Public utility equipment and services are provided for in relation to proposed developments.

With the view of suppressing the disorder and congestion resulting from the lack of a rational and functional system of public thoroughfares within the Capital Region, the *reorganization of traffic circulation necessitates the readjustment of transport generally* in keeping with physical developments and the relationships and needs of existing and developing communities, and taking advantage of new main traffic arteries.

Illustration 130

MODEL OF THE CAPITAL AT THE SCALE OF ONE HUNDRED FEET TO THE INCH
Executed by the National Film Board

Illustration 131

DETAIL OF THE MODEL

An essential complement to housing and to the complex activities of modern life is the *systematic organization of open spaces*, in order that they may best fulfil their regenerative function. Such open spaces should be predicated upon their functional relationship to the classes of population and their activities. They are as necessary to health and welfare as to rest and education, and constitute a capital element in social security.

Recreation, in association with nature and tourism, completes the general system of methodical organization of leisure within the general frame of a natural site. Urban open spaces, wooded reserves and scenic drives are to be integrated in a general plan of *rational exploitation of all the elements of nature*, which it is important to develop and protect.

If the protection and development of the gifts of nature in their totality have *in the first place a utilitarian objective*, favourable to the maintenance of health and to the physical enhancement and welfare of the inhabitants, as also

to the pleasure of tourists and visitors, they can be equally justified on the grounds of aesthetics, because the preservation of the natural beauty of a site is an inestimable asset toward increased joy of living and general prosperity.

It is also important to enunciate certain elementary rules applicable to the protection and to the creation of aesthetics free from all arbitrary constraint, but indispensable in the *conflict against ugliness and disfigurement*, and as much in the interests of the preservation of urban and rural landscapes as in the creations of architecture which form the framework of space.

Finally, the Federal Government desired to stress the national and international importance which the Capital of Canada will attain if its development is to be predicated on the scale of the increasing greatness of this country. For this reason the Government *decided to dedicate the plan of the National Capital to the memory of Canadians who gave their lives in the second world war*. This noble thought will be materialized at the very doors of the city. A general description of this impressive possibility concludes the resume of our work, which in its entirety has been pursued under the incentive of this commemoration.

RAILWAY PROBLEM FUNDAMENTAL ELEMENT OF THE PLAN

Relocation of Railway Facilities and Heavy Industries

This problem, now more so than in 1915 (Holt Report), is the *key* of the whole plan; it was therefore the basis of our first studies. The National Capital Planning Committee has given its full approval and co-operation to this manner of approaching the Capital Plan problem.

PLATE 13 OF
ATLAS

The sub-committee on railways, created at the beginning of our work, made extensive studies in close collaboration with our Service. Nine successive and different possibilities were investigated in common, and final approval given to the most ambitious, but, as usually, *the most efficient solution*. Its endorsement by the National Capital Planning Committee, the invaluable, painstaking and competent co-operation of the railway companies and the appreciation of the interested municipal authorities, clearly demonstrate the value of this daring but urgent operation. The remodelling of railroad facilities has therefore become the *framework of the Master Plan*, (See Plate XXV).

It consists of a series of gradual and co-ordinated operations, aimed at the elimination of all railroad interference in the present life and in the future development of *the central part of the urban area* of the Capital Region. To attain this objective without disturbing or upsetting the present railroad and industrial activities, without endangering the attainment of their methodical relocation by being subject to undesirable land speculations, the Government, according to the recommendations of the National Capital Planning Committee, and along the lines of the overall plan, has already decided upon the acquisition of the most needed grounds, while other parts of these grounds may be made available for industrial and railway purposes by municipal zoning.

Therefore, the equipment for new railway and industrial facilities has been made possible, prior to any removal of existing railway lines or industrial establishments.

The main objectives are:

(1) The creation of a belt line, connecting the north shore C.P.R. line from Montreal to Hull with all the lines approaching the city of Ottawa on the south from Montreal (C.P.R. and C.N.R.), from the United States (N.Y. Central), from Prescott (C.P.R.), from Kingston (C.N.R.), from Toronto (C.N.R. and C.P.R.), and from North Bay (C.N.R.).

A bridge (railway and highway) will connect the north shore line at Templeton in Quebec, with the Ontario shore, west of Green Creek, over Duck Island. The new belt line will join and connect all existing lines at the Prescott line, south of Walkley Road. Inside of the new belt, all existing lines within the urban area will be gradually eliminated, i.e.:

Cross-town line (C.N.R.), Sussex line (C.P.R.), Prescott line (C.P.R.) between Nepean Bay and the new belt, Carleton Place line between Nepean Bay and its intersection with the C.N.R. North Bay line, C.P.R. and C.N.R. lines leading from Hurdman's Bridge to the present Union Station, and its connection over the Interprovincial Bridge to and through the City of Hull.

(2) Reconstruction of the passenger station parallel to the new belt line, and the equipment for make-up yards, freight yards and industrial sidings, which will take place on grounds especially acquired or zoned for these purposes, three miles long and almost one mile wide.

The new central freight terminal would be located about one-half mile east from Hurdman's Bridge. Grounds are also acquired or zoned to accommodate the terminal, its yards, industries, warehouses, and workshops, extending for a length of about two miles and a half. The new passenger station would be about four miles from Confederation Place, but connected to the various parts of the city by wide and direct boulevards, so laid out that a constant flow of traffic can be maintained, with adequate surface connections and grade-separated crossings.

The main approach from the station to Confederation Place would be formed by a double-drive expressway two miles long from the new Union Station to the Central Freight Terminal, and continued by a branch of similar cross-section to Hurdman's Bridge, thence by a wide Mall distributing the traffic in three directions into the city:

(a) a driveway following the Rideau Canal, on the east side, and parallelling the existing F.D.C. Driveway, leading to Confederation Place and to Sussex Street at a lower level, thus avoiding all crossing points;

(b) King Edward Avenue widened to the north; and

(c) the cross-town parkway to the west, replacing existing railway lines traversing the city.

PLATE XXV

PROPOSED RAILROAD REVISIONS
OTTAWA - HULL AND ENVIRONS

(3) Direct vehicular connection with Hull would be maintained from Sussex Street by a new bridge replacing the Interprovincial Bridge, and leading to the new Civic Centre and the new Station in Hull by a wide boulevard. The new Station in Hull would comprise also a freight terminal, connected with the industrial area provided for on grounds specially acquired and zoned for that purpose. The railway lines on the Quebec side remain practically unchanged, except for the C.P.R. connection to the Interprovincial Bridge, and minor improvements to the Maniwaki and Waltham lines.

Such an extensive improvement of railway lines approaching the Capital has three major advantages:

1. *Simplification of railway operations*, particularly the handling of trans-continental trains, and the concentration of all operations at one point instead of long uneconomical movements of trains and engines as at present. Substantial saving of time, fuel and labour.

2. On the rights-of-way of abandoned lines, *a co-ordinated system of main arteries* would be established:

(a) A cross-town parkway from the entrance of the new Montreal Road at Hurdman's Bridge to Graham Bay (East-West central parkway).

(b) North-South cross-town boulevard from new south entrance of city to Wellington and Scott Streets.

(c) Western boulevard (Scott Street extension) to Britannia.

(d) Circular boulevard from Sussex Street (through Eastview) to south entrance of Ottawa.

(e) Mall and grade-separated driveways from Hurdman's Bridge to Confederation Place.

(f) New central boulevard in Hull from new bridge to the new Hull Station. (g) A new entrance from the east (new branch of Montreal Road).

3. *Enhancement of land values* in all urban areas affected by this extensive operation. Most of the grounds now crossed by the railway lines to be eliminated, have resulting depressed land values, due to numerous grade crossings, poor access, dead end streets and obsolete constructions. The elimination of those nuisances by the creation of modern thoroughfares, some of them of the parkway type, will result in a considerable increase of land value, large acreages of territory being made available for all classes of modern residential or commercial units, according to the location.

Heavy industries are also given favourable opportunities for progressive expansion along appropriate and well-equipped railroad facilities.

Another factor, perhaps the most important one in the whole plan of railway revisions, is the possibility of its gradual execution, leaving existing railway operations unchanged, while the new belt line is being constructed, the industrial sites equipped, the elimination of obsolete lines being made wherever and whenever opportune.

The whole work can be organized in successive stages on a progressive schedule, in harmony with the requirements of the railway companies and industrial establishments, the details of which are given in Part III of this Report.

CIRCULATION

As a result of the revision of the railway lines within the urban area, the road system within and approaching the Capital can benefit from the following improvements

PLATE 11 OF
ATLAS

Plate No. XXVI shows the new proposed highway system, which includes interurban *arteries*, *main arteries*, *secondary arteries* and *parkways*.

Interurban Arteries

In the Province of Quebec:

1. Route No. 8 from Montreal would be diverted to the north west, after passing Lac Beauchamp in Templeton, to cross the C.P.R. line, and follow it in the direction of Pointe-Gatineau, to a point where it divides into two branches:

(a) To the south, in direction of the existing bridge over the Gatineau River, and to Hull by a new bridge, directly north of Laurier Avenue, from where it continues toward the Chaudiere Bridge. The Aylmer Road would be by-passed between Chaudiere Bridge and Val-Tetreau, and thence continue on its present right-of-way, double-laned to a point east of the Ottawa Country Club, the north lane one-way to the west, and the existing road becoming one-way to the east. From that point, the present road would continue to Aylmer, and a new northwest diversion, extending to and continued along the existing O'Connell Road widened, would by-pass Aylmer and join Route 8 (Eardley Road) to Pembroke. Such utilization at the O'Connell Road would restore to the existing Aylmer Road its original function as a residential service road.

The diversion at Templeton would permit the development of industries, similar to the International Paper Company, from the river front to the railway line without interruption by grade crossings necessary for the industrial sidings.

(b) From Pointe-Gatineau, a second branch of Route 8 would extend in a westerly direction across the Gatineau River (new bridge), to join and follow the Chelsea Road in a southwesterly direction, and thus reach the Mine Road north of its intersection with the Mountain Road, again uniting with Route 11 at St. Joseph Boulevard and crossing the Aylmer Road to reach a future bridge

over Nepean Bay, in the prolongation of the existing Lemieux Island Bridge, to connect with the system of Ontario Highways. From the point of intersection of this branch with the Chelsea Road, another link will be established in a northwesterly direction with the Mine Road, the layout of which will be rectified and which would be widened for the required distance. A main traffic artery would thus be assured to Maniwaki and Mont-Laurier, replacing the southerly portion of present Highway No. 11, which would then be classified as a touristic road.

The parts of the existing highway, which will cease to be used as interurban arteries, will become local roads serving Templeton, Gatineau, Pointe-Gatineau, Hull and Aylmer.

In the Province of Ontario:

2. Route 17 from Montreal through Hawkesbury, after crossing Green Creek, would be diverted toward Hurdman's Bridge, by crossing Cyrville, and would enter the city of Ottawa by a Mall, extending between the Rideau River and the Canal, and from thence connect, over the Canal near Pretoria Bridge, with the new cross-town parkway replacing the cross-town line, as far as its intersection with the No. 17 North Bay Highway. The intersection of this new interurban artery with the Richmond Road (Route 15) will be treated as a grade separated crossing. Thus, the present routing through Ottawa of Highway 17, via Eastview, Rideau Street and Wellington Street, would be limited to its function as a main artery, for intense *local traffic*, and would not continue to be overloaded by interurban traffic.

Route 15 should be improved from Bells Corners southerly by using part of the present Richmond Road to a certain point and then by a new diversion to Stanley Corners, thus avoiding the present dangerous under-pass west of Bells Corners and the existing level crossing at Stittsville.

3. Route 31 (Metcalf Road) is the shortest highway to the United States boundary (Morrisburg ferry to Waddington). It enters Ottawa through a ribbon development south of Billing's Bridge and by Bank Street, which is a retail commercial street. Therefore, a new south entrance to the city is recommended at the intersection of the C.P.R. line with Heron Road. At this point a large distributing star-shaped plaza would form the end of a wide boulevard leading toward the city at elevation 380 near Bowesville Road, from which the whole silhouette of Parliament Hill can be viewed. This boulevard would replace the winding section of the Metcalfe Road, and connect with the existing road near South Gloucester, by the partial use of existing roads to be widened.

4. Route 16 (Prescott Highway). This is a most picturesque road, but is inadequate for future traffic, owing to its many sharp turns and its unsatisfactory approach to the city at Preston Street. We propose to provide for its improvement

PLATE XXVI

PROPOSED HIGHWAY SYSTEM
OTTAWA - HULL AND ENVIRONS

by shortening the distance between Carsonby and Manotick through an almost direct cut-off, diverting the traffic across the Rideau River via the Manotick bridge to near Manotick Station, and then follow existing but improved roads to join the new Metcalfe Road and the proposed south entrance boulevard to Ottawa.

5. The Russell Road, at present a main local road, should be in part relocated and transformed into an *interurban artery*, by using it from Ottawa (the new eastern entrance to the Mall at Hurdman's Bridge) to Ramsayville, from where a new highway should be extended to Cornwall on the U.S.-Canadian boundary.

The increasing flow of tourist traffic from the United States justifies this additional highway particularly on account of the facility of the Cornwall bridge.

Main Arteries

In the Province of Quebec:

The future Maniwaki highway will find a new outlet in Hull by its prolongation in a south-easterly direction from its point of junction with the northerly branch of Highway No. 8, and east of Brewery Creek, to the extension of Laurier Avenue, as also will the Mine Road by similar utilization of this same branch of Highway No. 8 to the west of the City. St. Joseph Boulevard, traversing the urban area of Hull, south of the Chelsea Road, would remain a main artery limited to cross-town traffic. Similar comment is applicable to Saint-Laurent Boulevard and the urban part of Mountain Road. Mountain Road might be ultimately connected to the Deschenes Road by a transverse artery, especially in the case of construction of a new bridge at Deschênes Rapids.

In the Province of Ontario :

Several existing roads are adaptable to the function of main arteries, urban or suburban:

Scott Street extension to Wellington West (existing Route 17).

Wellington Street, monumental artery to be strictly reserved as the approach to Parliament and Government Buildings, will be prohibited to commercial traffic between its intersection with Bay Street and Confederation Place. Heavy and commercial traffic will be diverted to Albert and Slater Streets, utilized solely as one-way thoroughfares, and pass by the new bridge over the Rideau Canal and railway lines of the present Union Station, to Waller and Rideau Streets, and thence, by extension to York Street, and via York Street to St. Patrick's Bridge.

Such revisions will provide connection between the Sparks-Bank and Rideau-Dalhousie commercial centres, and serve as a by-pass relieving congestion on Wellington Street, Sparks Street, Queen Street and Confederation Place.

The Base Line Road, becoming the eastern branch of the Metcalfe Road (present Route 31) in Gloucester, would cross the new railroad yards and the industrial district, and lead to the eastern part of the Capital area. The new expressway from the new Station to the eastern entrance of the city will also be a main artery, as well as the circular boulevard replacing the right-of-way of the C.P.R. Sussex line.

Until the final layout of the Montreal Road (Route 17), through the eastern entrance and the Mall, becomes possible, and pending elimination of the railway yards and lines to the Union Station, the improved entrance to the city through Eastview via MacArthur Road and Cumming's Bridge will become available as a main artery, while Montreal Road in Eastview, extending to Rideau Street, would gradually be specialized as a main local street.

The Walkley Road and Heron Road in Gloucester and the Base Line Road in Nepean would give direct connections from the new Station to the southwesterly section of the Capital.

Merivale Road, as an important diagonal artery, meets local demands within its points of intersection with various other main arteries.

The contemplated express highway, encircling the Capital in the south around the inner limit of the green belt, will become less urgent when the cross-town boulevard is built, but we think that, ultimately, a commercial by-pass expressway from east (Route 17) to west (Routes 17 and 15), serving the industrial and railroad grounds, will become necessary, to relieve the traffic on the cross-town boulevard which will not be an industrial artery. Further, the express commercial highway will connect six interurban arteries outside of the urban area, and service two railway stations (passenger and freight), future exhibition grounds, airport and general military headquarters. At its extremities it would ultimately provide circulation by two bridges with Route 8 in Quebec; in the west at Deschênes, and in the east the areas of Templeton, Pointe-Gatineau and Hull. As it is located in the green belt, it will be easy to reserve its right-of-way for eventual execution when the time is opportune.

Secondary Arteries

Owing to their number, a detailed description seems to be unnecessary in this analysis of the main proposals. Their gradual study and implementation falls within the realm of local improvements.

Parkways

Many existing roads are shown as parkways, due to the most fortunate fact that they are of great scenic value, natural or by improvement. They are often used for rapid traffic circulation, except where their layouts or profiles are conditioned by difficult topography. For the reader who knows the Ottawa region, they need no description. They are included in our plans, together with possible new parkways, or driveways, to be gradually built in the local green belts and recommended as the basic frame of the system of community and neighbourhood units which will gradually, as and when necessary, form the extension of the present built-up areas. In their layouts we have taken full advantage of high elevations from which extended views of surrounding territories can be obtained.

Hereunder we refer only to proposals of major importance:

1. From the present Montreal Highway (17) a connection having the character of a parkway should be established from the point known as The Quarries, following the west boundary of the Rockcliffe Airport, and reaching the Rockcliffe Park driveway near the F.D.C. Park. This would provide for tourists from Quebec and Montreal an attractive and even grandiose entrance to the Capital through Rockcliffe and Nepean Point to Mackenzie Avenue and the Chateau Laurier. This could be realized at an early date, while the eastern entrance via the Mall and the new Canal driveway will be conditioned to the future achievement of railroad improvements.

2. Another important parkway, under study by the Federal District Commission, will lead from the Aylmer Road to Kingsmere. We are of the opinion that it ought to follow Boucherville Street, *along the crest* of the gradual elevation bordering the natural park to be preserved and improved around Fairy Lake, as that part of the road gives interesting views of the Capital. It will be very easy to transform this picturesque wooded land into a park. At its intersection with the Mountain and Brickyard Roads, a wide distribution circle would be provided in the manner of the great forest "stars" of the past, from which point the parkway would enter the wooded Gatineau hills, and wind through the rocky bluffs, past Kingsmere Village into the hills which dominate Meach, Harrington and Philip Lakes. (See Plate 11 of Atlas.)

3. The parkway contemplated from Nepean Bay to Britannia is the third most important addition to the scenic roads system.

4. All riverside roads, such as those paralleling the banks of the Gatineau and the Rideau Rivers, by their location and the scenic views they provide, have been indicated on our plan of proposals, under the classification of parkways, as also have certain country roads. This classification has a legal value; it means that all heavy commercial traffic should be prohibited from using those roads, to preserve their character as pleasure driveways. Most of them exist, and due to their limited function, need very little improvement.

Illustration 132

EXISTING RAILWAY APPROACHES AT THE EAST OF OTTAWA. The area north from the Rideau River to and parallelling the Rideau Canal is occupied by railway installations, warehouses and industries which depreciate the values of adjoining lands. The railway lines border the easterly banks of the Rideau Canal, while its westerly bank is bordered by a magnificent parkway, a contrast which shows the possibilities of completely planning both banks.

Illustration 133

FUTURE HIGHWAY APPROACH AT THE EAST OF OTTAWA. Revisions of the railway system will permit the creation of a main highway approach worthy of a Capital. Parkways and modern arterial highways will provide from Montreal and Cornwall direct and attractive access. A large mall, bordered by modern structures will distribute traffic to the north, the centre and the west of Ottawa.

Streets

It is evident that the width and transverse profile of a public highway must be studied in relation to traffic.

While not desiring to make rigid theoretical classifications of thoroughfares, it is to be recognized that there are established factors determined by the use of lands abutting upon public highways, and, where the roadway system of a town has not been rationally conceived and adapted to the demands of traffic circulation, the resulting conditions must be that public highways often have contradictory functions, embarrassing to traffic circulation, and causing delay to local movements of vehicles, with consequent loss of time and money. It is incontestable that a public highway, serving in common through interurban traffic and the traffic demands of abutting commercial and industrial activities, cannot ensure the effective fulfilment of both or either of these functions.

A highway traversed by heavy through traffic cannot be used as a main service road to abutting residential developments, but, on the contrary, should provide accessibility to such developments by passing tangentially to and not through them. Thus, local service roads which are too long or too direct have a tendency to become through highways. Their layouts must be limited in length with changing directions at reasonable intervals, and of moderate width, in order to discourage their use by through traffic endeavouring to avoid main arteries. Main highways should function as collectors of traffic and should have road allowances in excess of the 66 foot standard formerly adopted. They may require widths of 80, 100, 120 or even more feet and, if by force of circumstances, the highway traverses a centre already developed, its roadway allowance should be sufficient to accommodate, in addition to the roadway serving through traffic, separated lateral roads on both sides to provide for slow moving traffic serving abutting properties. The parking of vehicles on roads reserved for through traffic should be prohibited.

The widths of minor roads serving residential developments can be reduced to an essential minimum to provide accessibility to abutting properties, permissible parking being judiciously controlled.

In the case of roads serving retail commercial frontage, there is an advantage in precluding parking on the traversed roadway and providing alternative accommodations within contiguous parking spaces or by widening the roadway to form parking bays, thus avoiding interference with normal traffic circulation.

It is thus recognized that the study of the layout of roads and their widths, including the detail of their transverse profiles (pavements, sidewalks, boulevards, etc.) is an integral part of the elaboration of a comprehensive town plan. Even

Illustration 134

NEW BOULEVARD replacing the Canadian National Railways cross-town lines which traverse the whole urban region in an east- west direction. It will ensure speedy through traffic, reduce present obstacles to north- south traffic movements, rehabilitate adjoining lands and relieve traffic congestion on Wellington, Rideau, Somerset Streets and Carling Avenue.

Illustration 135

VIEW OF THE MODEL showing proposed main arterial system, parkways bordering the Ottawa River in Hull, and new bridges connecting the Ontario and Quebec shores.

if the proposed widths are contradictory to established practice, they represent progress in relation to standards outmoded and which do not meet the needs of modern automobile traffic and parking.

Therefore, our proposals for improvement of the street system are of three natures: *widening, street opening* and *rerouting*.

(a) Widening:

Widening should be adopted only where absolutely needed and where property values are low. Thus, chances of increase of assessment values can be reasonably anticipated, and the operation made self paying, especially if the procedure of excess-condemnation is made permissible under municipal by-laws. The proper reallocation and resale by the community of lands in excess of net requirements is a desirable public investment.

Examples of proposed street widenings:

Ottawa Area:

King Edward Avenue, south of Rideau Street to the new eastern entrance to the city. This avenue will become a main distributing artery to the north-easterly part of the city.

Waller Street, on its western side, from the new bridge over Rideau Canal to Rideau Street.

Part of York Street, east of King Edward Avenue.

Carling Avenue, from Bronson Avenue to its junction with Richmond Road.

As important thoroughfares in the future urban development, we would recommend the widening of the following roads:

Walkley and Heron Roads in Gloucester, and the Base Line Road in Nepean, as direct arteries to and from the new Station.

Bowesville Road to Uplands Airport.

MacArthur Road, from C.P.R. tracks to Base Line Road and the latter from MacArthur to the proposed industrial areas.

Hull Area:

Saint-Laurent Boulevard, main central artery from new Station to new bridge leading to Ottawa.

Laurier Avenue, when it becomes a boulevard bordering the park on the Ottawa River, facing Parliament Hill, without objectionable industrial interference, should be widened to present a dissymmetrical cross-section including a large drive for general traffic and a parallel service drive to abutting buildings.

(b) Street openings:

It will be observed from the following text and from the plan showing the superimposition of proposals upon existing conditions, that the layouts of proposed street openings involve a minimum demolition of existing decadent and unimportant buildings.

As in the case of proposals involving street widenings, we have conditioned the necessary street opening operations to data provided by the Land Value Plan, in order to limit such operations to lands of low value and thus avoid projects necessitating costly expenditures.

At the commencement of our studies in 1938, we had envisioned the creation of a main artery extending southerly from Wellington Street and facing the Houses of Parliament, by utilizing and widening Metcalfe Street, the easterly facade of which would have remained intact while its westerly facade would have been set back symmetrically in relation to the central axis of the Peace Tower, a monumental street, implying, from its width, a street opening rather than a widening. Such a proposal at first hand seems desirable and logical and has been repeatedly drawn to our attention. It does not lack attraction and we have examined it in all its aspects, but have not retained it for the following reasons:

1. The widening of Elgin Street was in course of construction to provide a north-south traffic collector from the streets entering upon it, while its northerly extremity, likewise under construction, terminated at a large area now partly completed.

2. The profile of Metcalfe Street would have required to be retained and it is such that the resulting perspective would not have been satisfactory, or would have required costly revisions.

3. At its northerly termination with Wellington Street it would have been necessary to provide an enlarged intersection of dimensions similar to that of Confederation Place, in order to ensure adequate space for all traffic movements.

4. Expropriations essential in the construction of such an enlarged intersection and street widening, as indicated on the Land and Building Value Plans, would have been prohibitive, due to the structures involved, i.e., the Rideau Club, United States Embassy, Birks Building, Royal Bank Building, churches, Carnegie Library, Medical Arts Building and others.

5. From the point of view of traffic circulation, Metcalfe Street even when widened would not have been as efficacious as Elgin Street, due to the positions of its extremities.

6. But the principal reason for its rejection was on the grounds of aesthetics. The architectural characteristics of the Parliament Buildings are basically Gothic, adapted to the Victorian mode. Even if the East and West Blocks were subjected to architectural modifications in the future, the whole would retain its picturesque

character and any development of its silhouette would gain by not being observed symmetrically but angle-wise, which would ameliorate the volume of the Peace Tower, the elongation of which, when seen from the front, is emphasized. For this reason, in addition to those already outlined, we abandoned the projected widening of Metcalfe Street in favour of the oblique perspective of the Parliament Buildings from the future main entrance to the City paralleling the east side of the Rideau Canal and extending southerly to Hurdman's Bridge, which will not lack in grandeur and monumental effect. From this area, even though through present chaotic conditions, the view of the Parliament Buildings is already very imposing.

We have deemed it advisable to explain our attitude on this question as, lacking the detriments above outlined, the axial opening up of Metcalfe Street undoubtedly would have been one of the first projects recommended. We however are of the opinion that it will be very advantageously replaced by the main entrance boulevard between Hurdman's Bridge and Confederation Place.

Examples of proposed street openings:

1. *In Eastview*, a diagonal connection from Cumming's Bridge to MacArthur Road (at C.P.R. line), and the extension of MacArthur Road from the Base Line Road to the new Montreal Road.

In Ottawa:

2. Extension of Waller Street northerly from Rideau Street to York Street, and two short diagonals from York, east to St. Patrick Bridge.

3. Extension of Slater Street westerly from Bronson Avenue to Albert Street.

The two above operations are the logical extensions of the first project recommended to relieve downtown traffic, *the Bridge over the Rideau Canal* between Elgin and Waller Streets.

After very extensive study of plans, comparative estimates and models, this important and urgent improvement has been approved by the Sub-Committee on Traffic and the National Capital Planning Committee, and comprehensive plans are now completed in anticipation of its execution.

This bridge is approached from the east by a ramp of three per cent grade from Waller Street, and from the west by two ramps connecting the bridge at Elgin Street to Albert (one-way west) and Slater (one-way east). The approaching ramps will be graded and planted. The structure of the bridge proper is comprised of three spans crossing the present driveway, the canal and the proposed new driveway parallel to and east of the canal, and extending for the present time over the railroad tracks and yards.

The justification of the location of the bridge is dealt with hereafter, under Traffic.

Illustration 137

SCHEMATIC SKETCH SHOWING IMPROVED LOCAL TRAFFIC CIRCULATION BROUGHT ABOUT BY THE CONSTRUCTION OF NEW BRIDGE OVER THE RIDEAU CANAL. This project, in conjunction with the improvement of existing streets, and, in instance, their extensions, will ensure the amelioration of traffic congestion of Wellington St., Confederation Place and Rideau Street, will provide facility for inter-communication between the commercial centres of Upper and Lower Towns, and will furnish a main through east-west artery from Wellington Street, west of Bronson Avenue, to St. Patrick and Rideau Street Bridges across the Rideau River.

4. Scott Street, easterly from Bayview Road across the C.P.R. yards, to Wellington Street.
5. Lyon Street, southerly from Fifth Avenue to Bank Street.
6. Extension of Booth Street southerly across Carling Avenue to F.D.C. driveway along Dow's Lake.
7. As a part of the north-south cross-town boulevard to be built on right-of-way of the Prince of Wales line, a diversion of said boulevard west of the Canal and Dow's Lake, north of Hartwell locks.
8. Extension of Bronson Avenue southerly across the Rideau River, to the south entrance circle.
9. Extension of King Edward Avenue northerly to Sussex, in front of the National Research Building.
10. Extension of Heron Road westerly from Bowesville Road across the Rideau River and Canal, to Prescott Highway and Base Line Road.
11. Revision of Merivale Road at its intersection with Base Line Road. 12. Diagonal connection between Carling Avenue and Britannia Village.
13. Extension of Gladstone Avenue westerly from Parkdale to Holland to connect with Byron Avenue.
14. Diagonal diversion of St. Patrick Street to Guigues at King Edward Avenue.

Hull:

15. New Boulevard from Reboul Street to Montclair Boulevard and diagonal connection to Mountain Road and Chelsea Road.
16. New parkway on right-of-way of Hull Electric Railway, to the town of Aylmer.

Many other similar operations of varying importance and urgency are shown on the plan, and will be studied in detail as and when the various proposed operations are considered by the National Capital Planning Committee.

(c) Rerouting of Traffic

The traffic circulation and parking problems have been the subjects of extensive studies.

They can be largely solved in the most economical manner by rerouting principles applied to traffic movements:

1. The through east-west traffic now passing on Wellington and Rideau Streets will unquestionably find it advantageous to use the new cross-town parkway, which will be located on the present C.N.R. right-of-way crossing the city, and through which Highway No. 17 will be diverted.

2. Local and through traffic between the commercial section of Sparks and Bank, and the commercial section of Rideau and Dalhousie, now forced through Confederation Place, will likewise find a much easier channel by Albert and Slater (one-way each) across the bridge over the Canal and railway yards to Waller and to its extension through York toward St. Patrick Bridge.

3. The left hand turn of traffic from Confederation Place to Sussex Street at Rideau is the main cause of blockage of traffic, and, even after the relief obtained by the new bridge, many cars will continue to use Confederation Place.

It was proposed in our plans of 1938 to widen the space between the Chateau and the south side of Rideau Street by eliminating the Daly Building and the old buildings in front of it across Rideau Street. Such widening would make the left turn for automobiles and street cars much easier and provide more space for alternate stoppages by traffic lights, (See Illustrations 138 and 139, page 184).

Direct access to the main entrance of the Chateau is possible by a left turn of sufficient radius. But such remedy is only a part of the final proposed layout when the Union Station is removed. When the space between the Transportation Building and the Canal is available, *a right turn loop* will be possible, to take care of all the traffic bound for Sussex, through an underpass drive reaching Sussex Street south of the Customs Building.

Rideau Street traffic would then flow freely from east to west. Sussex would be reserved for north-bound traffic; Mackenzie for south-bound traffic.

Access to the Chateau from Rideau would be by its front entrance, and from Mackenzie by both side and front entrances. From Wellington, access would be from the underpass, under the side entrance, adjacent to the elevators, and consequently under cover, and also by the front entrance, as previously mentioned, by the left turn provided in the interim solution. Outgoing cars from the Chateau to Elgin and Wellington would use the front entrance as at present. The underground entrance would be used by traffic coming from the new driveway proposed at the level of the present railway- tracks and leading to the Interprovincial Bridge, while the opposite movement, from the Chateau to the driveway, is also possible from the lower level.

4. The construction of the proposed bridge over the Rideau Canal and the use of Albert and Slater, each one-way, for traffic movements between Wellington west, Elgin, Waller, Rideau and the possible extension to St. Patrick Bridge, give a convenient by-pass to Wellington and Sparks for local traffic seeking access and outlet along the entire length of this long cross-town project, from all connecting north and south streets. The combined width of pavement gained by the conversion of Slater and Albert to one-way streets totals 80 feet, providing six traffic lanes and two parking lanes. This result is obtained *without expropriations*, while the widening of Laurier Avenue would be costly, slow, inefficient, the maximum possible width of pavement thus securable being 46 feet, which is the width of that part of Laurier already widened from Elgin to

Illustration 138

EXISTING TRAFFIC CIRCULATION WITHIN AND ADJACENT TO CONFEDERATION PLACE. The conflict between general traffic and fixed street car routes, also the lack of space and intensity of traffic at the entrance of Rideau Street, are major causes of the difficulties, delays and congestion at this bottleneck.

Illustration 139

FIRST STAGE IN THE PLANNING OF CONFEDERATION PLACE AND ADJACENT AREAS. The elimination of fixed street car trackage, the adoption of a more flexible form of public transportation and the widening of the easterly approach at Rideau Street, permit of the reorganization and simplification of general traffic and the readjustment of traffic flows, pending the removal of the Union Station (see illustration 143), which will provide for a more complete solution.

FOUR PROPOSALS FOR THE DEVELOPMENT OF THE CENTRE OF OTTAWA

Illustration 140 – Holt Report – 1915

Illustration 141 – Cauchon Report – 1928

Illustration 142 – Ottawa Town Planning Commission – 1936

Illustration 143 – Present Proposals

Illustration 144

REORGANIZATION OF TRAFFIC IN CENTRAL AREA CROSS- SECTIONS AND TRAFFIC CAPACITIES OF MAIN EXISTING STREETS

Bay. Further, the use of Laurier as a cross-town artery would destroy its character on both its eastern and western parts, which are exclusively residential, particularly the eastern part. However, such transformation might happen in the future, should the centre of the city be subject to unforeseen commercial extension. In such case, a bridge over the Rideau River is possible at Laurier East and would give a connection to MacArthur and Montreal Roads, but we consider this eventuality as very remote and avoidable by the use of appropriate zoning measures (see Chapter 4).

Illustration 145

REORGANIZATION OF URBAN AND INTERURBAN TRAFFIC CROSS- SECTIONS AND TRAFFIC CAPACITIES OF PROPOSED THOROUGHFARES

The growth of east-west traffic may also ultimately be such that Somerset should become a *local* main artery, a convenient link between central and eastern *residential districts*. Then new bridges over the Rideau Canal and Rideau River will be necessary as an additional traffic diversion, but not as an efficient remedy to present downtown congestion.

5. The creation of the south entrance boulevard and distribution circle is also a typical example of rerouting with the object of relieving traffic conditions on roads and streets suitable for other definite functions.

Illustration 146

CROSS - SECTION OF PROPOSED PARKWAYS

The Metcalfe Road, leading to Bank Street, and the Prescott Highway to Preston Street, each having winding, uneasy layouts, suitable only for slow touristic traffic, and inadequate as feeders, will each be relieved by the new wide and rapid-traffic boulevard leading to this large distributing circle, from which six direct arteries will distribute traffic movements to all parts of the city. The diameter of this circle may be 800 or 1,000 feet if necessary, in order to give an efficient gyratory service. *But from the practical and aesthetic points of view, it is necessary to keep full control of the grounds around this circle, by reserving them for*

future public buildings, badly needed by the Government for future departmental purposes, observing proper setbacks and providing large parking spaces. The site is now free of constructions and lends itself perfectly for such purpose.

Throughout the whole plan, the treatment of the most important intersections of roads or streets has been adapted to their particular functions or

topographical conditions, by surface gyratory circles, T-shaped connections, grade separations, forks, scrolls or clover leaves, in order to reduce the number of traffic lights and facilitate freedom of traffic movements.

6. *Parking* - The basic principle is to avoid crowding of running lanes by parking, to increase the number of off-street parking areas, to build the greatest possible number of covered parking spaces by taking advantage of the favourable topography of the ground, and by encouraging the construction of ramp garages at strategic locations. The latter are being gradually accepted by businessmen, who are willing to pay for the time saved and safety ensured.

Most of the new public buildings, and even large private commercial buildings should provide in their plans *the necessary space for day and night parking*. This was done in the case of the new Supreme Court Building and will be followed in the proposed Department of Veterans' Affairs Buildings.

The site now occupied by the Daly Building, and situated between the different levels of Mackenzie Avenue and Sussex Street, is suitable for a two-deck, and possibly a three-deck garage, with direct access to the Chateau Laurier. The site reserved for a future public building on Elgin Street between Albert and Slater offers similar possibilities for an underground garage, with direct entrances on the lower level on Slater Street.

The esplanade proposed north of Wellington Street, in front of Lyon Street, and bordering on the cliff of Parliament Hill would be established at a level permitting direct access from Wellington to an underground garage accommodating 800 cars, which would be at the disposal of officials of public services foreseen for that neighbourhood.

Also, at the easterly extremity of the proposed bridge over the Rideau Canal, depending upon the solution adopted for the construction of public buildings at that point, a vast garage at the level of Nicholas Street, extending under the buildings and terrace forming the bridgehead, will provide parking accommodations for large numbers of automobiles with access from four directions.

It would be advantageous to encourage the establishment of numerous garages of this type, particularly where topographical conditions permit and where the natures of contiguous constructions and uses create continuous traffic

movements. For example, Albert and Slater, which will become traffic arteries, have already shown a tendency toward the construction of garages with entrances on both streets. This tendency must be encouraged.

Lastly, all important public or private institutions which, from the nature of their activities, create demand for parking and loading accommodations, should be required to provide and maintain such accommodations within their own ground or building space. Regulations to enforce the fulfilment of such conditions should be incorporated within building by-laws. In this connection, the Federal Government is providing example which should be the incentive upon which to base similar requirements on the part of private enterprise.

The need for large parking provisions has been a major factor in our choice of sites for all new public institutions, such as Government buildings, theatres, Convention Hall, sports centres, exhibition grounds, etc.

URBAN PLANNING

Delimitation of Future Urban Growth- Nuclear Distribution of Communities and Neighbourhoods- Zoning Regulations

The Master Plan shows the *maximum delimitation of the future urban extension* within an area amply sufficient for a total population of 500,000 inhabitants, a figure which is merely indicative, the anticipated densities being based on data covering existing conditions, but eventually subject to modification in relation to the likely increase of multiple dwellings and apartments replacing single family dwellings.

It is thus possible to envisage the eventual population reaching without inconvenience, 600,000 within the limits of the agglomeration as defined in the plan.

What is important is that, outside the limits so defined, there be maintained a *rural belt, subjected to control* to the end that the periphery of the urban area be protected against all *undesirable or linear subdivisions or developments*.

This rural belt, the outer limits of which are also indicated, should be solely dedicated to agriculture, or to the establishment of large properties. Public urban services cannot be assured within this rural belt and if residential groups must be constructed they should be reserved solely for agricultural workers.

If, in the future, the needs of the urban extension became such that the provisions now adopted from studies made of the urban evolution have to be exceeded, *tentacular extensions*, similar to those which have formerly developed around the initial urban core and which with adjustments we have had to incorporate within the general layout of the ultimate urban zone, would be thus made impossible through the controls referred to.

Exterior to the rural greenbelt and at a sufficient distance therefrom to ensure the permanency of a rural frame to the future Capital, other nuclei of populations could be established in the rural zone in the form of *complete self-contained* communities comprising from 20,000 to 25,000 inhabitants, similar to the towns of Buckingham, P.Q., or Smiths Falls in Ontario. The rural regions surrounding the Capital on both sides of the Ottawa River offer excellent road and railway facilities for exploitation and favourable development of this type of "new cities" as satellites to the Capital.

Such a future eventuality is not incompatible with the incorporation of existing groups to form the nucleus of such new communities, which, as existing, cannot be allowed to deteriorate, but which cannot be ignored nor disturbed by the application of theoretical ideas, which could not be implemented without enormous and unjustified expenditures.

Referring again to the problem of planning the urban zone within the rural greenbelt, its solution was conceived on the basis of the nuclear principle of distribution of neighbourhood and community units, which takes into consideration the social aspects of the problem and, by so doing, will rehabilitate the salutary tendencies towards community and parochial life, (see Plate XXVII). Within the central nucleus of the existing agglomeration consideration has been given to local factors and particular cases from the physical, economic and social points of view.

Throughout the urban zone there exist depreciated areas of houses, defective and poorly maintained constructions, and areas of over population, necessitating amelioration, but which, compared to other large cities, do not present a grave problem. The highest gross density of population within the City of Ottawa does not exceed 60 persons to the acre and occurs within a very limited area.

The Master Plan calls for a gradual readjustment of the density of construction within existing residential districts, by reduction in the denser sections and slight increase in the outlying sections. To obtain this result we must commence by building good housing in controlled residential units, so that displaced persons can be suitably housed. Moreover, where new public buildings are located outside the present built-up sections, necessary housing accommodations for their personnels must be simultaneously provided.

Existing population densities within the principal communities comprising the urban region, based upon the census of 1947, are set forth in Table 1, page 193.

Important differences in population densities within the respective municipalities are manifested on deduction from gross areas of the areas occupied by streets, parks, playgrounds, vacant lands, public institutions, industries, railroad properties and lands used by commerce.

In the City of Ottawa the relative densities are normal, 32.1 to 91.5, but they are exaggerated in localities not yet fully developed as Hull, 15.0 to 97.1, Eastview, 15.6 to 73.0 and the Town of Gatineau, 3.7 to 64.0.

For Ottawa alone, if we compare the density of "A" with existing local densities of the various wards of the City (Page 50, Part 1), we observe that the minimum local density is 18.0 and the maximum 57.4 in relation to the average density of 32.1 based upon the gross superficial area, less surface occupied by water.

PLATE XXVII

DISTRIBUTION OF NEIGHBOURHOOD UNITS AND OF COMMUNITY CENTRES AT THE PERIPHERY OF THE EXISTING URBAN ZONE AND WITHIN THE FRAME OF FUTURE FORESEEN EXTENSIONS. THE GRADUAL APPLICATION OF THIS PRINCIPLE WITHIN THE CENTRAL ZONE WILL BE BASED UPON THOROUGH ANALYSIS OF EXISTING SOCIAL AND HUMAN CONDITIONS.

TABLE 1

NATIONAL CAPITAL REGION
COMPARATIVE EXISTING POPULATION DENSITIES WITHIN THE URBAN ZONE

Areas considered:

A=Total municipal area, less water and agricultural areas.

B=A less areas of streets, open spaces and playgrounds.

C=B less vacant lands (public and private), industrial areas, railroad properties, public institutional areas, and commercial areas totally so used.

Note: The remainder comprises the superficial area devoted to housing.

<i>Ottawa</i>	<i>Acreage</i>	<i>Density per acre</i>
(Population 164,266; Acreage 5,860 of which 744.2 is water)	A: 5,115.8	32.1
	B: 3,504.8	46.9
	C: 1,793.8	91.5
<i>Hull</i>		
(Population 39,400; Acreage 3,372.6 of which 748.9 is water)	A: 2,623.7	15.0
	B: 2,036.6	19.3
	C: 415.8	97
<i>Eastview</i>		
(Population 10,293; Acreage 682.6 of which 23.9 is water)	A: 658.7	15.6
	B: 518.6	19.8
	C: 140.8	73.0
<i>Nepean</i>		
(Population 12,743; Acreage 6,991.6 of which 1,762.8 is water and 2,453.6 is agricultural)	A: 2,775.2	4.6
	B: 1,875.5	6.8
	C: 520.5	24.5
<i>Aylmer</i>		
(Population 3,800; Acreage 2,100 of which 736 is water and 596.6 is agricultural)	A: 767.4	4.95
	B: 526.8	7.2
	C: 126.4	30.0
<i>Town of Gatineau</i>		
(Population 4,800; Acreage 2,799.7 of which 671.4 is water and 829.8 is agricultural)	A: 1,298.5	3.7
	B: 1,195.0	4.0
	C: 75.1	64.0
<i>Rockcliffe</i>		
(Population 1,599; Acreage 449.5 of which 25.5 is water)	A: 424.0	3.7
	B: 329.7	4.8
	C: 152.0	10.5

These figures show average tendencies.

In the master plan, cognizance was taken of data furnished through analysis of existing conditions, but the density of construction, and, consequently, the density of population, will undergo regulatory gradations.

The various classes of density, normally degressing from the centre to the periphery, are not defined by municipal boundaries, nor by the future perimeters of neighbourhood units and communities, which will form the various nuclei of the agglomeration. Numerous types of varying densities can comprise a residential unit or a municipality. It is the physical conditions, and not the nuclear or administrative limits, which regulate these gradations.

The master plan organizes and regulates the whole of the agglomeration -with regard to the actual occupation or use of the ground, without prejudice to existing entities and administrative divisions left intact. The limits of zones of occupation and use are independent from administrative boundaries and from delimitation of neighbourhood or community units. Their roles are solely that of controlling and regulating the occupancy and use of the land and, through proper housing by-laws, its density of population.

PLATE 15
OF ATLAS

TABLE II
TYPICAL NEIGHBOURHOODS OF 7,000 POPULATION

Density Zones	I		II		III		IV	
Persons per Family	3.8		4.1		4.4		4.6	
Dwellings per acre including streets	16		11		7.5		3	
	Units	Acres	Units	Acres	Units	Acres	Units	Acres
Neighbourhood Centres. .	1	5.0	1	5.0	1	5.0	1	5.0
Churches	3	7.0	3	7.0	3	7.0	3	7.0
Schools-Public	1	5.0	1	5.0	1	5.0	1	5.0
Secular		5.0	1	5.0	1	5.0	1	5.0
Local shops	30	4.0	30	4.0	30	4.0	30	4.0
Playgrounds -								
Young children		4.0		4.0		4.0		4.0
Older children		15.0		15.0		15.0		15.0
Parks		14.0		14.0		14.0		14.0
Dwellings	1,842	115.0	1,707	155.0	1,591	212.0	1,522	507.0
Total Acres		174.0		214.0		271.0		566.0
Gross density per acre.	40		32		25		12	

Note: The resulting gross densities per acre are averages based on the subdivision of lands, the distribution of classes of houses, the dimensions of lots and the density of construction.

A *first zone*, (Zone I, Table II), named a "central" zone, covers the denser populated districts, and defines their average population density as 40 persons per acre, deductions having been made of open spaces and streets. The estimate of its population capacity or of its future total population, *when its territory has been fully utilized*, gives a population that may be considered as a maximum to be attained in the next two generations, based on a maintained average density of 40 persons to the acre.

The first zone will comprise the central commercial areas, the dwellings intermingled with them and those more or less densely populated contiguous street blocks occupied in the main by apartment houses and multiple dwellings, through established tendencies typical of the districts comprising such areas. The actual densities of population within certain sections of such areas, allowing for deduction of street and open space areas, may thus attain 90 or 100 persons to the acre, due to the transition from single family to apartment house dwellings, but such transition should not increase perceptibly the over-all density, if building regulations are made to conform with our recommendations. In districts where apartment houses and individual houses are grouped, the application of common sense principles, as adopted by many other countries, and from which we never should have deviated, tends to vary the occupancy of structures on the ground in inverse ratio to the number of inhabited storeys. It is abnormal, if not absurd, to erect multiple dwelling structures, 4, 5 or 6 storeys and even more in height, bordering on streets, often at their intersections, and lacking open space, while adjoining individual houses are setback from the streets within ample garden space. In the first case the density of construction to the ground often exceeds 70 per cent, while in the second it approximates 30 per cent.

Consequently, it is recommended that for the determination of the density of population there be maintained a constant minimum surface of land occupied per capita; for example, 500 to 1,000 square feet depending upon the zone, whether the type of dwelling be multiple or single family.

A second zone, (Zone II, Table II), comprises existing districts of lower densities than those of Zone I, and having detached dwellings of one, two or three self-contained family accommodations in contiguous groups with occasional apartment houses, and limited, after deduction of street and open space areas, to 700 square feet per capita and an overall population density of 32 persons per acre.

Commercial centres, existing or to be reserved within this zone should gradually replace the lengthy alignments of retail commercial frontages paralleling main traffic arteries.

A third zone, (Zone III, Table II), touches the periphery of the agglomeration and at its limits blends with the rural zone formed by the greenbelt. It has the same characteristics as Zone II but its average population density can be reduced to 25 persons to the acre, by giving, after deduction of street and open space areas, an occupied surface of 1,000 square feet per capita.

Lastly a fourth zone, (Zone IV, Table II), forms a reserve for eventual occupancy destined to give the necessary flexibility to possible expansion for a type of residence commensurate with the needs of a Capital, where numerous high dignitaries and officials, diplomats and foreign delegates may acquire country

residences. This zone can be assimilated within the protective rural zone or greenbelt, where, over and above established agricultural establishments and their appurtenances, large and extensive private properties could be included.

If this zone is ultimately created it would have the benefit of all public services, the only condition which would differ from the greenbelt zone. Its average population density would be 12 persons to the acre, after deducting all street and open spaces, or an occupied surface of 2,000 square feet per capita.

In the zone comprising the market-gardening area of Cyrville, average population density figures will vary considerably, as in instances the farms so utilized are of large dimensions.

The densities above outlined are perceptibly lower than the normal average of modern cities which in Europe average a gross density of 75 persons per hectare, that is, to be comparable with the densities recommended, a gross density of 30 persons per acre, or a net density of 36 persons per acre, after deducting street and open space areas. This difference arises from two causes:

- (a) The very marked tendency of Canadians to occupy individual houses in preference to multiple dwellings, and
- (b) the adoption of spaciousness in the general layout of the plan as predicated by the nuclear principal of neighbourhood and community units.

The future development is envisaged in the form of neighbourhood and community units, segregated within a system of local greenbelts, and ensuring, in relation to their scales of importance, local commercial facilities and cultural and residential life within their respective environments, forming communities of from 25,000 to 40,000, subdivided into neighbourhood units of from 5,000 to 7,000 inhabitants (see plans of units, Plate XXVII, and of proposed distribution of population density and land use, Plate 15 of Atlas).

The neighbourhood unit is conceived with the object of ensuring the development or re-development of self-contained residential environments within areas limited in size in accordance with their population densities and in form by their topography, but, in the less dense sectors, not exceeding a standard area of one square mile.

Existing central areas, which undoubtedly will be modified and improved, cannot be rigorously assimilated to neighbourhood or community units without radical upheavals. The desired adjustments will be predicated upon the principles which guide the composition of normal neighbourhood units, the existing physical and social conditions being the determining factors. Such transformations cannot be but slow and gradual; they will restore, to the full measure possible, to each district, the economic and social advantages with which the outlying new neighbourhood units are endowed. Social life will be revived due to improved grouping of places of work, of business, of assembly, of worship, of intellectual and physical education, and of rest. Furthermore, daily displacements of people will be advantageously reduced.

This progress, having also the objective of bringing about a decrease in population densities within certain central areas, will be easily realized to the measure that the development of neighbourhood extensions is advanced.

Direct consequences of these advantages are relief of congestion of public highways, as much through suppression of vehicular movements as by the reduction of obstructions by parked vehicles; the simplification and re-establishment of public transportation lines to their normal functions of essential inter-nuclear movements, and rapid transit links to and from railway stations, centralized commercial down-town areas, and the servicing of decentralized public services such as cultural, recreational and sports centres, airports, etc., also the long-distance servicing of rural localities, wooded areas and touristic centres.

We can affirm as evident that the progressive remodelling of existing urban areas and the layout of their logical extensions will contribute to the general amelioration of traffic circulation and the suppression of congested and hazardous traffic conditions, as much as would remedial measures of direct circulatory natures, which are remedial to the *effects* and not to the causes of congestion. A more adequate distribution of the occupational use of land infallibly brings about a more efficient system of travel movements.

These readjustments, however, will not be effected solely through the physical layouts of land, but appropriate zoning regulation will ensure their more rapid attainment.

The Master Plan, the main objective of which is to provide the framework for the development of the region, and not to determine the planning details of each locality, must, however, to be usefully interpreted and followed, provide examples of types of planning methods of land subdivisions and of the grouping of constructions. Such examples on the one hand would permit of the correction, to the degree possible, of past errors produced by interminable geometric subdivisions, indicative of lack of realism and humanism, and denuded of practical sense and attraction, and of which the creative indigence does not even have the *virtue of economy*, for the reason that a more rational and agreeable layout reduces by a large proportion the surface of streets to be constructed, equipped and maintained. On the other hand, future allotments will have all the necessary reserves of well chosen lands to develop, as the needs arise, the whole of the common services essential to the *life of the community*.

Nothing is more potentially hazardous to human welfare than those housing developments where sometimes close to 1,000 families are assembled without the provision of the indispensable complements of housing; school, church, local shops, recreation, intellectual and physical culture and rest. These soulless cities are destined to be the source of destruction to society, inasmuch as their inherent defects already bear their physical marks. Let us not bring forward the arguments of waste of land, or the lack of monetary return, in this country where space is

abundant, where nature awaits the utilization of its consoling beauty and provides opportunity for the expression of energy and of material enjoyment, and, consequently, wellbeing and prosperity.

Such are the reasons for which the zones of urban extension foreseen in the Master Plan are framed in green spaces to be reserved on lands unfavourable to urbanization and to the construction of housing, but which on the contrary offer all the advantages of conservation of open spaces left in their natural states.

It is to be noted that we have not been specific in the matter of construction classifications within residential zones, nor in the matter of zoning regulations, which rigidly define the minimum required limits of lot sizes, the maximum densities of built-up areas, and the lines of setbacks, but have advocated measures which will organize with flexibility the volumes of structures and are sufficient to automatically create classifications of constructions, their importance and their market values. In this way regrettable segregation in English, French, mixed, middle class and workers' districts will entirely disappear. The situation and layouts of residential blocks to be built and the regulation of their use will suffice to give to each unit a character conforming with the nature and means of the inhabitants. The distribution of land within nuclear units implies that in any single unit types of houses, varying in dimensions, density and use, can be provided, in order to form a complete social nucleus in which the various elements comprising the society can be assimilated within neighbourliness.

With these fundamentals as the basis of our studies, and taking into consideration existing conditions and tendencies which may be adapted in the future, we have compiled tables which in character are merely indicative, despite the apparent precision which arithmetical calculation gives them. These compilations are the material deflections of the principles comprised within the Master Plan, and are neither definite nor imperative in nature. Local developments, which each municipality in the region will undertake within the frame of the Master Plan, by taking advantage of the flexibility which we have voluntarily given to them, will in practice bring about adjustments in keeping with our estimates.

It is informative to refer to Table III, which sets forth data extracted from the census of 1941 and the Ottawa Housing Atlas of 1944.

TABLE III
(From census 1941 and Ottawa Housing Atlas)

(a) Households in the City of Ottawa	40.2%
Single family	
Semi-detached or duplex	23.2%
Apartments -all	36.6%
-4 or more families	27.0%
(b) Average number of persons per family	4.5
(c) Average number of families per apartment building	7.25 families.
(d) Average family size by dwellings in the City of Ottawa.	4.48 persons.
Single family dwellings	
Two family dwellings	4.48 persons.
More than two family dwellings	3.67 persons.

TABLE IV

ESTIMATED ULTIMATE POPULATION CAPACITY WITHIN THE VARIOUS
ZONE CLASSIFICATIONS BASED UPON THE TOTAL OCCUPANCY OF
THE LAND IN ACCORDANCE WITH THE LAYOUT OF THE
MASTER PLAN

Zone		Utilizable Surface	Density	Population	
I	ONTARIO	2,505.40	40	100,218	<hr/>
	QUEBEC	525.45		21,018	
					121,236
II	ONTARIO	3,434.32	32	109,897	<hr/>
	QUEBEC	1,609.52		51,505	
					161,402
III	ONTARIO	4,910.6	25	122,754	<hr/>
	QUEBEC	2,857.54		71,438	
					194,192
IV	ONTARIO		12	2,622	<hr/>
	Market-Gardening				
		218.53			2,622
		Acres		Total urban	479,452
		16,060.92		population	
IV	ONTARIO		12		<hr/>
	Eventual suburban zone	4,643.14		55,717	
		QUEBEC		42,249	97,966
		Ultimate surface		Eventual ultimate	<hr/>
		24,224.85		population	
					577,418
Probable density average: (in round figures)					
Agglomeration.... urban		16,000 acres - 480,000 inhabitants = 30 to the acre			
suburban zone....		24,000 acres - 580,000 inhabitants =24 to the acre			

TABLE V

POPULATION CAPACITIES OF THE VARIOUS MUNICIPALITIES ON
APPLICATION OF PROPOSED ZONING WITHIN ULTIMATE URBAN
AREA AS DEFINED IN THE MASTER PLAN

NOTE: Utilizable areas and population densities shown are based on municipal boundaries effective on January 1st, 1950, subsequent to annexations of portions of Nepean and Gloucester Townships by the City of Ottawa.

<i>Municipality</i>	<i>Zone</i>	<i>Utilizable Areas Acres</i>	<i>Population Density</i>	<i>Population</i>
Ottawa	I	2,357.35	40	94,294
	II	3,184.6	32	101,907
	III	4,391.1	25	109,778
	Ult.	<u>1,665.5</u>	12	<u>19,986</u>
		11,598.55		325,965
Nepean	III	140.8	25	3,520
	IV	218.5	12	2,622
	Ult.	<u>1,352.3</u>	12	<u>16,228</u>
		1,711.6		22,370
Gloucester	II	42.6	32	1,363
	III	107.9	25	2,698
	Ult.	<u>1,607.2</u>	12	<u>19,286</u>
		1,757.7		23,347
Eastview	I	148.1	40	5,924
	II	207.1	32	6,627
	Ult.	<u>18.1</u>	12	<u>217</u>
		373.3		12,768
Rockcliffe	III	<u>270.3</u>	25	<u>6,757</u>
		<u>270.3</u>		<u>6,757</u>
		15,711.45		391,207
Hull	I	525.45	40	21,018
	II	413.0	32	13,216
	III	<u>146.2</u>	25	<u>3,655</u>
		1,084.65		37,889
Hull South	II	385.5	32	12,336
	III	1,474.9	25	36,873
	Ult.	<u>2,708.3</u>	12	<u>32,499</u>
		4,568.7		81,708
Aylmer	II	270.3	32	8,650
	III	400.2	25	10,005
	Ult.	<u>209.3</u>	12	<u>2,512</u>
		879.8		21,167
Deschenes	III	100.0	25	2,500
	Ult.	<u>17.4</u>	12	<u>209</u>
		117.4		2,709
Total to carry forward		<u>22,362.0</u>		<u>534,680</u>

Forward			22,362.0		534,680
Pointe-Gatineau	II	215.3		32	6,889
	III	249.1		25	6,227
	Ult.	585.8		12	7,030
			1,050.2		20,146
Gatineau	II	325.4		32	10,413
	III	487.2		25	12,180
			812.6		22,593
	Acres		24,224.8	Population	577,419

OVERALL AVERAGE DENSITIES

	Acres	Population	Density
ONTARIO:			
Urban	11,068.35	335,490	30.3
Ultimate or Suburban	4,643.155,717	12.0
QUEBEC:			
Urban	4,992.55	143,962	28.8
Ultimate or Suburban	3,520.8 42,250	12.0
	16,060.9	8,163.9 479,452	97,967
	8,163.9	97,967	
	24,224.8	577,419	23.8

As previously stated, the above figures are but indicative, for the reason that in practice many degrees of population density may occur within the same neighbourhood unit as reference to the zoning plan will indicate.

Table II is an analysis of typical neighbourhoods having populations of 7,000 inhabitants. Such figures in practice will vary in keeping with actual physical conditions, and the resulting manner in which neighbourhoods blend within the community unit.

Principles of Proposed Zoning

Zoning regulations are a capital element in town planning. They determine the relative dispositions of structures to their sites, the permissible use of land, the minimum dimensions and areas of parcels of land, the maximum density and height of structures, and the minimum open spaces to be reserved with a view to assuring adequate access of air and sunlight to the measure of their occupational requirements, in order to preserve the health of the inhabitants and maintain the efficiency and amenity of working environments. In total, the adoption of comprehensive zoning regulations has as its objective the orderly organization of the life and development of the city, in contrast to wasteful, inefficient, haphazard growth. This result is obtained by the application of legally enacted regulations, based on common sense and equity, and regulating the use and development of public and private real estate.

Zoning regulations vary in different districts according to the determined permissible uses of the land, whether residential, commercial or industrial.

Zoning is an integral part of the Master Plan. It has direct relationship to the transportation system, including streets, highways, street railways, automobile traffic, and railroad services both freight and passenger. Further, it has close relationship to public works, utilities, parks, schools and many forms of urban public and private undertaking.

The haphazard manner in which communities have been allowed to grow and develop, without order or direction, is repeatedly brought to attention, by the ever increasing number of representations being made to civic officials by citizens for restrictions against encroachments. These encroachments, either threatening or established, take many forms, such as stores, factories, garages invading residential districts; apartment houses locating amidst districts of select homes, and being built up to the street and side lot lines, where adjoining residences have observed setback lines and preserved ample front and side yard areas.

Such disregard of the welfare of community interests is manifestly wrong and socially unjust, and it is this wasteful and disorderly condition which zoning will prevent and gradually correct. It fosters civic pride by creating confidence in the justice and stability of the protection it affords. Industry will be more efficient and living more wholesome, if kept generally separate. Separation need not mean great distances for the workers to travel. Concentration of uses, and an equitable and just apportioning of use districts, will reduce the amount and cost of transportation and secure economies, not only directly, but indirectly, in the costs of production and the marketing of goods. Altogether, zoning will assure orderly growth and permanence in the development of a city, enhance the amenities of and insure healthy and sanitary homes for its citizens, prevent congestion, both in home and commercial districts and in traffic facilities, maintain the negotiable values of land and buildings, and eliminate the problematical installation of public utilities, such as sewers and water services, which, under haphazard development, are constructed on a basis of probable demand, the ultimate demands likely to be placed upon them being commensurate with indefinite future development.

It therefore follows, that where extensive town planning of either a corrective or comprehensive nature is, or is about to be adopted, it is indispensable to establish or stabilize by zoning these conditions upon which the efficacy of town planning depends.

Comprehensive zoning within the municipally organized areas of the National Capital Region are primarily the prerogatives of the respective component municipal administrations, delegated through legislative authority of Provincial Governments. In the development of the area as a Capital Region, the provision of adequate zoning regulations will continue to be exercised through these autonomous administrations, but in so doing, due regard must be taken of their

Illustration 147

VILLAGE OF POINTE- GATINEAU
(Proposals)

Illustration 148

VILLAGE OF POINTE- GATINEAU
(Existing Conditions)

functional relationships within the region as a whole, in order that there may be maintained and fostered zoning standards which, while taking full cognizance of their respective needs, will in general be equitable to the whole.

Within built-up urban areas, these standards must necessarily be comprehensive and exacting, while in rural areas they will in large measure be drafted to offset developments which by their natures or dispositions might impair, detract from or destroy natural beauty or, from lack of prior consideration, preclude ultimate desirable improvements.

Within the areas of ultimate urbanization, having due regard for their present occupancies, the corrective layouts of existing districts and of their zones of extension are conceived so as to distribute neighbourhood and community units within natural or built-up limits, such as water streams, main arteries, railroad lines, parks and parkways.

Strips of open spaces, interior greenbelts, can frame the various neighbourhood units and form an integral part of the larger community unit.

Zoning by-laws will stipulate for each zone the uses of the land, the minimum dimensions of lots and the relative dispositions and maximum densities of constructions. Through the application of these physical dispositions there will be automatically regulated and stabilized the overall population density.

Such regulation is neither embarrassing nor prejudicial to the interests of individuals but on the contrary it protects them against encroachments, incongruous development and their resulting disorder. It is essential to realize and perpetuate the fundamental concept of the community. Flexibility in the application of regulations is not only necessary but possible. The dimensions of lots, and the types of housing are not necessarily uniform with each residential unit, but can be varied within its layout, provided that any subdivision project be clearly designed as an integral part of the whole and be in conformity with the maximum population density permissible within the residential unit of which it forms part.

Prior to registration the proposed subdivision should be submitted to the responsible local authority to ensure the observance of the overall plan of development and its conformity to applicable zoning regulations.

The inclusion of non-noxious business, handicrafts and even of light industries within residential zones is permissible provided that their locations are judiciously determined and definitely defined within zoning ordinances and the latter include such protective requirements as will ensure the nullification of all possibility of objection in relation to adjoining land use.

Industrial areas for the use of heavy or noxious industries have been provided in locations which will reduce to a minimum any nuisance incident to their operation, and giving them ample facilities for expansion and ease of access to waterfronts, railroads and highways.

Illustration 149

CENTRE OF THE CAPITAL AS PROPOSED

5

PUBLIC BUILDINGS AND SERVICES

Administrative Buildings

The plan of the Capital involves a vast program of new permanent public buildings. Wellington Street is the focus of Government activities. It is not yet completed. The western part of the street, between St. Andrew's Church and Bronson Avenue, is a blight, an excellent opportunity for structural rehabilitation, and the increase of property values.

On the north side of Wellington, west of the Supreme Court, our plans provide for two new departmental buildings, similar in volume and silhouette, but not in detail, to the Justice Building. The grounds will be available for construction as soon as the present temporary government buildings can be vacated. On the south side, St. Andrew's Church, at Kent Street, is the extreme westerly existing monument to be preserved. The city blocks, between St. Andrew's Church and Bay Street, and between Wellington and Albert Streets, six blocks in all, should be reserved for a group of public buildings and annexes, which would form an appropriate and stately western end of Wellington.

Department of Veterans Affairs

Our proposal to reserve the two blocks facing north on Wellington Street on each side of Lyon Street for the Department of Veterans Affairs buildings has been recommended by the National Capital Planning Committee, and approved by the Government.

As an additional feature in the replanning of this section of the city, we propose that the four blocks from Sparks to Albert, between Kent and Bay, be acquired, and that in the middle, i.e., centered on Lyon Street, a large Auditorium -Convention Hall be erected. (See Cultural Institutions). Thus, the function of Wellington Street as the focus of Government activities will be achieved.

Illustration 150

EXISTING GOVERNMENT BUILDINGS DOMINATING THE OTTAWA RIVER

But, to rehouse permanently the many departments of Government scattered throughout all parts of the city in temporary quarters, other sites are recommended, with the definite purpose of decentralizing the services, thereby easing the housing and travelling problems of their personnels, and providing recreational facilities within their environmental areas.

In keeping with such objectives, a large and favourable space, Tunney's pasture, has been taken into consideration by the National Capital Planning Committee and recommended to the Government for a new group of Government buildings. This land is located west of Parkdale Avenue and fronts on the Ottawa River, along which a parkway will be created by the Federal District Commission. Within this area, developed as a park, and in the midst of planted spaces, there can be accommodated the following buildings:

Federal Bureau of Statistics

This important undertaking, the functions of which require a structure developed on a horizontal plane, can be located on a site which will provide for future extensions and ample parking space.

Illustration 151

PROPOSED DEVELOPMENT OF GOVERNMENT BUILDINGS COMPLEMENTARY TO THOSE NOW EXISTING

National Film Board

It is essential and urgent that new accommodations be provided for the services, workshops and studios of the National Film Board within an environment of quietness and security, and under conditions which will permit of eventual extensions. In addition to recording rooms, this project will require an auditorium accessible to the public. The storage of inflammable films, which present a definite hazard if not isolated, can be located close to the river within a reserve separated from the park.

Initially, designs prepared by the Board's architectural division for this project were predicated upon its progressive construction on lands made gradually available by the elimination of the C.P.R. yards on Sussex Street. The buildings, when finally completed, would have occupied the centre of a park bordering upon this street, but the necessary space could not be made available on the basis of the original predication. The Tunney's pasture site now proposed, in comparison

Illustration 152

COMPLETION OF THE MONUMENTAL ENSEMBLE OF WELLINGTON STREET

with the Sussex Street site, has outstanding advantages of quietness, security and immediate possible construction, without the delays and expense incidental to its erection in successive stages.

Laboratories of the Department of Public Works

The structure destined for this purpose will be erected on this site in the proximity of the widened Scott Street and will be architecturally treated in the character of the two institutions aforementioned, along with which it will form a complete group.

The whole will be provided with central and common services such as cafeteria, rest rooms, recreation centre, grounds, and heating.

Annexes for Existing Services

For the Department of Mines and Resources it is intended to erect a new building on Booth Street north of Carling Avenue and for the Department of Agriculture a building on Carling Avenue.

Laboratories for the Department of National Health and Welfare will be erected on a site which is at date the subject of negotiations and which is situated in the vicinity of Parkdale and Carling Avenues in close proximity to the Civic Hospital.

Illustration 153

INTERSECTION OF WELLINGTON AND LYON STREETS IN 1938

Illustration 154

SAME VIEW AS ABOVE FOLLOWING COMPLETION OF PROPOSALS
(Detail of the model)

Printing Bureau

The Printing Bureau, inadequately housed on Nepean Point, requires a new building adapted to its growing needs. In keeping with our proposals, a site has been acquired by the Government in Hull, on Sacred Heart Boulevard.

The plans have been prepared for this new imposing building, the construction of which will commence the gradual rehabilitation of a part of the city of Hull, which is now blighted. The building will be accessible from all sides by direct arteries-Sacred Heart Boulevard, Laurier Avenue, and a new boulevard connecting Laurier, through Reboul and Montclair, to St. Joseph Boulevard.

Services to be Decentralized

The ultimate decentralization of certain services is imperative, and, while the situation is immediate, will be undertaken as incidental to normal developments. It is evident that the major problem created by the necessity for adequate accommodations for new administrations, at present temporarily housed under unfavourable conditions, will require to be studied in a more extensive way.

Department of National Defence

The Department of National Defence has already consulted our Service on their comprehensive requirements. In order to rehouse its numerous services, a site of about one square mile is being considered, foreseeing the possibility of requirements for some 15,000 employees, including housing facilities, in the immediate vicinity, for their families.

We have selected and submitted for the consideration of the Department of National Defence a site, of the required size, situated on the Base Line Road, in the Township of Nepean, within the limits of the future built-up area, as provided for by our plans. Contiguous to the site, there will be a park (part of the system of community green belts), and large spaces for modern housing, in the form of a development comprising a community and shopping centre.

Future direct roads will provide additional access to these grounds; a railroad station and facilities can be created, contiguous to them on the belt line. The site, which would also have direct highway connection with Uplands Airport, is admirably suited to the nature of its use, which should not be within the crowded and populated part of the city.

New Administrative Group

Following the essential principle of decentralization, and with the view of furthering its gradual development in the most favourable parts of the territory, we are recommending the creation of a large Government building development on open ground, immediately south of the Rideau River, on the Bowesville Road,

Illustration 155

WESTERLY PORTION OF CONFEDERATION PARK
MODEL SHOWING, IN THE FOREGROUND, THE NATIONAL GALLERY AND, ON
THE AXIS OF THE BRIDGE, THE NATIONAL THEATRE

where, within a park, several (6 or possibly 8) new departmental buildings could be easily accommodated. The layout of this group would frame the new south entrance of the Capital, at the end of the large boulevard, giving access to the city by much better and more direct arteries than the present Metcalfe and Prescott Roads. Its central circular plaza, possibly 1,000 feet in diameter, would act as a traffic distribution centre leading in six different directions to various parts of the city.

This principal entrance to the Capital from the United States would have a most dignified setting. The land elevation at the entrance boulevard permits of a panoramic view of Parliament Hill and the Ottawa River valley.

We would strongly recommend this proposal for early consideration, if it is the Government's desire to avoid costly expropriations. This ground is now rural, free of constructions, and could probably be left untouched for a number of years, if it could be retained at its present value, by option or otherwise.

National Research Council

For similar reasons, we propose the reservation of grounds for Government purposes south of the Montreal Road, particularly for the extension of the laboratories for the National Research Council.

Education

University of Ottawa

This important institution can be enlarged to the south of its present property, and ultimately extend from Wilbrod to Somerset, where it would connect with the University Oval, and from King Edward to Nicholas and Waller. This long range plan would perpetuate its traditional location, without loss of important existing buildings, in a part of the city near the future Seminary, and the other religious institutions located on Main Street. The arterial developments proposed would provide for its easy access from all parts of the city, by Laurier, Somerset, King Edward and the proposed parkway (Nicholas and Waller).

Carleton College

As an appropriate site for this institution a suitable and large area could be considered south of the Experimental Farm, by recuperation, for urban use, of a part of the experimental fields, along Fisher Avenue.

Schools

The general school problem is analyzed in Part I, Chapter 10. Location for schools of various grades is a matter of local planning, commensurate with the future development of residential areas. Suitable sites will be easy to select, preferably within reservations proposed for neighbourhood and community centres, and community green belts.

Religious Institutions

Similar comment is applicable to the local distribution of new churches, where the survey of existing conditions shows lack of proper accommodations, and where new community or neighbourhood centres will be established for future residential units.

Hospitals

No definite locations are proposed for additional hospitals. Their logical place is also within the reserved system of green belts, having due regard to ease of accessibility. The proposed site for the new Sacred Heart Hospital at the intersection of Mountain and Mine Roads in Hull is in keeping with the above recommendations.

Cultural Institutions

The National Capital should have a National Institute of Arts, a National Library, a Convention Hall, in addition to private cultural institutions, privately owned theatres, cinemas and other recreational facilities of cultural character.

National Art Gallery

The Victoria Museum, an outmoded structure unsuited for a general museum, should be completely remodelled; but its reconstruction does not seem to be worth while on account of the necessary alterations and repairs involved. It is considered that the National Art Gallery should be incorporated within a composite building, in which all of the arts would be housed and find adequate expression, and comprise a lecture hall, museum, exhibition, conference and large storage rooms, accommodations for photographic and musical records, and all facilities for the study of the fine arts.

The site should be centrally located and of size sufficient to permit the development of gardens for the exhibition of sculptural and architectural displays. A large part of Cartier Square could be reserved for this purpose, accessible from Laurier Avenue, the Driveway and Elgin Street, and providing adequate parking accommodations.

National Theatre

Likewise, it is impossible to consider that a national capital should be in the position of having to depend upon privately owned theatres, cinemas or sports establishments in which to present theatrical performances, such as opera, drama or musical auditions.

A National Theatre should be provided having a capacity limited to a maximum of 2,500 seats for direct auditions. Although the most modern equipment in staging, lighting and recording might be incorporated, mechanical sound amplification would not be desirable in such an auditorium.

This theatre could be a separate monument or, by reason of its cultural function, could be made part of the general design of the National Art Gallery.

In the first instance it could be located on Elgin Street, between Albert and Slater Streets, forming the western terminal motif in the perspective of the proposed bridge, its service entrances and parking accommodations being provided on a square extending to and opening upon Metcalfe Street.

In the second instance the site proposed on Cartier Square for the National Art Gallery lends itself to the general composition, including the national museum and theatre, with their approaches and parking spaces.

Auditorium - Convention Hall

Moreover, we propose that there be provided a larger auditorium for mass meetings, conventions, musical entertainments, pageants and possibly large banquets. The main auditorium should have a seating capacity of 10,000, smaller auditoria and committee rooms, all facilities for large meetings, work rooms, stage equipment, radio and recording outfits, etc. Such a large auditorium would, of course, require sound amplification.

This auditorium must not be situated far from the centre of the city, and will require a large space, not only for the building itself, but for its annexes, or satellite accommodations: hotels, garages, parking facilities, special post office, and commercial accommodations for firms rendering service commensurate with its use.

To be self-supporting, this auditorium should have manifold functions, and therefore should be conveniently located, preferably in the vicinity of the Government grounds, but not directly on Wellington Street, the "Constitution Avenue" of Ottawa. The monumental character of Wellington Street has gradually developed from Confederation Place to the Supreme Court, but, from Kent Street or St. Andrews Church to Bronson Avenue, several city blocks present a poor appearance; Lyon Street, from Wellington to Albert, crosses a blighted area. It is most desirable that this section be rapidly improved.

Facing Wellington Street, two new public buildings, to be occupied by the Department of Veterans' Affairs, will start the trend of improvement. To complete the monumental treatment of this part of the city, we have indicated on our plans a plaza, extending from Sparks to Albert, on either side of Lyon Street, in the centre of which the auditorium could be erected. Its annexes on either side of the plaza, with arcaded sidewalks, will create a monumental frame to the central building. The total operation would extend from Sparks to Albert and from Kent to Bay Streets. Parts of the required grounds are already owned by the Government or the city. The National Theatre, Municipal Auditorium and Convention Hall would provide, in our opinion, the necessary start for the theatrical facilities of the Capital and would be soon completed by other theatres under private management, for stage or screen performances.

National Library

Ottawa has a municipal library, a private donation, with local branches, but not at the scale of a Canadian National Library. Alternate proposals are envisaged:

1. Bordering Sussex Street, north of Boteler Street, and arising from rehabilitation in this area incident to the removal of the present C.P.R. railroad yards and adjoining warehouses, which will be relocated at the new local-freight yards east of Hurdman's Bridge. This site has the advantage that the National Library would be in close proximity to the National Research Council and the National Archives Building.

2. By taking advantage of the reorganization of departmental activities now pursued within the Victoria Museum and of the transfer of its collections to new premises appropriate to their requirements, the present site of the museum could be assigned for a National Library, in which could be retained certain collections of the most interesting documents of the Department of Mines and Resources. Collections of natural history, paleontology, geology, forestry, etc., would be more

suitably accommodated within a special building, a Museum of Sciences, annexed to the Botanical and Zoological Gardens, the establishment of which would form part of the programme of utilization, for educational purposes, of open spaces contiguous to the Experimental Farm.

Under this latter hypothesis, the National Library would occupy the centre of a park such as would permit of eventual extensions situated within a residential district and accessible to the Ottawa University by King Edward Avenue and the new cross-town boulevard.

Apart from the National Library, the establishment of annexes to the municipal library within community units would be decidedly commendable from the points of view of both operation and patronage. In each of these localities it would be important to erect a building ensuring cultural services commensurate with the numerical importance of their populations and comprising, where demand warranted, a local library, auditorium or lecture hall, small exhibit room and other facilities customarily provided in a community centre.

City Hall

A capital without a dignified City Hall is a paradox. The use of a large office building for municipal administration and services may perhaps be suitable in an industrial or commercial town, although we certainly doubt it, but in a city of stately government buildings and of many official receptions and ceremonies necessary to the functions of a capital, the City Hall must be a prominent monument, notwithstanding the simplicity of its architecture.

We therefore had contemplated in the ultimate development of the civic centre of the Capital (Confederation Park) the reservation of a large space for a new City Hall, which would have made it *the central focus of the design of this fundamental city improvement*.

We have thus suggested a first solution locating the City Hall at the easterly extremity of the bridge, which together would form the centre of attraction within the park. This site would provide the City Hall with access from four sides and large accommodations for under-cover parking. Apart from these practical advantages, the City Hall would be the principal element of the park composition. The detail plans and the scale model at 30 feet to the inch show all the advantages to be derived from this proposal, which, if necessary, could be realized in progressive stages: firstly, that portion of the structure containing the administrative offices fronting on Nicholas Street and facing the proposed plaza to be developed between that street and Waller Street. Later the portion destined for executive and reception accommodations, situated on the axis of the bridge and facing westerly towards Confederation Park, would be developed as the second stage of the undertaking.

Illustration 156

PROSPECTIVE SKETCH AND SCAN SHOWING THE DEVELOPMENT OF
CONFEDERATION PARK WITH THE PROPOSED CITY HALL EAST OF THE RIDEAU
CANAL

Illustration 157

PERSPECTIVE SKETCH AND PLAN SHOWING THE DEVELOPMENT OF
CONFEDERATION PARK WITH THE CITY HALL WEST OF RIDEAU CANAL IN LIEU OF A
NATIONAL THEATRE AS INDICATED HEREUNDER.

Illustration 158

PROPOSAL WITH THE CITY HALL DOMINATING CONFEDERATION PARK FROM THE EASTERLY APPROACH TO THE NEW BRIDGE

It is recognized, however, that all of the advantages of this proposal could not be realized to the full, pending the elimination of the freight yards and trackage leading to the present Union Station. While this solution would provide incentive towards the increase of land values in contiguous areas, the *time element* and legitimate considerations of economy in the construction of the bridge have warranted the study of an alternative solution, leaving the bridge to be erected without any public building at the easterly extremity of its axis, but framed by two buildings on its sides.

In order that the City Hall might still be enhanced by a suitable central site, it could be erected, as an alternative, at the westerly extremity of the bridge on Elgin Street between Albert and Slater Streets. This solution would provide the essential space for the building with accessibility from its four sides also parking accommodation, but from the points of view of economics and particularly of aesthetics and traffic conditions in the area, it would not have the advantages of the first proposal.

Illustration 159

ALTERNATIVE PROPOSAL WITH DIRECT APPROACH TO THE BRIDGE

There remains a third site also fronting on Confederation Park, which would permit of the location of the City Hall on a site of more open character within a planted area at the south-east intersection of Elgin Street and Laurier Avenue, within the grounds now occupied by Block "A" of the Department of National Defence, which is a temporary structure to be abandoned on the transfer of that Department's activities to a permanent location as indicated on the Master Plan. In this location the construction of the City Hall could be undertaken in progressive stages, the administrative accommodations being first provided and executive and reception quarters being constructed at a later date. This site would provide for all necessary accessibilities and parking facilities. The grounds of Cartier Square are sufficiently extensive to accommodate the City Hall and the National Art Gallery within an appropriate frame, both with access to Elgin Street, Laurier Avenue and the Driveway. The Art Gallery would have its easterly facade facing across the Rideau Canal, and the grounds and future buildings of the University of Ottawa.

Each of these three proposals would retain the City Hall in the vicinity of its original and traditional site and make it one of the important elements of Confederation Park.

Exhibition Grounds

Ultimately, the land and facilities of Lansdowne Park will prove inadequate for exhibition purposes and could be adapted to the purposes of a community centre. We have therefore deemed it prudent to reserve at the periphery of the urbanized area a much larger site contiguous to the greenbelt, railroad lines, and

the main east-west circulatory by-pass highway, at the intersection of Walkley Road and the large entrance boulevard leading to Ottawa from the south. This ground would provide for large and extensive parking facilities and would have the advantage of being directly served by adjacent railroad freight facilities.

While such provision is in a measure of forecast for the future, it is nevertheless opportune to give it due consideration before it is too late to provide for its realization.

Public Utility Services

Sanitary Systems

The question of sanitary organization of the whole of the Ottawa urban area has been brought forward, and is now the subject of study by specialists appointed by the Federal District Commission and the interested municipalities.

The study of the installation of sanitary equipment is co-ordinated in function with the master plan, and with the elements furnished by this plan, such as, densities of population, road system, dispositions of such elements as have direct influence on the design and location of these installations, i.e., industrial centres, government buildings, exhibition grounds, etc. Already a site has been provisionally suggested for the location of a sewage disposal plant in the neighbourhood of Green Creek, west of its junction with the Ottawa River. This proposed location in principle has received the favourable consideration of the specialists, and study of the entire system initially has been made in keeping therewith, based on primary conclusions already deemed imperative.

The Ontario region can be roughly divided into three main drainage areas for the canalization of sewage disposal. The areas immediately east and west of the Rideau River have natural slopes towards that river; easterly therefrom the drainage area slopes toward the easterly limit at the urban region; and that west of the Rideau River slopes towards the Ottawa River, and involves consideration alternatively of a pumping or tunnel system to convey the residual water to the site of sewage disposal. The design, the direction, and the size of the sewers are determined by the future extension of the urban area and their adaptation to the natural slopes of the ground, and to the rights-of-way of the proposed highways.

PLATE XXVIII

DEVELOPMENT PLAN FOR SEWAGE SYSTEM

Based on these fundamentals, the technical study, while complex and involved, is resolved in principle into a question of research co-ordinated with complete knowledge of all the technical aspects of the problem.

The approach to determinations affecting the Quebec area demands prior consideration as to whether the problem should be treated separately, or as part of unified operations for the whole region. In this connection, we must take into consideration the fact that the Ottawa Filtration Plant, which eventually, according to expert opinions, could supply a population of half a million, and the Hull intake are located at the geographical centre of the urban region. It is not conceivable that any part of the area should consider the possibility of having an outlet of its sewage disposal, even if using the most improved methods of sanitation, at a point in the river above these Water Works intakes. Consequently there must be considered the construction of a system which would bring the residual waters from the westerly limit of the urban area, that is, the town of Aylmer, to a point east of the intakes. It is, therefore, essential that the outcome of these studies be received and considered with that same sense of collaborative public interest with which they have been undertaken, based on the considered proposals, the ultimate expansion of the urban area, the predications of ultimate populations and the factual information embodied in the master plan. Only thus can be realized a system which will be lasting and economical, as is the case in all problems of a technical, social, economic or administrative order, which have to take into consideration the present as well as the future well-being of the urban region of the National Capital.

Water Supply

As mentioned in the previous chapter, the Ottawa Filtration Plant, augmented by storage reservoirs at strategic points, could, if desired, supply a population of over one-half million, which corresponds approximately with the ultimate limit of population foreseen in the Capital area.

If its administrative, financial and technical aspects can be reconciled, it would seem logical that this plant should serve the entire population on both sides of the river. If such unification of services is not favourably received, the Quebec region will require to be served by a separate filtration plant, the intake of which should be located as favourably as that of the Ottawa Filtration Plant, that is, central and from deep flowing waters.

Much study has been devoted to the possibility of securing the water supply for the Quebec side from some lake in the Gatineau mountains, but we question very much the advisability or necessity of so doing, when there is available at hand a large natural and suitable source of water in the Ottawa River.

Illustration 160

POINT OF TRAFFIC CONGESTION ON CONFEDERATION PLACE AT THE ENTRANCE OF
RIDEAU STREET

6

PUBLIC TRANSPORTATION

Street Cars and Buses

In order to combat and alleviate the increasing traffic congestion in central areas of the City, certain existing street car routes obviously must be rerouted and, in instances, eliminated, their replacement by bus lines being particularly recommended where routes traverse narrow thoroughfares accommodating heavy general traffic. Under such conditions street cars follow fixed traffic lanes and are the major factors contributing to the slow movement and congestion of traffic. The substitution of buses will release such formerly fixed traffic lanes, and provide, therefore, two running lanes into which buses can be assimilated in common with general vehicular traffic. This is particularly essential within the areas of Sparks and Queen Streets east of Bank, Confederation Place, and Rideau Street west of Dalhousie Street. Without exception *the routings of all street cars* traverse these areas, in whole or in part, and there is no alternative. Such a condition obviously

is not only detrimental to the provision of efficient transportation service, but is likewise detrimental to the movement of general traffic, and is particularly indicative of poor operational procedure in cases of emergency, such as conflagrations in the Sparks, Queen and Rideau Street areas, or on the occasion of ceremonials on Confederation Place, at the Union Station or on Parliament Hill, and incidental to which street car traffic, lacking alternative routing, is entirely suspended.

On the other hand, there are sections within the urbanized area which are inadequately served, and for which provision must be made.

In view of the heavy capital expenditure involved in the recent purchase of the transportation system by the Ottawa Transportation Commission, it is unlikely that any alleviation to existing conditions, particularly where entailing large expenditures, will be forthcoming in the near future. It is within our knowledge that the Ottawa Transportation Commission has, at date, expert authority engaged in studying the system, and with the completion of report will be in a position to determine its policies, which, undoubtedly, will have bearing on the conditions above outlined. The charts of vehicular, street car and passenger densities prepared in collaboration with the experts are particularly informative and enlightening. It is, however, urged that its future policy should be determined *with due regard to the provisions of the Master Plan*, in which are delineated future communities, industrial areas, institutional and governmental grounds, and especially a *new arterial system*, all factors having direct bearing upon ultimate transportation facilities, which, while not of immediate concern, warrant consideration now from the point of view of flexibility of adaptation of such services as may be provided in the interim. The utilization of *future through arteries* made available by improvement of existing main roads, and their connections with new arteries made possible by the abandonment of railroad rights-of-way, particularly typify such provisions, the natures of which are vital factors in the predication of future transportation services. In similar category are various other vital factors embodied in the Master Plan, each of which demands foresight in the provision of public services, as instance, the new station, the sports arena, industrial areas, new locations of government buildings and future exhibition grounds. In the category of matters demanding comparatively early attention, and in addition to the aforementioned alleviation of conditions in the heart of the city, is the removal of street cars from Wellington Street west of Bank and extending to Hull. Such operation is part of the contemplated immediate improvements on that thoroughfare, and is essential for improvement to traffic conditions on the Quebec side of the Chaudière Bridge, where the present single-track street car line traverses a trestle bridge contiguous to the Eddy Company's property. Also, desirable are the removal, at a comparatively early date, of street cars from Sparks and Albert Streets and the substitution therefore of buses, if full advantage of Sparks Street as a main shopping street, and of Albert Street, as a one-way west

Illustration 161

THE TROLLEY WIRES AND THEIR SUPPORTING MEMBERS ON CONFEDERATION PLACE ARE DETRIMENTAL TO THE MONUMENTAL CHARACTER OF THIS IMPORTANT SQUARE. THE USE OF BUSES, AS ADOPTED BY LARGE MODERN CITIES, WILL ELIMINATE THIS INCONVENIENCES.

street in conjunction with Slater Street as a one-way east street, is to be attained, and the efficacy of the new bridge crossing Confederation Park, as a relief to traffic congestion on Confederation Place, is to be fully realized.

We are aware of the difficulties implied in the replacement of rolling stock. and of the numerical differences in the relative passenger capacities of street cars and buses. The remedial measures herein advocated essentially must be adopted gradually and progressively. The transformation is inevitable. Street cars, trackage and *overhead wires are disappearing from all cities* which have undertaken effective planning measures.

In the gradual development of the Capital area, innumerable demands will be made, as opportunity presents for the implementation of certain phases of the Master Plan, for the adjustment of the public transportation system to new conditions. To foresee these adaptations will *offset unnecessary expenditures*. For this reason the gradual abandonment of fixed-tracked vehicles, inadaptable to such demands without involving heavy expense, and the substitution of buses is recommended in view of the flexibility and adaptability of buses to meet new conditions and follow the progressive realization of the Master Plan.

Illustration 162

PLAN OF THE FUTURE SYSTEM OF OPEN SPACES WITHIN THE URBAN REGION OF THE CAPITAL

7

PHYSICAL EDUCATION - SPORTS - OPEN SPACES

Physical education is essentially recreative, although it is the necessary complement of intellectual education.

National Stadium

Ottawa has a sports centre of small capacity, combined with its exhibition grounds. Soon, both will be insufficient.

Notwithstanding *the primary necessity* for developing *an extensive system of sports and recreational centres*, distributed throughout the whole urban area in

Illustration 163

JUVENILE PLAYGROUND, PRESTON STREET, OTTAWA

keeping with the nuclear grouping of communities and neighbourhoods, for the daily training of youth and the maintenance of adult fitness, the Capital must have a National Stadium, with comprehensive sports facilities, including indoor gymnasium, competition swimming pool and training grounds.

South of Dow's Lake, a large open ground of about 160 acres, accessible from four sides through driveways, existing and proposed, surrounded by attractive scenery, contiguous to the Experimental Farm and free from smoke pollution, lends itself for development as a large sports centre, with adequate parking spaces. The ground can be easily improved by proper fills, and would be designed in harmony with the beautiful scenery of Dow's Lake.

Local Sport Centres

The plan showing the superimposition of proposals on existing conditions indicates other local sports centres to serve new communities within the Territories of Ottawa, Eastview, Gloucester and Nepean; similar centres should be erected on the Quebec side, in Hull, Gatineau, Pointe-Gatineau and Aylmer, to complete the system of sports centres within the Capital Region.

Illustration 164

ROCK GARDEN – ROCKCLIFFE PARK, OTTAWA

Playgrounds

Playgrounds for school children are really part of the school system. The ideal solution is *to build the school in the playground*, or, at least, to have the playground *contiguous to the school*. All proposed new playgrounds serving neighbourhoods comprising community units and surrounding community centres, should be designed for this purpose, and additional playgrounds to be created for existing schools ought to be established on grounds contiguous or close to the schools.

Ample reservation of grounds, *unsuited for housing or agricultural development*, will form a *continuous system* of open spaces and green belts, as a frame of green to the various community units.

Open Spaces

PLATE 17 OF
ATLAS

The survey of built-up areas and of existing open spaces, warrants the envisagement of the creation at little cost of an organic system of parks and an uninterrupted network of verdure within the entire region.

Such a project, while ambitious in appearance, nevertheless does not necessitate costly expropriations, grading nor planting on a large scale, but rather a simple *reservation of appropriate lands* chosen from spaces, which from their natures, do not lend themselves to economic housing development and servicing.

The lands thus retained should be sufficient to fulfil a twofold objective, (1) *establish a system of greenbelts framing dwelling areas and directly linked to the main rural belt surrounding the urban zone*, and (2) *ensuring a sufficient reserve for the eventual establishment of public services necessitating environments of verdure and quietness*; such as hospitals, houses of refuge, schools, churches, colleges, recreational, sports or cultural centres, cemeteries, etc.

The wisdom and economy of the principle of reserving large unbuilt areas destined for the gradual realization of the park system is amply demonstrated by numerous similar achievements in England, Holland, Germany, Sweden and the United States, and, closer at hand, by the wise protective measures already taken by the Federal District Commission.

Comparison of the plans of existing and proposed open spaces (Plates 16 and 17 of Atlas) shows that the proposed system is *the logical extension* of the existing park and parkway belt, so well designed by the Federal District Commission, and of the development of Gatineau Park and the park system of the Hull region. It is obvious that what has been developed along the Rideau Canal and Dow's Lake can be repeated on the banks of Brewery Creek and around Fairy Lake, and that the future park which, in the ultimate development of Hull will face Parliament Hill from Cartier Park to the Chaudiere Falls, can be based on the same principle as the cliff-side park development from Nepean Point to Rockcliffe Park and MacKay Lake.

River banks

The Ottawa River calls for a riverside drive, from Britannia to Chaudiere Falls. The Federal District Commission has already started to secure the right-of-way in anticipation of its construction, which in addition to the elimination of the Carleton Place railroad line, will achieve the revaluation of all properties in the area now depreciated by railway nuisances, numerous grade crossings and poor access.

On the opposite side of the river, from Hull to Aylmer, a similar but more simple treatment will be followed on certain parts of the river front, connecting Val-Tétreau, several golf courses, Wychwood and Aylmer, as far as the Cedars. The right-of-way of the abandoned Hull electric line also will be used for the construction of a new driveway.

East of Hull, the Ottawa River has low banks, unsuited for use other than as planted spaces, which we propose to reserve between Brewery Creek and the Gatineau River. Between Pointe-Gatineau and the western end of Kettle Island, the land should be reserved for a natural park, which will provide the foreground of the imposing view from Rockcliffe toward the Laurentian hills.

The Rideau River, from Black Rapids to Rideau Falls, offers naturalistic scenery which could be preserved as park-like river banks, both by partial acquisition for parks and recreation grounds, and by appropriate zoning regulations for

Illustration 165

GATINEAU PARK – PANORAMIC VIEWS FROM THE HEIGHTS OF KINGSMERE

Illustration 166

BIRD'S – EYE VIEW OF THE CITY OF HULL

the balance of the grounds. This would permit, at certain chosen points, the construction of residential developments of limited density to retain the views, without precluding the revaluation of land.

Urban Parks

The region of Hull has such great possibilities with the wooded hills and the countless lakes of the Gatineau, that it does not call for a systemized park development, already provided by nature. The only major area easy, of improvement, is within *Fairy Lake Park*, which, by its natural shape, forms a continuous wedge of green from the edge of the Gatineau forest and "mountain" down to the Aylmer Road.

The most effective improvement will be the central park at the Chaudière Falls.

The time will come when the heavy and obnoxious industries, now occupying the islands, peninsula, and the rocks, from which the falls originally receded, will finally move to more appropriate sites, for their normal development, and more economical operation.

The Master Plan is a long range programme based upon which the Capital will grow; urban planning demands resolute perseverance, and the Falls will always remain the *main feature of Ottawa's natural setting*.

The new Chaudiere bridge will join Ottawa and Hull across this park, providing from both sides views of the two cities and of the river and falls, instead of being as at present an unattractive service road, almost an industrial yard, lined by unsightly structures, smoke stacks, pipes and wires. The power plants will remain in planted settings; they are a functional element of the falls and can be treated in keeping with the scenery.

We repeat that the improvement of the Capital is a long range programme; it must, and will be, carried out gradually, in opportune time, and without injury to the basic industries which, in their own interest will favor their relocation on sites more favourable for operation and expansion.

Similar comment may be made about the Park on *Nepean Point*. The elimination of the Interprovincial Bridge, and its replacement by a more architectural structure behind and east of Nepean Point, will permit of the replacement of the railroad trackage by a terrace exposed to the west, and giving a full perspective view of the large and picturesque basin formed by the river between the Chaudiere Park and Nepean Point, a scene dominated by the romantic silhouette of the Parliament Buildings on their wooded escarpment, and extending toward the undulating crests of the Gatineau Hills, a spectacle of which all Canadians can be proud.

Illustration 167

RESTORATION OF THE NATURAL PARK AROUND THE CHAUDIÈRE FALLS

PRESENT CONDITIONS

SKETCH OF PROPOSALS

Illustration 168

ONE OF THE MANY ASPECTS OF THE EXPERIMENTAL FARM

Experimental Farm

The Experimental Farm, now in the centre of the city, with its arboretum, greenhouses and educational nurseries, is an element of beauty and of public pride, not of turbulent recreation. It must remain unchanged to fulfil its scientific function. Its driveways are part of the Capital's parkway system and it is sufficient that they be retained in order to permit of the enjoyment of its scenery. However, large fields belonging to the Farm, south of the main establishment, could be easily exchanged with other lands of equal agricultural quality, located outside of the urban area, on the green belt, or the Bowesville Road, for example. Such substitution would be advantageous to the future extension of the Farm and to the rational development of the City of Ottawa.

Illustration 169

AERIAL VIEW OF THE HOG'S BACK SHOWING THE SITE RECOMMENDED FOR THE
PROPOSED ZOOLOGICAL GARDEN

Botanical and Zoological Gardens

Further, the release of such lands from agricultural purpose would permit the development, in connection with the Farm, of a Botanical Garden, south of the Arboretum, and possibly also of a Zoological Garden, partly on the Farm property and partly on the picturesque ground between the Rideau Canal and the river, including the beautiful rocks and waterfalls at Hog's Back. Completing these two gardens and located within their precincts, a Museum of Natural Sciences would house the botanical, zoological, geological and paleontological collections of the Victoria Museum, presented in a natural environment. The composition comprising the stadium, the Farm, the botanical and the zoological gardens, facing, on the south, the Government Park, where six or eight new departmental public buildings might be erected around the large traffic distributing circle at the south entrance to the city, would thus be conceived on a monumental scale, worthy of a Capital.

Wooded Reservations

If the province of Quebec is favoured by the natural setting of the Laurentian hills, forests and lakes, the province of Ontario offers other opportunities for wooded reserves, for which no expenditure need be contemplated. A single reservation, including the Rideau Lakes group and the Mississippi Lakes, form part of an incomparable touristic circuit (see following chapter).

At a much shorter distance, two creeks, situated within the green belt, lend themselves to the enjoyment of the outdoors. Green Creek, on the east, 4 miles from Cumming's Bridge on the Montreal Road, and Black Rapids Creek, 41 miles from Dow's Lake on the Prince of Wales Highway, are proposed as future reservations. Both are of easy access from the future residential areas of the eastern and southern extensions of the city, which will develop near the new industrial areas, in Gloucester. Their topography and their natural landscaping need no artificial embellishments. All that is required is a zoning ordinance providing for their preservation, with the view of securing additional facilities for camping, picnicking, playgrounds, and rest, for thousands of workers.

ULTIMATE OPEN SPACE SYSTEM OF THE NATIONAL CAPITAL AREA URBAN AREA

(Existing and proposed open spaces included)

	<i>Ontario area acres</i>	<i>Quebec area acres</i>	<i>Total</i>
Public Gardens	312	82	394
Urban Parks*	1,398	693	2,091
Natural Parks*	2,932	1,361	4,293
Sports Centres*	979	1,723	2,702
Community Centres*	881	417	1,298
Total	6,502	4,276	10,778

* Playgrounds are included in these items. Parkways-93 miles.

Forest Reserves outside the urban area are not included in the above table and amount to 10,170 acres, of which 4,660 acres are in Ontario and 5,510 in Quebec. That area of Gatineau Park south of Kingsmere has been included.

PLATE XXIX

TOURISTIC PLAN OF THE NATIONAL CAPITAL REGION

Illustration 170

THE ENVIRONS OF LAKE MCGREGOR – RURAL LANDSCAPE STILL UNIMPAIRED

8

RECREATION AND TOURISM

Protection of the Capital Region

The proposals relative to this subject are simple in nature, for four reasons:

1. Natural assets have not yet been spoiled;
2. The excellent work already achieved by the Federal District Commission only needs further developments, inspired, on a larger scale, from what already has been accomplished;
3. Our essential recommendations relative to the enhancement and the appropriate treatment of what we might call "The National Playground of Canada", involves no artificial embellishment, very little additional expenditure, but certainly calls for serious protective measures. By their nature, such measures pertain to matters of aesthetics, and are dealt with in Chapter 9 of this Part.
4. The numerous desirable circuits to be organized, in view of making the whole Capital region available to all week-enders and tourists, are in great majority provided by existing roads, easy to improve in certain sections, and to equip for convenient touristic use.

Illustration 171

THE BEACH AT LAKE LAPÊCHE

Touristic Routes

PLATE 20 OF
ATLAS

We mention hereunder the most commendable routes:

Quebec-

Gatineau Park.

Routes from Hull, to be eventually combined :

1. The National Memorial Terrace, through Mountain Road or through the new F.D.C. Parkway.
2. Mine Road, Old Chelsea, Kingsmere, return by Mountain Road.
3. Chelsea through Chelsea Road, Old Chelsea, Meach Lake, Harrington Lake, Philippe Lake, and return either by new F.D.C. Kingsmere Parkway or by Sainte-Cécile-de-Masham, Wakefield and Chelsea Road, or by Saint-François-de-Masham, Ramsay Lake, Eardley Road and Mountain Road. An interesting alternative would be from Ramsay by Taylor Lake and Philippe Lake.

Illustration 172

LAKE SAINT-PIERRE DE WAKEFIELD

Longer routes:

Hull, Mountain Road to Breckenridge, highway No. 8 to Beechgrove, Lapêche Lake, Wolf Lake, Masham Road to Chelsea, Chelsea Road to Hull.

Additional route, as extension of the above mentioned, to Quyon and possibility of return to Ottawa by Quyon ferry and riverside Parkway to Constance Bay and Britannia.

Gatineau River West - Maniwaki highway to Chelsea, Wakefield, Low (Paugan Falls and Hydro Electric Development). There the Gatineau River is transformed into a long lake, by the Paugan dam. The lake is about 10 miles long, to Lake Sainte-Marie, reachable by Martindale and North Low.

From Lake Sainte-Marie, to Kazabazua Station and Danford Lake, Otter Lake, McQuaig Lake, Johnson Lake, Shawville and return by Route 8 to Hull.

Gatineau River East - Wakefield Road to Wakefield, Wilson Corners, SaintPierre-de-Wakefield, McGregor Lake, Perkins, Jeanne-d'Arc, East Templeton, Hull by Route 8.

Illustration 173

SUNSET ON THE RIDEAU LAKE AT RIDEAU FERRY

Illustration 174

NATURAL PARK AT CONSTANCE BAY

Illustration 175

And

Illustration 176

THIRTY-ONE MILE LAKE (175) AND LONG LAKE (176), IN THE GATINEAU HILLS, WILL
BE SERVED BY PROPOSED TOURISTIC ROUTES.

Additional combined route - North of Saint-Pierre-de-Wakefield, to Wakefield Lake, Val-Paquin, Poltimore, Bowman Lake, the dam to High Falls and Val-des-Bois, return through Road 35, the valley of River du Lièvre, Notre-Dame-de-la-Salette, Buckingham and Route No. 8, or Donaldson Lake to Rivière Blanche and Templeton.

Also the following additional longer routes ought to be mentioned:

Maniwaki Road to Maniwaki (Indian reserve), to Mont-Laurier, and return by Road 35 (Lac des Iles), Notre-Dame-du-Laus, and detour by boat by Lac Poisson-Blanc, Mystery Island (the Boy Scout National Domain and Bird Sanctuary, established and fostered by the late Noulan Cauchon), and return by the Priest Creek valley to Poltimore (road to be improved), or by Kelly Newton, Lac Sainte-Marie and Kazabazua.

From Buckingham to Lac La Blanche, and by a road to be improved, following Rivière Blanche to Gull Lake, Dam Lake, and Echo Lake.

From Thurso (Route No. 8) to Saint-Sixte, Ripon, Chénéville and Lac Simon (Ile du Canard Blanc).

Another wild lake, reachable from Gracefield (Route No. 11) is 31 Mile Lake, through White Fish Lake and Point Comfort.

The longest route, through Route 8 to Montebello (Seigniory Club) by Road 57 to Saint-Jovite, leads to Mont-Tremblant Lake (National Mt. Tremblant Park) and by route 11 to Nominigüe, Lac des Ecorces, by a modern road through splendid scenery, to Mont-Laurier and return by routes 11 or 35.

Quebec and Ontario

Ottawa River valley - East - Route 8 from Hull to Grenville, Hawkesbury by bridge, and return to Ottawa through route 17 in Ontario.

Ottawa River - West - From Ottawa to Fitzroy, Arnprior, through route 17 to Renfrew and Portage-du-Fort, return to the Quebec side by Shawville and route 8 to Hull; or from Renfrew to Pembroke, ferry to Allumettes and return through Fort Coulonge and Shawville (route 8).

Ontario

Routes -

Ottawa to Fitzroy, Arnprior and the Mississippi Valley to Almonte (road 29), return to Carp and Ottawa, or from Almonte to Carleton Place (road 29) and Ottawa through road 15.

Extension to larger routes -

Ottawa, Almonte (17 and 44), Carleton Place to Perth (route 15), an unspoiled old English town, with its typical stone houses, and large planted spaces, which *deserves aesthetic protection by special by-laws*. From Perth to Rideau Ferry, grandiose view on the lakes, Lombardy, Smiths Falls, return through Merrickville, Burritts Rapids, and Road 16 to Manotick and Ottawa.

Illustration 177

MISSISSIPPI RIVER NEAR ALMONTE

The above list of routes and tours from the Capital is only indicative, and quite incomplete. There are unlimited resources for the enjoyment of short and long range outings and touristic opportunities. But the road system has not yet been sufficiently developed to give access to a great number of charming valleys, lakes, and wooded sites, where every form of recreation or sport can be provided. Also many points, at different elevations, can be reached to permit of the enjoyment of picturesque or grandiose views.

Those possibilities will be gradually made realities, as and when appropriate work is carried out to improve the means of approach. There is however no need of a complex and expensive road development, *as many parts will better retain their charm and beauty*, if left wild and accessible only by trails or pedestrian paths with proper parking, camping and picnicking accommodations.

In such an attractive country, the example of the rules applied in Switzerland is of great value. *The deliberate restriction of automobile traffic*, limited to main approaches, and the systemization of reserved forest sections, provide the necessary *calm, intimacy and silence* which are efficient factors of regeneration for the tired townsman, of re-education of the masses, and of healthy and restful recreation.

If planned along such principles, the development of tourism in the Ottawa region will be a sure, lasting and most profitable investment in many branches of activity.

Illustration 178

PROPOSAL

Illustration 179

PRESENT CONDITIONS

NEPEAN BAY, IN THE CENTRE OF THE CAPITAL ENCUMBERED BY RAILWAY LINES, WAREHOUSES AND INDUSTRIES (179), LANDS ITSELF TO THE DEVELOPMENT OF A LARGE RECREATION BEACH FACING CHAUDIERE PARK AND THE ENHANCEMENT OF LAND VALUES OF ABUTTING AREAS.

PLATE XXX

FALL SCENERY IN THE NATIONAL CAPITAL REGION

Illustration 180

THE IMPOSING SITE OF THE CAPITAL SHOWN HERE INDICATES THE REMARKABLE POTENTIALITIES WHICH IT IS OUR DUTY TO DEVELOP.

9

AESTHETICS

Beauty is neither a luxury nor a refinement only for the enjoyment of privileged classes. Even the primitive tribes, in the course of their hard and precarious life, adorned their tools, weapons or fragile shelters. Aesthetic aspirations are natural and vital characteristics of the human mind.

In urban matters, beauty, if well understood, constitutes an economy, even investment. Economy can be realized by the preservation of natural elements or by attainment of harmonious expression through the art of composition *rather than through ornamentation*. If, by its aesthetic merits, composition constitutes the centre of attraction, it adds to the economic assets of the important industry of tourism, and ensures increased values and permanency, of character to adjacent lands and developments. Beauty thus conserved or utilized is *a sound investment*.

From the social point of view, aesthetics as a factor in urban life have direct, positive and constructive reactions. They foster the growth of civic spirit, and invite the citizens to become more conscious and proud of their environment,

and, consequently, to be better disposed to co-operate in the improvement and preservation of that environment. It cannot be denied that beauty, from the moral point of view, has likewise a beneficial influence.

It might not be out of place to review briefly these elementary considerations, as they serve as guides in the elaboration of policies of protection and in the creation of elements of beauty.

In its relation to urban aesthetics, beauty can be implemented or preserved in two ways which are often complementary: by planning and creation or by the adoption of appropriate measures either constructive or restrictive.

Preservation and Development of Areas Surrounding the National Capital

The setting of the National Capital Region, and particularly its Gatineau mountains, forests, lakes and rivers, is an invaluable natural asset, the future development of which needs to be judiciously guided and controlled, rather than to be improved upon. Its present limited development is, fortunately, such as to ensure the fulfilment of its function as a National Capital Region.

Preservation of the distinctive character of the land is essentially the basis upon which control is to be enforced. This character, which is mainly that of charm, harmony and softness, should be respected and maintained *at a human scale* when any construction is considered. The beauty of a lake, or of a wooded hill, particularly if of moderate size, would be depreciated by a large and bulky hotel or by a conspicuous parking ground.

Any new element required for recreation, traffic or tourism, should be incorporated with great tact and precaution. Monumental structures should be excluded from a land which calls for intimacy. Even the river shore of the wide Ottawa River is not to be excluded from such considerations.

Parkways should be limited in width, and should not be required to provide the facilities of main traffic highways. If and when planted, it should be in the least formal way possible to maintain their picturesque character. Speed is not required in an environment of rest and enjoyment, and it should be limited, not only by regulations, but by the nature of the parkways themselves. Their location should be selected in such a way that they will not only take advantage of the topography of the ground, but will secure fine outlooks and variety of aspects; the objective is not to provide the shortest distance from one point to the other. In Rockcliffe Park there are excellent examples of parkways which invite relaxation and contemplation of the scenery.

Parking places should always be as limited in area as possible, and should not mar the scenery by obvious intrusions of size or unsightliness. They should also be adapted to the topography of the ground, not only for reasons of economy,

Illustration 181

THE LOCKS OF THE RIDEAU CANAL

Illustration 182

PANORAMIC VIEW TAKEN FROM THE CHATEAU LAURIER PARK

Illustration 183

OTTAWA RIVER VIEWED FROM ROCKCLIFFE PARK

but with the view of making them less conspicuous. Trees and shrubs should be preserved, not only around, but within parking areas. Their dispersed distribution near points of attraction or stoppage is recommended. Similar recommendations hold good for *picnic places*.

All elements to be incorporated in promenade systems should also be carefully designed. In this regard, the Federal District Commission has disposed at strategic points some very harmonious and inconspicuous signs, which are good examples. The Blue Ridge Mountain Park development in Virginia offers excellent examples of shelters, signs, benches, and rustic fences for a park of this nature.

There are also, on the Ottawa River, and along certain lakes in the region, some fine sand beaches. Unfortunately, they are few in number, and if only for this reason, it should be recognized that their development for public use is often fraught with difficulties. The evils of uncontrolled public beaches, with their intricate traffic conditions, their desolate treeless areas for car parking, and their multiplicity of signboard and uncontrolled refreshment stands, are elements, the control of which must be exercised in their development.

Places reserved for recreation and tourist accommodations should be the subjects of special architectural treatment. Hotels, cabins, gas stations, restaurants, stands, etc., by the unity and simplicity of their compositions and the harmony and their designs, colours and materials, should be elements of attraction and enhancement, instead of being, as is too often the case, blots on the scenery.

We have tentatively indicated in our plans areas which at present are, or may eventually become, Federal District Commission properties, or which at least should be subject to close control. For instance, areas comprising the shores of the Ottawa, Gatineau, Mississippi and Lièvre Rivers, the regions of Lapêche and Wolf Lakes, which, happily, are still in their primitive conditions, and the region of

Illustration 184

KINGS EDWARD AVENUE, NORTH OF RIDEAU STREET, HAS A DOUBLE ROW OF ELMS LOCATED ON A CENTRAL PLANTED ISLAND THROUGHOUT its entire length. The general aspect of this boulevard is excellent, but could have been enhanced by the architectural control of its façades.

Illustration 185

CLEMOW AVENUE, WITH ITS ROWS OF MAGNIFICENT ELMS PROVIDES A MAJESTIC perspective. Architectural control, while limited, has preserved its inherent natural harmony.

Saint-Pierre-de-Wakefield, Dover, Grand and McGregor Lakes should be subject to special protective measures, which would not affect existing property rights of owners, but which would stop abuses detrimental to their beauty.

As an example of areas to be protected, we should mention the beautiful pine forest at Perkins, which was once threatened by destruction. Such areas provide opportunity for the Federal District Commission to survey and preserve numerous and remarkable sites, which we have been privileged to observe and contemplate, and the preservation of which would contribute to the charm of the region and to the rest and enchantment of its visitors.

The proper preservation of the beauties of the region is a continuous undertaking, requiring patience and painstaking effort, if there is to be offset the encroachment of undesirable selfish interests to the detriment of general betterment. Such measures are essential, if the region is to be made fitting and acceptable to Canadians generally as their National Capital, and as a model of good taste and tactfulness in the enhancement of its priceless assets and beauty.

Long delays in the adoption of measures to safeguard the region can forever compromise its beauty, picturesqueness, and utility, in so far as their adaptation to recreation and tourism is concerned. A wise policy of protection, control and development would characterize the region to better advantage than any panel or poster stating "You are now entering the National Capital Region".

We have tentatively indicated on the regional plan an area which comprises the Gatineau Park with added territory. Its total overall surface is approximately 83,000 acres. The Holt Report recommended the acquisition of 75,000 to 100,000 acres for park purposes, with only a vague indication of its boundaries. The territory proposed to be added is, in our opinion, the natural complement to the existing park, and should be secured, preserved, and enhanced on the same lines as is recommended for the present holdings. In view of preserving its unity, the same overall policies of maintenance and restrictions should be enforced in this added territory, through direct ownership, or otherwise; that is, to parkway systems, to the installation of lookouts, picnic grounds and controlled recreation centres, to the more efficient closer protection of the forest, fish and game, and to direct control of the use of the land in general; in a broad sense, more facilities and accommodation for the public in general, and less for the individual.

The Federal District Commission has created a Sub-Committee charged with the study of development of Gatineau Park and to foresee its eventual extensions. This Committee which is advisory in nature has already submitted a most complete and interesting report in which all the aspects of the development and life of the park are dealt with.

Illustration 186

THE SILHOUETTE OF OTTAWA, VIEWED FROM BOUCHERVILLE, IN HULL

Panoramic Views

One of the first important panoramic views to be preserved, and, in all possible ways, to be enhanced, is the view of the National Capital from the site proposed on the Gatineau mountains for the Memorial Terrace.¹ Its development necessitates proper planning, not only of the memorial itself, but of the surrounding grounds, the preservation of its wild and picturesque aspects, the concealment of adjacent parking areas, the judicious planting of trees to form an appropriate frame to the panorama, and the suppression, or the proper screening, of certain undesirable elements. Anything that would tend to depreciate its symbolic conception in dedication of the plan as a memorial to Canada's war heroes, should be made the subject of control, and, if considered necessary, of prohibition.

Many lookouts can be reserved and pleasantly developed in the mountains, in the vicinity of the lakes and the rivers, in keeping with the character of the country. King's Mountain is particularly suited for such treatment. Ways and means of preserving and enhancing these beauty spots are outlined in the chapter on Tourism.

Views of Parliament Hill

Parliament Buildings and the Hill are, in the public mind, the symbol of the Capital. The Peace Tower, which crowns the whole composition, has the same meaning to Canadians that the dome of the Capitol in Washington has to Americans, or Big Ben to English people.

¹ See Part 2, Chapter 10: "Dedication of the National Capital Plan."

There can never be too much care exercised in the preservation of vistas opening on Parliament Hill. The design of main roads takes into consideration the necessity of providing or protecting such vistas in their multiple aspects and characters.

An instance is the case of the proposed parkway to Kingsmere on the heights of the mountains on grounds already surveyed by the Federal District Commission. The parkway approaching Ottawa, should follow the ridge west of Fairy Lake to Boucherville Street from where the view of the river front of Ottawa is most impressive.

Another view, to which special consideration and treatment should be given, is that view of Parliament Hill from Boulevard Saint-Joseph. It is the only complete view of the whole of the silhouette of Ottawa that can be obtained from a reasonable distance, and it is, perhaps, the most impressive view of the country's Capital, despite some unsightly elements in the foreground. We have indicated a limited area to be reserved with this object in view. Moreover, certain areas between the Boulevard and the panorama should be limited in regard to heights of buildings.

Another interesting view of Parliament Hill is from the heights of City View. As the panoramic view is unobstructed, it is a matter of adopting the proper regulations to preserve the lookout.

A most interesting close-up of Parliament Hill is from Laurier Avenue in Hull, but it is only perceptible at intervals through disorderly buildings and piles of industrial materials.

The gradual removal of all industrial and noxious buildings between Laurier and the river shore is anticipated, thus providing an appropriate river frontage, and transforming this exclusively utilitarian fringe area into what it should really be, an attractive open parkway facing the hills of the Capital.

The proposed transformation of this section of the Capital area, as well as that of the Chaudiere Falls, is properly a restitution scheme, the merits of which can be judged from a great many old prints, which show how impressive was the original setting of the Chaudiere Falls, the Ottawa River banks and the whole of Parliament Hill. Such proposal aims to give a more dignified environment to the representative buildings of the nation, and is more particularly a matter of national pride. Moreover, the new recreative advantages accruing to the citizens, and the *revaluation of land* along those areas should not be overlooked.

The restoration of the Chaudiere Islands to their primitive beauty and wildness, is perhaps the theme of greatest importance, from the aesthetic point of view-the theme that will appeal, not only to local citizens, but to all Canadians who take pride in their country and its institutions. Ways and means to make possible this restoration are outlined in Chapter 7.

Illustration 187

LAURIER AVENUE, WEST OF KING EDWARD AVENUE

Illustration 188

QUEEN STREET, WEST OF METCALFE STREET

Illustration 189

VIEW OF LYON STREET TAKEN FROM SOMERSET STREET WEST

IN WASHINGTON, THE CAPITAL OF THE UNITED STATES, TREES ARE PRESERVED AND POLES, OVERHEAD WIRES AND TRANSFORMERS ARE BEING SUPPRESSED.

The new Interprovincial bridge with its Ottawa approaches on the *east side* of Nepean Point, would permit the embracement in its entirety of the magnificent view of the Point, the locks and the hills. On the other hand, the silhouette of the bridge would not obstruct the view of the spires and towers of the Parliament Buildings.

The proposed viaduct replacing the Chaudière bridge would have similar advantages. It is to be noted also that the proposed location of this viaduct would provide a complete view of the falls and the river. If there should arise technical difficulties in locating it where actually proposed, which we doubt, it should be appreciated that the technical aspect of the problem is not the only factor, nor the essential factor, in the choice of its location and design. Technique is the servant of human needs and aspirations, not the master to which those needs and aspirations should be subordinated.

As a first principle for guidance in the architectural and landscaping treatment of Government lands and buildings surmounting the river escarpment, it is essential that their romantic characters be respected. The quality of this ensemble lies not so much in its architectural treatment, as in the judicious disposition of the buildings and their silhouette. This silhouette is formed by the steep roofs, pinnacles and towers of the buildings, judiciously located along the cliff in the midst of planted grounds. It is essential that in the furthering of the architectural composition, buildings of a similar character should be designed.

As for the Hull side, it is considered that a few well disposed public or semipublic buildings might remain or be erected between Laurier Avenue and the river, and that this area, treated as a park, would provide recreation grounds, promenades and trails for pedestrians, cyclists and horse-riders. In other words, this park should not be treated in a formal way, but, on the contrary, as a natural landscape, with as much liberty of design as of use.

Another major item in the composition of the Capital should be the central park on each side of the canal, between Elgin and Nicholas, and from Confederation Place to Laurier. It would become the Municipal Park, traversed by the old historical canal, and framed by public and semi-public buildings. Future buildings should not be compelled to adopt any particular design or style, in view of the partially existing frame. Fundamentally, this park is dissymmetrical, and should not be subject to formal composition. The proposed bridge would be its central motive, on an inconspicuous axis.

Illustration 190

EXAMPLE OF ARCHITECTURAL DISCIPLINE

Architectural Disciplines and Control

Certain streets and arteries within the Capital Area demand special treatment, from their locations and the importance of their designs within the overall picture. The principal streets, which should be the subjects of such special treatment, and of regulations controlling the construction of buildings, are Wellington, Elgin and Sussex in Ottawa, and Laurier in Hull.

Wellington Street

Wellington Street, by its function, comparable to Constitution Avenue in Washington, should have a very defined character. Aesthetically it is *essentially dissymmetrical*, and the interest of the passerby should be attracted to the Parliament Buildings and the riverside. Our recommendations are embodied in the models and in various drawings and studies, which have been prepared as tentative proposals.

Generally speaking, the buildings to be erected on the north side of Wellington, west of the Supreme Court, should endeavour to complete and continue the picturesque silhouette, a characteristic of Parliament Hill. The building immediately west of the Supreme Court should balance the Justice Building, and, without calling for similar architectural treatment, should retain certain analogy therewith in respect to its mass, its alignment, its silhouette and its height. The last building completing the composition should make proper balance with that referred to without being strictly symmetrical. This conception is clearly shown on our sketches, as well as on the model.

It is not advisable to maintain the same density of building surface that previous plans by the Department of Public Works have indicated. The composition should be much more open and provide for a large terrace over underground parking accommodations.

The south side of Wellington Street should be dignified, and be treated as a continuous monumental background to the north side. It should be subject to very strict height regulations, and the facade of each building to be built on its alignment should be disciplined. A profile of the south side of Wellington Street shows that, with the exception of the Langevin Block, the heights of existing buildings which are of a permanent nature, i.e., the Rideau Club, the American Embassy, the Bank of Montreal, the Metropolitan Life Insurance Company Building and the Bank of Canada, all reach approximately the same horizontal line. While there is a drop of grade on Wellington Street, the cornice lines of the buildings are approximately at the same level. It is recommended that all future buildings should respect this limit in height, and should preserve the existing alignment.

The whole of the silhouette of the street, as seen from the Hull shore, would thus be composed of a series of monumental buildings of a picturesque and vertical character separated by gardens and detached from the continuous horizontal background formed by existing and future buildings comprising the south side of Wellington Street.

The westerly extremity of the Wellington Street composition would be terminated by a large architectural ensemble, partly described in the previous chapter, and would complete the administrative centre of the Capital.

The height of future buildings to be erected on the north side of Sparks Street, west of Metcalfe, should be limited with the view of preventing the unsightly appearance of the rear of commercial buildings from Wellington Street or from Parliament Hill, a rule which should be made applicable to eventual additions to existing buildings.

Elgin Street

With respect to buildings facing on Elgin Street, between Slater and Sparks, we make the following recommendations:

Their alignment should correspond with that of the middle facade of the Lord Elgin Hotel, and their heights should follow as closely as possible the cornice line already imposed by the Langevin Block, the Post Office and the wings of the Lord Elgin Hotel. Again, there is no question of enforcing similar architectural treatment, but, in volume and design, the facades of future buildings should maintain the unity of this important street. An exception could be made of the building which is destined to occupy the site facing the new bridge, which might be the National Theatre, as indicated in the plans. As the bridge is on the axis of the block between Slater and Albert Streets, the building in front could appropriately break the line of the general composition on this side of Elgin.

Illustration 191

SOUTHERLY FAÇADE OF WELLINGTON STREET OPPOSITE THE PARLIAMENT
BUILDING

Illustration 192

WESTERLY EXTREMITY OF SPARK STREET

Illustration 193

A WATER-TOWER IS NOT ESSENTIALLY A UTILITARIAN ELEMENT LACKING BEAUTY. The design of the water-tower at the experimental farm combines the functional and aesthetic elements in a manner which provides a silhouette in harmony with its environment.

As in the case for Wellington Street, it is not proposed to impose regulations which would be drastic. It is, rather, suggested that buildings of a certain type be favoured, and that, if judged necessary, exception might be made from the present regulations limiting the heights of buildings in Ottawa generally. It is recommended that the building between Albert and Queen Streets, facing Elgin Street, should have on Albert Street, the same setback as the Lord Elgin Hotel on Slater Street, which would, if deemed necessary, give a sense of spaciousness and balance to the composition.

Sussex Street in Ottawa and Laurier Avenue in Hull

The compositions of Sussex Street in Ottawa and Laurier Avenue in Hull have great importance, as, in each instance, they front, or will ultimately front, on public parks bordering the Ottawa River. It is essential to study with care the regulations to be imposed, in order to avoid facades of conflicting heights.

It is recommended that building heights be limited to 60 feet on Sussex street, and that a defined street alignment be observed. At George Street, buildings could be permitted to be 70 feet in height. On Rideau Street, present maximum height regulations would be applicable.

For similar reasons, the height limit of 50 feet for buildings on Laurier Avenue in Hull is recommended. Some elements can be integrated in this street line, and exception can be provided for certain types of buildings, such as churches. Here again, the tact and judgment of authorities in charge of the approval, or disapproval, of plans for such buildings, should be the decisive factors.

Equipment of Public Utility Services

One of the major problems in the improvement of streets and public squares is the outside equipment of public utilities, mainly telephone and power transmission poles and wires, with their multiple accessories; also public transportation equipment, lighting standards, etc.

Strict regulations are essential to the control, location and design of those outdoor elements. The underground disposition of certain elements, especially in particular areas, should be compulsory. Such areas are streets requiring special treatment, and commercial, semi-commercial and institutional areas, in which there are lacking setbacks to the buildings, and space to conceal the equipment required to service their frontages.

Those existing streets should be designated with the view of proceeding, not only with the control of any new installations, but with the actual removal underground of existing service lines. Where and when outdoor poles and lines cannot be avoided, they should be located at the rear of the lots, as is done in many cities all over the world.

We are confident that all tramway lines will ultimately disappear from the urban scene, as is the case in most modern cities. The use of trolley buses for public transportation has many supporters because of some economical advantages, but they perpetuate overhead wires, which, in turn, fix in perpetuity their routings. The auto bus is therefore the only practical transportation system suitable for central urban areas.

Theatre Signs and Lights

Highway signs indicating directions, numbers, and crossings have been greatly improved in recent years, but local signs, light poles, traffic islands and such like, often display deplorable lack of study, both in form and colour. Light poles have been the subjects of much study, and there is a great variety of designs suitable for erection in different areas in keeping with the scale and cross-sections of the streets and their lighting requirements.

Miscellaneous

Hydrants are not too conspicuous, especially when on boulevard streets. Post Office boxes are, too often, atrocious in shape and colour, under the pretext that they have to be seen. Such objectives can be attained by other means, and the use of flush wall boxes, for instance, should be favoured.

Projections of building elements over and above the street line should be prohibited, such as show windows, bay windows, fire escapes, or outdoor stairs and signs, which are the cause of disorderly appearance, and generally have no connection with the designs of building facades.

Outdoor Publicity

The uncontrolled intrusion of outdoor publicity in the form of posters, bill boards, neon signs and such like, within environments to which they obviously do not belong, amounts in substance to the abuse of public rights by private interests.

Illustration 194

NOTRE DAME STREET, MONTREAL, BEFORE REMOVAL OF PUBLIC UTILITY ELEMENTS

Despite common recognition of the detriments attached to such practices, apathy on the part of the public generally, and reluctance on the part of municipal administrations, coupled with opposition by those whose interests would be directly affected, in large measure, account for failure to initiate and enforce proper control and regulation. But such control and regulation can be attained without great difficulty when properly initiated. The implementation of the Shipstead-Luce Act in Washington is an example of restrictions concerning outdoor publicity, which have received comparatively little opposition, though in effect since 1930.

Only when organized and controlled on a basis of equity can outdoor advertising be pursued, if the best interests of the public are to be fostered and preserved. Under such conditions, advertising can fulfill its primary function, and even enhance certain environments, by its inclusion as a component element in the whole.

Within the National Capital Region, where the preservation of an atmosphere of dignity, stateliness or natural beauty is imperative, every possible protection against the intrusion of all extraneous and detrimental influences must be afforded. Such protection is a condition essential to the full effectiveness of future planning development.

Broadly speaking, outdoor publicity falls within two main categories, i.e., advertising a product, or advertising a place, an hotel, a beach, a theatre, etc. These broad categories should be observed and form the basis of any proposed regulations or controls.

All matters which publicize products could be permitted in areas zoned as commercial, semi-commercial, industrial and semi-industrial. In other more

Illustration 195

NOTRE DAME STREET, MONTREAL, AFTER REMOVAL OF PUBLIC UTILITY ELEMENTS

restricted areas, only the second category, that is, signs publicizing a place or establishment directly within their environs, would be permitted.

Some general considerations should be observed in the design and location of publicity elements: when they are on a building, they should be composed as a part of, or in keeping with the architecture of the building; in some instances, colour harmony might be admissible, especially in the case of neon signs, for the whole or a part of a commercial centre or street.

Panels, sign-boards or other elements of publicity, should be controlled in regard to number, size (in Washington they are limited to 25 square feet), colour, design and disposition on the ground or on the structure.

General principles should be established and preserved in relation to the regulations affecting outdoor publicity: these principles should take full cognizance of aesthetic factors as well as those of public security and the protection of both private and public interests.

Trees

The Ottawa Valley is particularly endowed with a vigorous and exceptionally fine growth of trees. The various species of forestry in the region form a resplendent picture of vivid colours in the fall season, when elms, maples and birch trees compete with the sombre patches of conifers. One of the great charms of the Capital lies in its planted streets, and its parkway system. Reference is made to this characteristic in Part I, Chapter 8, and it need not be further stressed as it is recognized and appreciated by the citizens as well as by visitors to the Capital.

Trees, like architecture, are a definite factor in the enhancement of a modern city. They form the framework of buildings, the "leit-motiv" in street design, the aspect of which they may change entirely. They blend contrasting structures,

Illustration 196

TYPICAL STREET IN ROCKCLIFFE IN WINTER

and their removal from certain areas would be deplorable in the interests of the appearance of the streets. They are the luxury of the poor man's abode, and, in many instances, give charm to a modest house, which otherwise, would be bare and desolate.

Through lack of wisdom in planning, commercial streets are deprived of such environment, and, consequently, the trees are erroneously considered to be incompatible with the functions of commercial areas. On the contrary, nothing more than trees enhances commercial frontages, which, unless strictly controlled, cannot but express disorderly and chaotic aspects, by reason of their unrelated components and unrestricted publicity elements.

Trees should not be the privilege solely of residential areas, parks and parkways. *They should be integrated in the design of industrial centres*, as well as of commercial areas. We see no valid reason why any street, whatever be its function, should be deprived of this element of beauty, charm and freshness.

The development of a modern city is more beautiful and less conspicuous behind and under the shade of trees. The use of other natural elements in the enhancement of city developments is also very important, such as lawns, shrubs, flowers, rock-gardens, etc. The mania for the "megalopolis", the super-densely built self-contained block, is disappearing gradually, and the aspirations of the people are tending toward a more natural way of living. The principles of simplicity expressed by Sir Ebenezer Howard at the beginning of the present century are being confirmed. To ignore those basic principles, and man's deeper aspirations, of which aesthetics is one of the greater, tends toward ultimate social dissatisfaction and unrest.

PLATE XXXI

ROCKCLIFFE PARK IN WINTER

Illustration 197

SKETCH SHOWING TREATMENT OF THE SITE OF THE PROPOSED MEMORIAL TERRACE
DOMINATING THE URBAN REGION OF THE CAPITAL

10

DEDICATION OF THE NATIONAL CAPITAL PLAN

The National Capital Plan has been dedicated by the Federal Government to the memory of Canadians who lost their lives in the service of their country during the Second World War.

To give this far-reaching thought its full significance, we think that it should, materially and lastingly, retain its highly symbolic value.

In our surveys of the Gatineau Hills, we found, at the extreme southerly point of the hills facing towards the city, an- ideal site which lends itself most favourably to the construction of a memorial terrace, from which an imposing panoramic view of the whole Capital region extends itself.

The outlook is situated one mile from the intersection of the Mountain and Mine Roads and four miles from the Peace Tower.

The terrace would lie at the foot of a large wall visible from the city, and formed of the natural stone of the grounds, and on which inscriptions and symbols would portray the glorious deeds of the Canadian forces, while the National Capital Plan would appear, *in reality*, from the terrace. A memorial room would be incorporated in the design, and therein would be perpetuated the names of Canada's heroes.

Easy access is provided to the site by two existing roads, Mountain Road and Mine Road. A still more direct approach will be by the contemplated Kingsmere Parkway.

Illustration 198

PART OF THE MASTER PLAN SHOWING THE LOCATION OF THE PROPOSED MEMORIAL TERRACE IN RELATION TO THE OTTAWA RIVER AND THE CHAUDIERE FALLS, (RIGHT LOWER CORNER), THE WESTERLY EXTREMITY OF THE CITY OF HULL, THE NATURAL PARK AT FAIRY LAKE, AND THE HIGHWAY APPROACHES TO THE TERRACE AND GATINEAU PARK. THE DISTANCE FROM THE AYLMER ROAD TO THE TERRACE IS APPROXIMATELY TWO MILES.

Illustration 199

AERIAL VIEW OF THE GATINEAU FOREST, LOOKING TOWARDS THE CITIES OF OTTAWA AND HULL, which can be seen partially submerged in the smoke of its industries. The site of the Memorial Terrace is indicated by the arrow.

Illustration 200

AERIAL VIEW OF THE GATINEAU FOREST SHOWING THE TERRAIN WHICH SURROUNDS the site of the proposed Terrace; Kingsmere Lake is seen in the middle distance.

Parking facilities, at different places, made inconspicuous by proper screenplanting, would accommodate a large number of cars, at a very short walking distance from the terrace.

The Ottawa River is at an average of 160 feet above sea level, the City of Ottawa approximately 190 feet, and the proposed terrace 575 feet, the latter half way to King's Mountain, which dominates at a level of 1,100 feet. The terrace, detached from its wooded background, would be illuminated and thus would be visible both day and night.

By similar examples of such lookouts as Mount Royal in Montreal, Arlington in Washington, Suresnes in Paris, Piazzale Michelangelo in Florence, and many others, we can foresee the interest that such a realization would present and the aesthetic and touristic attraction which would be added to the moral value of its conception.

PART III

SCHEDULE OF EXECUTION

Plans and models may have their merits, but they lose their objectivity if the time-element in execution is not considered, and if each operation, following its three-dimensional study, is not co-ordinated within a schedule of realization.

The Master Plan and justificative programme herewith submitted are not final and rigid blueprints of immediate operations, but a comprehensive and flexible chart of co-ordinated development, subject to amendments and adaptations resulting from detail studies, and from unforeseen circumstances as they may evolve.

The proposals are therefore divided into three categories: short range, long range and eventual operations, or as most urgent, needed and suggested, as conditioned by financial possibilities.

PLATE 18 OF
ATLAS

The major operations shown on the master plan are also diagrammatically represented on the plan named Schedule of Operations; they are listed as follows, according to their degree of emergency and feasibility.

Immediate and short range operations

1. Construction of new bridge and approaches from Elgin to Waller Streets, between Confederation Place and Laurier Avenue.

2. Acquisition and zoning of land incidental to the adequate relocation of railway facilities; the equipment of new railway belt line, from its intersection with the C.P.R. Montreal south shore line, southerly to Chaudiere junction, with the C.P.R. Prescott line; development and equipment of new industrial zones on appropriate grounds, contiguous to railway facilities.

3. Reservation of lands for Governmental buildings and public services.

4. Elimination of the Daly Building and of the buildings on the south side of Rideau Street east of and adjacent to the Union Station, as part of the completion of the approaches to Confederation Place; construction of a parking terrace on the site of the Daly Building, and of an additional covered parking area, directly connected with the Chateau Laurier.

5. Extension of Scott Street westerly to Highway No. 15.
6. Construction of parkway from Bayview Road to Island Park Drive.
7. Gradual elimination of the C.N.R. cross-town tracks and construction of the cross-town parkway on the vacated right-of-way.
8. Elimination of the Sussex Street C.P.R. line from Sussex Street to Hurdman's Bridge and construction of circular boulevard on the vacated right-of-way.
9. Gradual elimination of the freight yards at Union Station and their relocation on new freight terminal grounds east of Hurdman's Bridge.
10. Construction of new eastern approach from Montreal Road at a point west of Green Creek and linked with the MacArthur Road to Cumming's Bridge, Eastview.
11. Development and extension of industrial zones in Hull and Hull South.
12. Construction in Hull of new boulevard from Reboul Street to Montclair Boulevard, and connection to Mountain Road and Saint-Joseph Boulevard.
13. Partial improvement of Aylmer Road between Hull and the Ottawa Country Club (double drive and central boulevard). Diversion from Aylmer Road, west of the Country Club, by construction of a new driveway on rights-of-way of Hull Electric Railway, and of a direct by-pass highway north of the Aylmer Road and the Town of Aylmer, to relieve Aylmer Road approaching and within the town of Aylmer.
14. Construction of public buildings:-Printing Bureau; Department of Veterans Affairs Buildings; Headquarters for the Department of National Defence; Bureau of Statistics; National Film Board Building; Ottawa City Hall; Institute of Fine Arts; National Theatre; National Art Gallery; National Library; Public Works laboratories and workshops; Laboratories for Department of National Health and Welfare; National Stadium and Sports Centre.
15. Construction, in its first stage, of National Memorial Terrace on Gatineau Hills, dedicated to the Canadians fallen in the Second World War.
16. Construction of the Mountain parkway from the intersection of Brickyard Road and Mountain Road to Kingsmere.
17. In Hull, direct connections from Aylmer Road to (1) the Mountain Road, and (2) to the Mine Road, by the construction of two new boulevards on each side of Fairy Lake Park.
18. Widening of Laurier Avenue in Hull, north of Interprovincial Bridge. to Jacques-Cartier Park.

Illustration 201

SUGGESTED SCHEDULE OF OPERATIONS PROPOSED IN THE CENTRAL AREA OF THE
CAPITAL

Illustration 202

AERIAL VIEW OF THE CENTRE OF OTTAWA, THE DEVELOPMENT OF WHICH, WITH
THE HISTORIC CANAL AS MAIN FEATURE, IS STILL INCOMPLETE

Illustration 203

SIMILAR VIEW TAKEN OF THE MODEL, SHOWING CONFEDERATION PARK
SURROUNDED BY PUBLIC BUILDINGS AND DEVELOPED IN KEEPING WITH THE
PRESENT PROPOSALS.

HALF A CENTURY OF PROGRESS IN THE DEVELOPMENT OF THE CENTRE OF CANADA

Illustration 204

1900: Congestion and confusion notwithstanding the absence of automobiles.

Illustration 205

1940: Progress of planned development interrupted by the war of 1939-45

Illustration 206

1950: Confederation Park proposals and reorganization of traffic facilities, now in process of realization

Long range operations

19. Construction of a new by-pass highway to Hull, from north-shore Highway No. 8 from Montreal, through Templeton, Gatineau and Pointe-Gatineau, north of C.P.R. Railway.

20. Construction of public buildings: - Civic Auditorium and Convention Hall centred on Lyon Street, and annexes on surrounding grounds. - Additions to National Archives-Laboratories for Bureau of National Research and Department of Mines and Resources - Office buildings for decentralized Government Departments - Botanical Garden - Museum of Natural History - Zoological Garden.

21. Construction of esplanade on the western end of Parliament Hill, and of a large underground garage.

22. Reconstruction, in two stages, of the Chaudiere Bridges from Wellington Street at the westerly end of Parliament Hill, to Eddy Park in Hull. Gradual park treatment of the Chaudiere islands, peninsula and Ottawa River banks.

23. Completion of the Railroad Belt line, north of the C.P.R. Montreal line, northerly across Ottawa River, including a new Railroad and Highway Bridge, west of Green Creek, over Duck Island, to the C.P.R. North Shore Line and Highway No. 8.

24. Construction of the new Union Station on the belt line; elimination of present Union Station and of railroad tracks from site of present Union Station to Hurdman's Bridge and from Hurdman's Bridge to Chaudiere Junction.

25. Extension of riverside parkway (operation 6), from Island Park Drive to Britannia.

26. Construction of the new bridge over the Ottawa River to replace the present Interprovincial Bridge; and replanning of the central part of Hull widening of St-Laurent Boulevard and construction of the new Hull Station; and development of access in Ottawa to the new bridge by Sussex and Mackenzie Avenue.

27. Final completion of the eastern end of Confederation Place by building a right turn loop and underpass to connect Sussex Street with the new lower entrance to the Chateau Laurier and underground garage accommodations.

28. Gradual realization of Confederation Park, from Elgin to Nicholas, such work being co-ordinated with the elimination of railway facilities, first freight, and ultimately passenger.

29. Construction of new rapid transit highways leading from various parts of the city to the new Station and to the industrial areas. Simultaneously, construction of new residential units in the neighbourhood of the working areas.

Illustration 207

AERIAL VIEW SHOWING TO WHAT EXTENT NEPEAN POINT HAS BEEN SPOILED BY
THE EXISTING APPROACHES TO THE INTERPROVINCIAL BRIDGE.

Illustration 208

SIMILAR VIEW TAKEN OF THE MODEL, SHOWING THE REPLACEMENT OF THE
INTERPROVINCIAL BRIDGE BY A STRUCTURE LOCATED EASTERLY FROM NEPEAN
POINT AND OF A TYPE ELIMINATING THE OBJECTIONABLE STEEL TRUSSES OF THE
EXISTING BRIDGE.

Illustration 209

PROPOSED DEVELOPMENT OF THE CAPITAL AREA OF HULL, SHOWING PRINCIPALLY THE RESTORATION OF THE BANKS AND ISLANDS OF THE OTTAWA RIVER AND BREWERY CREEK, THE WIDENING OF MAIN TRAFFIC ARTERIES, AND THE CREATION ON THE ABANDONED RAILWAY RIGHT-OF-WAY OF A CENTRAL BOULEVARD LEADING TO THE CIVIC CENTRE, THE NEW RAILWAY STATION AND THE GOVERNMENT PRINTING BUREAU.

Illustration 210

PROPOSED DEVELOPMENT OF A SECTION OF THE CITY OF OTTAWA WITHIN WHICH A SYSTEM OF MAIN INTERURBAN ARTERIES IS FORESEEN ON A RAILWAY RIGHT-OF-WAY TO BE ABANDONED. THE PLAN SHOWS THE POSSIBILITIES FOR RECUPERATION OF LANDS NOW OCCUPIED BY RAILWAY AND INDUSTRIAL INSTALLATIONS, AND FOR THE DEVELOPMENT OF RESIDENTIAL PROJECTS SURROUNDED BY OPEN SPACES. NEPEAN BAY, BORDERED BY A DRIVEWAY, WOULD BECOME A LARGE RECREATIONAL CENTRE AND BEACH OF MAJOR IMPORTANCE.

30. After elimination of the railway tracks leading to the present Union Station, construction, on vacated right-of-way, of the driveway from Hurdman's Bridge to Confederation Place.

31. Elimination of the C.P.R. Carleton Place line between Nepean Bay and its intersection with the C.N.R. North Bay line. Construction of two lane artery, in conjunction with Scott Street, on the vacated right-of-way, and its extension easterly across present railroad yards to Wellington Street.

32. Elimination of the Prescott C.P.R. line between Prince of Wales Bridge and the new belt line south of Rideau River.

Eventual Operations

Other operations shown on the plan or described in the present report, but not mentioned in the above list, concern a number of street, driveway or road widenings and openings, green belt reservations, gradual completion of the park and playground system, planning of new residential units and corresponding civic centres for communities or neighbourhoods, development of roads, trails and pedestrian walks within suburban natural parks.

Such operations form the balance of the proposals shown on the Master Plan. They are indicative and will be subject to flexible adaptations when they reach the stage of execution. They may be reduced, amplified or, if need arises, completely omitted, in the light of unforeseeable circumstances or new requirements, and to the measure of financial possibilities.

These operations still remain co-ordinated to those of the first two categories, and amendments, to which they may be subjected, will require to be conceived in harmony with the parts of the Master Plan previously executed.

A town planning work is a continuous creation, comprised of progressively slow and flexible adaptations, as are all evolutions of nature, from which we should seek inspiration.

PART IV

GENERAL RECOMMENDATIONS

1

LEGAL MATTERS

The essential scope of a Regional Plan is to *co-ordinate* and *harmonize* all developments within the various parts of the considered territory. The Plan is *framework*, within the main lines of which must be integrated the plans of the various municipalities which belong to the region.

The *Programme*, necessary complement of the plan, is the *guide* for the growth, the organization, and the collective life of the whole, recognizing the different functions of the various components, and emphasizing their common needs and interests. The result is physical and social harmony, as well as a *substantial saving* in execution cost and yearly maintenance budgets. Plan and programme must be sufficiently flexible to permit of possible and justified adaptations, by reason of the inevitable time-element involved in the realization of the whole.

Far from interfering with, or lessening the autonomy of any one of the components of the urban group, the unity of conception in all plans and by-laws related to zoning, building and development, has the effect of strengthening the authority of each municipality in its particular territory. Herein lies the principal benefit of the overall plan, besides the other practical advantages of facilitating the speedy implementation and realization of all local planning operations, and the lasting enforcement of by-laws. The vital conditions of success in this objective is the full co-operation of all parties interested.

An example of such co-operation is found in the province of Ontario, in the creation of the Ottawa Planning Area Board, which groups the municipalities of Ontario comprising the Capital area, and functions under the provincial guidance of the Department of Planning and Development. Pending the highly desirable creation of a similar organization in the province of Quebec, the Department of Municipal Affairs has appointed a Provincial Bureau of Town Planning, whose advice to the municipalities has been most valuable, in furnishing them with models of standard zoning and building by-laws, and in acting as guide and adviser in connection with their particular problems.

The powers of towns and cities, as they appear in municipal laws or in certain city charters, and despite favourable dispositions for zoning and homologation, are still too limited, in view of the need for protection of the public interests. The most essential town planning operations are often too costly due to the fact that it is only through street homologation and expropriation that improvements can be implemented, which procedures, in most cases, are inadequate to the present and future needs of the populations. Existing provincial legislations are lacking, in whole or in part, in their dispositions to permit expropriation for housing purposes or to foster reallocation of properties; in urban, and principally in rural areas, *reallocation has proved highly beneficial* to both land owner and the community.

In Ontario, matters of zoning are subject to the approval of the Provincial Department of Municipal Affairs through its Municipal Board, while matters pertaining to planning and development are the prerogatives of the Provincial Department of Planning and Development through local area planning boards.

In consequence, it is possible for zoning by-laws to receive authoritative approval at the hands of one department of Government, without the knowledge or consent of another department of Government specifically responsible for the approval of town planning implementations in principle, of which *zoning forms a decidedly vital part*. In other words, official approval of a poorly draughted zoning by-law to be superimposed upon a well planned area, or vice versa, is within the realm of possibility and has been known to occur in actual practice. Such procedure is erroneous. A good zoning by-law cannot be prepared without a *previous rational planning study* of the area affected, and, to be effective in practice, the judgment of the two authorizing agencies must essentially be based upon the inter-relationship of their respective provisions.

The best town plan remains theoretical, and useless, if its rapid implementation and realization are not economically made possible by *a previous reinforcement of the planning legislation*. This vital need has resulted, in most European countries, and in the United States, in the enactment of town planning legislation, successively more efficient, and devoted to the preservation of public interest against the abuse of private rights. (Copies and translations of these laws are available at the National Capital Planning Service, and valuable information, contained therein could advantageously be adapted to present Provincial town planning legislations in Canada.)

The reinforcement of town planning legislations applicable to the National Capital Region must be reconciled by Provincial authorities, due to the differences between the Quebec Legislation, based on the Code Napoleon, and the Ontario Legislation, based on English Common Law, and should be developed with a view to meeting, according to their needs, the best common interests of *their respective populations which are closely identical in both provinces*. Therefore, in essence, the proposed laws would be similar; they would only differ in the form.

It is reasonable to assume that jurists of the two provinces could make a joint study of the texts to be adapted to their respective legislations, in order to give to the two neighbouring provinces legal machinery commensurate with the common needs of their populations, and *limited to the technical aspects of planning, zoning and building*.

The planning of the National Capital Region presents a great opportunity for the early implementation of progressive by-laws and regulations which could serve as models for the solution of town and regional problems generally in Ontario and Quebec and which would probably be *adaptable to the whole of Canada*. We know by experience of the profit that has been gained in other countries from such progressive and co-ordinated legislation.

The legal problem is undoubtedly the key to the practical success of any town or regional plan. We therefore cannot overemphasize the advisability of the National Capital Planning Committee giving favourable consideration, through appointment of a *sub-committee on legal matters*, comprised of eminent Ontario and Quebec jurists, to enquire into and make recommendations on the important matters above referred to. These investigations should be conducted with the informative co-operation and advice of the National Capital Planning Service on matters related to the technique of town planning. The findings of this sub-committee might then be made the subjects of presentation by the National Capital Planning Committee to the respective provincial authorities.

In conclusion, pending the appropriate reinforcement of the provincial town planning and zoning legislations above referred to, and, in view of facilitating the harmonious and co-ordinated development of the Capital region *in the best common interest of all municipalities involved in the provinces of Ontario and Quebec*, we would strongly recommend that:

1. - In Ontario, all matters related to *planning* and *zoning* be *jointly* examined by the *Department of Planning and Development*, and the *Department of Municipal Affairs*, through the Ottawa Planning Area Board.

2. - In Quebec, the Bureau of Town planning of the Department of Municipal Affairs be given *the necessary powers* to act as co-ordinating authority on all matters pertaining to regional as well as municipal planning and zoning. This provision would apply to single municipalities and to groups of municipalities forming a region, entrusting their common problems to regional committees, acting under the authority and control of the Provincial Government in a similar capacity to that of the Ottawa Planning Area Board, the creation of the equivalent of which is highly desirable in the Province of Quebec, to co-ordinate the common interests of the municipalities within the National Capital Area.

AESTHETICS

Formation and Operation of a Committee on Aesthetics

Architectural control is complex, delicate, and most difficult to ensure. It affects the composition, volume, height, set-back and spacing of buildings, as well as the colour and nature of materials.

Regulations concerning these factors must be incorporated within zoning and building by-laws.

But when the question of *aesthetic appreciation* is involved, this control becomes particularly difficult to implement, and the principle of the control itself is frequently questioned.

As appreciation cannot be based solely on texts consisting of positive and precise recommendations, and as it largely depends on the attitude of the person or persons charged with implementing the control, it is thus very easy to construe the entrusted power of aesthetic control as being *arbitrary*. Moreover, the same aesthetic opinions may not be shared by all holders of aesthetic doctrines, or by persons qualified in those matters.

Such thesis, however, cannot stand thorough examination, and cannot reasonably be maintained in light of the desired objective, which is *to ensure the exclusion of elements detrimental to public aesthetics*. Therefore, it seems imperative that, to be efficient, the defence of aesthetical values should be entrusted to *a responsible authority*.

The sub-committee on aesthetics already formed within the National Capital Planning Committee could be the basis of an enlarged organization, possibly participated in by the Ottawa Planning Area Board, and eventually, by a regional planning board of Hull, when appointed, as their Advisory Committee on aesthetics.

This Committee, comparable to the Art Jury of Philadelphia, or to the Fine Arts Commission of Washington, should be composed of eminent architects, partly within and partly without the National Capital Planning Committee, who, in turn, might be seconded by professionals whose occupations permit them to express a worthy opinion on aesthetic matters, such as engineers, landscape architects, art critics, etc. The members of this committee should be outstanding

in their respective professions, but should not have any direct professional interest in such matters as are submitted to them. Their considerations should, in principle, be based upon the objectives of the Master Plan.

There is an initial distinction to be made between the elements which are the subjects of aesthetic control, also in the procedures through which this control should be exercised.

Government lands and buildings are already subject to control by the Federal District Commission, whose powers have been set forth in Order in Council P.C. 5635 of August 16, 1945, in which it is said, amongst other things: "That any plans for constructional or development work to be carried out on any government owned or leased land in the District of the National Capital by any Department of Government should first be submitted to the Federal District Commission and not be executed without its approval".

But aesthetic control limited to government grounds and buildings, though important and necessary, does not meet the whole problem. It ought to be extended to: *Panoramas, perspectives, streets, squares, commons, parks, buildings and structures* of all sorts, including *utilities*.

All plans related to these matters should be passed by the Committee on Aesthetics before issuance of building permits, and to expedite and make easier such control, they should be previously presented in their preliminary stages to the National Capital Planning Service acting as a co-ordinating agency on behalf of the Committee on Aesthetics. By such procedures, *eventual refusals or unnecessary delays* would be avoided.

The function of the Committee on Aesthetics and of its technical advisory service should be strictly limited to general principles, exclusive of any personal preferences.

As a typical example, no style should be recommended as compulsory for any development, least of all for monumental architecture. Styles are not samples which can be picked up and applied to the use of any building. Styles are the expressions of different periods, and have their particular techniques, their materials, their methods, their means of work, and their limitations. They become artificial and extraneous forms, when those essential factors are forgotten.

However, this rule does not preclude the use of certain elements which have been more particularly favoured by a given style. The incorporation of those elements does not mean copying them, but rather their adaptation to other means and ways of expression.

The function of a building is always the commanding factor in its design, but nevertheless, the design should be adapted to a given frame, and not permitted to express merely utilitarian requirements, regardless of the environment. Within such a discipline, the design should have marked individuality, and liberty of expression. Examples of ensembles with unity of design, together with a marked

individuality in each of the components, can be found in streets, squares or commons in many countries. They always convey an impression of charm, stability and harmony.

Too often, literary conceptions, historical remembrances, or mere sentimentality are unduly proposed as aesthetic principles. Nothing is so deceptive than the result brought about by trying to interpret such considerations. A good design is not the product of an artificial evocation. *Architectural design is above all the spatial expression of function, interpreted through the sensibility of the artist.*

Among the elements which become important factors in the aesthetic merits of a building, are primarily, the relationships of masses to silhouettes, the unity of roof angles and materials, and the colour harmony. In a group of single family houses, for instance, it is advisable to use the same type of roofs, or terraces, and essential to keep unity in the shapes as well as in the colours; excess of variety produces disorder. If several colours are used, one must strongly predominate; the others, used as mere accents, emphasize the dominant colour. Bright colours are not to be avoided, especially in a country of long winters, where snow brings harmony.

From an aesthetic point of view, no comprehensive guiding principles can be formulated with any certainty of a satisfactory result. We have merely mentioned a very limited number of elements which have great importance in the designing of residential or monumental architecture, but satisfactory results can largely be obtained through the personal ability of the architect, whatever be the nature or importance of the problem.

CIRCULATION

The relocation of highways permits of the creation within the urban area of a new road system of which the abandoned railroad rights-of-way are the bases. Through such use of those rights-of-way and the control of land immediately adjacent thereto, it is possible to establish within the urban area new thoroughfares which would have the same character as main provincial highways, provided with lateral roads for local service.

As highway systems are under the authority of the Departments of Highways in both provinces, we limit our remarks to those parts of the roads located within the urban area.

The plan of the proposed highway system shows different categories of roads.

These differentiations are not solely matters of graphic indication. They have two definite purposes: (1) the classification of roads, permitting of the *adoption of standards* according to such classification, and (2), through agreement, the determination of *spheres of responsibilities* in construction and maintenance.

The guiding principle adopted in the differentiation of those roads, is the determination of their proper functions, thereby abolishing the erroneous concept, or absence of concept, of the "street for all purposes".

1. Classification of Roads

It is suggested that the Sub-Committee on traffic, in co-operation with technical representatives of the Highway Departments and with our Service, make a study of standards for the different categories of roads as suggested in the plan, with the view of preparing *a new classification of roads within the urban area* and adapting standards to their respective functions.

2. Maintenance and Responsibility

Such classification of highways may well be made the basis for establishing the respective spheres of responsibility for maintenance and construction, if consideration be given to the tentative suggestions hereunder outlined:

It has been suggested that the Provinces of Quebec and Ontario might in some way contribute towards the development of the National Capital, through the extended collaborations of their departments and services, as is already the case, as well as through a more direct contribution.

While this matter may be beyond the scope of our responsibilities, we venture the following suggestion : under agreement with the municipalities, the Provinces might undertake to construct and maintain within their respective urban areas. such portions of provincial interurban arteries as traverse these areas. The proportionate costs of construction and maintenance to be borne by the provinces would be determined on the basis of equivalent facility if provided outside municipal limits, the costs of additional road widths or other elements considered essential to the provision of urban requirements being borne by the municipalities concerned.

Such an agreement should not involve unsurmountable technical difficulties. There are numbers of countries where this system has been adopted, the state assuming responsibility for a portion of national highways traversing towns or cities.

Such classification facilitates the provision of by-laws regulating road standards, the treatment of their approaches, and the enforcement of police regulations.

Implementation of the Road System Plan

The implementation of the comprehensive road system is as urgent as is the revision of railroad facilities. In the Province of Ontario there is established procedure by which implementation is assured through official approval of the Master Plan by the Department of Planning and Development. It is hoped that similar procedure can be established in the Province of Quebec. Pending such, it would seem advisable to take the necessary steps through which to reserve the required rights-of-way within or adjacent to built-up areas. Such action will require the approval of the municipalities concerned and would permit of the control of *new subdivisions* contiguous to proposed rights-of-way, and of the establishment of the *required set-backs* paralleling new or existing arteries to be widened.

Parking

No comprehensive solution has yet been devised through which to remedy the parking problem, particularly within business and commercial centres. Some municipalities provide parking areas, with or without parking meters, and some have adopted measures under which commercial establishments and office buildings must furnish parking and loading accommodations, determined according to the nature of the enterprise or the floor space of the building to be served.

Adequate zoning and decentralization will do much to prevent traffic and parking congestion. But there will be necessarily an interval between the present and the time when the efficacy of such methods can be evidenced, during which existing conditions will become more acute. Even with the adoption of sound planning methods and the creation of neighbourhood and community units, it is not anticipated that the problem will be solved entirely within central areas because of population growth and the rapid increase in traffic.

The most efficient remedy is the creation of *a large number of small parking areas and garage facilities* well distributed. We have already proposed examples of such at several definite points in the Master Plan, but recommend their gradual extension to all possible sections of the central area, both through private and municipal ownership, (see Chapter 3, Part II).

Parking areas can be either enclosures at street levels, adequately maintained and supervised, or multiple storey structures, devoted entirely to car parking or in part as annexes to service garages, and constructed either elevated or underground. A declining topography lends itself to this latter type of parking accommodation and has the advantage of providing, at differing levels, direct parking, protected from inclement weather.

Further, regulations should be enacted obliging all new establishments for public or semi-public use, (administrations, office buildings, stores, theatres, hotels and all other structures intending to accommodate the cars of employees or visitors), to provide *within their own grounds* parking facilities in keeping with their activities, and, preferably under cover for protection against winter conditions.

Lacking such provisions, consideration should be given to *the imposition of a tax* against such establishments which otherwise appropriate public streets for their parking needs. Such tax would be based upon the nature, occupation and floor surface of the building.

ZONING

Zoning being the prerogative of municipal authority, both in Ontario and Quebec, it is essential, in order to maintain general standards within zoning by-laws applicable to the whole urban region, that the municipalities collaborate with the view of adopting general principles as guiding factors in the preparation of their respective zoning regulations.

As already stressed by the Chairman of the National Capital Planning Committee, a matter demanding immediate action is the adoption of protective measures precluding the establishment of noxious and heavy industries within their respective administrative boundaries, other than in industrial areas specifically designated in the Master Plan.

In this connection the National Capital Planning Committee should previously undertake a complete enumeration, *according to the progress of modern industry*, of the various establishments to be classified as light, heavy or noxious. To affect this important survey the Committee should have the collaboration of the Board of Trade and should utilize the documentations of the National Capital Planning Service.

Similar collaborative action is recommended in the adaptation of future building densities to the guiding principles indicated on the Master Plan and in the Report.

Such co-ordinative action is imperative for the full implementation of the Master Plan.

PUBLIC RELATIONS

No master plan can be successfully implemented, no town planning law efficiently enforced, if the public and their representatives are not properly informed of *the real and material value of town planning*. Statements regarding the beneficial and direct influence of community planning on economics and welfare, and the immense *saving obtained by foresight* are generally considered as town planners' bluffs. General ignorance must be blamed for this, but also the lack of psychology on the part of planners, who fail to inform and educate those to whom their work is devoted.

Therefore, to foster any city improvement or development, *an efficient service of public information is essential*. To this purpose, the National Capital Planning Committee has appointed a sub-committee on Information and organized *a service of Public Relations and Information*, which has formulated a complete programme of action through the press, illustrated periodicals, radio, the cinema, exhibitions and lectures.

The scope of such information is designed not only to make the general public acquainted with the characteristics of the master plan of the National Capital, but, primarily, to demonstrate the advantages of such comprehensive work, and gradually create keen public interest in town planning, and *public demand for urgent action* by the authorities for the carrying out of the improvements proposed in the plan. To create such interest and demand, it is essential to instill a clear understanding that sound planning and reasonable zoning are *not liabilities but profit-giving* in all domains; to show that the common objections that city planning and improvement mean *more taxes* is fallacious, but that, on the contrary, when the proposed measures have been elaborated with a view to meeting the needs and requirements resulting from serious surveys of existing conditions, they protect and enhance all *private interests and aspirations*.

To prove this, *many examples* of successful town planning work accomplished elsewhere must be described and analyzed in order to show their common similarity to the particular problem considered. *Facts, figures, true illustrations* are more convincing than theories or general considerations.

Citizens' organizations and associations, such as the Community Planning Association, the Canadian Club, service clubs, artists' societies, and particularly

professional institutes such as the Royal Architectural Institute of Canada, the Engineering Institute of Canada, and the Institute of Professional Townplanners, are willing to give most efficient co-operation and support.

The co-ordinated action of the Directorate of Public Information of the National Capital Planning Committee with that of all public-spirited and competent citizens' organizations, will be a potent factor in guaranteeing the success of the town planning campaign of education. Further, the expressed appreciation by the public of its recognition that, through sound planning, their most intimate interests are safeguarded, promotes another major and practical aspect of the dissemination of proper information: municipalities will find it profitable to their administrations to consult the National Capital Planning Service, responsible for the comprehensive plan, in the solving of their local problems, instead of approaching them separately and regardless of incidences outside of their municipal territories.

There already have been many instances of such consultations with the Service, when municipalities sought collaboration in the study and solution of particular problems relating to subdivisions, zoning and building by-laws, and the general planning of immediate developments or future extensions. In the case of the Village of Pointe-Gatineau, the National Capital Planning Service has provided a complete and comprehensive town planning study for its guidance in immediate and future developments.

Such spontaneous collaboration between the technical service entrusted with the planning of the whole and provincial or municipal administrations responsible for the planning and the zoning of the component territories of the region is *the ideal basis for rapid and efficient planning*.

These comments are submitted in the trust that a comprehensive plan of action, in relation to public information, will be developed to ensure effective education of the general public, and also to foster increased co-operation and team-work on the part of all administrations interested in the future development of the National Capital Region.

It was only necessary to exhibit the National Capital Planning project to the Canadian public in a few representative cities to realize that, on the one hand, the idea of the national utility of a Capital at the scale of the Country received general approval, and that, on the other hand, the provision of a Master Plan as a guide for the future development of the Capital was recognized to be a major economic factor and unquestionable source of prosperity.

It thus seems desirable that such exhibits, whether located in the Capital or in other cities, be considered *for permanent display* in order that the public may follow, from year to year, the progress being made toward the fulfilment of the project.

DELIMITATION OF THE NATIONAL CAPITAL REGION

The National Capital Region, as defined in the Order in Council 5635, of August 16, 1945, is amply sufficient for the planning work of the region. In fact, a relatively small part of it, 200 square miles out of 900, calls for physical planning, the balance being subject only to protective measures, to keep its rural or touristic character. In view of the latter objective we have already, as per letter of July 10, 1946, called the attention of the National Capital Planning Committee in the interest of either slightly revising the limits or simply extending protective measures to parts of the surrounding territory outside of the regional limits, which should not be omitted.

They affect the following areas:

In Quebec -

1. North of Lapeche Lake in Pontiac County, Wolf Lake, Galverson Lake and Fishing Lake, and east of this group of lakes, the road from Duclos, to Mahon Lake and Alcove, on the Gatineau River.

2. North of the group of McGregor and Grand Lake, the neighbouring group of Wakefield, McNab, McArthur, Terror, McFea, Mountain Lakes-to the River du Lievre, and the whole valley of River du Lievre to Buckingham and Masson, the Ottawa River shore, up to the present limit west of Angers.

In Ontario -

1. Bordering the Ottawa River west of Cumberland and the territory adjoining the Montreal Road in Ontario, from Cumberland to Orleans.

2. Slight revision in Nepean Township to follow the outside limit of the proposed green belt surrounding the urban area.

3. The Mississippi River valley is charmingly natural and completely *unspoiled*. We propose to include it in the protected area from Appleton to its delta in the Ottawa River, already included in the region limits. On the proposed plan of the National Capital Region, the above mentioned extensions are shown in orange colour, in comparison with the light brown colour of the present limit. If such additions should be authorized, they would give the National Capital Region a boundary more in keeping with the *physical conditions*, the former boundary having been largely defined by administrative limits of counties or townships.

If formal extensions of the National Capital Region cannot be implemented, it might be sufficient to leave its limits as they are now defined, but to extend to the above mentioned sections, adjoining the limits of the Region, protective measures, similar to those intended within the Region limits.

In either case, the objective of protection, which it is important to ensure without delay, would be attained.

CONCLUSION

Throughout four years of most gratifying and interesting studies, we have been constantly encouraged by our unabated faith in the great destiny of the Capital of Canada, reflective of its growing national prestige.

We have endeavoured to follow the orders we received from the Canadian Government to prepare for the future with *broad vision and foresight*, and with a true concept of *the time element*, the great judge of all human enterprise. We, therefore, discarded from our plans *all half measures, limited and shortsighted solutions*, as well as utopian suggestions, as we know their equals in unefficacious and ruinous results.

Our plans, our recommendations, may seem too ambitious and impractical to those whose imagination is limited to consideration of the present, sometimes of the past, as a permanent command. They ignore the lessons of history, the inexorable march of time; they may admit and enjoy material progress, but they deny social and moral evolution. Town planning is a component of human geography, and its advancement must be conceived at the rhythm of progress in *all* domains.

It is likely that what appears today as ambitious visions, will be, in less than a generation, considered as too modest. In the light of such unforeseen developments, we have made a marked difference between imperative requirements, for which we propose definite short and long range operations, and the more remote developments, or more difficult and costly corrective operations, for which our plans permit flexible adaptations. Above all, *our work has been devoted to the welfare of the population, and not to the preparation of theoretical and pleasing pictures*. We trust that our basic studies of the requirements will be *undeniable arguments in support of our findings*.

But the success of a far reaching scheme needs patience. The long life of a city is the result, and almost the mirror, of its destiny. The Master Plan we have prepared, and the many improvements which, we are sure, will be added to it by our followers, will reflect, during the years to come, the degree of progress and prosperity of the Capital. Despite pessimistic or skeptical views (which might be inspired by external events), we believe in the *rapid growth of Canada's Capital, as we believe in the rising importance of the whole Canadian nation*. Big plans are made for prosperity, as prosperity *always calls for commensurate accomplishments*. Canada, with its unlimited resources and its social equilibrium, wisely protected by true democratic leadership, is considered abroad as a blessed land.

The population will continue to grow, as the result of the physical law of natural balance, governing the spontaneous redistribution of populations amongst the civilized nations. Forty million people, instead of thirteen, is a reasonable possibility for the Canadian population at the end of this century. Then, our estimated total of half a million for the Capital population might prove insufficient. We have not overlooked such eventuality: the principle of planning community units provides for moderate and controlled densities. A slightly increased density is not detrimental to the health and comfort of the units; more apartments and less single family dwellings would house another 100,000 people, or, if, as we hope, the people's preference for intimacy still prevails fifty years hence, "*satellite towns*", built outside of the green belt, will take care of the additional population.

In our enthusiasm and confidence in the preparation of our plans, we have not underestimated the delays and difficulties, which will involve complementary plans, many readjustments and improvements in the endless research for perfection.

The public exhibition of the Plan for the National Capital has given rise to certain comments, in general complimentary, but in cases somewhat skeptical, about the possibility of the implementation of the plans and models, which perhaps appear too sumptuous. But, the beauty of the National Capital Region is a fact, which we gladly admit for the reason that it has been most beneficial to the preparation of our plans. It, however, cannot be confused with the proposed operations. Such beauty is a gift from nature and not an extravagance of conception on our part. The natural beauty of the site already existed before the birth of Bytown. We have merely incorporated it within our plans as a most valuable factor in the expression of our conceptions. It calls for protection through appropriate restrictions against disfigurement and destruction, and does not involve expenditures but rather is a source of profit to the community.

As for the operations to be implemented, they can be undertaken progressively over a period of years in keeping with their relative importance and the means made available for their accomplishment.

Work on the first and most urgent of these operations already has been initiated; other works will follow without interruption, and the indisputable advantages derived from the first will incite the public demand for rapid realization of the remaining.

The essential is to possess a Master Plan, the framework of future developments, and to follow it with due regard to its various components and their relationships during each stage of its realization.

Optimism and patience win in the long run.

PERSONAL ACKNOWLEDGEMENT

We could not present our work on the planning of the National Capital without expressing our indebtedness and gratitude for the invaluable assistance received from others during its preparation.

Such assistance is indicative of the fact that a comprehensive town planning work cannot be the product of one man, but is the co-ordination of the contributions afforded by collective research and effort. In the present case, the unanimous support and encouragement we enjoyed, showed that the time was opportune in which to undertake this work.

We sincerely hope that the National Capital plan will materialize, and, if in some measure, our contribution brings closer to the Canadian people the fulfilment of its aspirations, and some reason for pride, their gratitude, as well as ours, ought to go first to the great figures of Canadian history who foresaw the future destiny of this Capital: Queen Victoria, its founder, Sir Wilfrid Laurier, who envisioned Ottawa as the "Washington of the North", Sir Robert Borden, who sponsored the preparation of the Holt Report, the first and magistral planning study of the Capital; and the Right Honourable William L. Mackenzie King, who, with the broadest vision and foresight, initiated the present work and whose name will be associated in perpetuity with the development of the National Capital. Great statesmen in world's history have always been great builders of cities.

From the very beginning of our work, our Service, appointed under the administrative authority of the Minister of Public Works, the Honourable Alphonse Fournier, and of his eminent colleague Mr. Emmet P. Murphy, Deputy Minister, has received the benefit of their invaluable advice and support, for which we are most grateful. Mr. Gustave C. Brault, Chief Architect of the Department, has greatly facilitated our work by his constant collaboration, as also has Mr. R. Blais, the Department's Chief Engineer.

From all other Departments and public administrations, Federal and Provincial, we have received the fullest co-operation, as well as from municipal authorities and technicians, especially the Ottawa Planning Area Board, City Commissioners F. C. Askwith and C. D. Wight of Ottawa, and Col. J. Carriere and Mr. Y. Bernier of Hull, whose knowledge, enlightening advice and essential documentations have been invaluable. Local engineers and land surveyors have graciously placed at our disposal their plans and surveys essential to our preparation of basic documents.

The Underwriters' Survey Bureau has gratuitously granted our use of valuable insurance atlases covering the areas involved in our work.

The Federal District Commission, from which the National Capital Planning Committee issued, has been the commanding structure of the entire undertaking. Mr. Frederick E. Bronson, Chairman of both the Commission and the Committee, has closely followed and greatly encouraged our efforts since 1938, and is to be commended for his personal participation in substantial decisions already taken by the Federal Government relative to the vital long range revisions of railroad facilities, and short range traffic improvements in the heart of Ottawa, which decisions were obtained through his wise handling of negotiations. We would associate with our thanks to the Chairman, the name of the Secretary of both these bodies, Mr. H. R. Cram, whose invaluable assistance has surmounted all difficulties inherent in the complexities of his office. Mr. Alan K. Hay, Superintendent of the Commission, has competently ensured the co-ordination of technical studies.

The rapid progress accomplished on the railway problem was largely due to the Sub-Committee on Railroads of the National Capital Planning Committee, under the Chairmanship of Mr. E. L. Cousins, whose wide experience, and former extensive study of the Ottawa railway situation, made in 1915 for the Holt Report, proved to be most beneficial to our studies of the problem. Technical research on this subject, made under the direction of Mr. S. B. Wass, was most helpful.

The collaboration and consents of the Canadian Pacific and Canadian National Railways were essential to decisions made relative to railway revisions, matters in which their respective Chief Engineers, Mr. J. Armstrong and Mr. B. Wheelwright, evinced keen and responsive interest and co-operation.

The Sub-Committee on Traffic, under the Chairmanship of Mr. Charles G. Cowan, and with the technical advice of Mr. Alan K. Hay, and of Mr. W. L. Cassells, gave us the benefit of their extensive knowledge of the region for the proposals on highways. In this connection we would acknowledge the most valuable co-operation of the Chief Engineers, Mr. A. A. Smith, and Mr. E. Gohier, of the respective Departments of Highways of the Provinces of Ontario and Quebec.

The Sub-Committee on Information, under the efficient successive Chairmanships of Mr. Grenville Goodwin and Mr. D. P. Cruickshank, in association with Mr. Walter Bowker, Director of Public Relations, has organized a comprehensive, nation-wide campaign of documentation, and education, the first achievements of which have been most gratifying.

On matters pertaining to aesthetics, the members of the National Capital Planning Committee representing the Royal Architectural Institute of Canada, Mr. Charles David and Mr. A. S. Mathers, also Mr. A. E. Ewart and Mr. G. Amyot, members of the Federal District Commission, have our deep appreciation for their tireless support of our endeavours to protect and enhance the aesthetic assets of the Capital.

To all members of the National Capital Planning Committee and of the Federal District Commission, we would express our sincere thanks for their sympathetic and sure guidance during these past four years of research and study.

The Advisory Committee to the Federal District Commission on Gatineau Park, of which Mr. P. Sparks is Chairman, and Mr. E. S. Richards, superintendent of the Park, are in full and enthusiastic accord with us on the possibilities of this wooded reserve, and have, in large measure, inspired our recommendations relative to practical developments of this providential asset of the Capital Region.

As the work of the National Capital Plan had to be extended to engineering plans for certain projects for immediate execution, Colonel V. S. Thompson was appointed by the Department of Public Works, to prepare structural and working drawings for the bridge over the Rideau Canal. His contribution and that of his assistants have been most valuable to our Service, in this and in other engineering phases of our studies.

The preparation of the documentary surveys and of proposals could not have been effectively accomplished without continuous contributions from Federal, Provincial and Municipal administrations, the Department of Mines and Resources, by furnishing precise data on geology, maps and photographic documents, the Federal Bureau of Statistics, by demographic and housing statistics, the Royal Canadian Air Force, by aerial surveys and panoramic views, the Meteorological Division of the Department of Transport, by climatic statistics, the National Archives, for historical data and most interesting documents of the past, the latter a sure inspiration for our projects for the future, and the Ottawa Transportation Commission, for data on public transportation.

More directly associated with our technical work was the National Film Board, most efficiently equipped for documentary photography and the illustration, in monochrome and colour, of our Reports; also the preparation of informative documentation, printed and projected, of newsreel and colour films, and especially the making of several scale models of distinctly attractive and convincing character. In the delicate and intricate work of the models, Mr. G. Ayotte, and his staff, are to be congratulated for their excellent work.

The Photographic Branch of the Department of Public Works might well have been included as part of our staff, when there is considered the tremendous amount of work contributed by it, under Mr. W. Gosselin, whose almost daily and often emergent collaboration was always punctually and gracefully rendered.

The Maintenance Branch of the Department of Public Works made our material and complicated operations most agreeable and comfortable.

The press, and particularly the Ottawa newspapers, *The Citizen*, *The Journal* and *Le Droit*, have, by their support, given repeated proof that the National Capital plan is really work of national, and international importance, above internal

politics, and they are worthy of great praise for their long patience. They understood perfectly and so informed the general public, which likewise is to be thanked for its remarkable patience, that until proposals had been discussed and officially approved, news could not be released hastily. We appreciate how much a reporter can be disappointed by lack of news, but now we trust that the press will have a large compensation in the form of ample technical and general releases.

For the completion in record time of the printing of the Preliminary Report, and the much more delicate production of this final volume and its accompanying atlas, the King's Printer, Mr. Edmond Cloutier, and his assistants, particularly Messrs. Yves Fortin and Euclide Desmarais, deserve high praise and gratitude.

This Report really should be signed by each member of the staff of the National Planning Service, but is it not better that its Consultant be given the gratifying opportunity to say about his associates what *must* be said? Their co-operation, in my opinion, has been a typical example of what can be expected of a team of Canadians, under decision to succeed, with intelligent, zealous, untiring and loyal response to every request. Everyone, in his capacity has given of his best. My two assistants, Mr. John M. Kitchen, by his long experience and sure knowledge of civic and planning problems, Mr. Edouard Fiset, by his great talent and refined culture, and the very happy selection of their associates, Messrs. D. L. McDonald, J. Issalys, F. S. Marshall, G. A. Lapointe and J. F. MacLean, have produced an unbelievable amount of survey, research, design, and detail work, with the efficient co-operation of the other members of the staff : Misses Moore and Hewitt, and Messrs, O'Brien, Cote, Roy and Carrell.

The number and natures of the documents included in our reports and their annexes, or comprising our documentary files, are indicative of the enormous work accomplished by the Service. The methodical classification of drawings, plans, photographs and the manifold variety of items forming our files, also the establishment of archives for their accommodation and reference were most complicated and difficult tasks most completely accomplished and effectively maintained under the direction of Miss G. Beaulieu, chief of the Secretariate, assisted principally by Mr. R. Hannan. Misses C. Boyer and J. Guibord have rendered patient, painstaking and meritorious service in the secretarial activities of our organization, the work of which was in nature entirely creative and in which the initiative and zeal of each member of the staff were essential conditions of success.

It is not only my duty, but my privilege and pleasure, to associate the names of all members of the National Capital Planning Service with the great enterprise entrusted to us by the Federal Government.

JACQUES GRÉBER.

LIST OF ILLUSTRATIONS

No.	Page
1. Administrative Boundaries, National Capital Region	6
2. Chart of Administrative Organization for the National Capital Plan	9
3. National Capital Region, Existing Conditions	15
4. Aerial View of the Cities of Ottawa and Hull	16
5. Geographical Relationship of the National Capital Region	20
6. Temperatures- City of Ottawa (diagram)	22
7. Sunshine, Rain and Snow-City of Ottawa (diagram)	23
8. Prevailing Winds-City of Ottawa (diagram)	24
9. Flooding of the Ottawa and Gatineau Rivers at their Confluence	31
10. City of Ottawa around 1860 (lithograph)	33
11. The Chaudiere Falls-Original drawing by Colonel John By, 1826	37
12. Chaudiere Falls-Primitive state (lithograph)	38
13. Gateway of Rideau Canal in 1841	38
14. Rideau Falls-Primitive state (lithograph)	39
15. Locks on Rideau Canal, 1841 (engraving)	39
16. Ottawa in 1855 (lithograph)	40
17. Ottawa in 1876--Bird's Eye View (drawing)	43
18. Growth of Built-up Areas from 1810 to 1945--Ottawa; Hull and Vicinity (plan)	45
19. Forecast of Population Trends-Ottawa, Hull and Environs (diagram)	51
20. Comparison of Ottawa to Hull and their Satellite Communities (diagram)	52
21. Comparative Population by Racial Origins (diagram)	53
22. Comparative Population by Religions (diagram)	53
23. Logging on the Gatineau	54
24. Wood Industries facing Parliament Hill	55

LIST OF ILLUSTRATIONS – *Con.*

No.	Page
25. Occupation of Wage-earners, Ottawa, Hull and Vicinity (diagram)	57
26. Area covered by detailed Land Use Survey	59
27. Land Use of Urban Area within Ottawa, Hull and Vicinity (diagram)	59
28. Land Use-City of Ottawa (diagram)	60
29. Land Use-City of Hull (diagram)	60
30. Land Use-Village of Rockcliffe Park (diagram)	60
31. Land Use-Town of Aylmer (diagram)	61
32. Land Use-Town of Eastview (diagram)	61
33. Land Use-Town of Gatineau (diagram)	61
34. Land Use Plan-Town of Eastview	62
35. Building Value Plan in the Central Parts of Ottawa and Hull	64
36. Persons per Household by Type of Housing (diagram)	66
37. Households by Rooms and Occupants (diagram)	66
38. Rooms per Household by Type of Housing (diagram)	66.
39. Households with less than one Room per Person (diagram)	66
40. Monthly Rents by Type of Housing (diagram)	67
41. Family Earnings (diagram)	67
42. Monthly Rents for Housing (diagram)	67
43. Substandard Housing in the Urban Region of the Capital	69
44. Depredated Residential Street in the Urban Region of the Capital	69
45. Crowded Households-City of Ottawa (plan)	70
46. Prevailing Levels of Housing and Conveniences-City of Ottawa (plan)	70
47. Doubled-up Families-City of Ottawa (plan)	71
48. Low Rents-City of Ottawa (plan)	71
49. Unattractive Housing in the Urban Region of the Capital	72
50. Existing Zoning and Building-use Areas in Ottawa, Hull and Environs (plan)	73
51. Confederation Place and Rideau Street	75
52. Approaches of Interprovincial Bridge, Ottawa Side	76
53. Snow Removal-Elgin Street	77
54. Snow Removal-Bank Street	77
55. Commercial Traffic on Wellington Street	79

LIST OF ILLUSTRATIONS - *Con.*

No.	Page
56. Nepean Bay-Ottawa	81
57. Union Station-Railway Installations	83
58. Interprovincial Bridge	83
59-60. Railway Installations in the Centre of the Capital	85
61. Railway Viaduct in the Centre of Hull	86
62. Confederation Place viewed from the Union Station	89
63. The Justice and Confederation Buildings	92
64. The Jackson Building	92
65. The West Block-Parliament Buildings	92
66. National Research Council-Montreal Road	93
67. National Research Council-Sussex Street	93
68. Temporary Buildings-Cartier Square	93
69. Rideau Street and Transportation Building	94
70. The Roman Catholic Cathedral	97
71. The Anglican Cathedral	97
72. The National Museum	98
73. Administrative Building-Experimental Farm	99
74. National Film Board-John Street	99
75. View of Parliament Building in Winter	103
76. Patterson's Creek-Ottawa	104
77-78. Park bordering Rideau Canal	105
79. Fairy Lake-Hull	106
80. Driveway-Experimental Farm	107
81. Landsdowne Park-Exhibition Grounds	108
82-83. Winter Sports-Gatineau Park	109
84. Nautical Sports-Lake Deschenes	110
85. Country Club near Ottawa	111
86. Municipal Playground, Elgin Street-Ottawa	112
87. Public Beach at Hog's Back	113
88. Picnic Grounds-Phillip Lake	113
89. Gatineau Park-Panoramic View of the Kingsmere Area	114
90. One of the many trails in Gatineau Park	115

LIST OF ILLUSTRATIONS – *Con.*

No.	Page
91. Meach Lake	116
92. Phillip Lake	116
93. The Mississippi River	117
94. Green Lake near Gracefield, Que	118
95. Aerial View of the Capital	119
96. Valley of the Gatineau River	120
97. Phillip Lake, Gatineau Park	120
98. Dam at Hog's Back	121
99. Falls of the Rideau River at Hog's Back	121
100. The smoke of Industries opposite Parliament Hill	123
101. The Chaudiere Falls bordered by Industries	124
102. The Chaudiere Islands Encumbered by Industrial Developments	124
103. Intersection of Elgin and Cooper Streets, Ottawa	125
104. Intersection of Metcalfe and Somerset Streets, Ottawa	125
105. Somerset Street West at the Intersection of Bell Street, Ottawa	126
106. Dalhousie Street at the Intersection of Rideau Street, Ottawa	126
107. Kent Street at the Intersection of Queen Street, Ottawa	127
108. Queen Street, between O'Connor and Bank Streets, Ottawa	127
109. Intersection of Queen and Metcalfe Streets, Ottawa, Showing Unightly Public Utility Installations	128
110. Holt Report. Schematic Plan of Railway System	133
111. Holt Report. Schematic Plan of Proposed Highway System	135
112. Holt Report. Plan of Centre of Capital	137
113. Cauchon Report, 1922. General Plan	139
114. Major's Hill Park-Site Proposed in 1938 for the War Memorial	144
115. First Sketch of the Area Surrounding the Memorial as Proposed within Major's Hill Park in 1938	144
116. Plan of Confederation Place and Major's Hill Park as Proposed in 1938	145
117-118. Scale Model of the Centre of Ottawa (1938)	146
119. Champlain Bridges	147
120. Rideau Canal before the Work of Embellishment	148
121. Rideau Canal: Commencement of Work of embellishment in 1910	148
122. Rideau Canal: Present Conditions	149

LIST OF ILLUSTRATIONS – *Con.*

No.	Page
123. The Mouth of the Gatineau River Viewed from Rockcliffe Park	150
124. The Greenhouses and Nurseries of the Federal District Commission in Rockcliffe Park	150
125. Aerial View of the Capital	152
126. General View of Ottawa in 1865	153
127. Centre of Ottawa in 1869	153
128. Master Plan of the Capital	156
129. First Planning Study of the Centre of the Capital	161
130. Scale model of the Capital (1949)	162
131. Detail of the model	163
132. Existing Railway entrances at the East of Ottawa	174
133. Future Highway entrances at the East of Ottawa	175
134. New boulevard replacing the C.N.R. cross-town lines	177
135. New arterial system and parkways bordering the Ottawa River in Hull	177
136. New Bridge over the Rideau Canal	181
137. Schematic sketch showing improved local traffic circulation brought about by the construction of the new bridge over the Rideau Canal	181
138. Confederation Place-Existing Traffic Conditions	184
139. First Stage in the Planning of Confederation Place	184
140-141-142. Proposals for the development of the Centre of Ottawa: Holt Report-1915; Cauchon Report-1928; Ottawa Town Planning Commission- 1936	185
143. Present proposals	185
144. Reorganization of the Traffic in the Centre of Ottawa	186
145. Reorganization of the urban and interurban traffic	187
146. Typical profile of Proposed Parkways	188
147. Village of Pointe Gatineau-proposals	203
148. Village of Pointe Gatineau-existing conditions	203
149. Centre of the Capital as Proposed	205
150. Existing Government Buildings dominating the Ottawa River . . .	206
151. Development of complementary Government Buildings	207
152. Completion of the monumental ensemble of Wellington Street . . .	208
153. Intersection of Wellington and Lyon Streets in 1938	209

LIST OF ILLUSTRATIONS – *Con.*

No.	Page
154. Same View as above following completion of proposals	209
155. Westerly portion of Confederation Park following completion of proposals	211
156. Perspective sketch and plan showing the development of Confederation Park, with the City Hall east of the Rideau Canal	216
157. Perspective sketch and plan showing the development of Confederation Park, with the City Hall west of the Rideau Canal	217
158. Proposal with the City Hall dominating Confederation Park from the east	218
159. Alternative proposal with the City Hall terminating the westerly axis of the bridge	219
160. Traffic congestion on Confederation Place at the entrance of Rideau Street	222
161. Trolley wires on Confederation Place	224
162. Future system of open spaces within the urban region	225
163. Playground-Preston Street, Ottawa	226
164. Rock garden- Rockcliffe Park	227
165. Gatineau Park viewed from Kingsmere	229
166. Bird's-eye view of the City of Hull	229
167. Restoration of the natural park around the Chaudiere Falls	231
168. An aspect of the Experimental Farm	232
169. Aerial view of Hog's Back showing the site for the proposed zoological garden	233
170. Environs of Lake McGregor	235
171. The beach at Lake Lapeche	236
172. Lake St. Pierre de Wakefield	237
173. Rideau Lakes at Rideau Ferry	238
174. Natural Park at Constance Bay	238
175. Thirty-one Mile Lake	239
176. Long Lake	239
177. Mississippi River near Almonte	241
178. Nepean Bay, Ottawa-Ultimate development	242
179. Nepean Bay, Ottawa-Existing conditions	242
180. The imposing site of the Capital	243
181. The locks of the Rideau Canal	245

LIST OF ILLUSTRATIONS – *Con.*

No.	Page
182. Panoramic View of Parliament Hill and Hull	245
183. Ottawa River viewed from Rockcliffe Park	246
184. King Edward Avenue, Ottawa	247
185. Clemow Avenue, Ottawa	247
186. Silhouette of Ottawa from Boucherville Street in Hull	249
187. Laurier Avenue west of King Edward Avenue	251
188. Queen Street west of Metcalfe Street	251
189. Lyon Street from Somerset Street West	251
190. Proposed architectural control for Wellington Street	253
191. Southerly facade of Wellington Street opposite Parliament Buildings .	255
192. Westerly extremity of Sparks Street	255
193. View of the Experimental Farm	256
194. Notre-Dame Street in Montreal showing public utility elements prior to their removal	258
195. Notre-Dame Street in Montreal subsequent to removal of public utility elements	259
196. Typical Street in Rockcliffe in winter	260
197. Sketch showing possible treatment of the site of the proposed Memorial Terrace	261
198. Part of the Master Plan showing the location of the Memorial Terrace	262
199. Aerial view of the Gatineau forest	263
200. Aerial view of the Gatineau forest in the vicinity of Kingsmere Lake .	263
201. Suggested sequence of Planning Operations	267
202. Aerial view of the Centre of Ottawa	268
203. Similar view of the model showing ultimate development of Confederation Park	268
204-205-206. A half-century of progress in the development of the centre of Ottawa-1900-1940-1950	269
207. Aerial view of Nepean Point-Existing conditions	271
208. Similar view taken of the model showing proposed developments	271
209. Proposed development of the central area of Hull	272
210. Proposed development of the western area of Ottawa	273
211. Future silhouette of Parliament Hill	295

LIST OF PLATES

Number		Facing page
	Frontispiece	
I.	Key Diagram of Plans of Existing Conditions	16
II.	Nature of the Vegetation	26
III.	Distribution of Population	48
IV.	Residence Distribution of Civil Servants	56
V.	Existing Industries	56
VI.	General Land Use Plan established by street blocks	58
VII.	Land Use Plan of Hull, established by lots	62
VIII.	Land Value Plan of Ottawa, Hull and Vicinity	64
IX.	Existing Highway System	74
X.	Traffic Flow Diagram	78
XI.	Existing Parking Accommodations in the centre of Ottawa	80
XII.	Traffic Accidents in 1947	80
XIII.	Existing Railway System	82
XIV.	Street Car and Bus Routes	86
XV.	Daily Volume and Distribution of Street Car and Bus Passengers	86
XVI.	Schools	96
XVII.	Churches	96
XVIII.	Sewer Systems	100
XIX.	Waterworks Systems	100
XX.	Existing Open Space	102
XXI.	Existing Outdoor Recreational Facilities	112
XXII.	Rockcliffe Park	146
XXIII.	Urban Area of the National Capital Region	152
XXIV.	Key Diagram of Plans of Planning Studies	154
XXV.	Proposed Railway System (to be compared with Plate XIII) ..	166
XXVI.	Proposed Highway System (to be compared with Plate IX) ..	170
XXVII.	Nuclear Distribution of Neighbourhood Units	192
XXVIII.	Development Plan for Sewage System	220
XXIX.	Touristic Plan of the National Capital Region	234
XXX.	Fall Scenery in the National Capital Region	242
XXXI.	Rockcliffe Park in Winter	260

TABLE OF CONTENTS

	Page
Foreword	iii
Preamble	v
Introduction	1
Scope of the project	14

PART I GENERAL SURVEY

Importance of the survey	17
1. Physical Conditions:	
Geographical site	19
Climate (by M. W. Boville, B.A., meteorologist)	21
Geology (by R. E. Deane, geologist)	22
Vegetation (by E. S. Archibald, D.Sc., Director, Experimental Farms Service)	25
Hydrography	28
2. History:	
History of the Capital (by M. Gustave Lanctot, President, Royal Society of Canada)	33
Urban Evolution of the Capital area	44
3. Demography	49
4. Activities	56
5. Land Uses	58
6. Land and Building Values	63

TABLE OF CONTENTS - *Con.*

	Page
7. Housing:	65
Housing Densities and classes	68
Present Zoning Condition	
8. Traffic System:	
Road system of Interurban and Suburban Traffic	75
Street System	78
Traffic Density	79
9. Transportation:	
Railroads	81
Street Cars and Buses	86
10. Public Buildings and Services	91
11. Open Spaces, Sports and Physical Education	102
12. Recreation and Tourism	111
13. Aesthetics	119
14. Review of Previous Town Planning Studies:	
The Todd Report, 1903	129
Report of Federal Plan Commission (Holt Commission)	133
The Cauchon Report, 1922	139
First Studies by Jacques Gréber, 1937-39	142
15. The Federal District Commission	147
16. Conclusions of the Documentary Survey	152

TABLE OF CONTENTS - *Con.*

PART II

JUSTIFICATION OF PROPOSALS

	Page
Preface	155
1. General Commentary on the Project	157
2. Railway Problem-Fundamental Element of the Plan	165
3. Circulation:	
Interurban Arteries	169
Main Arteries	171
Parkways	173
Streets	176
Parking	189
4. Urban Planning :	
Future Urban Growth-Nuclear Distribution of Communities and Neighbourhoods-Zoning Regulations	191
5. Public Buildings and Services	205
6. Public Transportation	222
7. Physical Education, Sports and Open Spaces	225
8. Recreation and Tourism	235
9. Aesthetics	243
10. Dedication of the National Capital Plan	261

TABLE OF CONTENTS - *Conc.*

PART III

SCHEDULE OF EXECUTION

	Page
Immediate and short-range operations	265
Long-range operations	270
Eventual operations	274

PART IV

GENERAL RECOMMENDATIONS

1. Legal matters	275
2. Aesthetics	278
3. Circulation	281
4. Zoning	284
5. Public Relations	285
6. Delimitation of the National Capital Region	287
Conclusion	289
Personal acknowledgement	291
List of Illustrations	295
List of Plates contained in the Report	302
List of Plates contained in the Atlas	307
Acknowledgement of Illustrations	308

LIST OF PLATES CONTAINED IN THE ATLAS

Plate

- 1 Map showing the location of the National Capital Region.
- 2 General map of Eastern Canada and United States showing relation of the National Capital Region to principal cities.
- 3 Administrative boundaries within the National Capital Region.
- 4 Region of the National Capital-Existing Conditions.
- 5 Geological map of lands adjoining the urban area of the National Capital, prepared from Department of Mines publication (1917).
- 6 Urban evolution of the National Capital.
- 7 Land use plan of the City of Ottawa.
- 8 The National Capital Region-Proposals.
- 9 The Master Plan.
- 10 Existing highway system.
- 11 Proposed highway system.
- 12 Existing railway system.
- 13 Proposed railway system.
- 14 Existing Zoning and Building By-laws.
- 15 General Plan of proposed population densities and land uses.
- 16 Existing open space in Ottawa, Hull and environs.
- 17 Proposed open space in Ottawa, Hull and environs.
- 18 Schedule of Execution.
- 19 Model of the central area of the Capital-Scale : 100' = 1".
- 20 Map of the natural setting of the National Capital Region showing touristic routes.

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