

Clareview Outline Plan

Office Consolidation June 2021

Prepared by:

*Development Services
Urban planning and Economy
City of Edmonton*

The Clareview Outline Plan was approved by resolution by Council in May 1972. In June 2021, this document was consolidated by virtue of the incorporation of the following amendments:

Clareview Outline Plan approved by resolution May 18, 1972

Amendment approved by resolution June 25, 1991 (to redevelop the Youth Development Centre in Belmont with Low Density Residential uses)

Amendment approved by resolution June 22, 1995 (to redevelop the Belmont Rehabilitation Centre to include Commercial and Low Density Residential uses and a park site)

Amendment approved by resolution January 13, 2004 (to redesignate a portion of the Belmont Commercial Site to Low Rise Apartment and Row Housing Residential uses)

Amendment approved by resolution December 12, 2006 (to accommodate housing development for first time homebuyers on a vacant surplus school building envelope located on a school/park site)

Bylaw 19725 approved June 8, 2021 (PLAN REPEALED)

Editor's Note:

This is an office consolidation edition of the Clareview Outline as approved by resolution by City Council on May 18, 1972. This edition contains all amendments and additions to the Outline Plan.

For the sake of clarity, new maps and a standardized format were utilized in this Plan. All names of City departments have been standardized to reflect their present titles. Private owners' names have been removed in accordance with the Freedom of Information and Protection of Privacy Act. Furthermore, all reasonable attempts were made to accurately reflect the original Outline Plan. All text changes are noted in the right margin and are italicized where applicable.

This office consolidation is intended for convenience only. In case of uncertainty, the reader is advised to consult the original plan, available at the office of the City Clerk.

City of Edmonton
Urban Planning and Economy

PLAN FOR THE CLAREVIEW AREA
OF
NORTHEAST EDMONTON

CLAREVIEW OUTLINE PLAN

TABLE OF CONTENTS (Amended by Editor)

	<u>PAGE NO.</u>
INTRODUCTION	
PART I	
EXISTING SITUATION AND FACTORS INFLUENCING DEVELOPMENT: BASIS OF THE PLAN	1
LOCATION	1
THE ROLE OF FUTURE DEVELOPMENT IN THE CLAREVIEW AREA	1
LAND USES	6
TRANSPORTATION	10
SERVICES	11
PHYSIOGRAPHY & CLIMATE	11
PART II	
THE OUTLINE PLAN	13
GENERAL PLANNING & DESIGN OBJECTIVES	13
GENERAL COMPONENTS OF DEVELOPMENT	14
ORGANIZATION OF LAND USES	17
IMPLEMENTATION	19
<i>REDEVELOPMENT OF INSTITUTIONAL SITES</i>	21
SUMMARY OF OVERALL PLAN STATISTICS (1972)	28
<i>APPROVED LAND USE AND POPULATION STATISTICS</i>	31
NEIGHBOURHOOD STATISTICS (1972)	32
PART III	
THE TOWN CENTRE PLAN	40
GENERAL	40
COMPONENTS OF THE TOWN CENTRE	40
LOCATIONAL AND PLANNING CRITERIA FOR COMPONENTS	42

TABLE OF CONTENTS

	<u>PAGE NO.</u>
PART III (cont'd)	
ASSESSMENT OF ALTERNATIVE ORGANIZATIONAL CONCEPTS	46
THE RECOMMENDED PLAN	47
STAGING	54
SUMMARY OF AREAS OF NORTHEAST TOWN CENTRE	72
TOWN CENTRE HOUSING	73
DETAILS OF USES AND AREAS IN TOWN CENTRE	74
APPENDICES	
APPENDIX A	
A FORECAST OF HOUSING DEMAND – OUTLINE PLAN AREA NO. 3 1966-1986	78
APPENDIX B	
AREA REQUIREMENTS FOR COMMERCIAL USES – TIMING AND STAGING IN TOWN CENTRE	104
APPENDIX C	
SITE FEASIBILITY STUDY FOR CAMPUS EDUCATION – RECREATION FACILITY IN TOWN CENTRE	115

LIST OF MAPS

	<u>Page No.</u>
Location of Clareview Planning Area	Introduction
PART I	
Existing Land Uses and Influences	7
Lands Controlled by Developers Actively Supporting Clareview Plan	9
PART II	
Clareview Outline Plan	27
PART III	
1. Town Centre Transportation System and Block Locations	43
2. Town Centre Megastructure Concept	49
3. Recommended Town Centre Concept	50
4. Northeast Town Centre 2001	52
4a. Town Centre Detail	56
5. Housing in Multi-Use Centre	57
6. Elevated Pedestrian Link	58
7. Rapid Transit Terminal Cross Section	59
8. Rapid Transit Terminal Cross Section	60
9. Rapid Transit Terminal Longitudinal Section	61
10. Northeast Town Centre and Vicinity 1973	62
10a. Trunk Services 1973	63
11. Northeast Town Centre Possible Development 1976	64
11a. Trunk Services 1976	65
12. Northeast Town Centre Possible Development 1986	66/67
13. Northeast Town Centre 2001	68

LIST OF MAPS (cont'd)

	<u>Page No.</u>
LIST OF MAPS - APPENDICES	
APPENDIX A	
Built-up and Newly Developing Areas City of Edmonton - 1956	83
Built-up and Newly Developing Areas City of Edmonton - 1961	84
Average Sale Value - Houses Less Than Five Years Old-Edmonton 1966	99
APPENDIX B	
Fig. A	
Trade Area DSTM, Clareview Town Centre	106
Fig. B	
Trade Area Population for 1969-2001	107
APPENDIX C	
1.	
District Recreational/Campus Sites	117
2.	
Existing Conditions	118
3.	
Conditions Generated by Proposed Plan	120
4.	
Recreation Facility Requirements	123
5.	
Internal Roads & Parking 'Cul-de-sac' Alternative	129
6.	
Internal Roads & Parking 'Loop' Alternative	130
7.	
Parking Distribution	131
8.	
Student Distribution and Mode of Travel to School	134
9.	
Maximum Pedestrian Walking Distances	135
10.	
Site X Alternatives	138
11.	
Site Y Alternative 1	139

LIST OF MAPS (cont'd)

	<u>Page No.</u>
11a. Site Y Alternative 2	140
11b. Site Y Alternative 3	141
12. Recreation Facilities Day Use	144
13. Pedestrian Path Organization	145
14. Composite Organization Plan	148
15. Master Plan Alternative Composite	149

Notwithstanding any part or policy of this Plan, an opportunity to develop housing for first time homebuyers exists on a vacant surplus school building envelope on the school/park site as illustrated on the approved land use Plan map and as specified under the Community Services Zone. The Community Services Zone reflects the underlying, pre-existing zoning and will, in addition, allow for row housing and related accessory uses. The housing opportunity will occur on an area equal to the portion of the surplus school building envelope. The precise location of this housing within the entire School/Park site will be reviewed and determined by the City. The dwelling units and population generated by this development under the Community Zone are not included in the statistical summary.

INTRODUCTION

This document is a consolidation of the original Outline Plan prepared and submitted in April 1970, the results of the First Stage of a two-part study on the North East Edmonton Town Centre, prepared and submitted in June 1971, as well as subsequent changes recommended by various branches of the Government of the City of Edmonton and as approved by the Municipal Planning Commission in November 1971. The Outline Plan resulting from the foregoing was approved by City Council on May 18, 1972.

In order to prepare this consolidated document, we have retained as much as possible of the original plan of April 1970 and have incorporated portions of the June 1971 revisions, notably the results of the Stage I Study of the Town Centre, and have throughout updated statistics and other information so as to be consistent with what the Council approved in May of 1972. Any reader wanting to have full knowledge of the history of this matter should refer to the original documents noted above.

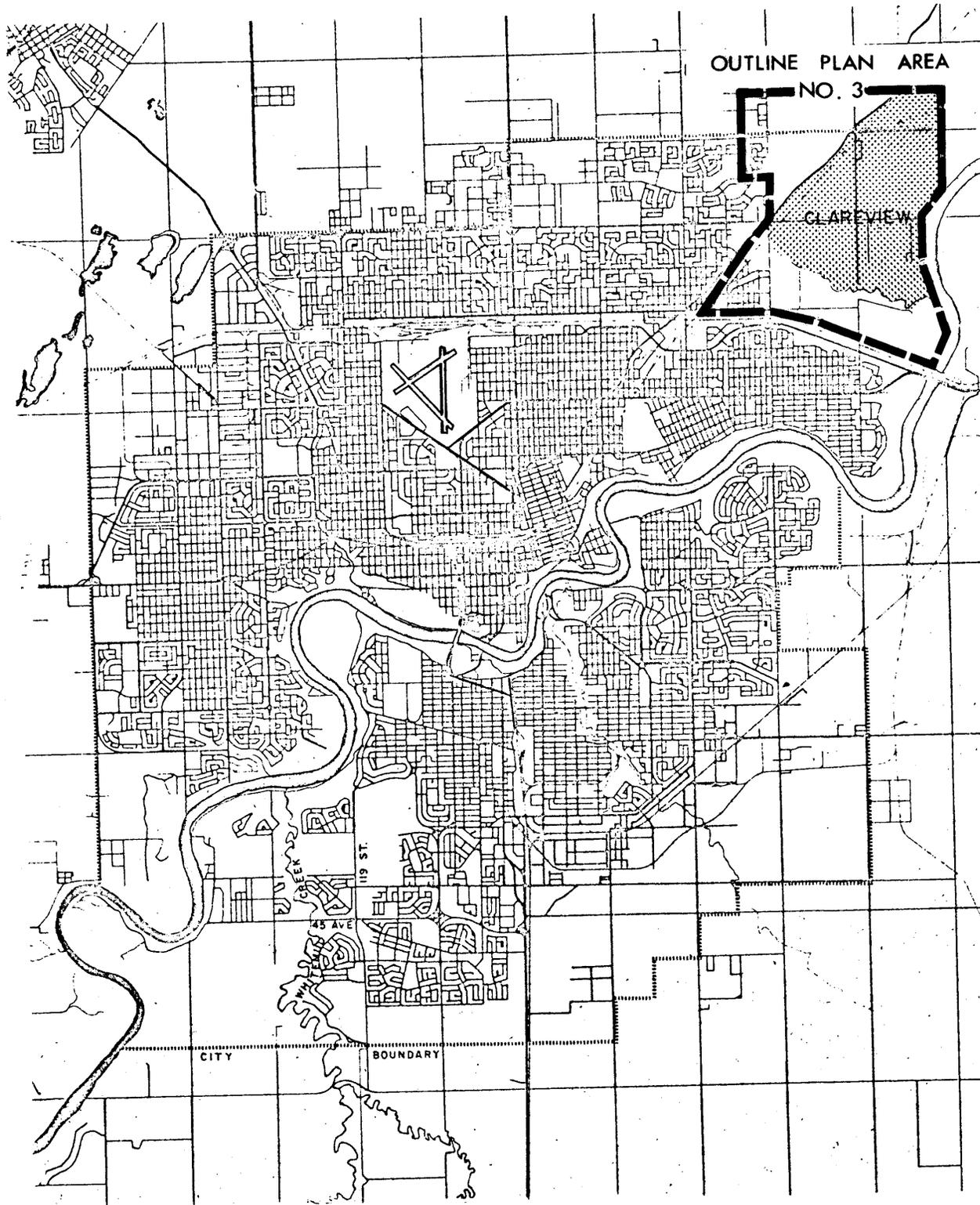
The introductory page of the April 1970 document is repeated since it is still considered valid and provides a starting point for the balance of the document.

"This document concerns the Clareview Planning Area, which forms the major portion of Outline Plan Area No. 3 in North East Edmonton. It is intended that this document modify and supplement the Survey and Analysis Report which was recently prepared and published by the City of Edmonton Planning Department. Accordingly, appropriate references are made here to information and mapping already contained in the Survey and Analysis Report and to any significant modifications which have been made."

"This Outline Plan has been prepared by joint Planning and Engineering consultants who have had numerous meetings with staff of the City Planning Department and with members of other City Departments and public agencies. The assistance of all those involved is gratefully acknowledged. The procedure followed is in accordance with current City policy
Clareview OP Office Consolidation

which enables land owners and their consultants to participate in the Outline planning process, thus relieving some of the work load of the Planning Department."

"The purpose of the Outline Plan is to provide a relatively flexible and general framework within which detailed development plans may be formulated, and to act as a guide for the allocation and timing of public expenditures required in order to provide necessary services for the area. The Plan is intended to generally determine the basic vehicular and pedestrian circulation systems and the general organization and intensity of land uses, but does not attempt to fix details of the physical layout of individual areas or uses. On this basis the Plan is recommended for early adoption by the Council of the City of Edmonton."



**LOCATION OF CLAREVIEW
PLANNING AREA**

APRIL 1970
Stanley Associates Engineering Ltd

PART I:

EXISTING SITUATION AND FACTORS INFLUENCING DEVELOPMENT: BASIS OF THE PLAN

LOCATION

The location of Outline Plan Area 3 which includes the Clareview Planning Area is indicated on the attached map. The Clareview Area is approximately 4 miles (6.4 kilometers) from downtown Edmonton.

Amended by Editor

The Clareview, Hermitage, Kennedale, Casselman, and The Braids Areas, and a portion of Steele Heights, comprise Outline Plan Area 3. Most of the undeveloped land within the present city limits in the northeast area is in this Plan Area. Development exists up to its southern and western boundaries.

The largest area in Outline Plan Area 3 is in the Clareview Area. It is generally bounded on the east by the North Saskatchewan River, on the south by the Kennedale Ravine, on the West by the *rail line* and on the north by a line ¼ mile north of the existing city boundary (153rd Avenue). The nature of the boundaries on three of the sides produces an area that is physically separated from adjacent areas.

Amended by Editor

The total area of Clareview is calculated to be about 2,139.9 acres (866.0 ha), of which 1,707.1 (690.8 ha) is developable.

Amended by Editor

THE ROLE OF FUTURE DEVELOPMENT IN THE CLAREVIEW AREA

Future development of the North East Area is to be primarily residential with a full range of related uses, including a comprehensive town centre.*

Development in the Clareview Area is expected to have a good rapid transit connection to the downtown core with feeder bus service to a station in the Clareview Area. Increased vehicular access to downtown will be facilitated by the early upgrading of the Fort Trail and the staged development of the northeast freeway.

A detailed forecast of housing demand related to Outline Plan Area 3 is included as Appendix A to this document. Because this forecast was developed before other major development proposals became public (South East Edmonton and BACM) it must be

* See Part Three of this document.

regarded as optimistic, but should still be valid for this Outline Plan. Based on this analysis and other studies, certain relevant conclusions have been made, as follows:

- a. The Outline Plan Area 3 could accommodate a total population of up to about 84,000 persons* by about 1985, which is consistent with the projected metropolitan growth forecast for the Outline Plan Area 3. Of this total, we estimate that approximately 40,750 persons would be allocated to the Clareview Area. In terms of meeting the projected housing need, the Clareview Area should be largely developed in the next 15 years.*
- b. The role of the Outline Plan Area 3 in general and the Clareview Area in particular, for primarily residential use, is desirable because it is one of the best areas in the City for the provision of low-medium priced housing, well located in terms of access to job opportunities, shopping, and recreational facilities, and offering an adequate to very good physical environment.

The unique role that the Clareview Area could play in the provision of low-medium priced housing results from a number of factors:

- (i) Physical conditions are ideal for minimizing the cost of providing services. * The area slopes from northwest to southeast, thus making land drainage very simple; the northeast sanitary interceptor sewer presently runs through the area and "physical conditions are virtually perfect for the installation of sanitary sewers at minimum cost",† waterworks and roads can be provided at a relatively low cost; and soil conditions present no problems for the construction of building foundations.
- (ii) Since a large proportion of the land in the Clareview Area is controlled by major developers, planning, financing, and development can proceed quickly and with substantial economies of scale through quantity purchasing, reduction of overhead, etc.†
- (iii) In view of these factors, and studies indicating that the demand for housing in this area would be concentrated in the low-medium price range, the

* From the Survey and Analysis Report by the City Planning Department. Recent announcements of other proposed major developments make this projection appear optimistic, and development in this area will likely proceed at a lower rate.

† Terra Developers Ltd., A Brief Concerning Development In Outline Plan Area No. 3 (Prepared by Stanley Associates Engineering Ltd.) January 1969, pp. 14-19.

† Ibid., p.11

principal developers holding land in the area are willing to proceed immediately with the final planning and construction of an appropriately priced housing development.

In addition to the above aspects of the Clareview Area which make it uniquely suited to the provision of low-medium priced housing, it is also located very favourably in terms of access to job opportunities and the central business district.

Also, it appears that places of work for the potential residents of Outline Plan Area No. 3 are concentrated north of the river and in the industrial area across the river to the east.

- c. It is expected that the future population of Outline Plan Area No. 3 and hence the Clareview Area will be similar in terms of income and demographic characteristics to the existing population in adjacent suburban areas. Family households will make up 85-90 percent of all households. Given the expected dominance of family households, the provision of 65-70 percent of the dwellings on an owner-occupied basis is considered to be desirable as a socio-economic objective and in order to ensure reasonable marketability for the units. The proposed mix of housing, therefore, should allow between 65-70 percent of the dwellings to be owner-occupied.
- d. The recommended mix of dwellings by type is the product of a number of considerations.

First, it is considered that one of the basic objectives of residential development in the Clareview Area is the provision of a range of housing types to alleviate the drastic shortage of housing in the low-medium price range. The present "crisis" in housing, with costs rising considerably faster than incomes, has been well documented. This situation is forcing and will continue to force many families to consider low-cost alternatives to the conventional single-detached, owner-occupied dwelling; alternatives such as ownership of some type of multiple dwelling, either semi-detached, row housing or even apartment units, or the rental of a multiple dwelling unit instead of ownership of a detached unit.

Second, the recommended mix assumes that a high level of accessibility will be provided, such as by the proposed rapid transit connecting the area to the downtown core (complemented by a feeder bus service within Plan Area No. 3) and by the northeast freeway.

These transportation connections will greatly improve access to the central core, and thus increase the feasibility of multiple family units and particularly apartments.

Finally, this Outline Plan for the Clareview Area will be consistent with planning objectives for the area; in particular, a higher overall density of development than has previously occurred in other suburban areas of Edmonton, a physical design which will facilitate the development of multiple family housing, and a town centre concept which will include related apartment and multiple family development.

On the basis of these considerations, it is proposed to have an overall distribution of dwellings by type approximating the following:

Apartments	- 21.0%
Attached dwellings -	- 29.0%
Semi-detached	- 17.0%
Detached	- 31.0%

The major difference between this distribution and the existing distribution in adjacent areas is the substitution of semi-detached and attached dwellings for detached dwellings. The proportion of apartments is higher. This reflects the expected increase in non-family households and the implications for apartment development as a part of a rapid transit oriented town centre, perhaps with the total apartment development being provided over a longer period than other housing in the Plan area. If all of the detached and semi-detached dwellings are owner-occupied, only one-half of the attached dwellings need to be of this type to result in 66 percent of all dwellings being owner-occupied. The relatively low proportion of detached dwellings may be a rather sharp break from past development patterns in Edmonton. However, it is considered reasonable to expect such a change in view of the critical nature of the housing problem at present and its expected continuance in future years.

In addition to considering the socio-economic aspects of the role of future development in the Clareview Area and because of the relatively higher overall density proposed, it is essential to ensure that the physical and social environment which results will be of a correspondingly high quality. In design terms this means that the higher the density of development, the greater is the need for increased urban and landscape design input. In social terms there is an increased responsibility to provide for the various social, child care, community, and recreational needs of inhabitants and for the diversity of life styles of these future residents. The quality of the urban

environment which will be produced and its continuing viability for living, is a vital aspect of the role of future development in this area.

LAND USES

The Land Use Plan 1981, of the Edmonton General Plan, designates the Clareview Area for primarily residential development. This has been further confirmed by the recent Survey and Analysis Report prepared by the *Planning and Development Department* which indicates an overall density of 27 ($\pm 10\%$) persons per gross acre for the Clareview Area.

Amended by Editor

Existing land uses are shown on the attached map.

At present, the principal land uses within the area are agricultural and two institutional uses (the Belmont Rehabilitation Centre and the Alberta Youth Development Centre). In addition, there is a drive-in theatre. The drive-in theatre and the two institutional uses are expected to remain as urbanization proceeds. The two institutions are expected to expand but will not require additional land. The Belmont Rehabilitation Centre is not unattractive and would be compatible with future residential development.

The institutions located in Belmont have been closed and have been redesignated for Low Density Residential, Commercial and Parkland uses.

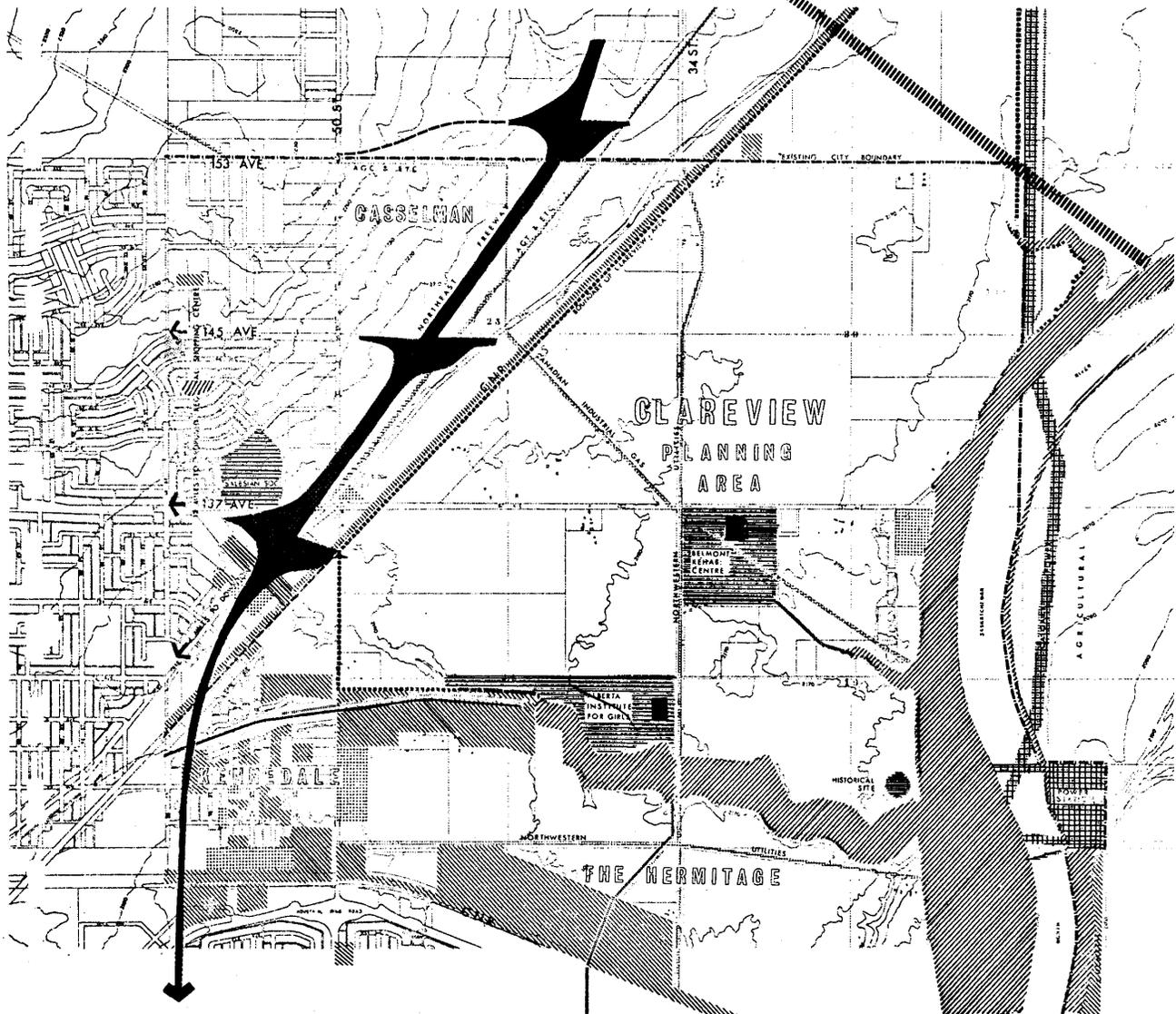
June 25, 1991
And
June 22, 1995

The river valley and ravine lands are committed to an open space use for the recreational benefit of the public, so that as elsewhere in Edmonton, urban development would not extend beyond the "top of the bank" of the ravines and the valley. In areas where the limit of development along the "top of the bank" of ravines and valleys is not defined by a public roadway, it is proposed that provision be made for pedestrian access to these facilities by means of a walkway within the major open space area which would extend along the table land edge along the "top of bank". The exact nature of such a facility in locational terms would be determined jointly by the *Planning and Development Department* and Developer as a function of detailed design.

Amended by Editor

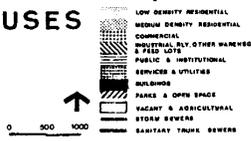
South of Clareview is the Hermitage area which is divided from Clareview by the Kennedale Ravine, a distinct open space amenity to both areas.

The Kennedale industrial area in the southwest corner of the Outline Plan Area contains scattered industrial and commercial uses. Some of these, the stockyards and meat rendering plants in particular, create localized odour pollution. As outlined in its Survey and Analysis Report, the City of Edmonton Planning Department propose that this area be maintained for industrial uses.



EXISTING LAND USES AND INFLUENCES

STANLEY ASSOCIATES ENGINEERING LIMITED
MURRAY V. JONES & ASSOCIATES LIMITED



The Casselman Area in the northwest part of Plan Area 3 contains primarily agricultural uses.

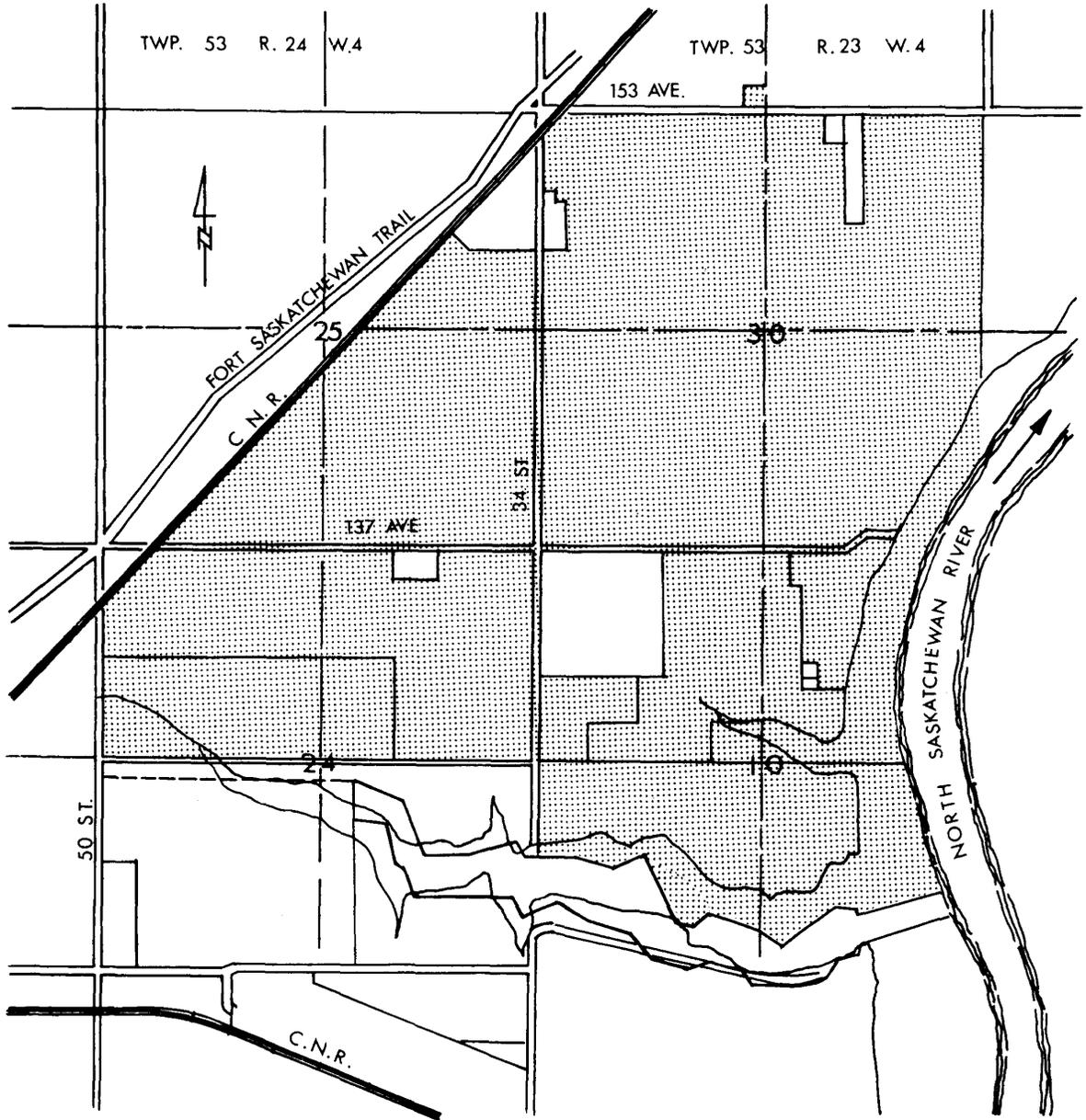
In the area bordering Outline Plan Area 3, there are certain uses, existing and proposed, which will have some effect on the development of the Clareview Area. The eastern edge of Outline Plan Area 3 is defined by the North Saskatchewan River and its valley. This is the most significant natural amenity in the area which can be developed for recreational purposes. The west bank will be developed by the City for regional recreation uses and the land on the east side of the river north of the City Power Plant is contemplated for a Metropolitan Recreation Area.

To the southeast and on the east side of the river is a major industrial area which provides a large number of employment opportunities. One of the industries, the Chemcell Plant, according to studies*, introduces a pollution problem in the area in two forms. First, strong obnoxious odours are emitted. These reach the Clareview Area when a strong southeast wind is blowing. Second, a continuous noise is emitted by escaping steam that carries to the Kennedale Ravine. However, these are not expected to seriously affect the Clareview Area because the odour problem is not injurious to health and is only present about 11 percent of the time, when SE winds are blowing.* The noise problem, because of the distance from the source and the opportunities to buffer it, should not limit development in the Clareview Area.†

The northern extremity of the Clareview Area is subject to noise pollution resulting from aircraft using the Namao Airport. A study undertaken by the Edmonton Regional Planning Commission entitled "Airport Study" recommends that "wherever possible, land uses lying within the orbit of influence of noises in excess of 90 PN should be limited to those which involve as few persons as possible". Consequently, the affected area will be retained in its existing classification of agriculture and associated uses. The 90 PN contour is shown on the map of Existing Land Uses and Influences.

* Factors Affecting Land Development in NE Edmonton - City Planning Department.

† The pollution aspect was a central concern to the Provincial Planning Board in its two hearings on required zoning changes. Decisions from both hearings clearly indicated the proposed uses were satisfactory for the reasons stated.



CLAREVIEW AREA

PLAN SHOWING LOCATION OF LANDS
 CONTROLLED BY DEVELOPERS ACTIVELY
 SUPPORTING CLAREVIEW PLAN

April 1970
 Stanley Associates Engineering Ltd

South and west of Outline Plan Area 3 are existing residential development and related land uses. The residential area to the south is separated from the Plan Area by the *rail line*; part of the Outline Plan Area to the west is also separated by the other *rail line* and North East Freeway. Of significance to planning in the Clareview Area is the shopping centre which is being developed about 1.2 miles west of the *rail line* at 66th Street and 137th Avenue.

Amended by Editor

The Ownership of lands in the Clareview Area is indicated in detail in the Survey and Analysis Report and more generally on the attached map. The map indicates that the major portion of the Clareview Area is controlled by developers actively supporting this Outline Plan. Of the balance of the area not controlled by these developers, the two major institutional uses take up an area of about 100 acres.*

TRANSPORTATION

Access to the Clareview Area is at present by 50th Street from the South and 137th and 153rd Avenue from the west and 34th Street from the north; all roads cross rail lines at grade. The arterial grid and diagonal Fort Trail provide access to other parts of the City, including the CBD. Access to the industrial area on the east side of the river is via the Clover Bar bridge on Highway 16 east.

Two major roads planned will improve access. The first is the North East Freeway which is planned to ultimately connect with the CBD and with Highway 15 to the north. The second major road proposed is the industrial ring road south of the Hermitage. This would connect to the North East Freeway. The proposed Outer Ring Road will provide only minor direct access.

However, within the Clareview Area access will always be limited by the river on the east, the ravine to the south, the rail line on the southern edge of the Hermitage and Kennedale areas and by the rail line on the west. These will all require bridges or underpasses, the expense of which will limit the number of grade-separated crossings.

At present, a direct vehicular access to downtown Edmonton via the Fort Trail is of limited capacity. The staged development of the North East Freeway will provide increased capacity but in the meantime no significant changes are expected to be made to the existing street system, except for the upgrading of the Fort Trail to arterial standards south of about 137th Avenue. Consequently, in order to provide a satisfactory transportation solution for the

* This map is dated April 1970 and is retained despite changes in ownership since then to show the situation existing at that time.

substantial residential development which is expected over the next 15 years in the Clareview and other areas of Outline Plan Area 3, it is desirable that the proposed rapid transit feeder buses be provided to serve this future development and that the early initiation of this service be given due consideration. The rapid transit would operate on the *railway* right-of-way, providing a direct connection to downtown Edmonton, from a station within the Northeast area.

Amended by Editor

SERVICES

The Survey and Analysis Report prepared by the City of Edmonton *Planning and Development Department* provides an adequate review of existing services and future servicing requirements. In summary, topography dictates obvious trends for sewerage toward the south and east. Sanitary sewage can be directed to the existing trunk collector sewer, and storm water into the Kennedale Ravine or direct to the River. Other services such as water, telephone and power may be readily supplied by extension of existing services easterly into the area. As previously indicated, physical conditions are ideal for minimizing the cost of providing services. A water reservoir will be required at approximately 137th Avenue and 34th Street.

Amended by Editor

PHYSIOGRAPHY AND CLIMATE

The Survey and Analysis Report dealt with the topographic, soils, landscape and recreational influences in some detail. The following is a summary of the main aspects including some references to the influence of climate:

- a. Topography is indicated on the Existing Land Use and Influence map. The most prominent features are the River Valley and the three ravines leading to the valley. The largest of the three is the Kennedale Ravine which penetrates well into the tableland area along the south edge of the Clareview Area. The tableland area is generally flat with a gradual slope to the southeast.
- b. The soil conditions on the tableland areas permit all forms of development, except immediately adjacent to the river bank where unstable conditions may exist in some places.
- c. The Survey and Analysis Report contains a map which indicates the treed areas which should be retained and underplanted as distinct from those treed areas which are deteriorating and should be removed. The most significant treed areas generally occur in the ravines and river valley, and in an area adjacent to the *rail line*, a short distance

Amended by Editor

north of 137th Avenue.

- d. It is recognized that retention of existing growth is of paramount importance, and it is therefore proposed that detailed development planning be carried out in such a manner as to retain existing trees wherever possible in both public and private open spaces, and that comprehensive planting programs form a part of each development program.
- e. The ravines and the river valley comprise natural recreational amenities of the Clareview Area which can be further developed for recreational purposes. Also of significance is a historic "Hermitage Site" which should be preserved. These amenities should form part of a comprehensive open space system, and should be accessible from collector roadways at appropriate points.
- f. A good summer climate is experienced which encourages outdoor activities. The severe winter climate tends to restrict outdoor activities and in order to minimize unnecessary exposure in the winter, walkways should form part of buildings wherever possible and walking distances from public transportation to the dwelling unit should be minimized.

PART II:

THE OUTLINE PLAN

GENERAL PLANNING AND DESIGN OBJECTIVES

Based on consideration of the detailed guidelines for Outline Plans suggested in the City's Survey and Analysis Report for Plan Area No. 3, and on subsequent studies, it is proposed that the Outline Plan for the Clareview Area should meet the following very general planning and design criteria.

- a. The Northeast Area should contain a major town centre and community focus directly related to the transportation corridor comprising the future freeway and rapid transit. Because this centre will serve the Clareview Area as well as a much wider area, it should contain the widest possible range of uses and activities which can be identified now, as well as making spatial provision for future uses not presently identifiable. Uses presently proposed in the town centre include a transportation centre with commuter facilities, regional commercial and service commercial, a higher density residential element, recreation and educational campus facilities with information resource centre, social, entertainment, religious facilities, hospital and health clinic, and related facilities.*

In addition to this major activity centre, a series of local social, educational and convenience centres should be established in strategic locations throughout the area.

- b. The main vehicular circulation system within the Area should define and serve the local residential areas so that these can function as individual public elementary school neighbourhoods. The main road system should be based on a modified grid pattern which forms an extension of the arterial grid serving contiguous areas.

This provides the greatest flexibility and is capable of responding to physiographic factors, land use organization, or other special requirements.

- c. The location of public elementary schools serving the neighbourhoods should generally be near the geographic centre and thus internal within the neighbourhood. Only neighbourhood collector roads should provide vehicular access to such schools.

* For a more detailed description of the Town Centre Plan, see Part Three of this document.

- d. Schools and parks should be combined; designed and operated to facilitate their use as local neighbourhood and open community centres for a wide range of activities.
- e. A comprehensive pedestrian circulation system which is a major design element, (which could also include a bikeway) should generally connect the residential areas to the ravines and river valley, to the schools, parks and local centres, and to the town centre. The open space formed by combining school and park areas should generally reinforce the pedestrian circulation system. Where the pedestrian circulation system crosses the main vehicular circulation system such pedestrian crossings should be grade separated or at traffic controlled locations. Where the pedestrian crossing is grade separated, it should be designed as a multiple use area wherever possible, rather than as an isolated pedestrian function. Detailed consideration of the walkway system in respect to design, location and walking distances, hierarchy and width, will form a primary input to the detailed planning process.
- f. The proposed feeder bus service connecting to the rapid transit station in the Town Centre should provide the highest possible level of local service (and should therefore relate closely to local population concentrations). The service should utilize the main road system, neighbourhood collector roads and its own right of way as required.

GENERAL COMPONENTS OF DEVELOPMENT

As stated previously, the gross area available for development in the Clareview Outline Plan Area approximates 1,707.1 acres (*690.8 hectares*). The area and its boundaries are indicated on the Outline Plan.

Amended by Editor

It is expected that public land use requirements for circulation (including pedestrian circulation external to parks) and public reserves will approximate 26% for circulation and 18% for public reserves, giving a total of 44% of the gross developable area. The public reserve requirement is relatively high because of the need to locate major educational facilities in the Clareview Area which will serve a much greater area. The expected total of 44% for circulation and public reserves is an estimate only at this time and will be subject to confirmation by detailed design and subdivision plans. The legal obligation of the Owners respecting dedication of lands will be the subject of an agreement between the Owners and the City.

The following is a general description of the main elements of the Outline Plan:

TOWN CENTRE

The gross area of the Town Centre including circulation is about 305.8 acres (*123.8 hectares*).

Amended by Editor

The general range of uses and activities has been indicated previously. One of the main elements of the Town Centre is a major commercial area for which about 66.3 acres (*26.8 hectares*) has been allocated. However, only when the next stage of more detailed planning and design is undertaken, will it be possible to make a more refined determination of the scale, composition, and organization of the various elements of the Town Centre. On the assumption that the rapid transit service will be operating in the near future to serve development in the Clareview Area, it will be necessary to undertake the early design of the transportation centre as a part of the more detailed design of the whole Town Centre.*

Amended by Editor

HOUSING

For the various reasons outlined previously the overall housing mix proposed approximates the following:

Apartments - (21%) Net Density 60 u.p.a. (*148.2 u.p.ha*)

Amended by Editor

Attached dwellings

(Row housing, stacked row housing, etc.) - (29%) Net Density 17 u.p.a. (*148.2 u.p.ha*)

Semi-detached - (17%) Average Net Density 12.2 u.p.a. (*148.2 u.p.ha*)

Detached - (31%) Average Net Density 7.3 u.p.a. (*148.2 u.p.ha*)

Stacked Townhousing - (2%) Average Net Density 25 u.p.a. (*148.2 u.p.ha*)

Amended by Editor

The total number of dwellings proposed approximates 11,178 units, producing a population of about 40,750 persons.

The resulting gross population density proposed is about 23.9 persons per acre (*59 person per hectare*) based on 1,707 developable acres (*690.8 developable hectares*). This represents a net density of about 46.94 persons per acre (*115.9 hectares per hectare*) or about 12.88 units per acre (*31.8 units per hectares*).

Amended by Editor

Having regard for the public elementary school population which would result from the foregoing, and the various land use, educational and major vehicular circulation constraints, a total of 8 neighbourhoods would seem desirable. Wherever possible, the grouping of two neighbourhoods would be desirable in order to provide greater design flexibility with better open space and pedestrian continuity.

* The results of a First Stage Study of the Town Centre is included as Part Three of this document.

LOCAL CENTRES

Based on the proposed population and 8 neighbourhoods, plus demands external to Clareview, the education facilities required would be as follows:

8 Public Elementary Schools

5 Separate Elementary Schools 3 Public Junior High Schools

2 Separate Junior High Schools 2 Public Senior High Schools 1 Public Vocational School

1 Separate Composite High School

Apart from the major educational facilities included in the Town Centre which comprise an educational campus for two Public Senior High Schools, a Public Vocational School and a Separate Composite High School, the balance of the educational facilities would be distributed throughout the neighbourhoods. In a number of instances, the neighbourhoods can also contain groupings of schools and parks in the form of a campus.

Other local centres which are to be located at strategic locations are shown on the Outline Plan.

OPEN SPACE AND PEDESTRIAN CIRCULATION SYSTEM AND RECREATION FACILITIES

The publicly usable open space system directly related to the Clareview Area will comprise the 3 ravines and the adjacent river valley, local parks, school areas, the district recreational areas, and the connecting pedestrian circulation routes.

A wide variety of active and passive recreational amenities and programs should be developed, including appropriate indoor facilities which would be related to the major education campus and the other district recreational uses in the Town Centre. In addition, an interconnecting scenic bike path system could be developed.

Apart from the area of major open space in the 3 ravines and the adjacent river valley, it is estimated that the total area in the open space system described above is expected to be approximately 304.5 acres (*123.8 hectares*), or about 18 percent of the total gross area of 1,707 acres (*690.8 hectares*).

Amended by Editor

VEHICULAR CIRCULATION

The primary transportation network which will serve the Clareview development is based on development of the North East Freeway with connections to 137th, 145th and 153rd Avenues,

operation of rapid transit to a transportation centre in the Town Centre with interconnecting feeder bus services and commuter facilities, extension of the metropolitan arterial road network and development of the Outer Ring Road. Within this network, a well defined hierarchy of circulation facilities can be developed.

SERVICING

The whole Clareview Development Area generally slopes gently to the river valley, where an existing trunk sanitary sewer, with adequate capacity for future development, is located.

Storm water will drain to the river valley and into the Kennedale Ravine which outfalls to the river. All other major utilities are directly available for future development. Because of the simplicity of servicing this area, the economic disposition of existing service facilities, and the cost savings possible from large scale development and innovative solutions to servicing, it is expected that the Clareview Area (and Outline Plan Area 3) will have one of the lowest relative servicing costs of all future development areas in Edmonton.

ORGANIZATION OF LAND USES

Having determined in general terms the role of development in the Clareview Area and the constraints placed upon such development; having established the general design objectives for the area; and having identified the general components of developments, these components may then be properly organized, having due regard for the necessary inter-relationships between the various land uses. The following discussion summarizes the organizational considerations which are relative to the Clareview Area, and which led to the organization illustrated graphically by the attached Outline Plan.

TOWN CENTRE

Because the Town Centre for the Clareview Area is intended to serve a regional role in northeast Edmonton, it is located so that it has direct access from the North East Freeway, rapid transit, feeder bus routes and the major arterial system. It is therefore located at a focal point of the metropolitan and local transportation systems, giving the highest possible degree of access from the entire northeast area.

RESIDENTIAL

Residential areas or neighbourhoods, dictate the requirement for circulation facilities and in turn are defined by the major roadways. The neighbourhoods are sized so as to support an elementary school of economic size. Within this neighbourhood, the organization of the

different types of residential uses stems from consideration of the probable needs and desires of the residents. On the premise that all of the housing types proposed, with the exception of non-family apartments, are intended to provide family accommodation, then the locational requirements of the family unit should govern residential organization.

A prime locational requirement of the family unit is relative proximity to elementary schools and park areas. However, in order to place the greatest number of children close to the school and park facilities, the higher density family accommodation should be located adjacent to these facilities. This relationship also tends to compensate for the reduction of private open space implied by higher density accommodation. Lower density family housing, producing less school children per unit area, has a relatively weaker relationship with school and park facilities and can thus be located further from these functions.

Apartment units are located at key locations where there is direct access to main roads and bus routes, close to open space, and where there are other amenities provided by proximity to commercial areas or by good views. Apartment units which are near schools and parks can provide for some family accommodation and those further from such facilities should be primarily of a non-family nature.

OPEN SPACE

The major components of the open space system are the school and park spaces and the river valleys and ravines, all of which are interconnected by the primary pedestrian circulation system. The pedestrian system also enables access from these components, and from the residential areas which they serve, to both local and regional commercial facilities. Neighbourhood park spaces are located so as to allow overlapping of functions between park and school facilities, and having regard for the location of existing tree stands which may be incorporated. Other park spaces are located relative to their specific function. For example, a small park is proposed for historical reasons at the "Hermitage" site, and other small parks will allow traditional access to the river valley and to the Kennedale Ravine.

Thus the open space system provides for active, passive and scenic recreation uses, and acts so as to reinforce the pedestrian circulation system.

SCHOOLS

The location requirements of school units are related to accessibility. Elementary and Junior High Schools are basically pedestrian oriented and are therefore located at the centroid of their catchment areas in order to minimize the aggregate student walking distance. Junior

High Schools, which have a larger catchment area which may preclude pedestrian access under severe weather conditions, must also be related to the local transit system.

Senior High Schools serving the entire Northeast area are all to be located within a major campus associated with the Town Centre, where access by all modes is available. The campus will also contain vocational facilities which have a metropolitan function.

COMMERCIAL

At least two levels of retail commercial facilities will be located in the Clareview Area. A shopping function of regional magnitude will form a major component of the Town Centre, the locational requirements of which have been discussed previously. A need is anticipated for smaller commercial facilities of a local nature, containing food stores, service stations, and related facilities. These facilities are located relative to the local market areas which they are intended to serve, and at points offering a high level of access both to pedestrian traffic and to vehicular traffic.*

The provision of even smaller commercial outlets of a "corner store" nature is not considered to be economically viable, although inclusion of such outlets should not be eliminated from future considerations.

Other commercial facilities which may include hotel, entertainment, secondary commercial and office functions are related to the Town Centre as previously discussed.

IMPLEMENTATION

The Outline Plan, as previously stated, provides the general guideline and framework for more detailed design and development and must therefore be considered as being flexible within reasonable limits.

An important objective at this stage is that a public commitment be given to the principles and proposals contained in the formulation of this Outline Plan, so that the next more detailed levels of planning and engineering, urban and landscape design and architectural expression can be implemented.

The most appropriate part of Clareview within which a first stage development area would be located is between the railway and the river south of 137th Avenue. However until more detailed servicing and other studies are done in conjunction with the other detailed planning required, the most feasible staging scheme and first stage area cannot be finally determined.

* For a more detailed discussion of commercial areas, see Appendix B.

A total review of this Plan should be made at least every five years. Such a review should include re-assessment of market circumstances, the determination of land use and other changes that should be made, and any other necessary revisions.

COUNCIL APPROVAL

At the meeting of May 18th, 1972, City Council considered the Outline Plan for the Clareview area and passed the following resolutions:

- 1) That the Clareview Outline Plan, together with Appendices 1 and 2 as supported by the Municipal Planning Commission at their meeting No. 54/71 Appendix A, be approved by Council.
- 2) That the Casselman-Steele Heights Outline Plan as approved by the Municipal Planning Commission at their meeting #45/71 Appendix B, be approved by Council.
- 3) That the terms of reference for Stage II - Town Centre Study, if undertaken by the developers within the area, be subject to approval by City authorities and other public agencies involved or affected.
- 4) That approval of the Clareview and Casselman-Steele Heights Plans by Council does not allow for development of any land within the Outline Plans until the owners of such lands have completed development agreements with the City of Edmonton satisfactory to City Council.
- 5) That mobile home developments shall be included in the Outline Plan.
- 6) That there be a study of the development of the Kennedale ravine for parks purposes which would protect the ecology to the greatest degree."

NOTE: Council concurred in all recommendations with the exception of No. 5 which was deleted and replaced with the following:

That mobile home developments may be considered in the Outline Plan provided they are designed for integration into the comprehensive development of the Plan.

YOUTH DEVELOPMENT CENTRE

June 25, 1991
Amended by Editor

The Alberta Youth Development Centre (YDC) was one of the only three land uses, other than agriculture, existing within the area of the Clareview Outline Plan prior to its adoption in 1972.

The Outline Plan's original references to the YDC were that the Centre would remain as urbanization proceeded around it, and that while it may expand, it would not require additional land. It further recognized the incompatible character of the centre by requiring open space separation between it and adjacent neighbourhood development.

In 1989 the Province relocated the YDC. The Clareview facility and the 46.35 acres it occupied were put up for sale.

Development Guidelines

Redevelopment of the YDC lands will conform to development principles set out in the following guidelines and as illustrated in Figures 1 and 2.

(i) *Residential Development*

The YDC site will be developed for low density single detached housing to complement the existing housing mix. 10% of the lands will be set aside as Municipal Reserve at the time of subdivision for local park purposes.

The only exception to single detached housing that may be considered will be housing for seniors. However, such development will comprise a minor portion of the total housing, be of low rise design compatible with the single detached housing style, and be located next to public transit and near community recreation amenities and facilities (e.g., parkland, open space, community league hall).

(ii) *Transportation*

The traffic circulation pattern for development for the YDC lands will retain the design concept originally incorporated for the earlier phases of Belmont (as illustrated in Figure 2). That is, no direct roadway connections will be permitted that would allow for traffic movement between the east and west portions of the neighbourhood. An exclusive bus lane will provide for public transit access across Belmont, north of the YDC site.

The majority of traffic generated by future development of the YDC site should be directed to 40 Street. If necessary, additional or secondary access should be limited to 132 Avenue and 37 Street, provided it does not generate increased traffic on those roads. While the easterly portion of development on the YDC site may be served by access from 132 Avenue, this should be limited to minimize the impact of additional traffic onto that collector route. Any necessary secondary access to this easterly portion should also be restricted to 34 Street north of 130A Avenue, to direct additional traffic away from 130 Avenue.

(iii) *Retention of Natural Vegetation*

Any redevelopment on the former YDC lands must be done so as to ensure that existing mature tree stands are retained as part of the subdivision development. This could be done through the use of easements, caveats, public holdings or the placement of property lines to avoid the removal of or damage to existing trees.

(iv) *Kennedale Ravine*

The City will apply its Top-of-the-Bank Roadway Policy in reviewing development proposals for the YDC site. Public access to the views and recreation opportunities offered by Kennedale Ravine will be maximized by the provision of usable public open space, primarily through the use of a top-of-bank roadway, or through public parkland, viewpoints, broad tableland setbacks or formal pathways where a roadway is not practical.

(v) *Implementation*

Prior to any subdivision of all or any portion of the YDC lands, the proponent will be required to submit, for the City's approval, a comprehensive subdivision design concept for the entire site. Provision of such a concept will ensure that all the principles set out in Appendix D of the Clareview Outline Plan will be adhered to as development is either staged or done in separate segments.

Figure 1
DEVELOPMENT CONCEPT GUIDELINES

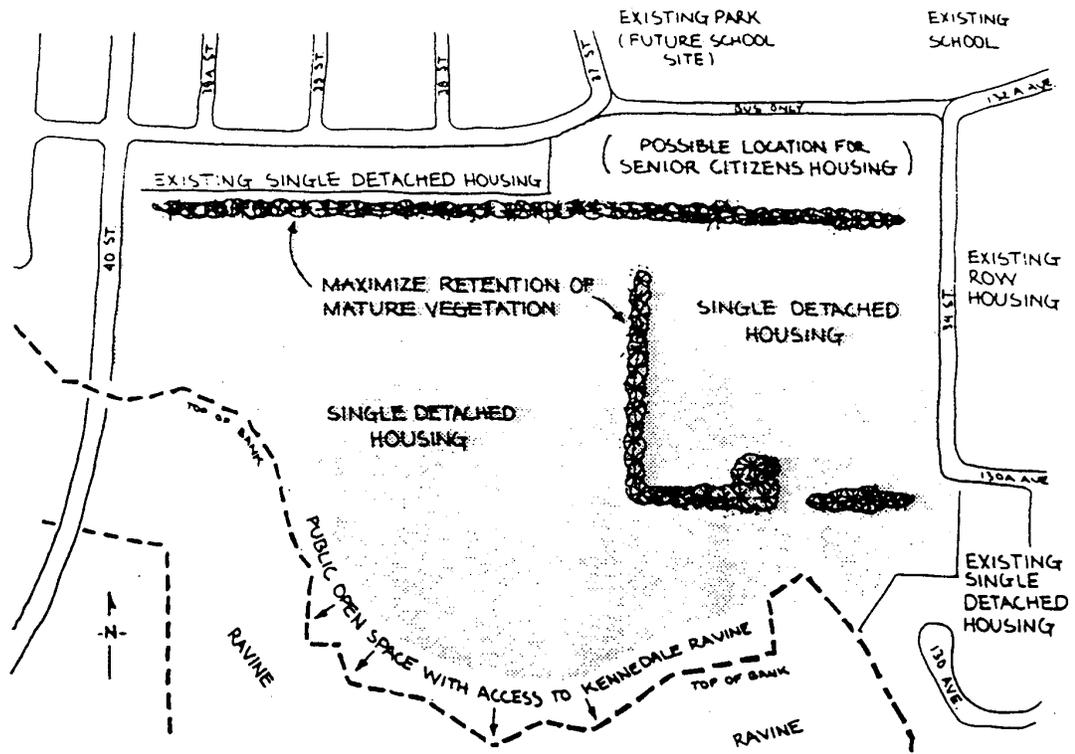
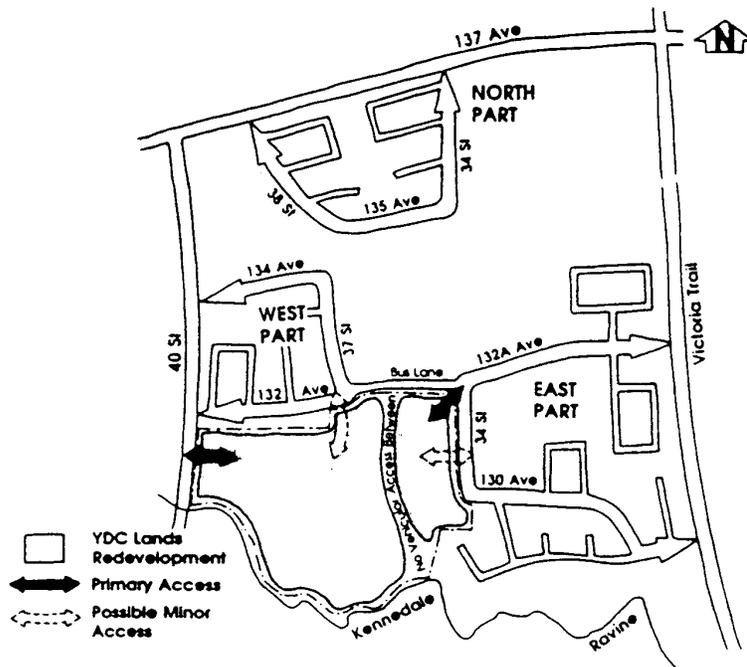


Figure 2
TRANSPORTATION CONCEPT GUIDELINES



BELMONT REHABILITATION CENTRE

The Belmont Rehabilitation Centre (BRC) is located at the southeast corner of Victoria Trail and 137 Avenue and is surrounded by existing suburban residential uses. The site will include a commercial site in the northeast corner, with residential development and an approximate 0.63 ha park site comprising the remainder of the site. The park site contains the best existing trees within the Belmont Rehabilitation Centres lands.

June 22, 1995
January 13, 2004
Amended by Editor

Land Uses

June 22, 1995
Amended by Editor

(i) *Commercial*

The community commercial service component will provide for retail and service uses. The site will establish a one stop community shopping centre trade area with a broad range of commercial, entertainment, cultural and service uses with specific development regulations through the uses of DC2 Provisions that will ensure compatibility with adjacent residential uses and ensure a high standard of appearance appropriate to the prominent location of the site.

(ii) *Residential*

The residential component will consist of low density residential uses along the south and west periphery of the site. It is anticipated that densities will be approximately 17 units per net hectare (7 units per acre). The residential component will be compatible with the land uses to the south which presently consist of single detached residential, as well as a school/park site, and also to the west which is comprised of semi-detached and single family detached housing.

Attention will be paid to buffering of the existing residential development where it abuts the proposed commercial component. Such buffering will be in the form of landscaping, fencing and setbacks. The details of such buffering will be dealt with within the DC2 through utilization of special provisions.

Approximately 9 gross hectares (22 acres) of residential land has been provided within the plan area. Pursuant to the density listed above, it is estimated that the area will support approximately 150 dwelling units with a population of approximately 520 people.

Low rise apartments are located west of the commercial site along 137 Avenue. Row Housing will be located south of the low rise apartments, creating a gradual increase in densities from south to north. This design will be sensitive to the single family and low density residential found to the south and west.

Transportation

Access to the commercial component of the site will be kept separate from accesses to the residential component. The residential component of the development will be accessed by way of a primary access to Victoria Trail and a primary access to 34 Street which will provide a suitable level of service commensurate with the proposed residential development.

The roadways in the residential sector of the development will not connect traffic from Victoria Trail to 34 Street, thereby restricting traffic from short-cutting into the existing residential area west of 34 Street. Public transit services exists immediately adjacent to the site on 137 Avenue and there is opportunity to provide transit onsite if appropriate.

Natural Vegetation

A great many mature trees are located along the westerly border of the site and within the site proper. Other stands of mature trees exist near the vacant buildings which comprised the BRC. The aforementioned trees are the most dominant natural feature of the former BRC lands and it is the intent to retain natural vegetation wherever practical.

A Tree Assessment Study was prepared and submitted to the Parks and Planning Departments for review. The Parks Department agreed that a park site should be provided within the plan area which retained the most valuable tree stands as recommended by the landscape architect consultant. The park site is provided within the plan and may be further enhanced by transplanting some of the valuable trees from other portions of the site. Further, it is intended that valuable mature tree stands be transplanted in the open space corridor provided as a buffer between the commercial and residential areas.

The most valuable trees will be retained in situ within the proposed park site. The study identifies a potential to relocated a substantial number of mature trees which will be either relocated onsite or along adjacent roadways. The remainder of the onsite trees will be retained in situ to the greatest extent possible.

Wherever possible, existing trees will be transplanted to assist in buffering the commercial

from the residential sectors. Special attention will be necessary at subdivision and development stages to ensure that such features are incorporated wherever practical.

Parks / Open Space

It is proposed that the statutory Municipal Reserve requirement under the Planning Act will be provided partially as land (approximately 1.5 ac) and cash-in-lieu (approximately 3.5 ac). Open space will be provided adjacent to the commercial site through the provision of a 12 metre wide boulevard park along the easterly rights-of-way of 34 Street adjacent to the gas line right-of-way. It will provide a natural corridor of landscaping while retaining substantial stands of conifers located within the right-of-way. It will also afford recreation opportunity.

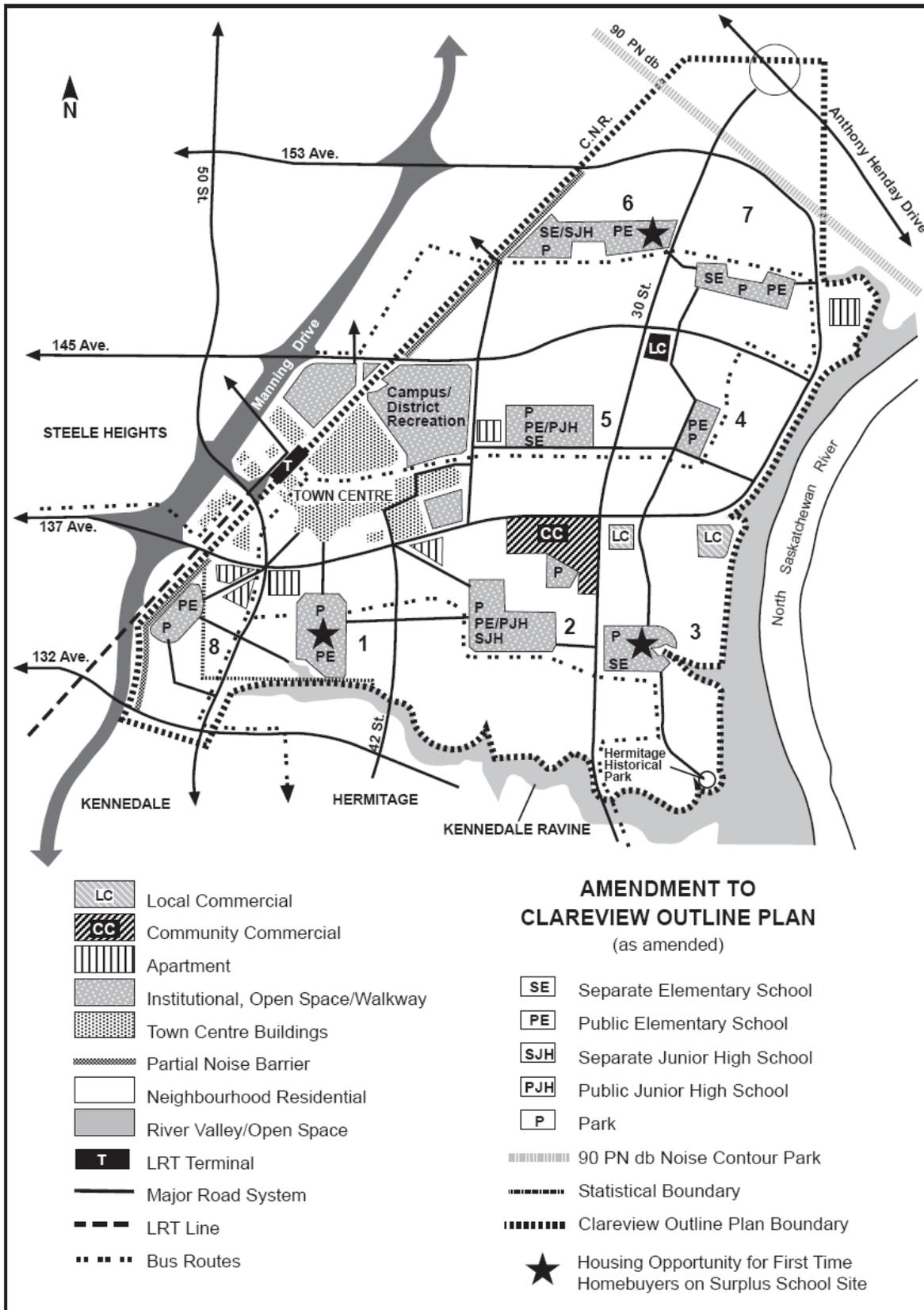
Environmental Assessment

A Phase I and Phase II Environmental Site Assessment was undertaken on the site in July 1994 and March 1995 respectively, and has been provided to the City of Edmonton. There are no environmental impediments to the development of the site, and the DC2 will contain provisions for dealing with any contaminated portions of the site and with the demolition of the existing buildings on the site to ensure hazardous materials are properly removed and disposed.

Implementation

The plan will be phased with the residential and commercial development commencing along Victoria Trail on a staged basis dependent on market requirements. The existing Belmont Rehabilitation Centre buildings will be retained as long as practical.

Clareview Outline Plan (December 12, 2006)



SUMMARY OF OVERALL PLAN STATISTICS (1972)

(Amended by Editor for Imperial to Metric Conversions only)

The statistical summary which follows is intended as a general guide to the main elements of the Outline Plan.

Summary of Statistics (1972)

Gross Area of Clareview Outline Plan Area		2,139.9 acres (866 ha)
Less: Major Open Space (includes Hermitage Park, Scenic Park, Roadside Park and Parking, Valley Lands)	196.3 (79.3)	
Calgary Power Right-of-Way	8.0 (3.2)	
Agriculture and Associated Uses (including roads)	135.9 (55)	
Alberta Youth Development Centre and Belmont Rehabilitation Centre	92.6 (37.5)	<u>432.8</u> acres (175.1 ha)
Developable Area		1,707.1 acres (690.8 ha)
Overall Area for Circulation*		444.4 acres (179.8 ha)
Overall % of Developable Area for Circulation	26.0%	
Overall Area for Parks & Schools		304.5 acres (123.2 ha)
Overall % of Developable Area for Parks & Schools	= 18.0%	
Total Area For Circulation, Parks and Schools		748.9 acres (303.1 ha)
Overall % of Developable Area for Circulation, Parks and Schools	= 44.0%	
Total Net Residential Area in Neighbourhoods and Town Centre		868.1 acres (351.3 ha)
Overall % of Developable Area for Residential	= 51.0%	

* Does not include commuter parking area on east side of Town Centre, or Rapid Transit Terminal. Includes walkways.

Distribution and Zoning Category of Units (1972)

	<u>Neighbourhood Units</u>	<u>Town Centre Units</u>	<u>Total</u>	<u>%</u>
Apartments	1260 (60 upa/48.2 upha R-3A)	300 (100 upa/247upha max.)* 770 (70 upa)*	2330	21%
Stacked Townhousing	120 (25 upa/61.8 upha R-3)	100 (25 upa/61.8 upha)*	220	2%
Attached Dwellings	3034 (17 upa/42upha R-2A)	200 (20 upa/49.4 upha)*	3234	29%
Semi-detached Dwellings	1854 (12.2/30.1 upha upa R-2)		1854	17%
Single-family detached	3540 (7.3 upa/18 upha R-2)**		<u>3540</u>	31%
			11178	

Population and Densities (1972)

Apartments - 2,330 x 2.3 =	5,359
Other Units - 8,848 x 4.0 =	<u>35,392</u>
	40,751 persons
Overall Net Density	<u>11,178</u> = 12.88 units per acre (31.8 upha) 868.1
Overall Net Population Density	<u>40,750</u> = 46.94 persons per acre (115.9upha) 868.1
Overall Gross Density	<u>11,178</u> = 6.55 units per acre (16.2 upha) 1,707
Overall Gross Population Density	<u>40,750</u> = 23.9 persons per acre (59.0 upha) 1,707

* The average density of 48.9 u.p.a. (120.8 upha) within the Town Centre is in conformity with R-3A zoning. The density range lies between 20 and 100 u.p.a (49.4-247 upha).

** Single-family detached housing is categorized as R-2 to facilitate a high degree of mix.

Public Reserves as Percentage of Gross Neighbourhood Areas (1972)

Neighbourhood	Area <i>Acres/Hectares</i>	Public School <i>Hectares/%</i>	Separate School <i>Hectares/%</i>	Parks <i>Hectares/%</i>	Total Schools & Parks <i>Hectares/%</i>
1	125.7/50.9	3.6/7.2	2.8/5.6	3/6.0	9.5/18.7
2	213.2/86.3	7.7/8.9	3.6/4.2	3/3.5	14.3/16.7
3	226.8/91.8	3.6/4.0	2.8/3.1	2/2.2	8.5/9.3
4	189.5/76.7	3.60/4.7	-	2/2.6	5.7/7.3
5	184.0/74.5	7.7/10.3	2.8/3.8	3/4.1	13.6/18.3
6	233.9/94.7	7.7/8.1	4.9/5.1	3/3.2	15.6/16.5
7	207.5/84.0	3.6/4.3	2.8/3.4	2/2.4	8.5/10.1
8	101.2/41.0	3.6/8.9	-	3/7.4	6.7/16.3
Sub-Total	1,481.8/599.7	41.3/6.9	19.8/3.3	21.2/4.0	82.4/14.0
Town Centre Total Within Clareview*	225.3/91.2				40.9 park/school campus
Total	1,707.1/690.8				123.2

Total Reserves As Percentage of Overall Developable Area in Clareview

$$\frac{304.5}{1,707.1} \times 100 = 18.0\%$$

* Additional area of School/Park Campus in Town Centre outside Clareview Plan Area is 34.6 acres; this is excluded from calculation for the Outline Plan Area.

APPROVED LAND USE AND POPULATION STATISTICS (2004)

	<u>Approved Clareview OP</u>	%	<u>Town Centre</u>	%	<u>Approved Belmont</u>	%
<u>Dwelling Units by Type</u>						
Low Density Residential	6,006	46.5	242	8.9	672	43.7
Medium Density Residential	6,921	53.5	2,493	91.1	865	56.3
Total Dwelling Units	12,927	100	2,735	100	1,537	100
<u>Population</u>						
Low Density Residential	20,781				2,325	
Medium Density Residential	17,303				2,162	
Total Population	38,084				4,487	

NEIGHBOURHOOD STATISTICS (1972)*

(Amended by Editor for Imperial to Metric Conversions Only)

Neighbourhood 1

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area	125.7/50.9
Less: Circulation (27%)**	34.0/13.8
Ravine edge public access	3.3/1.3
P.E. School	9.0/3.6
S.E. School	7.0/2.8
Park	7.5/3.0
Church	1.0/0.4
Area of Non-Residential Land Use	<u>61.8/25</u>
Net Residential Area	63.9/25.9
Apartments 260 Units @ 60 u.p.a. (148.2 upha)	<u>4.3 /1.7</u>
Net Residential Area for Non-Apartment Units	59.6/24.1
<u>Nos. of Units</u>	
No. of Non-Apartment Units @ 9.3 u.p.a. (22.97 upha)	554
Attached Dwellings	(36.0%) 199
Semi-detached	(22.0%) 122
Detached	(42.0%) 233
Apartments	<u>260</u>
Total No. of Units	814

Public Elementary Schools

Pupils in P.E. School

Apartments 260 x .2 = 52.9

Attached & Other Dwellings 554 x .5 = 277

329

No. of Classrooms (not including 2

kindergarten classrooms) 30

Plus pupils from portion of 5.4

Town Centre housing 16.4

* These, of necessity, are not final figures; detailed neighbourhood design will establish the correct figures.

** Factor derived from tests of urban design plan of Neighbourhoods 1 and 2.

Neighbourhood 2

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area (does not include 92.6 acres (37.5 ha) for Belmont Rehabilitation Centre, or Alberta Youth Development Centre)	213.2/86.3
Less: Circulation ^(27%)	58.5/23.7
Ravine edge public access	2.5/1.0
P.E. School, combined with P.J.H.S.	19.0/7.7
S.J.H.S.	9.0/3.6
Park	7.5/3.0
Church	1.5/0.6
Fire Hall	0.5/0.2
Area of Non-Residential Land Use	98.5/39.9
Net Residential Area	114.7/46.4
Apartments 100 units @ 60 u.p.a. (148.2 upha)	<u>1.7/0.7</u>
Net Residential Area for Non-Apartment Units	113.0/45.9

Nos. of Units

No. of Non-Apartment units @ ± 9.3 u.p.a. (22.97 upha)	1051
Attached dwellings (36.0%)	378
Semi-detached (22.0%)	231
Detached (42.0%)	441
Apartments	<u>100</u>
Total No. of Units	1151

Public Elementary Schools

Pupils in P.E. School

Apartments	100 x .2 = 20
Attached and Other Dwellings	1051 x .5 = <u>526</u>
	546
No. of Classrooms (not including 2 kindergarten classrooms)	<u>546</u> = 18.2
	30

Neighbourhood 3

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area (not including historic park)	226.8/91.8
Less: Circulation (27%)	61.2/24.8
River and Ravine edge public access	5.6/2.3
P.E. School	9.0/3.6
S.E. School	7.0/2.8
Park	5.0/2
Neighbourhood commercial including service station	5.0/2.0
Drive-In Theatre	<u>9.0/3.6</u>
Area of Non-Residential Land Use	<u>101.8/41.2</u>
Net Residential Area	125.0/50.6

Nos. of Units

No. of Units @ 10.62 u.p.a. (26.23 <i>upha</i>)	1328
Attached Dwellings (36.0%)	478
Semi-detached (22.0%)	292
Detached (42.0%)	<u>558</u>
Total No. of Units	1328

Public Elementary Schools

Pupils in P.E. School Attached and Other Dwellings	1328 x .5 = 664
No. of Classrooms (not including 2 kindergarten classrooms)	<u>664</u> = 22.1 30

Neighbourhood 4

<u>Land Uses</u>	<u>Acres/Hectares</u>	
Gross Area		189.5/76.7
Less: Circulation (27%)	51.2/20.7	
P.E. School	9.0/3.6	
Park	5.0/2.0	
Neighbourhood shopping including service station	5.0/2.0	
Church	1.0/0.4	
Area of Non-Residential Land Use		<u>71.2/28.8</u>
Net Residential Area		118.3/47.9

Nos. of Units

No. of Units @ 10.62 u.p.a. (26.23 <i>upha</i>)		1256
Attached Dwellings	(36.0%)	452
Semi-detached	(22.0%)	276
Detached	(42.0%)	<u>528</u>
Total No. of Units		1256

Public Elementary Schools

Pupils in P.E. School

Attached and Other Dwellings $1256 \times .5 = 628$

No. of Classrooms (not including 2
kindergarten classrooms) $\frac{628}{30} = 20.9$

Neighbourhood 5

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area	184.0/74.5
Less: Circulation (27%)	49.7/20.1
Combined P.E. School and J.H. School	19.0/7.7
S.E. School	7.0/2.8
Park	<u>7.5/3.0</u>
Area of Non-Residential Land Uses	<u>83.2/33.7</u>
Net Residential Area	100.8/40.8
Apartment Units 200 @ 60 u.p.a. (148.2 upha)	<u>3.3/1.3</u>
Net Residential Area for Non-Apartment Units	97.5/39.5

No. of Units

No. of Non-Apartment Units @ 10.62 u.p.a. (26.23 upha)	1035
Attached Dwellings (36.0%)	373
Semi-detached (22.0%)	228
Detached (42.0%)	435
Apartments	<u>200</u>
Total No. of Units	1235

Public Elementary Schools

Pupils in P.E. School

Apartments	$200 \times .2 = 40$
Attached and Other Dwellings	$1035 \times .5 = 518$ 558
No. of Classrooms (not including kindergarten classrooms)	<u>558</u> = 18.6 30
Plus pupils from portion of Town Centre housing	<u>5.0</u> 23.6

Neighbourhood 6

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area	233.9/94.7
Less: Circulation (27%)	63.2/25.6
Combined P.E. School and J.H. School	19.0/7.7
Combined S.E. School and S.J.H. School	12.0/4.9
Park	<u>7.5/3.0</u>
Area of Non-Residential Land Use	<u>101.7/41.2</u>
Net Residential Area	132.2/53.5

No. of Units

No. of Units @ 10.62 u.p.a. (26.23 <i>upha</i>)	1404
Attached Dwellings (36.0%)	505
Semi-detached (22.0%)	309
Detached (42.0%)	590
Total No. of Units	1404

Public Elementary School

Pupils in P.E. School

Attached and Other Dwellings	$1404 \times .5 = 702$
No. of Classrooms (not including 2 kindergarten classrooms)	$\frac{702}{23.4} = 30$

Neighbourhood 7

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area	215.5/87.2
Less: Hydro Right-of-way and Scenic Park	<u>8.0 /3.2</u>
Gross Neighbourhood Area	207.5/84
Less: Circulation (27%)	56.0/22.7
River and Ravine edge public access	1.7/0.7
P.E. School	9.0/3.6
Park	5.0/2.0
Church	1.0/0.4
S.E. School	<u>7.0/2.8</u>
Area of Non-Residential Land Use	<u>79.7/32.3</u>
Net Residential Area	127.8/51.7
Apartment Units 400 @ 60 u.p.a. (148.2 <i>upha</i>)	<u>6.6 /2.7</u>
Net Residential Area for Non-Apartment Units	121.2/49.0

No. of Units

No. of Non-Apartment Units @ 10.62 u.p.a. (26.23 <i>upha</i>)		1287
Attached Dwellings	(36.0%)	463
Semi-Detached	(22.0%)	283
Detached	(42.0%)	541
Apartments		400
Total No. of Units		1687

Public Elementary Schools

Pupils in P.E. School

Apartments	$400 \times .2 = 80$
Attached and Other Dwellings	$1287 \times .5 = \frac{644}{724}$
No. of Classrooms (not including kindergarten classrooms)	$\frac{724}{30} = 24.1$

Neighbourhood 8

<u>Land Uses</u>	<u>Acres/Hectares</u>
Gross Area	101.2/40.9
Less: Circulation (27%)	27.3/11.0
Special P.E. School.	9.0/3.6
Park	7.5/3.0
Area of Non-Residential Land Use	<u>43.8/17.7</u>
Net Residential Area	57.4/23.2
Apartments 300 Units @ 60 u.p.a. (148.2 upha)	5.0/2.0
Stacked row house units 120 at 30 u.p.a. (74.1 upha)	<u>4.0/1.6</u>
Net Residential Area for Non-Apartment and Non-Stacked Row Units	48.4/19.6

Nos. of Units

No. of Non-Apartment & Non-Stacked Units @ 10.62 u.p.a. (26.23 upha)	514
Attached Dwellings (36.0%)	185
Semi-Detached (22.0%)	113
Detached (42.0%)	216
Stacked Row House Units	120
Apartments	<u>300</u>
Total No. of Units	934

Public Elementary Schools

Pupils in P.E. School	
Apartments	300 x .2 = 60
Attached & Other Dwellings	634 x .5 = <u>317</u>
	377
No. of Classrooms (not including 2 kindergarten classrooms)	<u>377</u> = 12.6
	30

PART III:

THE TOWN CENTRE PLAN

GENERAL

It was agreed with the *Planning and Development Department* that in view of the very long lead time before implementation of many of the major components of the Town Centre and with final completion in 25 to 30 years, that planning should proceed in two stages. We are concerned in this first stage with overall plan structure, circulation, relationship of uses and general staging. The Town Centre Plan should be read as a diagram in which form and detail will be refined and resolved as part of a later second stage study.

Amended by Editor

The commercial component of the Town Centre has been quantified by economic analysis, the results of which are included in Appendix B of this report. A site feasibility study (Appendix C) was undertaken in consultation with officials of the School Boards and Parks Department for the campus education-recreation area proposed in the Town Centre Plan, which confirmed the suitability and area of the sites proposed for those functions. Area requirements for all components are listed at the end of this Part.

The Town Centre uses are contained within the main transportation framework serving the Clareview Area which was identified in Part One. The North East Freeway and rail line are fixed; the alignments of 137th Avenue, 50th Street and 42nd Street, as shown on Map 1, have been located in consultation with the City Engineering Department. The location of the rapid transit and bus transfer station and bus, routes to it have also been located in consultation with 'roadways' and transit officials.

The North East Town Centre is located largely in the Clareview Outline Plan area and partially in the Casselman-Steele Heights Outline Plan Area.

On June 25, 1980, the Clareview Town Centre Neighbourhood Area Structure Plan (NASP) was approved by Edmonton City Council (Bylaw 6075). Development within the Clareview Town Centre will be directed by the policies and guidelines set out in the approved Clareview Town Centre NASP.

Amended by Editor

COMPONENTS OF THE TOWN CENTRE

From the detailed studies contained in Appendix B and C, the following are the main components and groupings of uses proposed, and the estimated areas which are required:

- (i) Multi-purpose centre comprising:
 - 650,000 sq. ft. (60387 sq.m.) regional shopping centre;

Amended by Editor

- related parking including commuter parking for 625 cars; 400 housing units;
- 100,000 sq. ft. (9290 sq.m.)for offices;
- community facilities including library*, cinema, and related uses;
- city offices;
- rapid transit and bus transfer station;
- automotive service centre;
- vehicular circulation routes and allowance for unidentified uses.

Total estimated area required is 66.3 acres (26.3 hectares).

Amended by Editor

(ii) Campus education-recreation uses including:

- 2 public high schools plus 1 public vocational high school;
- district recreation areas;
- indoor recreation centre for hockey, swimming and related uses;
- 1 separate composite high school.

Total estimated area required is 135.7 acres (54.9 hectares).

Amended by Editor

(iii) Main housing area comprising:

- 770 apartments;
- 200 town house units;
- water reservoir open space and part of the passive park area;
- vehicular circulation route.

Total estimated area is 29.9 acres (12.1 hectares) (excluding passive park).

Amended by Editor

(iv) Commercial, housing and parking uses on west side of rail line comprising:

- licensed hotel;
- automotive service centre;
- commuter parking for 625 cars;
- 270 housing units;
- bus, vehicular and pedestrian circulation;

* It is expected that the library would require about 24,000 sq. ft. (2229 sq.m.) on 2 levels as part of the future elevated connection between the commercial centre and the rapid transit and bus station.

- rapid transit and bus transfer station.

Total estimated area is 17.5 acres (*7.1 hectares*).

Amended by Editor

(v) Hospitals and related uses comprising:

- 2 hospital sites;
- medical offices;
- bus circulation.

Total estimated area is 25.5 acres (*10.3 hectares*).

Amended by Editor

(vi) Bus Depot and Municipal Storage Uses.

Total estimated area is 5.8 acres (*2.3 hectares*).

The total estimated area (excluding arterial and rail rights-of-way) for the Town Centre uses within Clareview amounts to about 207 acres (*83.8 hectares*) or 74% of the total area required of about 280 acres (*113.3 hectares*); the balance of the Town Centre area is in the Casselman-Steele Heights Outline Plan Area.

Amended by Editor

The gross area for the Town Centre including arterial and rail rights-of-way is about 305 acres (*123 hectares*). The gross area of the Town Centre within Clareview is about 225 acres (*91.1 hectares*).

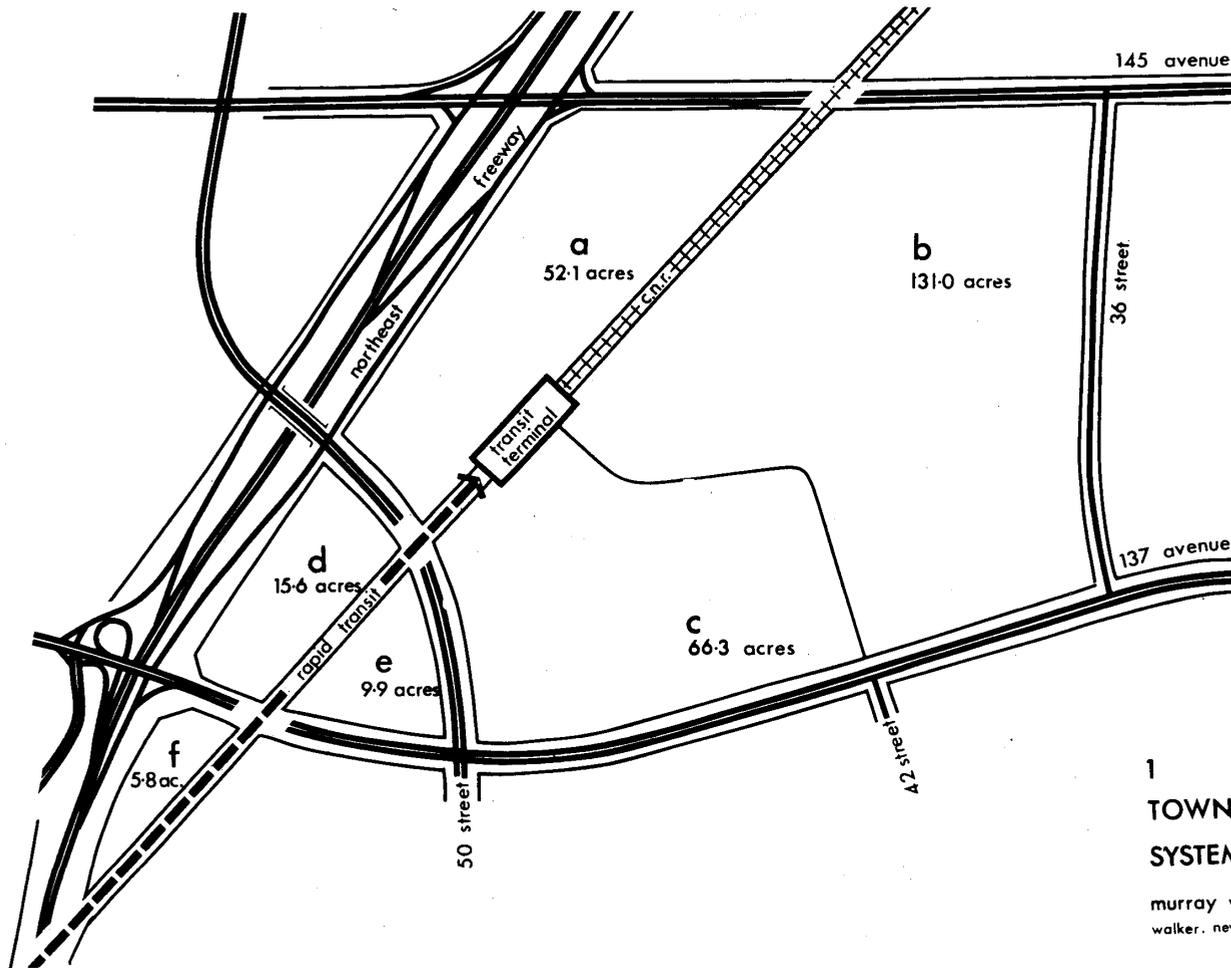
Amended by Editor

LOCATIONAL AND PLANNING CRITERIA FOR COMPONENTS

The rationale for the organization of the main Town Centre components is based on the following locational and planning criteria:

(i) The multi-use regional shopping centre:

- requires a large site area and a high level of vehicular accessibility with access preferably from 137th Avenue, 50th Street and 36th Street;



1
**TOWN CENTRE TRANSPORTATION
 SYSTEM AND BLOCK LOCATION**

murray v. jones and associates limited - planners
 walker, newby and associates limited - engineers
 0 500 1000 ↑ june, 1971

- must be capable of economic development, which requires an essentially low rise solution with parking at grade;
 - should be close to transit and bus station, recognizing however that the centre cannot be dependent on transit customers for its economic survival. It must operate essentially as a car-oriented centre to serve its market area;
 - should accommodate housing, office, community and related uses to give it a vitality, a longer day-night cycle and a social significance in the community beyond that of a purely retail service centre. This principle has now been put into practice increasingly in North America and is long established in other centres of contemporary significance;
 - should have good pedestrian connection to related uses such as transit station, adjacent housing, education facilities.
- (ii) The rapid transit and bus transfer station:
- requires a central location which maximizes access from buses, pedestrians, adjacent commuter parking and most Town Centre uses.
- (iii) The school/park facilities:
- the schools require a large area with direct access from the rapid transit and bus transfer station for the majority of students expected to use these modes of travel;
 - may be located on both sides of the rail line with pedestrian connection under or over the rail line;
 - require integration with indoor and outdoor sports facilities and playing fields to form an educational and recreation campus which is also combined with or related to passive park areas;
 - requirements are covered in detail in Appendix C.
- (iv) Higher density housing should:
- be located so that a large proportion of family units will have direct access to the open space, recreation and education amenities provided by the campus facilities;
 - provide a variety of locational choices and house types for differing life styles and

age and income groups, for families and non-families, such as within the multi-use centre, adjacent to the rapid transit station and adjacent to the school/park campus;

- be designed to meet the constraints and opportunities related to the various locations proposed, e.g. open space, traffic noise, views, parking areas, etc.;
- have good pedestrian connection to supporting facilities;
- be conveniently accessible to the bus and rapid transit system.

(v) The Hotel:

- requires a location with good access by vehicle and preferably also by transit;
- should be accessible from major parking areas serving other central uses and facilities;
- should have pedestrian connection to the transit station, and to the multi-use commercial centre and offices.

(vi) The Hospitals:

- should have a highly accessible location served by the future freeway, the major arterial road system, and the rapid transit and bus system, with convenient pedestrian connection to the transit station;
- may be separated but physically connected;
- should contain related facilities such as medical offices;
- since a hospital building lends itself to air conditioning and a controlled atmosphere, a central location near the freeway and rail line should be acceptable, and vibration can be overcome by appropriate construction methods.

(vii) Bus depot and municipal storage uses:

- should have adequate vehicular access from the major road system and be close to a bus route;
- does not require a central location in the Town Centre.

ASSESSMENT OF ALTERNATIVE ORGANIZATIONAL CONCEPTS

(a) Alternate Concepts

Consideration has been given to two basic concepts which are:

- (i) the vertical organization of many of the Town Centre uses on a smaller and compact site by developing a megastructure (a multi-level decked structure) which is centrally served by the rapid transit station. Map 2 indicates diagrammatically the site which could be created for this solution by modifying the alignment of those elements of the major road system which have some flexibility.
- (ii) Map 3 indicates a diagrammatic concept for the Town Centre which is based on a more horizontal distribution of the various elements over a larger area, connected by major pedestrian and vehicular circulation systems.

(b) Assessment of Alternate Concepts

- (i) With respect to the megastructure concept* (see Map 2), our analysis indicates that this solution cannot be realized because:
 - some of the key locational and planning criteria for Town Centre development cannot be met;
 - the site would be divided by three rail tracks, which would almost certainly require bridging by the commercial centre and malls at one or more levels and further bridging or underpass for vehicular circulation and parking facilities. Such an operationally difficult and costly solution is not economically justifiable, particularly when the shopping centre component does not depend on customers from the transit station and where adequate and more suitable land for economic development is available elsewhere in the Town Centre area;
 - potential road access to Block D would be restricted. At the most it would have one full access from 50th Street. Other access would be from the one-way collector-distributor road and from a bridge over the freeway. Block E could have three full access points but parking decks serving the centre would be split on two sides of the rail line;
 - the site requirement for the shopping centre and related parking alone is larger than Blocks D and E combined, which could force unnecessary restrictions on

* the megastructure concept if feasible, could produce maximum urbanity in an intensive development with potential for a very imaginative architectural design.

the shopping centre by cutting down a desirable mix of uses such as housing and community facilities, by prematurely curtailing expansion, or by forcing uneconomic parking and other structures;

- if a large amount of housing is included in the shopping centre, some of it would be sandwiched in the 600 feet (*183 metres*) between the freeway and the rapid transit line with accompanying problems of noise and outlook.

Amended by Editor

(ii) The concept which is recommended* for the Town Centre shown on Map 3 is based on:

- accommodating the proposed components and groupings of uses;
- accommodating the required areas for the components and providing sufficient land for a horizontal distribution of connected elements which facilitates their staged development and expansion;
- meeting the locational and planning criteria;
- providing for satisfactory transit operation and service, vehicular and pedestrian circulation and access to uses from the community, neighbouring areas and sub-region;
- facilitating the development of an intensively used and highly urban centre which is designed to meet the needs of the people and communities it serves in an interesting, vital, imaginative and adaptable way.

–

THE RECOMMENDED PLAN

Based on the foregoing considerations and the detailed studies in Appendix B and C, a preliminary plan has been prepared which illustrates the recommended Concept. The Plan is shown on Map 4 and indicates the full development of the Town Centre by 2001.

(a) Uses

The organization and nature of the various components is indicated on Map 4 in a diagrammatic form.

In the campus/district recreation park, the schools of each Board are in the locations requested by them, and these have been confirmed by the detailed site feasibility study in Appendix C.

* the recommended concept can achieve urbanity and imaginative architectural design potential in a way other than by a mega-structure solution.

The indoor recreation (arena and pool) is located where it has direct connections to public and separate schools and to rapid transit.

Recent investigation by the City of the existing wood on the east side of the rail line where school facilities are proposed, indicates that only a small proportion of the trees are of a condition or type worth preservation over the period of development. Careful integration of public senior school open space and buildings should preserve the most valuable trees.

970 dwelling units of stacked row housing and apartments are located in the main housing area, with easy pedestrian access by underpass to elementary schools in Neighbourhoods 1 and 5, to the shopping centre, and to the senior schools and transit station. The School Boards are presently unable to locate schools so that they are physically integrated with housing, though this may become possible over the long term. The housing is wrapped around the open space of the water reservoir and a passive park area in order to use its amenity and to inject life and use. Open space areas created by the housing could tie in with the park to augment it, and the housing itself helps to break down the formidable barrier of over a quarter mile of open playing fields which would otherwise occur between Neighbourhood 5 and buildings in the core of the Town Centre. The housing is located away from the noise and traffic of the arterials.

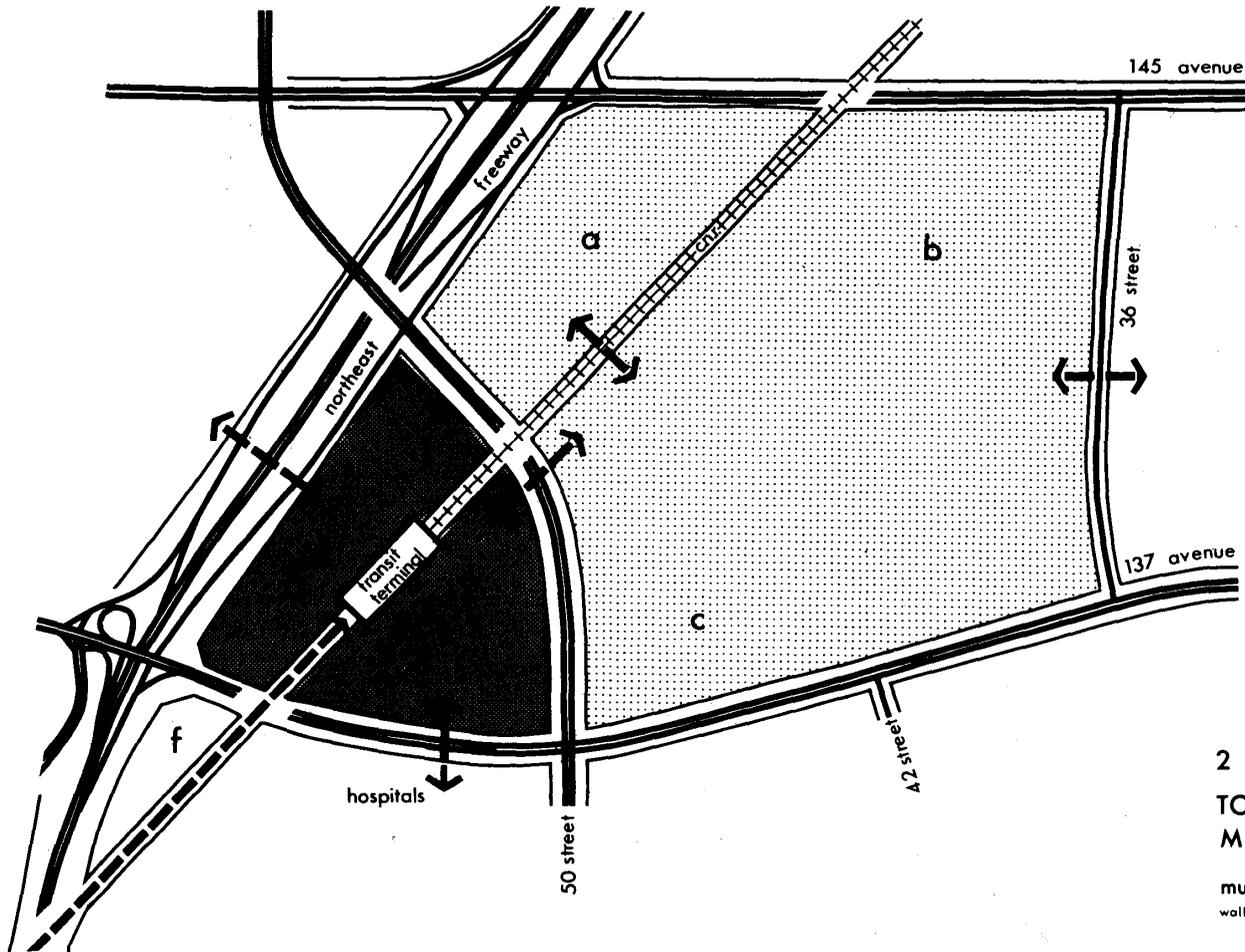
Plate 5 shows the housing proposed in the multi-use centre related to other uses.

The 'shopping' centre is 600 feet (183 m) from the rapid transit station to allow commuter parking at grade on the east side of the transit station. Were the shopping centre closer, commuters would take up prime commercial parking or else would require a very difficult if not impossible policing operation to induce them to park further away, with resulting inconvenience to the commuter and possibly reduced use of rapid transit. Peak parking for commercial use does not coincide with the daytime commuter parking, so that the great majority of the 625 commuter stalls east of the rail line will be available to shoppers at night. Likewise the 625 commuter stalls west of the line will be available for sports events, or for overflow evening use by the hotel.

Amended by Editor

(b) Pedestrian Circulation

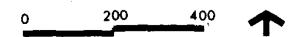
The components which are the main pedestrian generators are connected by the walkway system shown. Wherever possible this should be enclosed or partially enclosed, using the interrelated design of buildings and the circulation systems of building complexes to reinforce the walkway system and to assist in obtaining

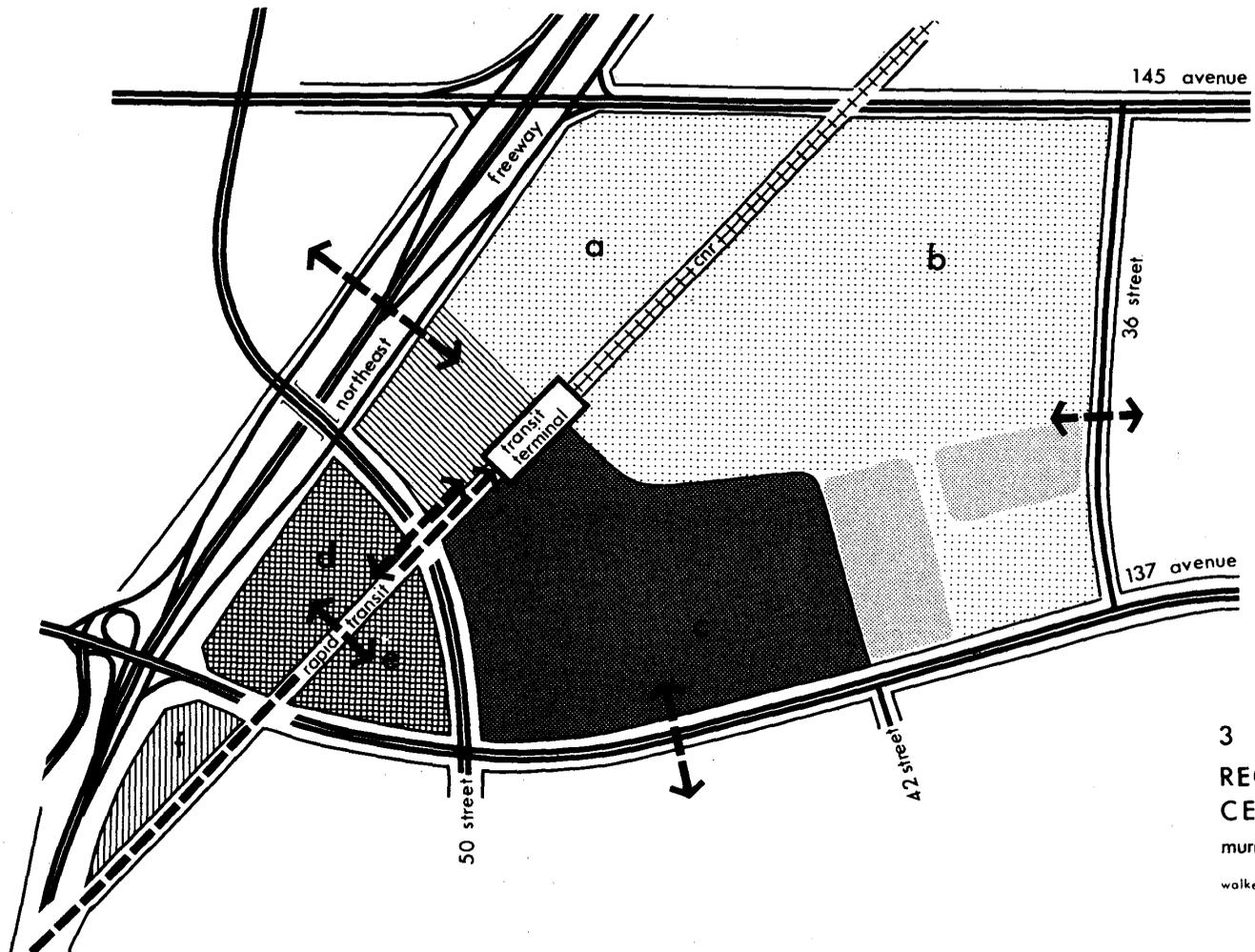


-  town centre megastructure area
-  primarily school, park, campus and recreation centre
-  major pedestrian linkages

2
**TOWN CENTRE
 MEGASTRUCTURE CONCEPT**

murray v. jones and associates limited - planners
 walker, newby and associates ltd. - engineers june 1971





- major pedestrian connections
- housing area
- multi-use centre
commercial, residential
community uses
commuter parking
- hotel residential
automotive service
commuter parking
- hospitals
- bus and municipal
storage
- school park campus
recreation centre
open space

3
**RECOMMENDED TOWN
 CENTRE CONCEPT**
 murray v. jones and associates limited-planners
 walker, newby and associates ltd. -engineers june 1971



weather protection. For example, a protected perimeter walkway is proposed as part of the separate and public senior school buildings. Elevated pedestrian connections are proposed between the multi-use commercial centre and the transit station and the main housing area.

Plate 6 shows the proposed mixed-use elevated pedestrian link related to housing adjacent to the transit station and developed above the commuter parking area.

The adjacent neighbourhood walkway systems connect to the Town Centre walkways as shown on Map 4, with pedestrian underpass crossings of arterial streets to Neighbourhoods 1 and 5 and with crossings at traffic controlled intersections to Neighbourhoods 8, 2 and 6. The Town Centre walkway system also connects to the Casselman-Steele Heights area as shown, using a pedestrian bridge over the freeway and a traffic controlled crossing on 145th Avenue.

(c) Transit

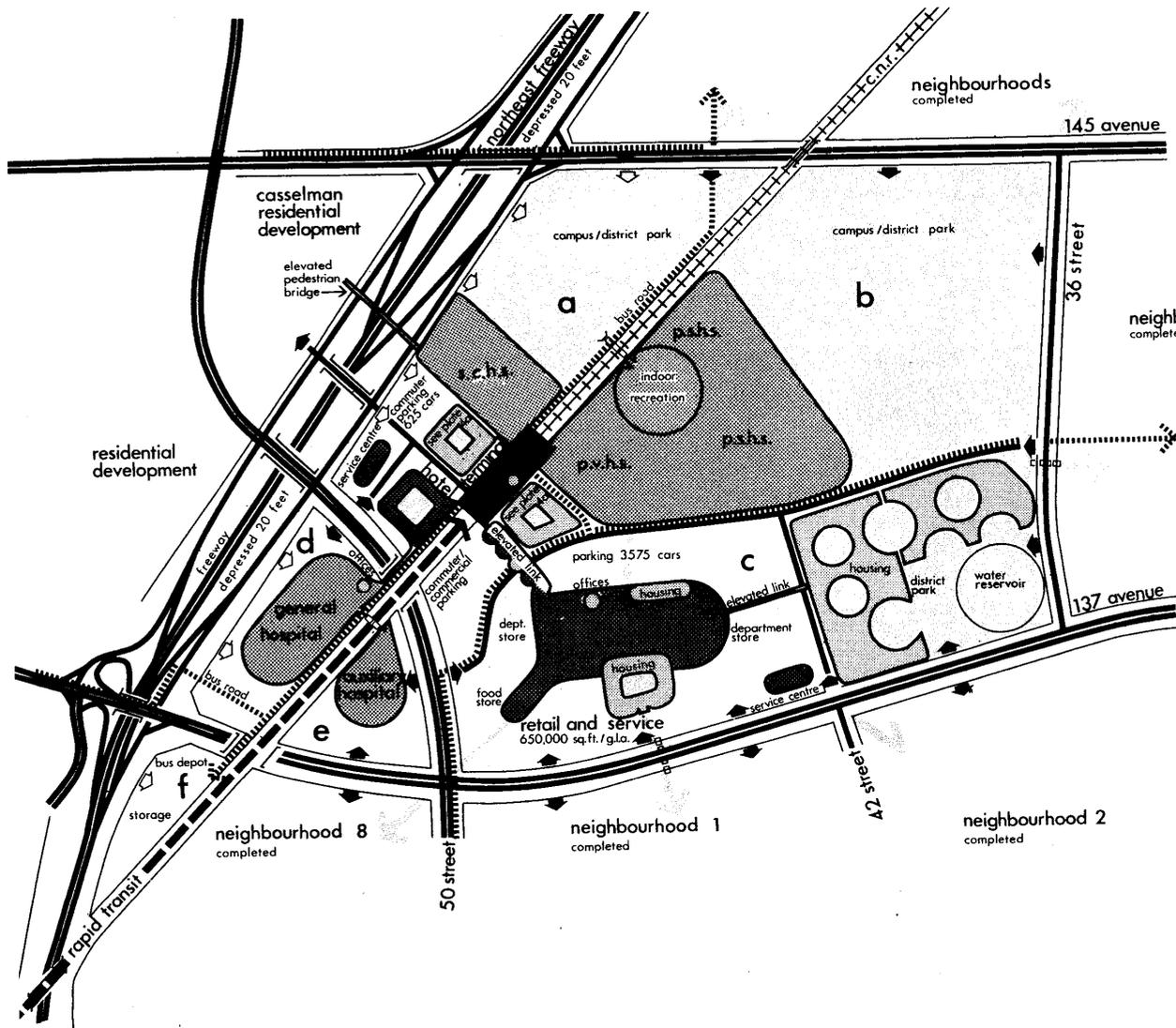
Separated bus routes, either as segregated lanes or bus roads are proposed within the centre and shown on Map 4. The transit terminal can be operated on two main levels with rapid transit platforms at about 8' (2.4 m) above grade and the bus terminus at 15' (4.6 m) below grade. The alternative of two rapid transit stations has been considered and rejected as unnecessary. Plates 7, 8 and 9 indicate a possible design for the terminal.

Amended by Editor

(d) Vehicular Circulation

Although modifications have been made to the Town Centre, its scale and scope has not changed significantly and the basic transportation system and road framework serving the Centre is generally similar. The preliminary traffic analysis undertaken previously for the Town Centre area indicated that the arterial system would be capable of handling the expected traffic volumes. Preliminary examinations and discussion with City 'roadways' officials have confirmed the general feasibility of the modified transportation network for the Town Centre.

Close liaison also has been maintained with these officials in respect to the number, location and type of access points required from the arterial road system in order to satisfactorily serve the proposed Town Centre development. A critical area in this



- p.v.h.s. public vocational high school
- p.s.h.s. public senior high school
- s.c.h.s. separate composite high school
- bus route
- ▲ full access
- ⌂ partial access
- open space and walkways
- pedestrian underpass

4
NORTHEAST TOWN CENTRE
2001
 murray v. jones & associates limited - planners
 walker newby & associates ltd. - engineers june 1971



respect is on the future 50th Street between the rail line and the proposed freeway, where adequate provision has to be made for all vehicular turning movements between 50th Street and the proposed general hospital and hotel, preferably in the manner shown on Map 4. We believe that if further detailed design study is required, an acceptable solution can be found. It is generally agreed that the remainder of full and partial access points indicated on the Plan are appropriate.

Not previously indicated and now proposed is an additional road bridge across the freeway from the Town Centre to provide increased accessibility to the west side of the Centre from the Casselman-Steele Heights area.

(e) Services*

The proposed staged development of the Town Centre (and first stage neighbourhood development) in the Clareview Area requires the installation of major water, storm and sanitary sewer services as well as the extension of existing hydro and gas utilities.

Maps 11a, 12a and 13a show the main water, storm and sanitary sewer systems necessary to support initial Town Centre and related development by 1973 and subsequent development by 1976 and by 1986.

For sanitary sewer servicing of the Town Centre area it will be necessary to install a major trunk sewer from the existing City outfall main along the west side of the river, along an alignment approximately 2,400 feet south of 137th Avenue. The City Engineering Department has not yet prepared a design for this trunk sewer but present indications are that it would be approximately 21" (53.3. *cm*) diameter. On this basis we would estimate the cost of bringing this trunk sewer westward to 34th Street to be approximately \$90,000.00. The location of this sanitary outfall could become a serious problem unless the plan of subdivision for the area east of 30th Street is established at an early date.

Amended by Editor

From a point on 34th Street, approximately 2,400 feet south of 137th Avenue, the trunk sewer would extend in a northwesterly direction to 137th Avenue and 42nd Street. This would permit the sewer servicing of Neighbourhoods 1 and 2 and bring the sewer adjacent to the Town Centre area.

Storm sewer servicing of the area is based on running a major sewer north from the Kennedale Ravine along 42nd Street. This is not the large (12'¹/₃.7 *m* diameter) storm

Amended by Editor

* This section has been based on information supplied by Walker, Newby & Associates Ltd., our associated engineering consultants.

sewer which will need to be installed from the ravine at about 41st Street in a northwesterly direction to the vicinity of 50th Street and 137th Avenue. We feel it should be possible to postpone installation of this 12' (3.7 m) diameter sewer for several years if the 42nd Street storm sewer is constructed.

Amended by Editor

Water supply to the Town Centre area will probably be obtained initially from a connection to the existing system at 134th Avenue at the Fort Trail. However, this installation also is dependent on being able to obtain a suitable right-of-way beyond the *railway* to the proposed reservoir site. Also, the required extension of this main is not included in the City's projected construction schedule for the next several years. This may require initial financing by the developers in order to have water service available at an early date for initial development in the Clareview Area. The estimated cost of the 18" (45.7 cm) main to the reservoir is \$45,000.00.

Amended by Editor

From the reservoir location, a major feeder will be required in the vicinity of 50th Street north to 137th Avenue. Assuming that this also will be an 18" main the estimated cost of this section of watermain is an additional \$75,000.00.

Along 137th Avenue a 24" (61 cm) diameter watermain is required to be installed to a reservoir site in the vicinity of 36th Street. The 24" main from 50th Street to the 36th Street reservoir would be expected to cost an estimated \$105,000.00 if constructed in 1973. The 24" watermain will need to be tied into the existing 24" main on 137th Avenue at 55th Street. It would be desirable to have this 55th Street to 50th Street section of main installed by 1973 but it is doubtful if details of the major road interchange at the freeway crossing will be established and right-of-way obtained sufficiently early to permit installation of this 24" watermain connection by 1973. Service to the Town Centre area would be obtained from a connection to the 24" main at 137th Avenue at 42nd Street.

Amended by Editor

The foregoing describes in general the required water and sewer installations which would be required to bring these utilities adjacent to the Town Centre. The sizing and cost estimates for the utilities required within the Town Centre area have not been completed at this time.

STAGING

The overall development period for the Town Centre should commence next year and will take possibly until 2001 when the Centre would be completed (See Appendix B). By comparison, the balance of development in the Clareview Area, which is primarily housing and supporting facilities, is also expected to begin next year and should be substantially completed by about 1986. Substantial housing development should also occur in the adjacent Casselman-Steele Heights and Hermitage Areas during the next 15 years to 1986

(Appendix A).

For the reasons indicated in the servicing section of this Plan, the general Clareview Area and the Town Centre which it contains are expected to have among the lowest relative servicing costs of any future development area in Edmonton.

Maps 10, 11, 12 and 13 have been prepared to show the proposed staging for the development and/or expansion of Town Centre elements by 1973, 1976, 1986 and 2001 respectively. The related phased development of trunk sewer, storm and water services is indicated in Maps 10a, 11a, and 12a for 1973, 1976 and 1986 respectively.

In formulating the proposed staging, consideration has been given to the preliminary plans of roadways for the phasing of new roads, and information was obtained from school, transit and other city officials. We have incorporated the projections from Appendix B concerning the timing and staging of commercial uses in the Town Centre. Our engineering sub-consultant investigated the servicing implications and preliminary servicing costs for the proposed staging.

In addition to the information contained in the staging maps, the following comments apply:

(a) 1973 Development

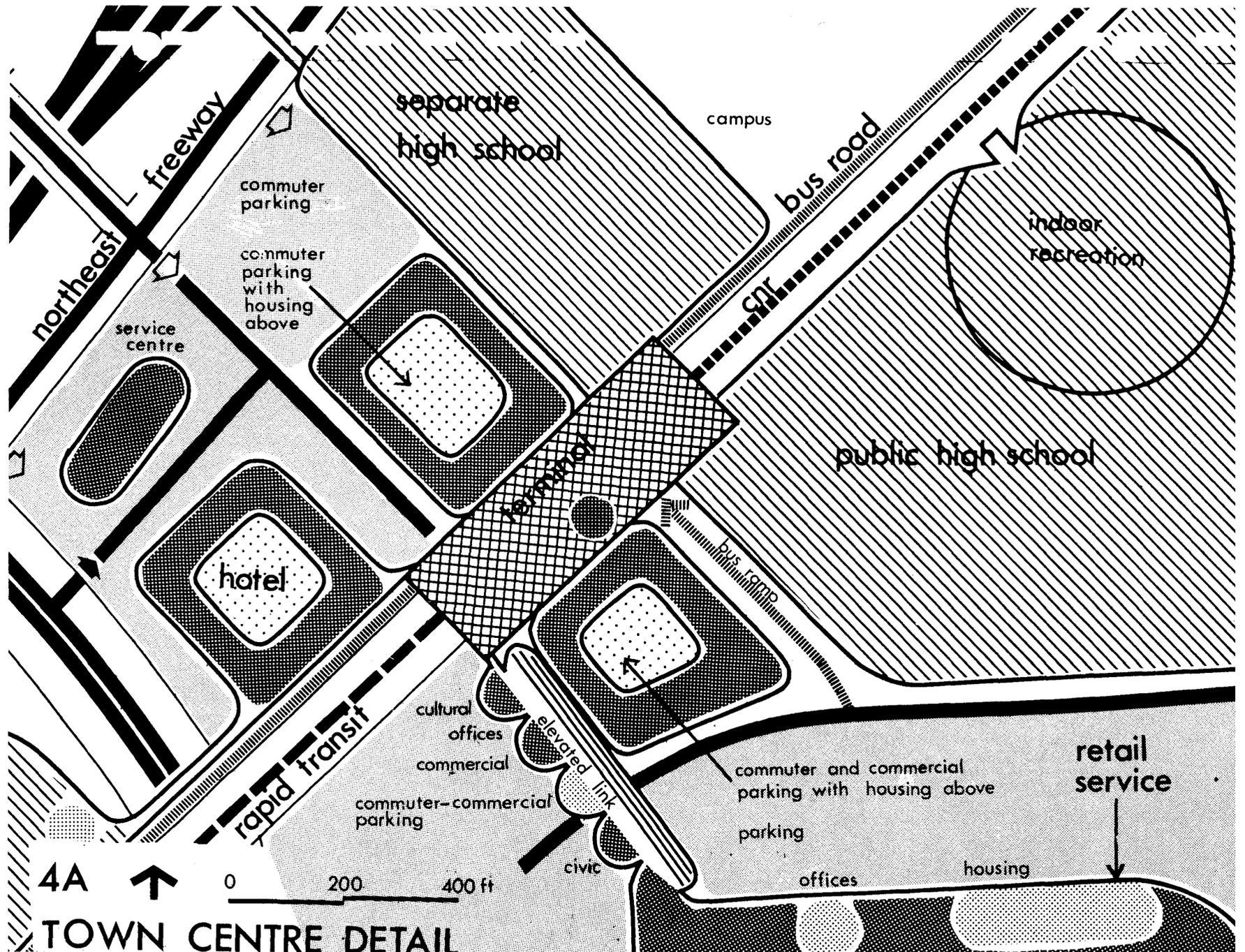
(i) Outline Plan Approval and Initial Uses

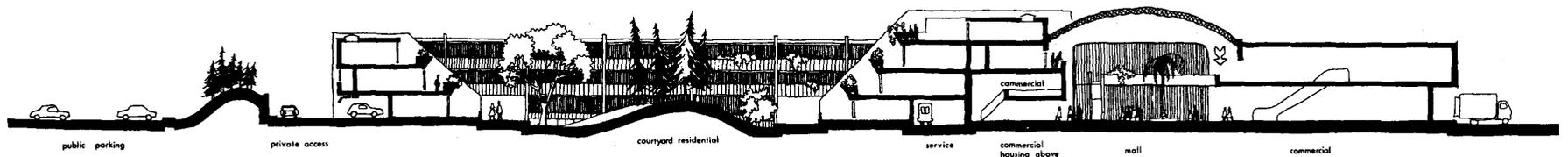
Early approval of the Town Centre Plan as part of the Clareview Outline Plan will not only permit the initial housing development proposed for 1972-73 to proceed, but the public vocational high school in the Centre can be constructed and be in operation on schedule by 1973 (See Map 10).

School officials support its location and its urgent development in the Town Centre, rather than on an alternate site outside the Clareview Area. However, should approval and implementation of the Clareview Plan be delayed beyond the critical timing required by the School Boards' current program, they would be forced, regrettably, to proceed with its development on an alternate site.

It is expected that the first part of the separate composite high school and the public senior high school should be under construction in 1973 and be completed in 1974.

Related development of indoor recreation facilities would be necessary together with the related outdoor recreation facilities. Passive park development and tree planting programs in the Town Centre (and neighbourhood areas) should be commenced by 1973.





public parking

private access

courtyard residential

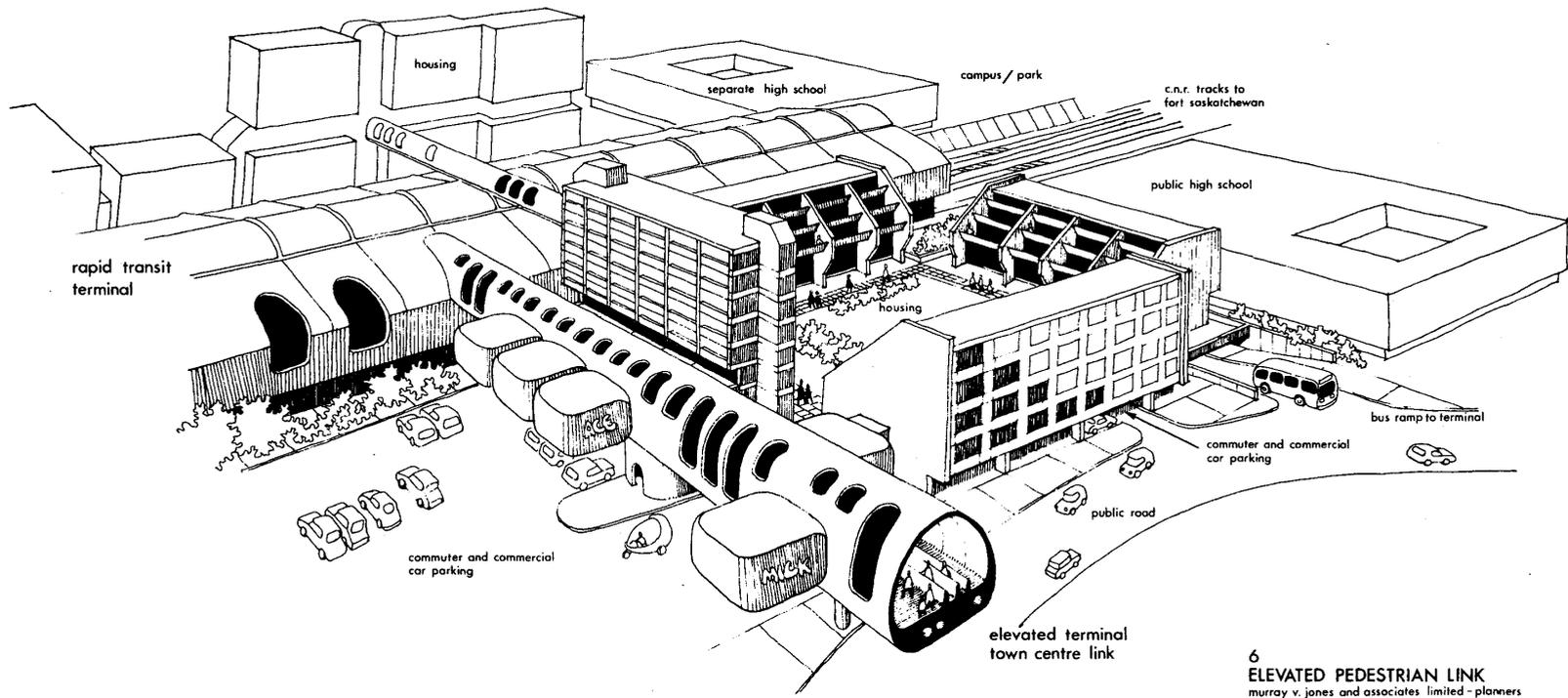
service

commercial
housing above

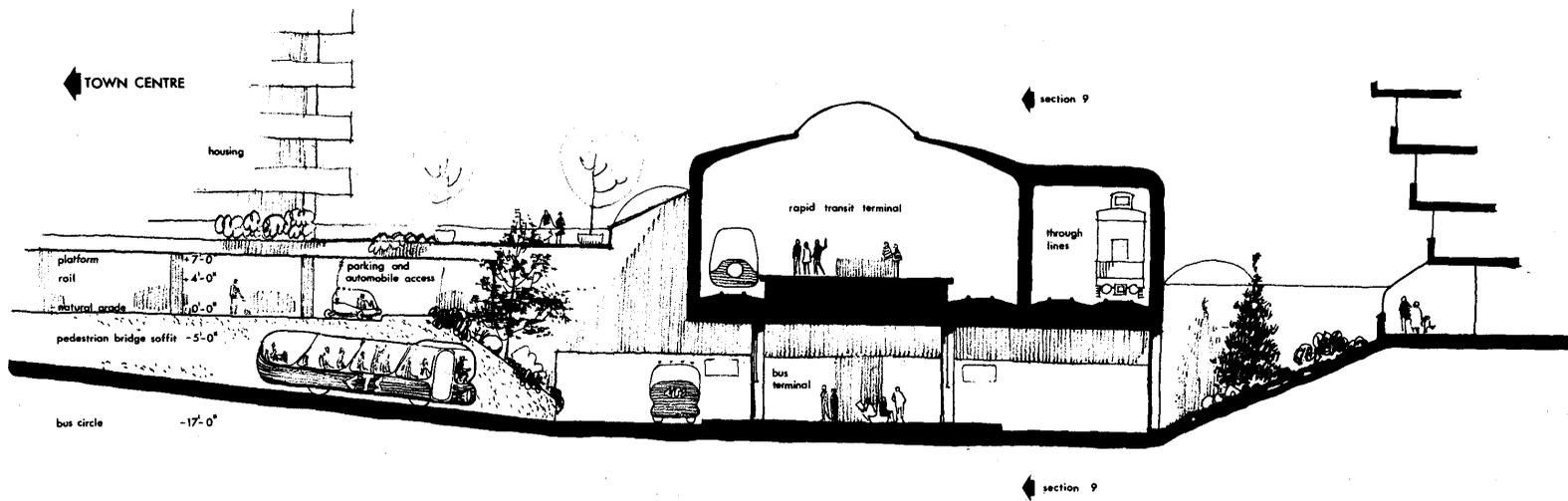
mall

commercial

5
HOUSING IN MULTI-USE CENTRE
mirray v jones and associates limited - planners

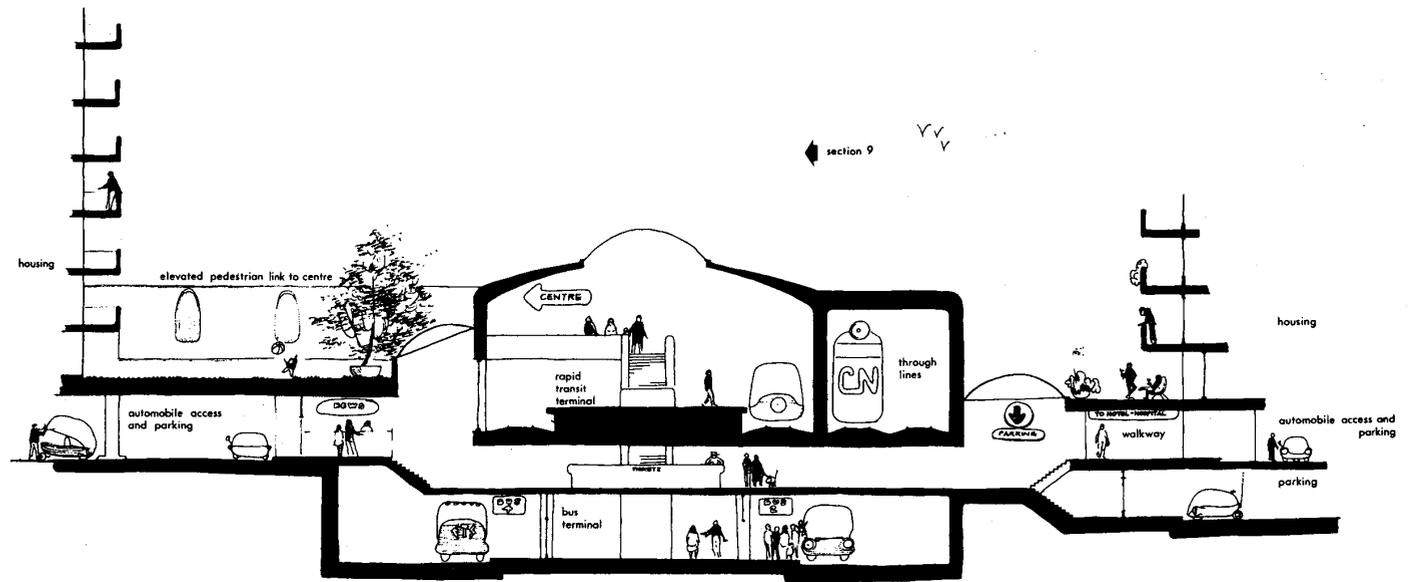


6
ELEVATED PEDESTRIAN LINK
 murray v. jones and associates limited - planners

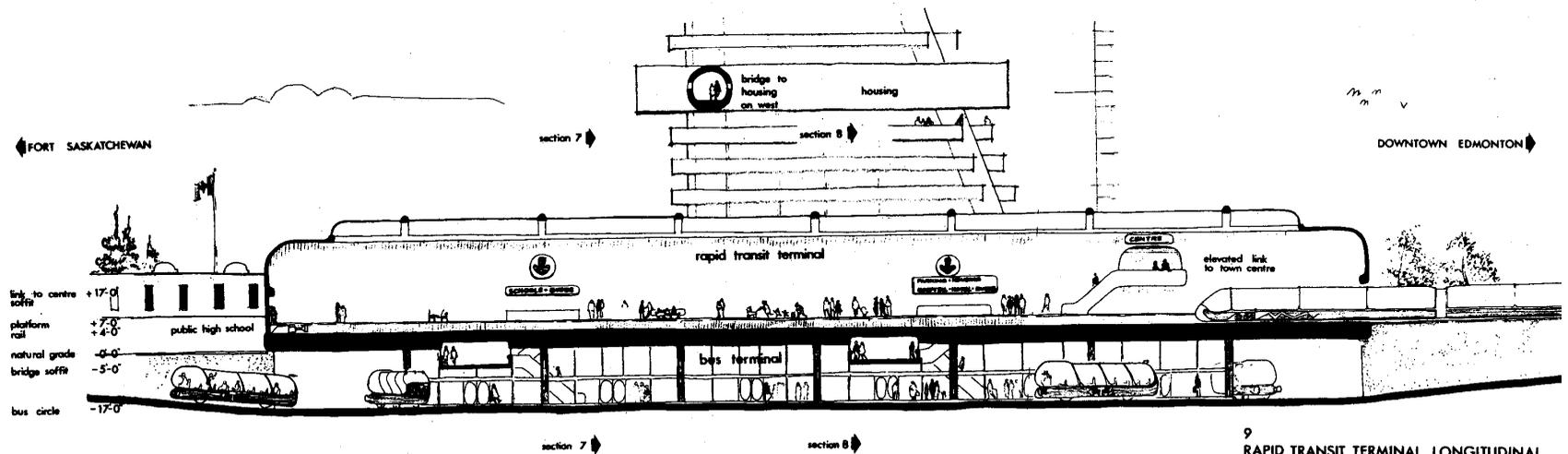


7
 RAPID TRANSIT TERMINAL CROSS SECTION
 LOOKING TOWARDS DOWNTOWN
 murray v. jones and associates limited - planners june 1977
 0 5 10 20 30

link to centre - soffit	+17'-0"
platform	+7'-0"
rail	+4'-0"
natural grade	0'-0"
pedestrian bridge - soffit	-5'-0"
bus circle	-17'-0"

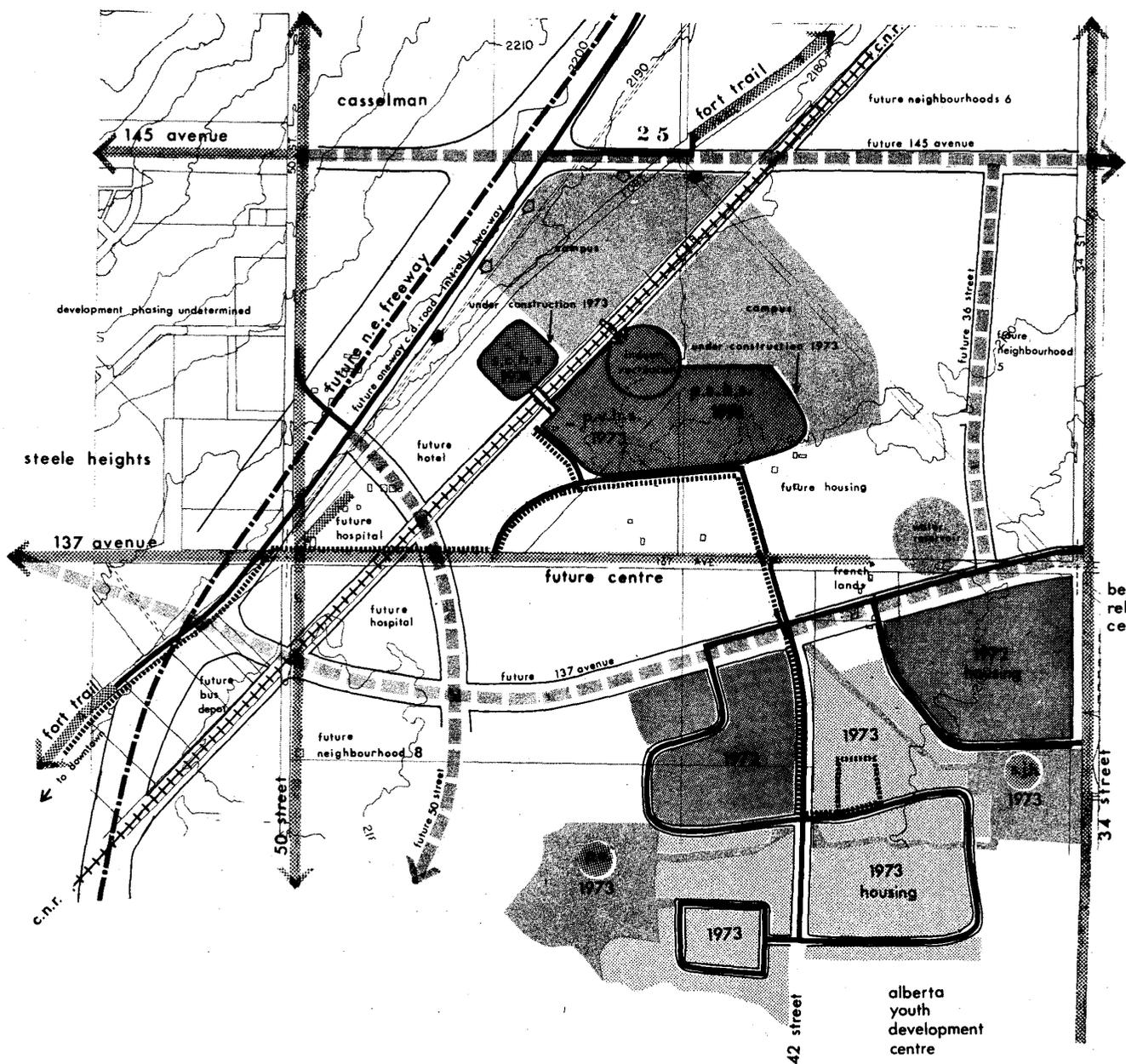


8
RAPID TRANSIT TERMINAL CROSS SECTION
 LOOKING TOWARDS DOWNTOWN
 murray v. jones and associates limited - planners june 1971
 0 5 10 20 50 ft.



9
 RAPID TRANSIT TERMINAL LONGITUDINAL
 SECTION LOOKING TOWARD TOWN CENTRE
 murray x jones and associates limited-planners june 1971

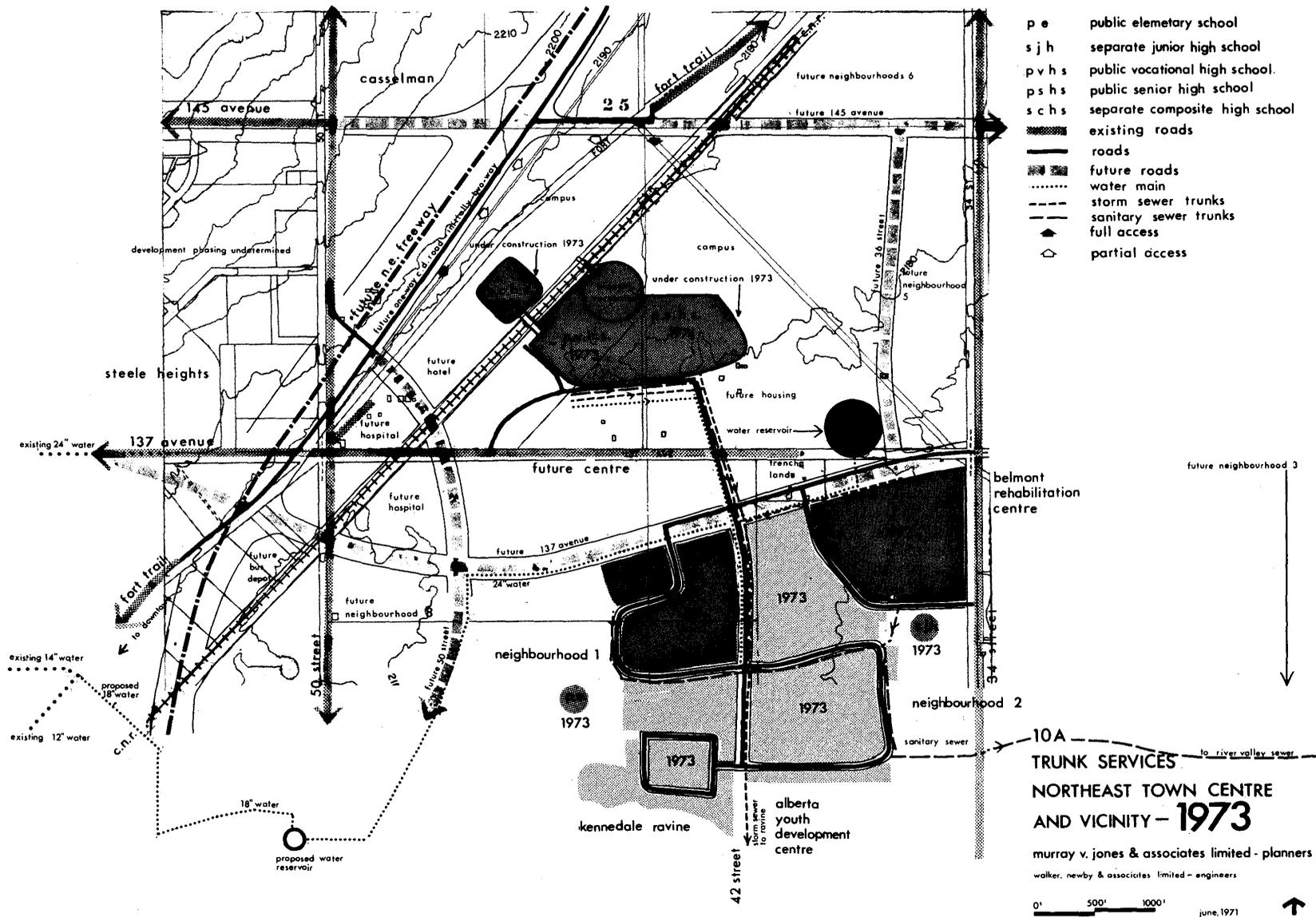
0 5 10 20 50 feet



- p park
- p e public elementary school
- s j h separate junior high school
- p v h s public vocational high school
- p s h s public senior high school
- s c h s separate composite high school
- ▨ existing roads
- ▬ roads
- ▨▨▨ future roads
- ⋯ bus route
- pedestrian underpass
- ▲ full access
- △ partial access
- ▨▨▨ developed open space and walkways

10
**NORTHEAST TOWN CENTRE
 AND VICINITY - 1973**

murray v. jones & associates limited - planners
 walker, newby & associates limited - engineers june 1971



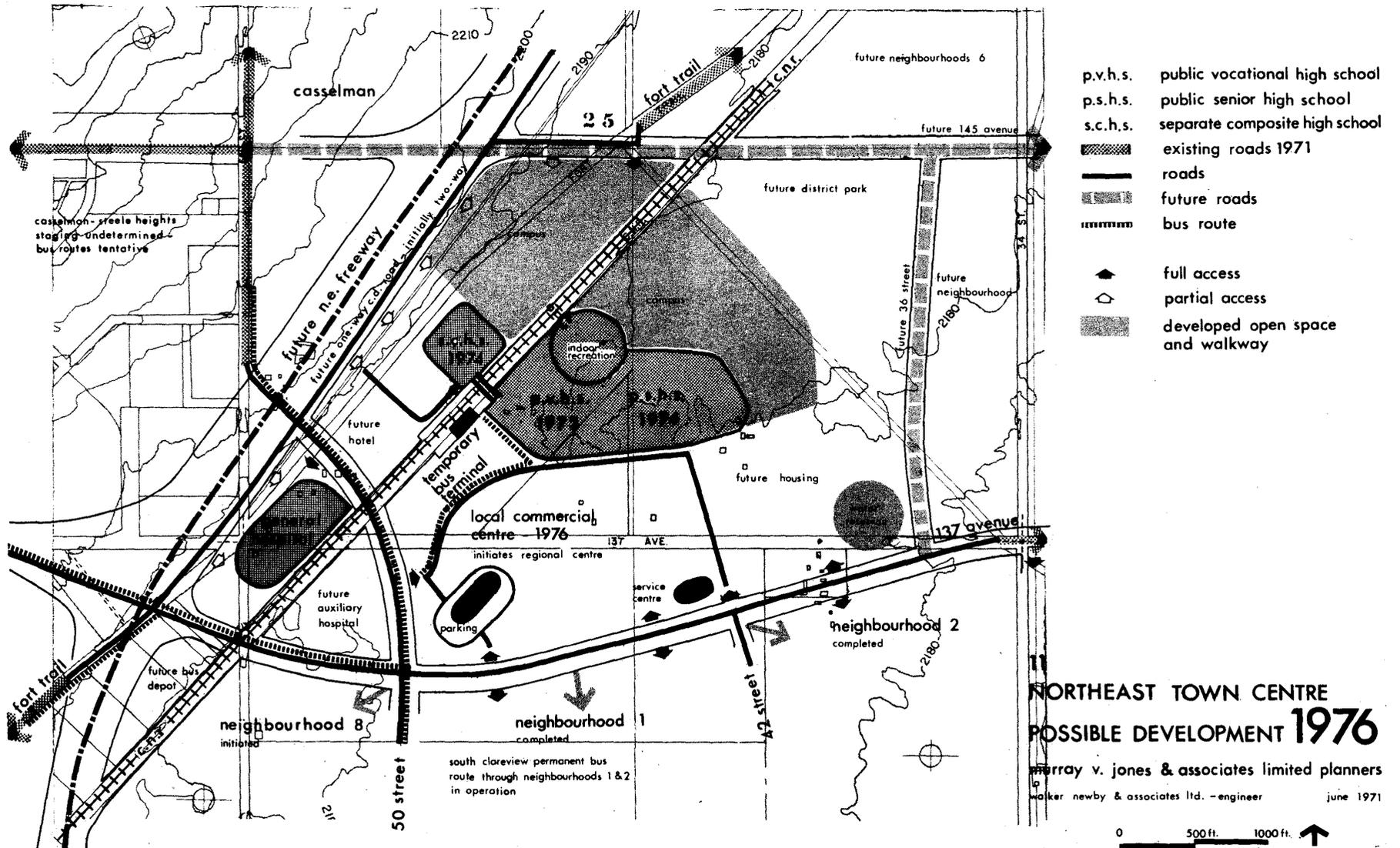
- p e public elementary school
- s j h separate junior high school
- p v h s public vocational high school.
- p s h s public senior high school
- s c h s separate composite high school
- existing roads
- roads
- future roads
- water main
- storm sewer trunks
- sanitary sewer trunks
- full access
- partial access

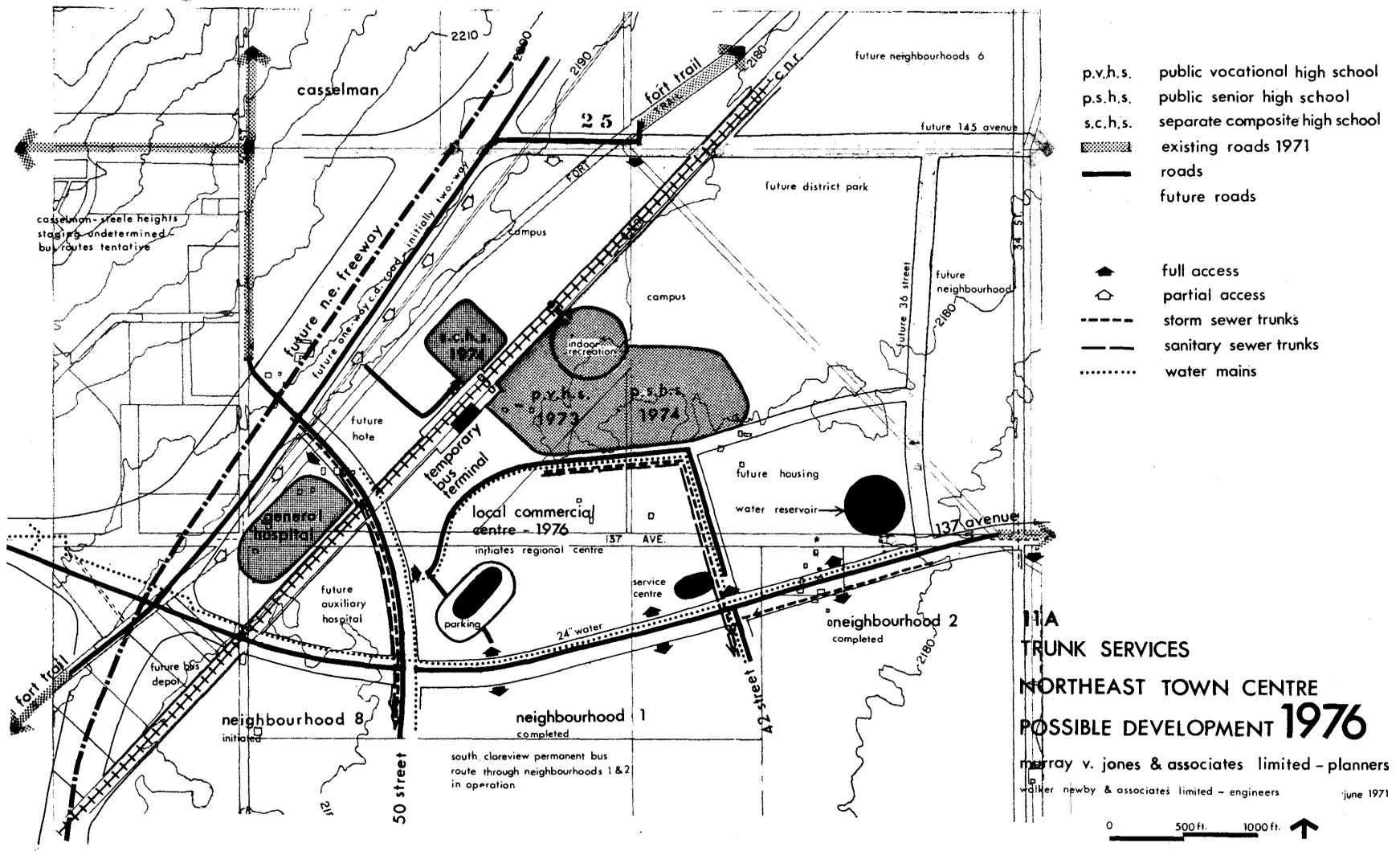
10A TRUNK SERVICES
 to river valley sewer

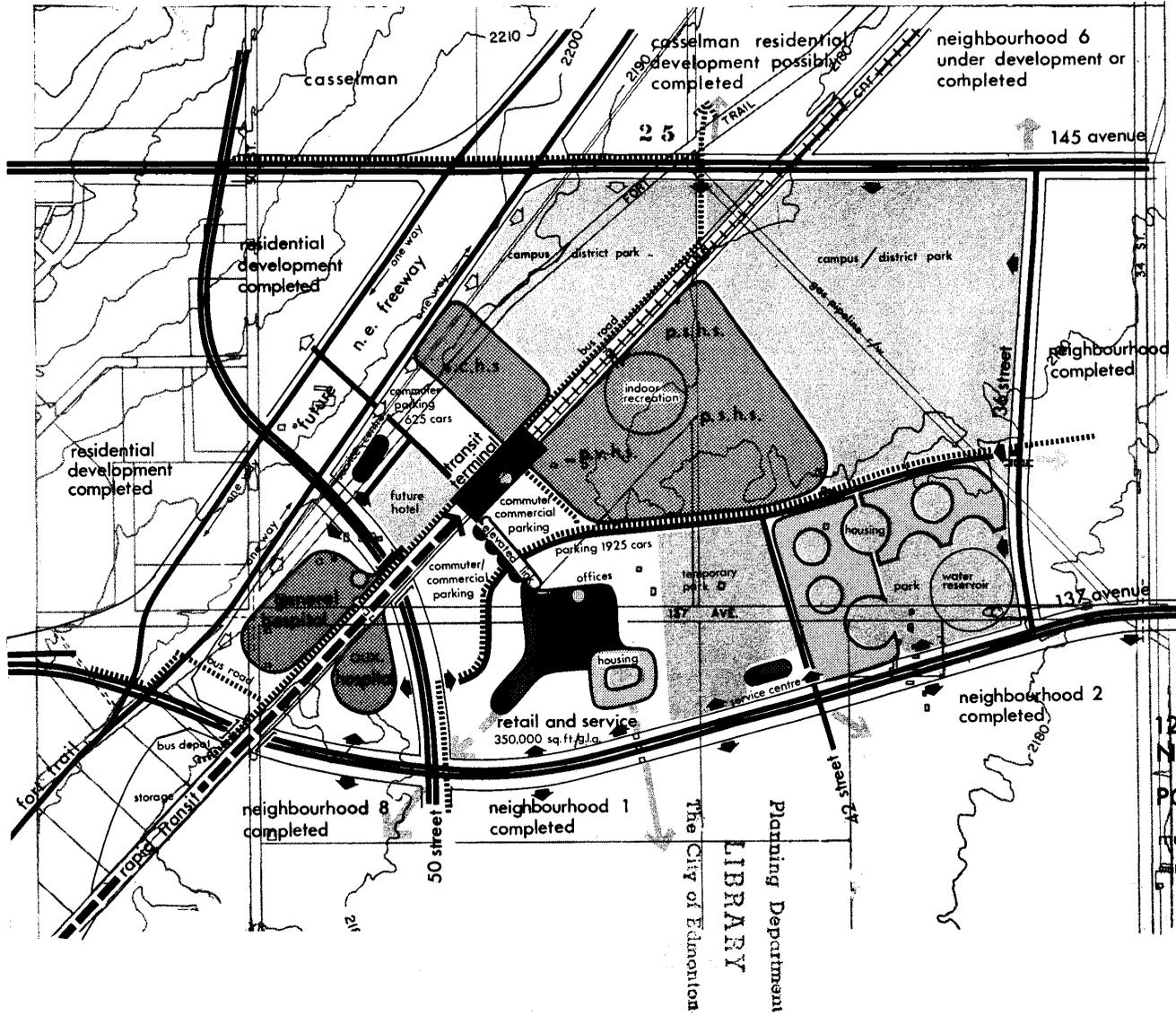
**NORTHEAST TOWN CENTRE
 AND VICINITY - 1973**

murray v. jones & associates limited - planners
 walker, newby & associates limited - engineers

0' 500' 1000'
 june, 1971





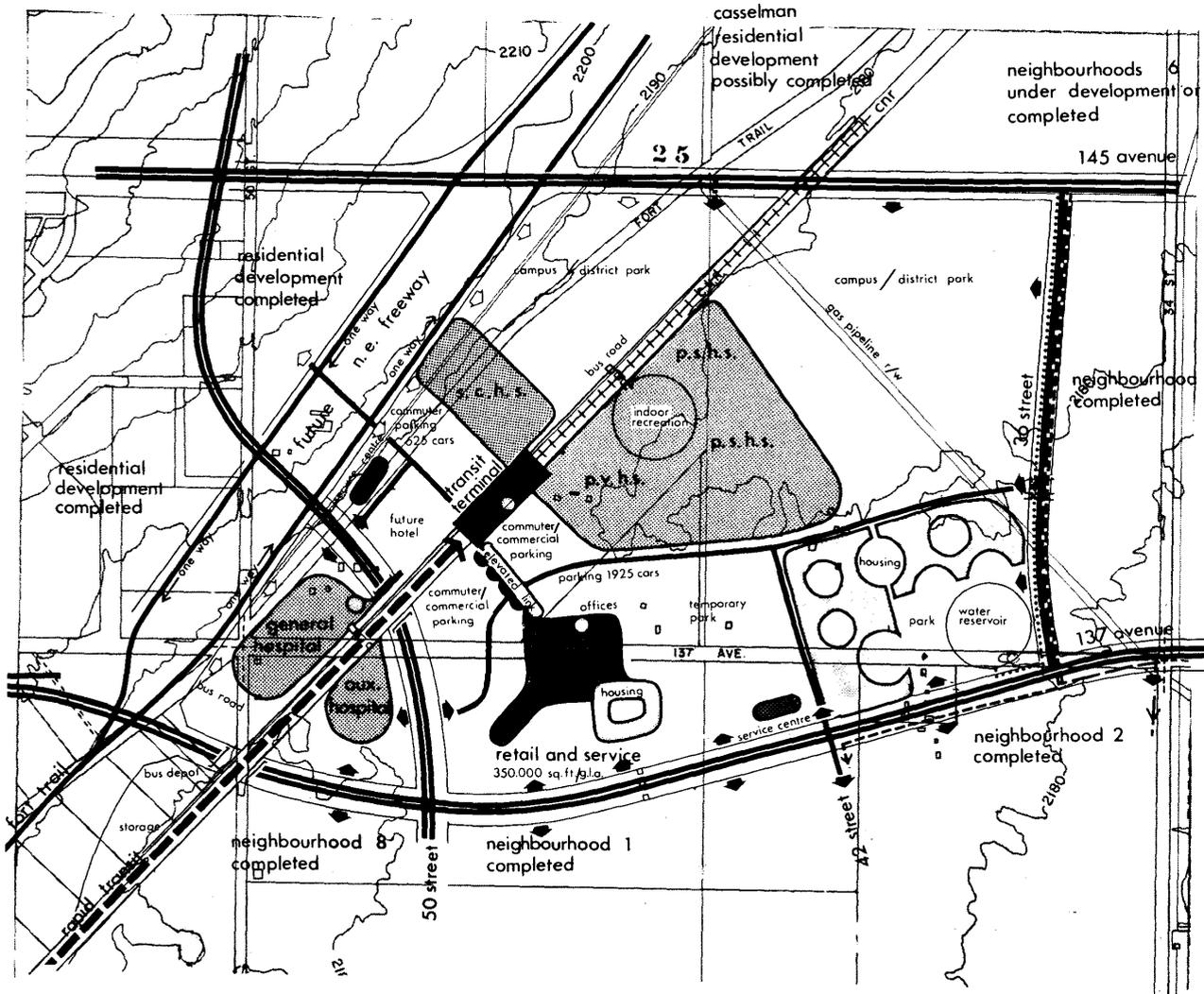


- p.v.h.s. public vocational high school
- p.s.h.s. public senior high school
- s.c.h.s. separate composite high school
- s.v.h.s. separate vocational school
- roads
- bus route
- full access
- partial access
- open space and walkways
- pedestrian underpass

**NORTHEAST TOWN CENTRE
POSSIBLE DEVELOPMENT 1986**

murray v. jones & associates limited - planners
Walker newby & associates ltd. - engineers
june 1971





- p.v.h.s. public vocational high school
- p.s.h.s. public senior high school
- s.c.h.s. separate composite high school
- s.v.h.s. separate vocational school
- roads

- ▲ full access
- ◡ partial access
- open space and walkways
- - - storm sewer trunks
- - - sanitary sewer trunks
- water mains

**12A
TRUNK SERVICES
NORTHEAST TOWN CENTRE
POSSIBLE DEVELOPMENT 1986**

murray v. jones & associates limited - planner.
walker newby & associates limited - engineers june, 1971



(ii) Roads and Transit

Road access east of existing 50th Street to the public vocational and public senior high schools would be provided by existing 137th Avenue. New 2-lane roads forming part of the future road system would be developed in the locations shown.

Vehicular access to the separate public school can be provided by the development of one (or possibly both) collector-distributor roads to provide two-way movement. These roads would be constructed as part of the future freeway. An express bus service to the downtown could be provided as shown to serve the schools in the Town Centre and initial housing development.

(iii) Services

As shown in Map 10a, a major storm sewer to the Kennedale Ravine and a trunk sewer connected to the existing sewer system along the west side of the river are required to be installed to serve the initial development of the Town Centre and related residential development.

Installation of these trunk sewers will need to be advanced by some months in relation to the City's current schedule.

The installation of the watermain and water reservoir system shown is required to serve early development. However, it is not yet specifically committed and elements of it may require initial financing in order to advance the City's preliminary schedule by some years.

(b) Development by 1976

(i) Uses

Map 11 shows the first stage development of the future regional commercial centre comprising 50,000 sq. ft. (4645.2 sq.m.) of gross leaseable area for retail and service commercial uses including a large food store.

Amended by Editor

By about 1976 the automotive service centre would likely begin to develop in the form of an expandable facility.

Development of the general hospital is expected about 1976, but no clear indication as to hospital phasing is yet available.

(ii) Roads and Transit

The new alignment's for 137th Avenue and 50th Street are to be developed with at grade crossings of the rail line initially. Grade separation will be undertaken when justified by increased traffic in the future. Road circulation in the commercial centre will be expanded as shown.

Bus service to the temporary bus terminal and the schools in the Town Centre would be provided. The south Clareview bus route serving the completed first two neighbourhoods and some of the Hermitage development south of the Kennedale Ravine should be operating. In principle, routes should follow final alignments as the detailed phasing for each outline plan area is determined. Additional bus routes should be supplied as the development in the northeast area proceeds.

(iii) Services

Services in the Town Centre area will be expanded as shown on Map 11a.

(c) Development by about 1986

(i) Uses

Housing in the Clareview Area should be substantially completed and the majority of the elements of the Town Centre should also be developed by this time.

Map 12 shows the expected expansion of the retail and service commercial centre to about 350,000 sq. ft. (32516.1 sq.m.) with offices (between 1986-91), the integrated development of about 100 dwelling units in the centre, and the elevated use-connection to the rapid transit terminal and bus station.

About 970 dwelling units should be developed around the reservoir park area.

The second public high school and the separate composite high school would likely be completed and the campus/park and indoor facilities should be fully developed.

The automotive service centre west of the rail line adjacent to 50th Street would likely be developed. Commuter car parking areas on both sides of the transit station should be in operation. The second hospital and the bus depot-municipal storage area. are expected to be completed.

Amended by Editor

(ii) Roads and Transit

The following new roads would be completed:

- The second collector-distributor roads within the freeway.
- Additional traffic lanes on 137th Avenue and 50th Street under the rapid transit line. These roads would be grade separated.
- 36th Street.
- 145th Avenue, with a grade crossing of the rail line until a grade separated crossing becomes justified by traffic volumes.

Some time between 1976 and 1986 (preferably as early as possible), the rapid transit service and station in the Town Centre should be operating. With the substantial completion of development in the Clareview and adjacent areas by this time, all bus routes to the transit station should be in service.

- (iii) Map 12a indicates the required expansion of main services to support Town Centre development by 1986 and its ultimate development by 2001.

(d) Development by 2001

(i) Uses

Map 13 shows the regional commercial centre expanded to its ultimate size of 650,000 sq. ft. (60387 sq. m.) gross leaseable area, including all other related uses, to create a highly active multi-purpose centre.

Amended by Editor

The Hotel and decked apartment development for about 750 dwellings over the commuter parking areas next to the transit station should also be completed. The numbers of units may be varied according to feasibility as needs become more apparent towards the end of the century.

By 2001, other uses not currently envisaged probably will have developed in the Town Centre, for which a provision has been made.

SUMMARY OF AREAS OF NORTHEAST TOWN CENTRE (excluding arterial and rail rights-of-way)

(Amended by Editor)

(a) <u>Main Components</u>	<u>Acres/Hectares</u>
Commercial core area 'C'	66.3/26.8
Campus/district recreation	135.7/54.9
Housing	28.0/11.3
Hospitals	23.6/9.6
(b) <u>Major Areas of Town Centre</u>	
Area within Clareview	207.2/83.
Area outside Clareview	<u>73.5/29.7</u>
Overall Total	280.7/113.6
(c) Gross area of Town Centre in Clareview (including arterials)	225.3/900.5
Gross area of Town Centre outside Clareview (including arterials)	<u>80/32.6</u>
	305.8/123.8

TOWN CENTRE HOUSING (Amended by Editor)

<u>Land Areas</u>	<u>Acres/Hectares</u>
Area for 300 apartment units at average density of 100 units per acre (247 units per hectare) on a decked site built over the parking area next to the transit station (Block C)	3.0/1.2
Area for 100 stacked town houses at 25 u.p.a/ 61.75 u.p.ha. in commercial core (Block C)	4.0/1.6
Area for 770 apartment units at average density of 70 u.p.a/172.9 u.p.ha. (Block B)	11.0/4.5
Area for 200 townhouse units at average density of 20 u.p.a./49.4 u.p.ha (Block B)	10.0/4.9

Note: the overall range in density for Town Centre Housing is between 15-100 units per acre / 37-247 units per hectare.

No. of Units

Apartments	(300 + 770)	1070 units
Multiple Family	(100 + 200)	<u>300 units</u>
Total	1370 units	

Public Elementary School Requirements

Pupils expected to attend P.E. Schools in Clareview Area

Apartments	$770^* \times .2 = 154$
Multiple Family	$300 \times .5 = \underline{150}$
	304
No. of Classrooms	$\underline{304} = 10.1$
	30

Distribution

Of the 10.1 classrooms of accommodation required, the P.E. School in Neighbourhood 1 would provide 4.0 classrooms and the P.E. School in Neighbourhood 5 would provide 5.2 classrooms. Pedestrian connection will be provided by underpasses under main roads.

* Public elementary school pupils from the 300 apartment future units next to the transit station on the east side and from the 270 apartment units on the west side of the station are expected to be accommodated by the proposed nearby school in the Steele Heights Area on the west side of the freeway. Pupils would use the proposed elevated bridge to cross the freeway.

DETAILS OF USES AND AREAS IN TOWN CENTRE (Amended by Editor)

BLOCK A

<u>Use</u>	<u>Built Area</u>	<u>Site or Landscape</u>	<u>Parking Incl. Circ.</u>	<u>Total Acres/Hectares</u>	<u>Basis</u>
Automobile Service Centre	-	2.0	-	2.0/0.8	Judgment
Hotels & Bars	-	-	-	4.8/1.9	300 rooms at 700 sq. ft. (65sq.m.) site per room. U.L.I. standard for low-rise hotels.
Commuter Parking	-	-	-	5.7/2.3	625 stalls. 400 sq. ft. (37.2 sq.m.) per stall. U.L.I. standard. 50% of E.T.S. request.
Housing (270 units) on deck over part of Commuter Parking	2.7	2.7	In structure	-*	
Public Road	-	-	-	1.1/0.4	Measured at 66' (20 m)r.o.w.
Bus Road	-	-	-	2.8/1.1	Measured at 50' (15 m) r.o.w.
Separate Composite High School Buildings & Parking	-	-	-	8.0/3.2	Request by Separate School Board.
Rapid Transit and Bus Transfer Station				0.7/0.3	Request by E.T.S. (2.8 ac. /1.1 ha. total).
Pedestrian Circulation				0.4/0.2	Measurement external to other named public components.
Outdoor Campus/District Recreation				<u>26.6/10.7</u>	Balance of Block A.
				52.1/21.1	

Note: Campus/district recreation + related public pedestrian circulation 34.9 ac. (14.1 ha)

* the 2.7 ac. (1.1 ha) decked site for housing is in part of the 5.7 acre (2.3 hectare) commuter parking area.

BLOCK B

<u>Use</u>	<u>Built Area</u>	<u>Site or Landscape</u>	<u>Parking Incl. Circ.</u>	<u>Total Acres/Hectares</u>	<u>Basis</u>
Public Schools Buildings & Parking				30/12.1	
Housing (770 apt. units plus 200 row units)		21.0		21.0/8.0	770 apartment units at an average of 70 u.p.a. (172 u.p.ha.) plus 200 row units at 20 u.p.a. (49.4 u.p.ha.)
Vehicular Cir. Public and Bus				3.9/1.6	Measures at 90' (27 m) r.o.w.
Indoor Recreation + Outdoor Campus/District Recreation				71.1/28.8	Balance of 130 ac. (52.6 ha.) Total campus/park request by parks/schools + about 6 ac. (2.4 ha.) buffer
Water Reservoir				<u>5.0/2</u> 131.0/53	

BLOCK C

<u>Use</u>	<u>Built Area</u>	<u>Site or Landscape</u>	<u>Parking Incl. Circ.</u>	<u>Total Acres/Hectares</u>	<u>Basis</u>
Retail & Service	11.5	0.3	32.8	44.6/18.0	650,000 (60387) gross leaseable area assumed on 1.5 levels + 10% single level enclosed mall. Parking - 5.5 stalls per 1000 sq.ft. (92.9 sq.m.) g.l.a. at 400 sq.ft. (37.5 sq.m.) per stall (U.L.I. standards) or 3575 stalls, all assumed at grade. Absorbs 625 commuter stalls.
Housing (100 stacked row units in centre)				4.0/1.6	100 row units at 25 u.p.a., (61.8 u.p.ha) gross area includes resident but not visitor parking.
Housing (3-0 apt. units) on deck over part of commuter parking	3.0	3.0	In Structure	*	300 apt. units at 100 u.p.a. (247 u.p.ha)
Offices	0.2	0.1	-	.03/0.2	100,000 sq.ft. (9290 sq. m,) assumed on approx. 11 floors. 100 parking stalls (U.L.I. standard) absorbed by shopping centre.
Community facilities	0.7	0.2	0.3	1.2/0.5	Planning Dept. 2 floors assumed. Includes theatre, community hall, and library of 24,000 sq.ft. (22229.7 sq.m.) on 2 levels as part of elevated connection to transit station (Libraries Director).
City offices	0.1	0.1	0.1	0.3/0.2	Planning Dept. 3 floors assumed.
Rapid Transit Stop & Bus Terminal				0.7/0.3	Request by E.T.S. (2.8 total).
Automobile Service Centre				2.0/0.8	Judgment.
Public and Bus Road right-of-way				8.2/3.3	Measured at 80' (24.4 m)r.o.w.
Unidentified				<u>5.0/2.0</u>	Contingency for expansion.
				66.3/26.8	

- the 3.0 acre decked site for housing is in part of the area for commuter parking.

BLOCK D

<u>Use</u>	<u>Built Area</u>	<u>Site or Landscape</u>	<u>Parking Incl. Circ.</u>	<u>Total Acres/Hectares</u>	<u>Basis</u>
Medical Offices	0.5	0.1		0.6/0.2	Judgment 75,000 sq.ft (6967.7 sq.m.) gross building, approx. 4 floors. 1 stall per 220 sq. ft. /20.2 sq.m. (North York Medical Centre) or 340 stalls requiring 3.1 acres (1.3 ha) shared with hospitals.
Bus Road				1.3/0.5	Measured at 50' (15.2 m) r.o.w.
General Hospital				<u>13.7/5.5</u>	Balance of Block C. (Total hospitals 23.6) Planning Dept. request for 15-25 ac. (6.1-10.1 ha) confirmed by Agnew-Peckham Assoc. Ltd., Hospital planners.
				15.6/6.3	

BLOCK E

<u>Use</u>	<u>Built Area</u>	<u>Site or Landscape</u>	<u>Parking Incl. Circ.</u>	<u>Total Acres/Hectares</u>	<u>Basis</u>
Auxiliary Hospital				9.9/4.0	Block D total area. See 'general hospital', Block C basis.

BLOCK F

Bus Depot Municipal Storage				5.8/2.3	Block E total area. Request by E.T.S. for 1.1 ac. for depot only.
-----------------------------	--	--	--	---------	---

APPENDIX A

A FORECAST OF HOUSING DEMAND – OUTLINE PLAN AREA No.3 -1966 -1986 *

The following outlines a forecast of demand for housing in Outline Plan Area No. 3, the proposed development area in northeast Edmonton. The discussion is divided into four major parts. In Section 1, past and future population changes in the Edmonton Census Metropolitan Area (CMA) are considered. Section 2 contains a brief description of past changes in population and occupied dwellings in built-up and newly developing areas of the CMA, and a projection of the potential population of Outline Plan Area No. 3, based on certain assumptions concerning the distribution of future CMA growth between built-up and newly developing areas. Section 3 is a discussion of the distribution of dwelling units by type and size that would be marketable in Outline Plan Area No. 3, and Section 4 considers the price range of housing likely to be marketable.

1. PAST AND FUTURE POPULATION TRENDS - EDMONTON CMA

Table A-1 outlines the changes in population for the Edmonton CMA and the City of Edmonton between 1951 and 1966. The CMA population grew very rapidly in 1951-61, with a 91% increase for the period. The development of oil and gas fields near Edmonton, together with developments in petroleum-related industries, were the main factors responsible for this rapid expansion of population. In 1961-66, the petroleum industry provided a much smaller growth stimulus, and employment and total population increased at a lower rate. Although the 1961-66 rate of increase was relatively low in terms of Edmonton's previous growth, it was still among the highest for all Canadian census metropolitan areas, exceeded only by Kitchener and Saskatoon. The population of the City of Edmonton grew at a very similar, but slightly lower, rate during 1951-66. The proportion of the CMA population within the city boundaries (as of 1966) thus declined slightly, from 97-98% in 1951 and 1956 to 94% in 1966.

* The research for this Appendix was undertaken in 1969 prior to the BACM and Millwoods proposed developments were announced but the analysis is considered to be still valid for the purpose intended.

Table A-1

Total Population - 1951-66
Edmonton CMA and City of Edmonton

Area	Year			
	1951	1956	1961	1966
(i) Edmonton CMA* - Total	176,682	254,800	337,568	401,299
Five-Year Change - No.	-	+78,018	+ 82,768	+ 63,731
Five-Year Change - %	-	+ 44.1	+ 32.5	+ 18.9
(ii) City of Edmonton** - Total	171,989	247,940	322,238	376,925
Five-Year Change - No.	-	+ 75,951	+ 74,298	+54,687
Five-Year Change - %	-	+44.2	+30.0	+17.0

Source: DBS, Census of Canada

* All data based on 1966 CMA boundaries.

** The 1961 and 1966 figures apply to the 1966 city boundaries. The 1951 and 1956 figures apply to the same area, except for parts of Stoney Plain County, Strathcona County, and Sturgeon County annexed to the city between 1961 and 1966. The population of these areas, equal to 1,640 in 1961 (and undoubtedly quite similar in 1951 and 1956), has not been included in the 1951 and 1956 figures. A small part of the 1956-61 increase is thus due to this change in definition.

Table A-2 presents two population projections for the Edmonton CMA. The projection by Larry Smith Consulting, Ltd. assumes a moderate decrease in the rate of growth which results in an absolute increase in 1966-71 almost equal to that of 1961-66, and rising absolute increases for the remainder of the projection period. The City of Edmonton Planning Department is more optimistic in its projection, estimating a 59% increase from 1966 to 1981, compared to a 53% increase for the same period projected by Larry Smith Consulting, Ltd.

In our opinion, these projections for the CMA are "reasonable". In the discussion which follows we will use the projection prepared by Larry Smith Consulting, Ltd., because of the greater detail which it provides.

Table A-2

Projections of Total
Population
Edmonton CMA

<u>Projection</u>	<u>1966</u>	<u>1971</u>	<u>1976</u>	<u>1981</u>	<u>1986</u>
*Larry Smith Consulting Ltd.					
- Total	401,299	465,000	535,000	615,000	705,000
Five-Year Change – No.	-	+63,701	+70,000	+80,000	+90,000
Five-Year Change - %	-	+15.9	+15.1	+15.0	+14.6

**City of Edmonton Planning
Dept.

- Total	401,299	-	-	638,000	-
---------	---------	---	---	---------	---

Source: * Larry Smith Consulting Ltd., Residential Demand Study – Edmonton Alberta (Toronto: 1967), p. 16 and Table 8

** City of Edmonton, General Plan (1967), p.33.

2• PAST AND PROJECTED FUTURE CHANGES IN POPULATION - BUILT- UP AND NEWLY DEVELOPING AREAS - EDMONTON CMA

Given a population forecast for the Edmonton CMA as a whole, the purpose of this section is to forecast the population that can be expected in the northeast portion of the CMA, and specifically in Outline Plan Area No. 3, assuming that the supply of housing does not act as a constraint.

The increase in population during the period to 1986 will be housed in two types of areas: (i) those presently built-up, and (ii) those which have been essentially undeveloped up to the present time. The older residential areas around the central business district are an example of the former, and Outline Plan Area No. 3 is an example of the latter.

To estimate the future distribution of the population increase between these two types of areas, we have computed the distribution of the increase which occurred in 1956-61 and 1961-66. For each period, the CMA was divided into areas which were completely built-up at the start of the period, and areas only partly developed or completely undeveloped at the start of the period. For each type of area, we computed the net change in population and occupied dwellings during the period, and related these changes to the change in the CMA total.

The following maps illustrate these areas for 1956-61 and 1961-66. The built-up area in each period includes all completely built-up census tracts at the start of the period. The

built-up area was divided into two parts, using the river as a dividing line. The rest of the CMA, undeveloped or only partly developed at the start of each period, was divided into four groups. Census tracts within the city boundaries as of 1966 were divided into a northeast group (north of the river and east of 97th Street), a northwest group (north of the river and west of 97th Street), and a south group (south of the river). The fourth group included all tracts outside of the city boundaries as of 1966.*

(a) Past Trends

Table A-3 shows that the total population of the built-up areas of the city declined in each period. The rate of decrease was moderate (1.4% in 1956-61 and 3.3% in 1961-66), but the effect on the rate of growth in the newly developing areas, with their much smaller population at the start of each period, was significant. If the population of the built-up areas had remained constant in 1961-66, for example, growth in the newly developing areas would have been only 65%, rather than the 72% which did occur.

Given the decrease in population in the built-up areas, total population in the newly developing areas increased by more than the net change for the CMA as a whole. In 1956-61, population growth in these areas was 102.5% of the CMA increase, and 112.5% in 1961-66. The northeast area within the city boundaries, which includes Outline Plan Area No. 3, accounted for 12.7% of the CMA increase between 1956 and 1961, and for 26.7% in 1961-66. The northeast area thus accounted for 12.4% of the growth in the newly developing areas in 1956-61 and for 23.7% of this growth in 1961-66.

* Portions of Stoney Plain County, Strathcona County, and Sturgeon County annexed to the city after 1961 could not be included in the 1951-61 city totals, but are included in the 1961-66 city totals. The population in these areas was very small relative to the total population of the city. (see footnote **, Table A-1).

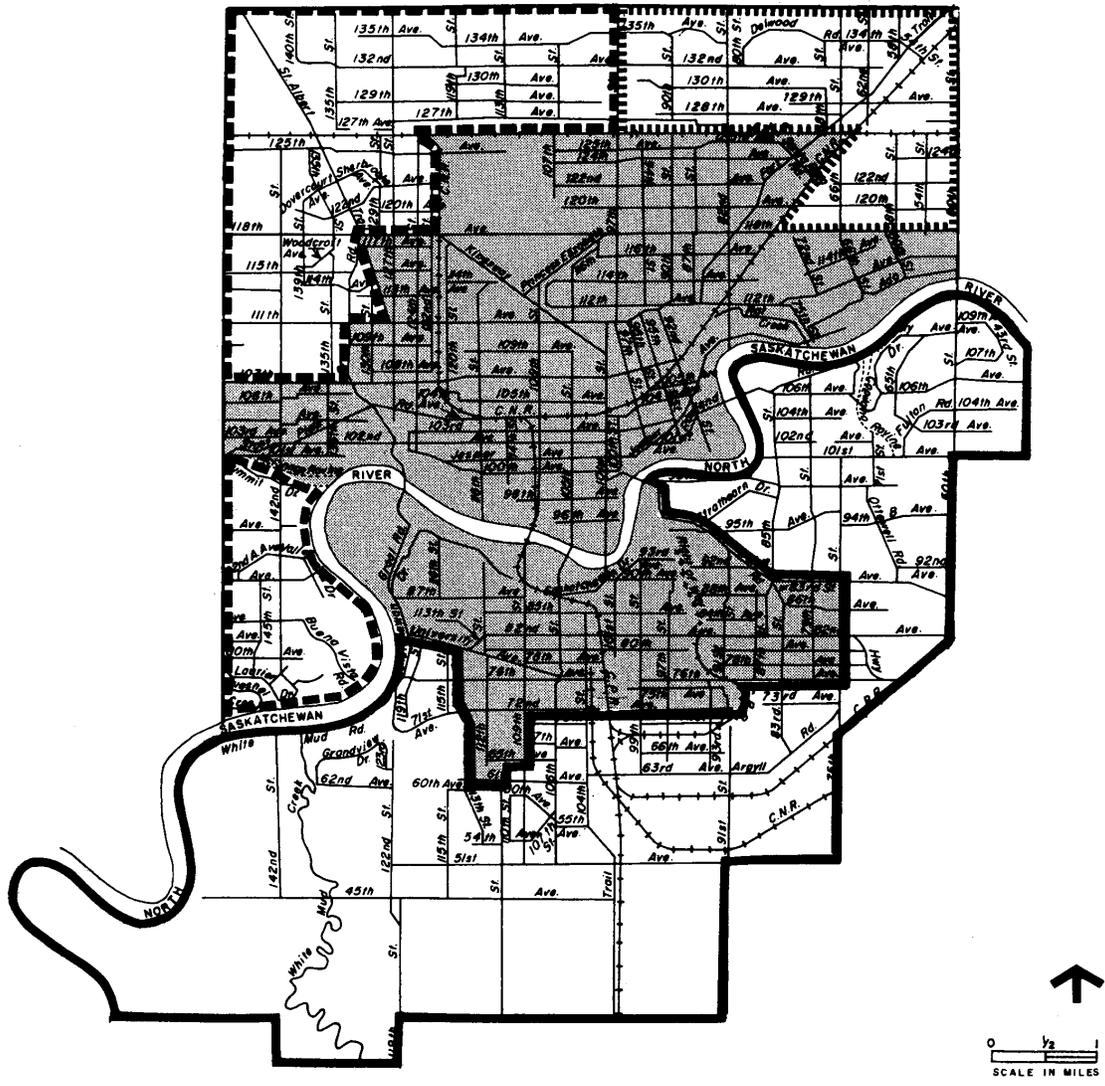
Table A-3

Population Changes in Built-Up Areas and Newly Developing Areas Edmonton CMA - 1956-66

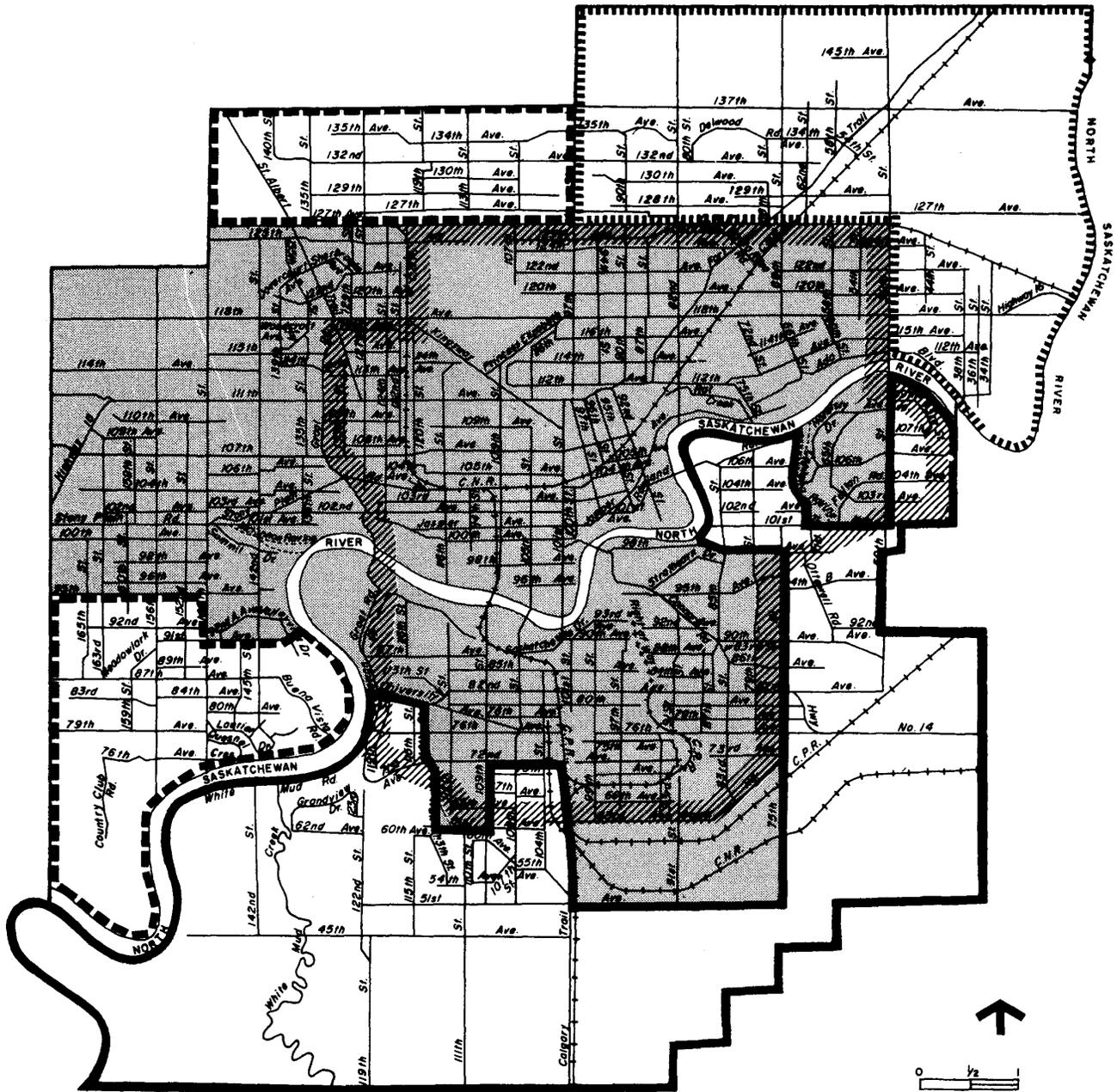
Area	1956-61				1961-66			
	Population 1956	Population 1961	Change	% Distribution of CMA Change	Population 1961	Population 1966	Change	% Distribution of CMA Change
<u>Built-Up Area</u>								
(i) North of River	105,599	104,084	- 1,515	-1.8	161,084	157,019	- 4,065	-6.4
(ii) South of River	<u>47,470</u>	<u>46,855</u>	=	<u>-0.7</u>	<u>76,310</u>	<u>72,434</u>	<u>- 3,876</u>	<u>-6.1</u>
Total	153,069	150,939	- 2,130	-2.5	237,394	229,453	- 7,941	-12.5
<u>Newly Developing Areas</u>								
(i) Northeast	16,365	26,894	+10,529	12.7	19,147	36,143	+16,996	26.7
(ii) Northwest	45,481	84,379	+38,898	47.0	36,252	56,396	+20,144	31.6
(iii) South	33,025	58,386	+25,361	30.6	29,445	54,933	+25,488	40.0
(iv) Beyond City Boundaries	<u>6,860</u>	<u>16,970</u>	<u>+10,110</u>	<u>12.2</u>	<u>15,330</u>	<u>24,374</u>	<u>+ 9,044</u>	<u>14.2</u>
Total	<u>101,731</u>	<u>186,629</u>	<u>+84,898</u>	<u>102.5</u>	<u>100,174</u>	<u>171,846</u>	<u>+71,672</u>	<u>112.5</u>
Total - CMA	254,800	337,568	+82,768	100.0	337,568	401,299	+63,731	100.0

Source: DBS, Census of Canada

BUILT-UP AND NEWLY DEVELOPING AREAS CITY OF EDMONTON 1956



BUILT - UP AND NEWLY DEVELOPING AREAS CITY OF EDMONTON 1961



BUILT UP AREAS

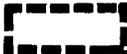


NON BUILT-UP AREAS

NORTH OF RIVER
EAST OF 97th ST.



NORTH OF RIVER
WEST OF 97th ST.



SOUTH OF RIVER



CENTRAL BUILT-UP
AREA AS DEFINED IN
CITY OF EDMONTON
GENERAL PLAN (1967)



0 1/2 1
SCALE IN MILES

Table A-4 shows the results of a similar tabulation for occupied dwellings. The most significant finding of this table is the increase in occupied dwellings in the built-up area, despite the losses in population. In 1956-61 the built-up areas accounted for 20.1% of the CMA increase in occupied dwellings, and for 20.9% in 1961-66.

This growth in the number of occupied dwellings and decline in total population reflects the changing composition of the housing stock in the built-up areas. In 1961-66, for example, the number of occupied apartments and flats increased 48.4% while the number of single-detached and single-attached units decreased 10.1% (see Table A-5). These changes in the composition of the housing stock were accompanied by a decline in average household size (persons per dwelling unit) from 3.61 in 1961 to 3.27 in 1966. *

* This is an approximate calculation, giving slightly high averages, since the total population including persons in institutions was taken into account.

Table A-4

Occupied Dwellings in Built-Up Areas and Newly Developing Areas Edmonton CMA - 1956-66

Area	1956-61				1961-66			
	Total 1956	Total 1961	Change	% Distribution of CMA Change	Total 1961	Total 1966	Change	% Distribution of CMA Change
<u>Built-Up Areas</u>								
(i) North of River	27,611	31,736	+ 4,125	16.9	45,593	49,420	+ 3,827	18.1
(ii) South of River	<u>12,352</u>	<u>13,138</u>	+ <u>786</u>	<u>3.2</u>	<u>20,202</u>	<u>20,799</u>	+ <u>597</u>	<u>2.8</u>
Total	39,963	44,874	+ 4,911	20.1	65,795	70,219	+ 4,424	20.9
<u>Newly Developing Areas</u>								
(i) Northeast	3,908	6,407	+ 2,499	10.2	4,441	8,523	+ 4,082	19.2
(ii) Northwest	10,866	20,107	+ 9,241	37.8	8,508	12,788	+ 4,280	20.2
(iii) South	8,100	14,059	+ 5,959	24.3	7,128	13,486	+ 6,358	30.0
(iv) Beyond City Boundaries	<u>1,704</u>	<u>3,562</u>	+ <u>1,858</u>	<u>7.6</u>	<u>3,137</u>	<u>5,208</u>	+ <u>2,071</u>	<u>9.7</u>
Total	<u>24,578</u>	<u>44,135</u>	+ <u>19,557</u>	<u>79.9</u>	<u>23,214</u>	<u>40,005</u>	+ <u>16,791</u>	<u>79.1</u>
Total - CMA	64,541*	89,009	+24,468	100.0	89,009	110,224	+21,215	100.0

Source: DRS, Census of Canada

* Estimate - Many of the sub-totals in this table are based on groups of census tracts within which a small number required estimates of the number of dwelling units. All of these estimates involved prorating a dwelling unit total among two or more census tracts on the basis of total population for each tract. The errors introduced by these estimates would be very small.

Table A-5

Dwelling Units by Type - Built-Up Area Edmonton CMA - 1961. 1966

Type of Dwelling	1961		1966		% Change - Total Number 1961-66
	Number	% of Total	Number	% of Total	
		65.5	39,620	56.4	- 8.1
Single-detached	43,123	5.7		3.6	-32.4
Single-attached	3,767		2,547		
Apartments, Flats	18,905	28.7	28,052	39.9	+48.4
	65,795		70,219		
Total		100.0		100.0	+ 6.7

Source: DBS, Census of Canada

Note: Percentages in this and subsequent tables may not total 100.0 due to rounding.

(b) Future Trends

In forecasting changes in population from 1966 to 1986, we will first discuss changes in existing built-up areas, and then consider existing undeveloped areas.

We have seen that the population of the built-up areas declined in 1956-66. This decline occurred despite an increase in the number of occupied dwellings, reflecting the declining average household size. In the two decades to 1986, the presently built-up area of the CMA will probably continue to be characterized by an increase in the number of apartment units considerably greater than the decrease in other types of dwellings, making a net increase in the total number of dwelling units. Average household size will probably continue to decline as these changes in the supply of housing proceed. Although the net effect of these trends in 1956-66 was a declining population, the net effect in the period to 1986 is debatable. The City of Edmonton *Planning and Development Department*, in its General Plan (1967) document, predicted a 15% increase in the population of the central built-up area between 1965 and 1981.* In Appendix No. 1, published by the Planning Department in 1968, this estimated increase was reduced by approximately one-half, to 7-8%. Both these projections were too high in our opinion, in view of the population decrease between 1956 and 1966.

Amended by Editor

* Calculated from Drawings 4 and 5, Chapter III, pp.36-37. The central built-up area used in this calculation includes the eastern three-quarters of the total built-up area in 1961 (see the map of built-up and newly developing areas in 1961). In Appendix No. 1 - Amendments to the City of Edmonton General Plan (December, 1968), the predicted population increase for the total built-up area is reduced by slightly over 50% compared to the 1967 prediction. The revised prediction for the central built-up area would presumably be about 50% lower as well, giving a 7-8% increase in 1965-81 instead of 15%.

The *Planning and Development Department's* basis for predicting the increase to 1981 was not noted in the General Plan or Appendix No. 1, except generally to attribute it to the increase in apartment units within the central area. Apartment units have been increasing rapidly for the past decade, however, and population has been decreasing. It is unlikely that the rate of apartment growth in the future will increase sufficiently to result in population increases. In fact, the total number of dwellings might not increase fast enough to maintain the present population. In view of the many uncertainties, the most reasonable assumption concerning the future population of the built-up area is that it will remain constant in 1966-86.

Amended by Editor

Given a constant population in the built-up area, the population increase in the undeveloped areas of the CMA will equal the increase in the CMA. The task now becomes one of distributing this population increase among the four potential development areas. The area beyond the 1966 city boundaries received approximately 12% of the population increase in these four areas in 1956-1966. In future years we expect these outlying areas to attract a similar or somewhat higher proportion of the total population growth in newly developing areas. For our purposes, we assume that these areas will attract 15% of total population growth in the CMA in 1966-86.

This leaves 85% of the projected CMA population increase to distribute among the three development areas within the city. This is the potential population from which the northeast area, if it is to develop, must draw. Table A-6 shows growth in the northeast area as a proportion of total growth in the three development areas of the city in 1956-66 and as projected by the City of Edmonton *Planning and Development Department* to 1981. The northeast sector's share of population growth in the development areas of the city was almost twice as high in 1961-66 as in 1956-61. The *Planning and Development Department* expects a further increase during 1966-81, when the northeast sector is expected to attract 39.7% of the growth in the city's development areas.

Amended by Editor

Table A-6

Population Growth in the Northeast Area as a Percent of Total growth in the City's Development Areas

<u>Period</u>	<u>Percent of Total</u>
1956-61	14.1
1961-66	27.1
Planning Department- 1966-81	39.7

Source: 1956-66 percentages calculated from Table A-3, above. City of Edmonton Planning Department estimate calculated from City of Edmonton General Plan - Appendix No. 1 (December 1968), p. 26

In our opinion, the allocation of 40% of the total growth to the northeast sector over the next 15-20 years is a reasonable working assumption.*

It implies, of course, that there will be no constraints of housing supply, i.e., that the quantity, price and type of housing available will satisfy the demand for housing in this area.

It must be recognized that this forecast for the northeast sector is intended as an indication of the population that will be available, and not of the population that must be accommodated in this area of the City. Depending on the density of development in the area (and assuming no change in the city boundary on the northeast), the population to be accommodated may be considerably less than 40% of the city's growth over the next 20 years. On the other hand, a relatively high density of development could result in the continuation of development until several years after 1986.

The population increase in the northeast sector over the next 20 years on the basis of 40% of the total city growth is shown in Table A-7.

Table A-7

Projected Population Increase

Northeast Sector - City of Edmonton - 1966-86

Period	Total Projected Increase	Increase Per Year	Percent of City Growth
1966-71	21,650	4,330	40
1969-71	8,660	4,330	40
19 71- 76	23,800	4,760	40
1976-81	27,200	5,440	40
1981-86	30,600	6,120	40
Total: 1969-86	90,260	-	40

Outline Plan Area No. 3 includes approximately 80% of the developable land within the northeast sector. The population growth within the area in 1969-86 will depend mainly upon supply factors within the northeast sector. For example, if the provision of housing and services is concentrated in Outline Plan Area No. 3 in the immediate future, virtually all of the population increase in Table A-7 for the early years of the projection period will locate in this area. It is a fruitless exercise to "project" the distribution of population growth among sub-sectors within the northeast sector. The distribution of this growth can be largely

* Since this forecast was developed, other major development proposals have become public (Southeast Edmonton and BACM). These developments if implemented, and depending on their rate of development, could make the allocation of 40% of the total growth for the northeast sector over the next 15-20 years an optimistic estimate. However, a somewhat slower rate of development in the northeast sector does not change the Outline Plan.

controlled by the planning authority, and the important question is thus what should be the distribution, not what distribution will most likely result from the operation of a given set of uncontrollable factors. The same argument applies to the properties of Terra Developers Ltd. and Green Glen Developments Ltd. within Outline Plan Area No. 3.

3. DISTRIBUTION OF DWELLING UNITS BY TYPE AND SIZE

The purpose of this section is to indicate the distribution of dwelling units by type and size that would be most marketable in Outline Plan Area No. 3. First it compares the housing stock of the Edmonton CMA to several other urban areas in Canada and then presents historical data for Edmonton only. This is followed by selected data for census tracts adjacent to Outline Plan Area No. 3 in which major residential development has occurred since 1961 and consideration of factors which will tend to modify past trends in the northeast area.

It is evident from Table A-8 that the distribution of occupied dwellings by type and by tenure is very similar in the three major Prairie urban centres. Single-detached dwellings make up about two-thirds of the total stock, and apartments are 20-23% of the total. This is considerably different from the larger urban centres of 500,000 and over, where only slightly over two-fifths of all dwelling units are single-detached, apartments are almost the same proportion of the total, and single-attached units are 10% of the total. The distribution of dwellings by tenure is very similar in the three Prairie centres, with approximately 60% of the units owned and 40% rented. In all centres of 500,000 and over, there is an equal division between owned and rented units.

Table A-8

Percentage Distribution of Occupied Dwellings by Type and Tenure Edmonton CMA and Other Urban Centres - 1966

Type and Tenure	Edmonton CMA	Calgary CMA	Winnipeg CMA	All Urban Centres- Canada (100,000- 499,999)	All Urban Centres- Canada (500,000 & over)
<u>A. Type</u>					
(i) Single-detached	64.2	63.6	67.6	58.7	41.6
(ii) Single-attached	5.8	6.4	4.1	7.0	10.3
(iii) Apt. or flat					
- Total	29.6	29.7	28.1	34.1	48.0
- Duplex	6.8	9.0	5.5	8.5	7.4
- Other	22.8	20.7	22.6	25.6	40.6
(iv) Mobile	0.4	0.3	0.1	0.2	0.1
<u>B. Tenure</u>					
(i) Owned	60.8	60.3	63.3	59.6	49.9
(ii) Rented	39.2	39.7	36.7	40.4	50.1
Total - %	100.0	100.0	100.0	100.0	100.0
- No.	110,224	94,941	143,710	967,282	1,636,928

Source: DBS, Census of Canada

Table A-9 shows the changes in the distribution of occupied dwellings by type and tenure in the Edmonton CMA. It is evident that changes in these distributions have been moderate and are not in any direction. In 1951-61, the proportion of single-attached dwellings increased considerably, and apartments-flats declined from 28.9 to 24.4%, whereas single-detached units increased slightly. In 1961-66, the reduction in single-detached dwellings and the increase in apartment units parallel trends in other large Canadian urban areas.

Table A-9

Percentage Distribution of Occupied Dwellings by Type and Tenure Edmonton CMA- 1951-66

Type and Tenure	Year		
	1951	1961	1966
A. Type			
(i) Single-detached	68.3	69.4	64.2
(ii) Single-attached	2.6	6.2*	5.8
(iii) Apartment or Flat			
- Total	28.9	24.4	29.6
- Duplex	-	-	6.8
- Other	-	-	22.8
(iv) Mobile	0.2	-	0.4
B. Tenure			
(i) Owned	62.2	65.1	60.8
(ii) Rented	37.8	34.9	39.2
Total - %	100.0	100.0	100.0
- No.	46,395	89,009	110,224

Source: DBS, Census of Canada

* Includes mobile units.

Table A-10 shows dwelling starts by type of dwelling for 1962-68. In 1962-66, single-detached dwellings made up about 60% of all starts, and apartments made up 35% of the total. This pattern of new construction was the main reason for the changes in the distribution of the total housing stock by type between 1961 and 1966 (see Table A-9). In the two years since 1966, construction of single-detached units has fallen drastically and the changes characteristic of 1961-66 have been proceeding much more rapidly.

Table A-10

Percentage Distribution of Dwelling Starts by Type of Dwelling Edmonton CMA - 1962-68

Type of Dwelling	Year		
	1962-1966	1967	1968
Single-detached	59.5	31.2	29.0
Single-attached	2.9	1.2	1.7
Duplex			
Apartment or Flat			
- Total	37.6	67.6	69.3
- Row	2.7	6.7	5.7
- Other	34.9	60.9	63.6
Total - %	100.0	100.0	100.0
- No.	22,944	6,111	9,003

Source: Central Mortgage and Housing Corporation, Canadian Housing Statistics (Annual Edition, 1965-68).

There are generally wide variations in the distribution of dwellings by type among sub-areas of any given urban area. The high-rise apartment concentrations in the central city and the low-density suburban tracts with virtually all single-detached units are only the most obvious examples of these variations. To take account of these variations in estimating the most marketable housing "mix" for Outline Plan Area No. 3, we have assembled data for five census tracts in the north and northeast part of the city. These tracts have undergone a major amount of residential development since 1961 (with a population increase from 16,196 to 36,566), and thus reflect recent building trends in this part of the city.

Table A-11 shows the 1961 and 1966 distribution of dwellings by type for the five census tracts, and the net addition to the stock of occupied dwellings during the five years. The proportion of single-detached dwellings is higher than in the CMA as a whole, and there are relatively few apartments. Perhaps the most notable aspect of this period was the high proportion of single-attached dwellings that were built: over one-quarter of the total net addition consisted of single-attached dwellings, and by 1966 slightly over one-sixth (17.3%) of all dwelling units in the area were of this type. The proportion is of course much higher than in the CMA as a whole (5.8% in 1966), and it also exceeds other recently developed areas. In Census tracts 43, 45 and 47 south of the river, whose total population increased 5.5 times between 1961 and 1966, single-attached dwellings were only 8.8% of the total 1966 housing stock. The relatively high proportion of single-attached units in the five northern

tracts may be primarily a reflection of the lower family incomes and housing values in this area, compared to the southern and western developments areas.*

Table A-11

Dwelling Units by Type - 1961 and 1966 Developing Census Tracts* - North Edmonton

1961 Type of Dwelling	1961		1966		Net Addition	
					1961-66	
	Number	%	Number	%	Number	%
Single-detached	3,008	78.4	6,005	69.9	2,997	63.1
Single-attached	196	5.1	1,485	17.3	1,289	27.1
Apartments & Flats	631	16.5	1,075	12.5	444	9.3
Other **	-	-	24	0.3	24	0.5
Total	3,835	100.0	8,589	100.0	4,754	100.0

Source: DBS, Census of Canada

* 1966 Census Tracts 1, 2, 52, 53, 54.

** Mainly mobile homes.

Almost 95% of all households in the five northern tracts were family households in 1966, compared to 82.3% for the CMA. This is reflected in average household size, which, at 4.2, is considerably above the 1966 CMA average of 3.5 persons. Table A-12 shows the distribution of households by size for the five northern tracts and the CMA. One and two-person households make up nearly one-fifth of all households, well below the comparable CMA figure of 35.5%. Households of four or more persons made up 64.1% of the total, compared to 47.6% for the CMA. The concentration of family households in these tracts is also reflected in the distribution of dwellings by tenure. Three-quarters of all dwellings were owner-occupied in 1966, compared to 61% in the CMA.

* See Section 4, which follows.

Table A-12

Occupied Dwellings by Number of Persons - 1966
 Developing Census Tracts - North Edmonton and Edmonton CMA

Developing Census Tracts*			Edmonton CMA	
	Number of Persons	Number	%	Number
1	315	3.7	14,759	13.4
2	1,353**	15.7	24,342	22.1
3	1,419**	16.5	18,678	16.9
4-5	3,813	44.4	36,124	32.8
6-9	1,628	19.0	15,645	14.2
10+	61	0.7	676	0.6
Average per occupied dwelling (household)	4.2	-	3.5	-
Total	8,589	100.0	110,224	100.0

Source: DBS, Census of Canada

* Defined as in Table A-11.

** The Census total for 2-3 person households was subdivided assuming that the number of two person households equalled the number of families with no children. This estimate excludes some two person households (such as two single-people living together and single parent-child households) but includes husband-wife (no children) families who live in households of more than two persons, and should be used with caution.

It is our expectation that the future population of Outline Plan Area No. 3 will be similar in terms of income* and demographic characteristics to the existing population in adjacent suburban areas. Family households will make up 85-90% of all households, and average household size will be slightly smaller - equal to about 4.0 persons per dwelling in 1981 - than in the adjacent census tracts at present, due to a slightly higher proportion of non-family households and an expected decline in the average size of family households as family size decreases. Given the expected dominance of family households, the provision of 65-70% of the dwellings on an owner-occupied basis is considered to be a necessity to ensure reasonable marketability for the units. The proposed mix of housing, therefore, can allow for about 66% of the dwellings to be owner-occupied.

The recommended mix of dwellings by type is the product of a number of considerations.

First of all, we have attempted to meet what we consider to be one of the basic objectives of residential development in Outline Plan Area No. 3 - namely, the provision of a range of

* See Section 4, which follows.

housing types to alleviate the drastic shortage of housing in the low-medium price range. The present "crisis" in housing, with costs rising considerably faster than incomes, has been well documented. This situation is forcing and will continue to force many families to consider lower-cost alternatives to the conventional single-detached, owner-occupied dwelling; alternatives such as ownership of some type of multiple dwelling (semi-detached, row housing, or even apartment units) or rental of a dwelling instead of ownership.

Second, our recommended mix assumes that a high level of accessibility will be provided, such as by the proposed rapid transit connecting the area to the downtown core (complemented by a feeder bus service within Plan Area No. 3), and by the North East Freeway. These transportation connections will greatly improve access to the central core, and thus increase the feasibility of multiple family units (particularly apartments).

Finally, the development plan is consistent with planning objectives for the area; in particular, a higher overall density of development than has previously occurred in suburban areas of Edmonton, a physical design which will facilitate the development of multiple family housing, and a town centre concept which includes related apartment and multiple family development.

On the basis of these considerations, we have proposed an overall distribution of dwellings by type approximating the following:*

Apartments	- 21%
Attached dwellings	- 29%
Semi-detached	- 17%
Detached	- 31%
Stacked housing	- 2%

The major difference between this distribution and the existing distribution in adjacent census tracts (See Table A-11) is the substitution of semi-detached and attached dwellings for detached dwellings. The proportion of apartments is higher, reflecting the expected increase in non-family households. If all of the detached and semi-detached dwellings are owner-occupied, only one-half of the attached dwellings need to be owner-occupied to result in 66% of all dwellings being owner-occupied. The relatively low proportion of detached dwellings is a rather sharp break from past development patterns in Edmonton. We feel that it is reasonable to expect such a change, however, in view of the critical nature of the

* these percentages have been altered to conform to those shown on page 16 - main text.

housing problem at present and its expected continuance in future years. Although there may be some resistance to the purchase of a semi-detached or attached dwelling instead of a detached dwelling, we feel that this will be more than compensated for by the capital cost savings compared to conventional detached dwellings.

The most appropriate distribution of dwellings by size is also difficult to predict. Assuming that the distribution of households by size in the five northern tracts is similar to Plan Area No. 3, about 20% of the units should be for 1-2 person households, 15% for 3 person households (mostly families with one child), 40-50% for 4-5 person households and the remaining 15-25% for households of six or more persons.

4. HOUSING PRICES

This section presents data on housing values and income levels in the City of Edmonton which give a general indication of the appropriate price range of new housing in Outline Plan Area No. 3.

Table A-13 shows that in 1961 the highest value dwellings were concentrated in the southwest area of the city. The average value of dwellings in the northeast area was less than two-thirds of the southwest average. This difference is related to average household incomes, which were over twice as high in the southwest than in the northeast areas. In 1961, 56.5% of the households in the northeast area had incomes under \$5,000 compared to 17.6% in the southwest, whereas only 16.1% of the households in the northeast area had incomes exceeding \$7,000 compared to 62.9% in the southwest. Not all of the southwest consists of high-income residential development, but the high value dwellings are certainly concentrated in this area.

Table A-13

Income and Housing Values
City of Edmonton and Sub-Areas – 1961

	Area		
	Northeast Tracks*	Southwest tracks*	City
1. Median Value – Owner Occupied Dwellings**	\$12,537	\$19,841	\$14,692
2. Average Contracts Rent per Month Tenant Occupied Dwellings	70	94	72
3. Family Households by Household Income			
\$ 0 - 4,999	56.5%	17.6%	43.6%
5,000 - 6,999	27.4%	19.5%	27.9%
7,000 +	16.1%	62.9%	28.6%
Average	5,042	10,714	6,202

Source: DES, Census of Canada

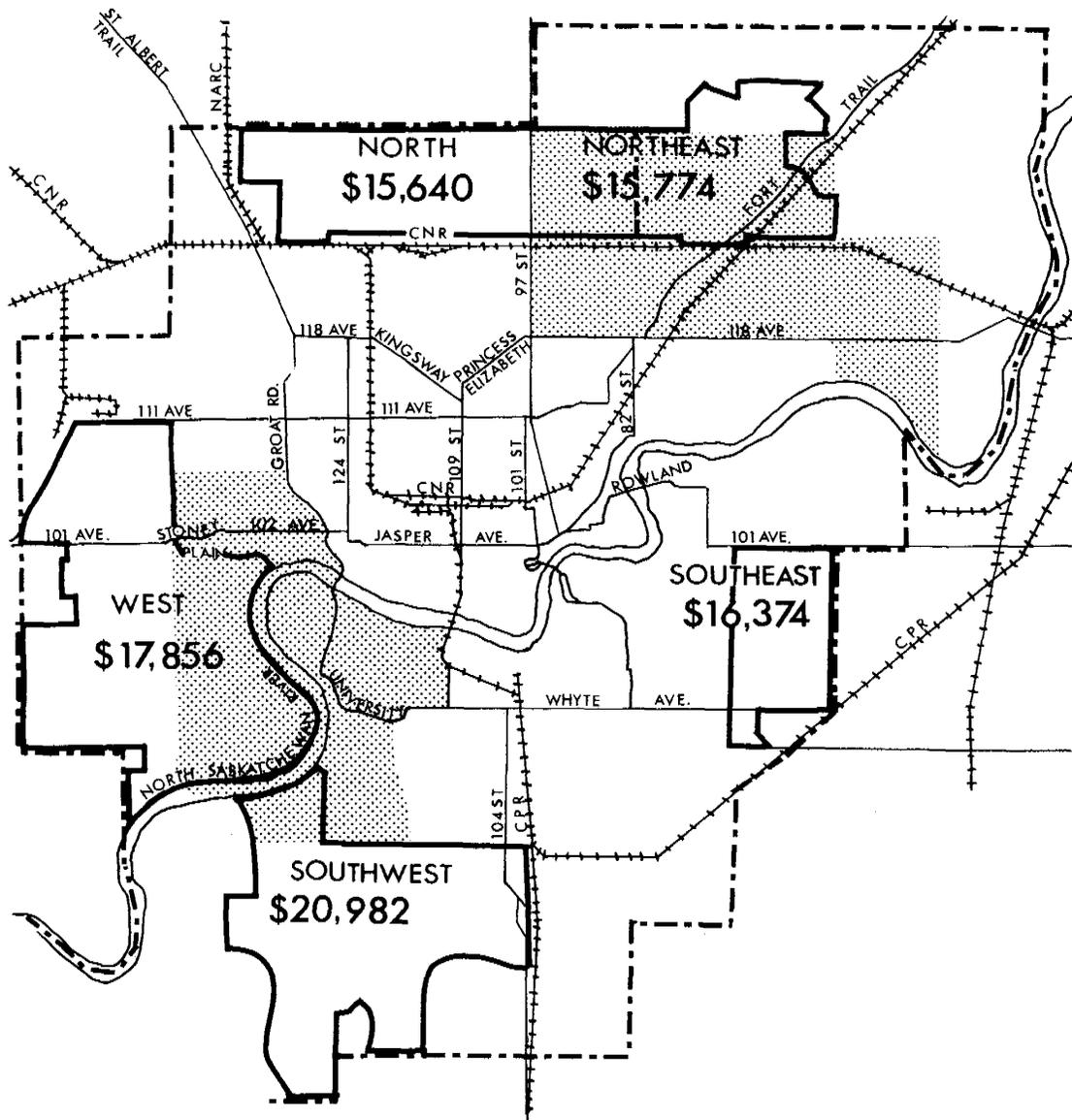
* Census tracts 2, 5, 6, 7 and the Town of Beverly were included in the northeast group and census tracts 17, 21, 22, 28 and 40 were included in the southwest group. These areas are outlined on the following map.

**The sub-area figures are estimates, prepared by calculating the weighted average of the tract medians.

The following map indicates that housing development in 1961-66 continued the 1961 pattern of housing values. It shows the average cost per square foot and average sale value of "bungalow style houses less than five years old" which were sold in the latter half of 1966. The basis upon which the data were collected is not explained in the Larry Smith report, but the concentration of higher value housing in the southwest areas and of lower value housing the north and northeast areas is evident.

The proposed development of Outline Plan Area No. 3 with low-medium priced dwellings is thus in line with past development trends in Edmonton. We do not feel that there is anything in particular to be gained by an attempt to change this pattern. Outline Plan Area No. 3, due to low servicing costs and to the, fact that a large proportion of the land is controlled by major developers is uniquely suited to the provision of low-medium priced housing in the immediate future and this is the role that we feel it should play.

AVERAGE SALE VALUE HOUSES LESS THAN FIVE YEARS OLD EDMONTON-1966



SUBURBAN GROWTH AREAS 1961-1962



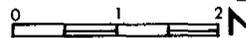
AVERAGE SALE VALUE

\$17,420

SOUTHWEST, NORTHEAST TRACTS,
TABLE 13



scale of miles



SOURCE: LARRY SMITH CONSULTING LTD.
FACTORS AFFECTING RESIDENTIAL
LAND-USE STAGING, 1967-71
EDMONTON, (PREPARED FOR
TERRA DEVELOPERS), 1967

ADDENDUM

FORECAST OF AVERAGE HOUSEHOLD SIZE -OUTLINE PLAN AREA No. 3

This addendum gives a forecast to 1981 of average household size (persons per dwelling unit) by type of dwelling. These estimates are required in order to estimate the total population of part or all of Outline Plan Area No. 3, given the housing stock by type. The discussion is divided into two parts: (i) estimate of the 1966 average household size by type of dwelling in developing suburban areas; and (ii) a forecast of changes in these averages in 1966-81.

(i) 1966 Average Household Size

The 1966 Census did not publish average household size by type of dwelling for census tracts. These averages were available for the Edmonton CMA, which we have adjusted to obtain an estimate for developing areas in north Edmonton. Our assumption is that Outline Plan Area No. 3 will be similar to these areas in terms of average household size.

Table A-14 shows the 1966 CMA averages and our estimates for two developing areas in north Edmonton. The estimating procedure was as follows:

- (a) The difference between the CMA average household size and the average in each developing area is due to two factors: (i) differences in the distribution of dwellings by type; and (ii) differences in the average household size for each type of dwelling. The contribution of the first factor to the total difference can be determined by applying the CMA averages by type to the sub-area housing stock, and by computing the overall sub-area average. The difference between this calculated average and the CMA average (0.5 in the northeast area and 0.4 in the northwest area) is the result of differences in the distribution of dwellings by type.
- (b) The remainder of the difference between the CMA average and the averages in the developing areas (0.2 in the northeast area and 0.5 in the northwest area) is due to differences in average household size for each type of

dwelling.

- (c) In estimating this difference by type of dwelling, we assumed no difference in the average household size for apartments and flats; that is, the CMA average household size of 2.3 was assumed to apply in the suburban areas.
- (d) The average household size for single-detached and single-attached dwellings was estimated by increasing the CMA averages sufficiently to give the actual overall average household sizes of 4.2 in the northeast area and 4.4 in the northwest area. This meant that the CMA averages were increased by 5% in the northeast area, and by 13% in the northwest area.

(ii) Average Household Sizes - 1981

In our opinion, the average size of household occupying apartments and flats will change relatively little by 1981. In any case, any such variations will have little effect upon the total population, since apartments are expected to be a minor component of the total housing stock. We assume an average of 2.3 persons per unit in 1981.

Changes in average household size in single-detached and single-attached dwellings are more significant and will probably be greater. The major determinant of average household size in single-detached and attached units in newly developed areas, where there is very little "doubling up" is average family size.

Changes in family size result primarily from changes in the number of children, which is expected to decline in 1966-81. Table A-15 shows a recent projection of the total fertility rate of Canadian women. A 25% reduction in the fertility rate means in the long run a 25% reduction in the average number of children per family -assuming the proportion of the adult population that is married remains constant. Since, with an average of 3.7-4.0 persons per family children make up 45-50% of the "average" family, a 25% reduction in children per family would result in a 12-13% reduction in persons per family.

Table A-14

Average Household Size by Type of Dwelling - 1966 Edmonton CMA and Developing Areas - North Edmonton

Edmonton		CMA	Northeast Area C.T.'s 2, 51, 52, 54		Northwest Area C.T.'s 1, 60, 63	
Type of Dwelling	Dwellings	Average Household Size	% of Total Dwellings	Average** Household Size	% of Total Dwellings	Average** Household Size
Single-detached	64.2	4.1	80.9	4.3	79.9	4.6
Single-attached	5.8	4.0	13.0	4.2	9.2	4.5
Apartment, Flat*	30.0	2.3	6.1	2.3	11.0	2.3
Total - Number	110,224	-	4,428	-	5,833	-
- Percent	100.0	-	100.0	-	100.0	-
Average Household Size - All Dwellings		3.5		4.2		4.4
Calculated Average Household Size(Assuming CMA averages by type)		3.5		4.0		3.9

* Includes mobile homes.

** Estimates by type of dwelling.

The decline in average family size in the Edmonton CMA will be considerably less than this over the 1966-81 period. In 1966, as a result of high fertility rates in 1956-66, the 0-4 and 5-9 age groups were much larger than the 10-14 and 15-19 age groups. In the 1966-76 period, as the 0-19 population ages, the large size of these two age groups in 1966 will tend to counteract the effect of falling fertility rates upon average family size. It is only in 1976-81 that average family size can be expected to decline significantly. A reduction of approximately 2% by 1981, given the fertility rate changes in Table A-15 and the existing distribution of the 0-19 population in the Edmonton CMA, is the most reasonable indication.

In conclusion, the expected decrease in average family size will result in a similar decrease in average household size in single-detached and single-attached dwellings. If Outline Plan Area No. 3 attracts a population similar to that in the northeast tracts included in Table A-14, average household size in 1981 will equal 4.1-4.5 in single-detached and single-attached dwellings. The average could vary by $\pm 5-10\%$, however, because of differences in such factors as the distribution of dwellings by size and the socio-economic characteristics of the population in the two areas.

Table A-15

Projected Change in the Total Fertility Rate* Canada - 1960-65 - 1975-80

Period	Rate	% Change (Cumulative on 1960-65 Base)
1960-65	3,542	--
1965-70	3,027	-14.5
1970-75	2,778	-21.6
1975-80	2,647	-25.3

Source: Wolfgang M. Illing, Population, Family, Household and Labour Force Growth to 1980 (Staff Study No 19, Economic Council of Canada), p. 37 (Table 2.4).

* The total fertility rate represents total births to 1,000 women if, during their entire childbearing life span (assumed to be from 15-49), they experienced the age-specific fertility rates prevailing at a given time.

APPENDIX B

AREA REQUIREMENTS FOR COMMERCIAL USES, TIMING AND STAGING IN TOWN CENTRE*

1. INTRODUCTION

The following is a summary of the analysis undertaken to determine the land area that should be reserved for commercial uses in the Northeast Edmonton Town Centre*, as well as the components and timing of the development. 'Commercial uses' includes retail trade, personal and recreational services, offices and hotels. Section 2 outlines the methodology and basic assumptions underlying the estimates of gross leaseable area (GLA), and in Section 3 the estimates of GLA are translated into total building area and land area requirements. Section 4 discusses the timing and staging of development.

2. METHODOLOGY AND BASIC ASSUMPTIONS

The primary purpose of the analysis was to estimate the maximum amount of commercial floor area that will be economically feasible in the Town Centre. The major components and timing of the development were also considered, but to a lesser extent. Significant development of commercial uses in the Town Centre will not occur for at least 10-15 years, and development will not be complete for 25-30 years. Analysis of the Centre's ultimate potential is necessary at this time, because residential development will be starting in the near future in neighbourhoods adjacent to the Town Centre, and land for the Town Centre's ultimate needs must be reserved now. Analysis of the timing and components of development is less important at this time, and hence they were considered only to the extent necessary to determine the Town Centre's ultimate potential.

An estimate of the maximum amount of floor area that will be feasible 30 years in the future is obviously subject to considerable uncertainty. Since the purpose of the report is to determine a maximum estimate, the underlying projections are, if anything, slightly optimistic. In the case of one projection - floor area in competing facilities - there are two distinct alternatives, depending upon whether or not a centre of 300,000 - 400,000 square

* The Northeast Edmonton Town Centre is also referred to as the Clareview Town Centre in other parts of this analysis. The major portion of the commercial uses are located within the Clareview Outline Plan Area.

* The Northeast Edmonton Town Centre is also referred to as the Clareview Town Centre in other parts of this analysis. The major portion of the commercial uses are located within the Clareview Outline Plan Area.

feet is built north of 153rd Avenue sometime after 1991. In our judgement, there is a very high probability that such a centre will be built, and the maximum floor area for the Town Centre was worked out on this basis.

For purposes of analysis, the commercial floor space in the Town Centre has been divided into four categories: (i) department store type merchandise (DSTM) floor space - all floor space included in general merchandise, apparel and accessories, hardware and home furnishings, and related "other retail" stores¹; (ii) DSTM-linked floor space - floor space included in personal service enterprises (barber, beauty salon, cleaners, etc.), restaurants, theatres, and convenience retail enterprises (grocery store, bakery, drugstore, liquor store); (iii) office space; and (iv) hotel space. DSTM stores, which with the possible exception of hardware stores correspond to comparison goods stores, are the major component of total floor space in the Town Centre. They not only include 70-80% of the total commercial floor area, but are also the major attractor in the Centre, thus directly determining the amount of DSTM-linked floor space which is feasible and to some extent the amount of office space which is feasible. The feasibility of the hotel is only slightly affected by the amount of DSTM floor space which is provided. Certain DSTM-linked uses are attractors (e.g., the grocery store), but only for a small area, usually less than one-half mile radius.

The bulk of the analysis is concerned with the maximum amount of DSTM floor space that will be feasible. DSTM-linked floor space is estimated as a function of the DSTM floor space which is feasible. The feasibility of office space and a hotel cannot usefully be forecast for such a long period, as explained in greater detail below. For these two uses, only a rough estimate of the maximum space that will be needed has been prepared.

¹ All "other retail" stores except drugstores, patent medicine stores, fuel oil dealers, liquor stores, wine stores and monument dealers were included. The main types of stores included were jewellery stores, sporting goods stores, tobacco stores and stands, gift stores and music stores.

FIGURE A

TRADE AREA DSTM
CLAREVIEW TOWN CENTRE

COMPETING FACILITIES

- 1 Northgate Shopping Centre (existing)
- 2 66th St Centre (opening 1972)
- 3 Potential District Centre (1990 if at all)
- 4 BACM Regional Centre (uncertain 1970's)
- 5 Park Plaza Shopping Centre (existing)

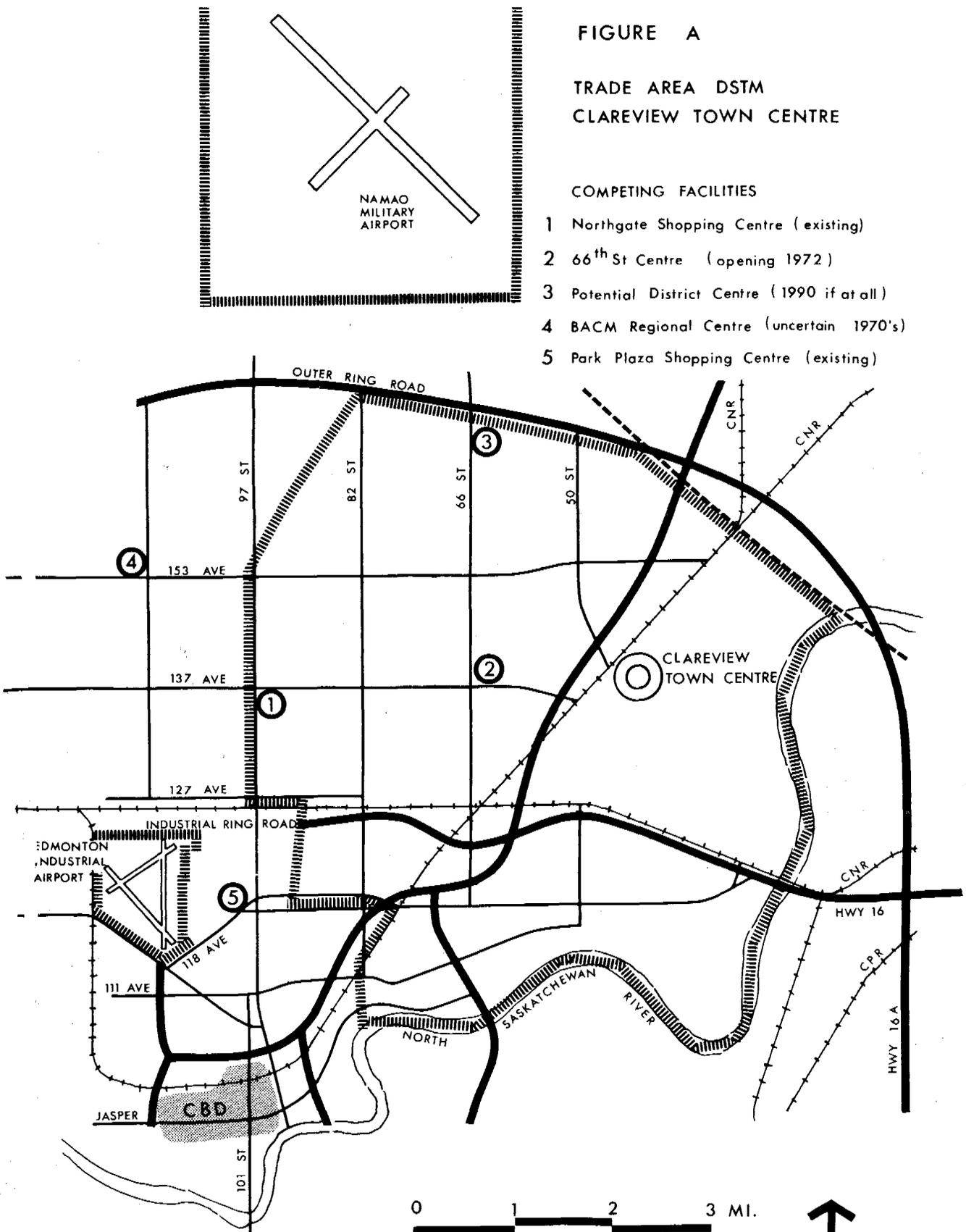
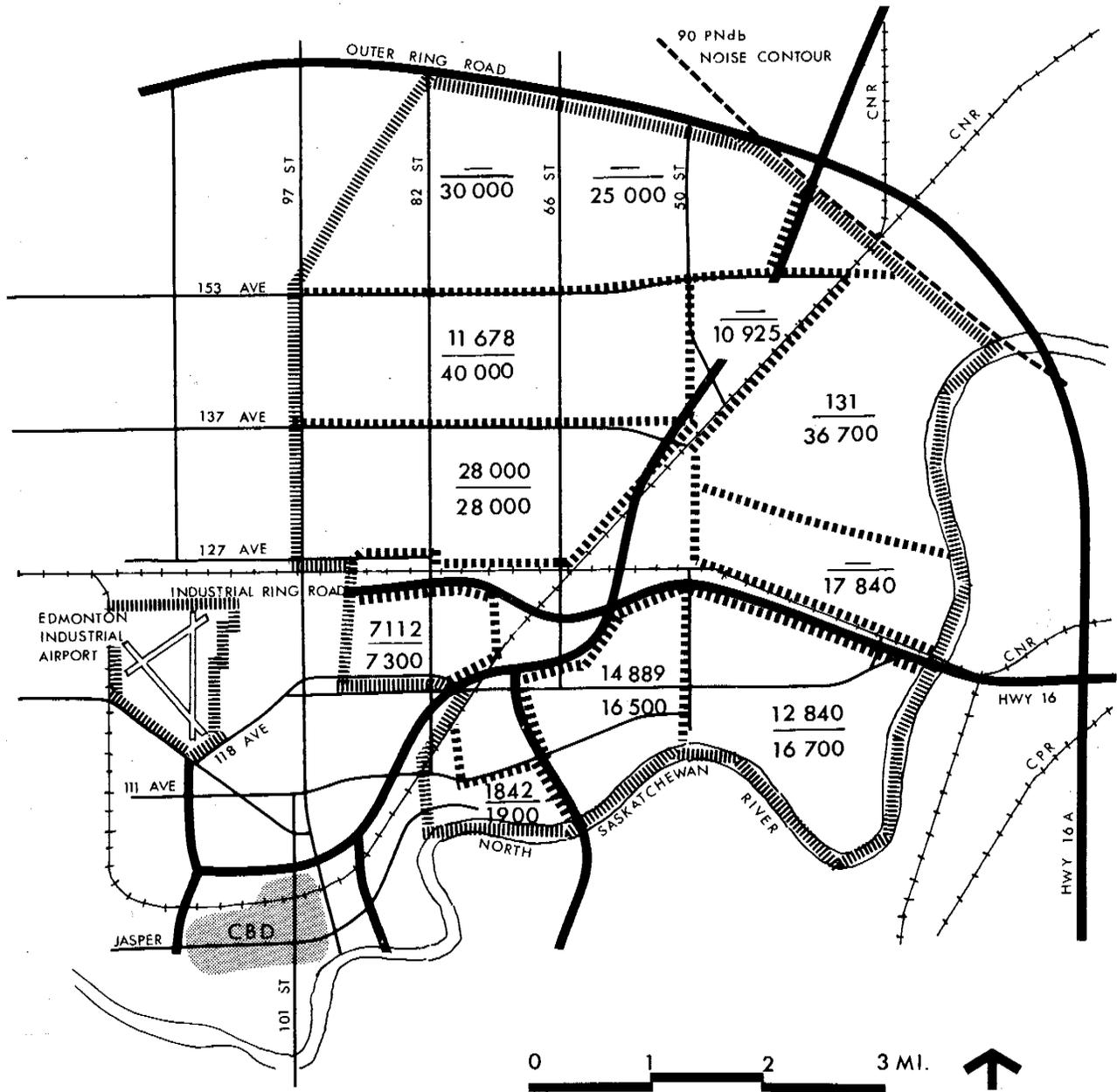


FIGURE B

TRADE AREA POPULATION
FOR 1969 - 2001

(———) 1969
(- - -) 2001



In estimating the maximum DSTM floor space that will be feasible, the first step was determination of the trade area for DSTM stores, (Fig.A). Only one trade area, representing the area from which the Centre will obtain most (over 90%) of its DSTM trade, was defined. It includes the area within a radius of approximately 3 ½ miles (5.6 kilometers), which means up to 4 ¾ miles (7.6 kilometers) driving distance, and a maximum of 20 minutes driving time. We did not define a primary, secondary and tertiary trade area, as is often done in feasibility analyses, because such a division, in the absence of reliable estimates of the drawing power of the Town Centre in each of these trade areas, adds nothing to the analysis. It only creates an illusion of accuracy, which may lead to more reliance being placed on the conclusions than is justified. In this case, only one large trade area is defined, and it is necessary only to estimate total sales by all DSTM stores in the area, based on an examination of inflows and outflows to other shopping areas (principally the central business district CBD). These inflows and outflows, for the trade area as a whole, can be estimated more easily than the percentage draw of the Town Centre from various parts of the trade area.

Amended by Editor

Given the trade area, the maximum level of sales by all stores in the area (including those in the Clareview Town Centre) was estimated. Sales to residents of the trade area and to persons living outside the trade area were estimated separately (Fig.B). Table B-1 shows the projection of sales to these two groups. The rate of increase in population is sufficient to develop the trade area fully by 2001 at currently planned densities. Income per capita was projected on the basis of an examination of rates of change in 1951-69 in Alberta as a whole. Logarithmic and linear least-squares equations were calculated for 1951-69, and projected to 2001. The average of the percentage rates of increase given by these two projections was applied to the trade area. This gave an increase of about 2.0% per year compound for 1971-2001. DSTM expenditures were assumed to remain constant as a percentage of income. Sales to trade area residents will be considerably smaller than expenditures by trade area residents, due to an outflow of purchasing power (primarily to the CBD). In 1966, this amounted to an estimated 67% of all expenditures, and it was assumed that it would decrease to 30% by 1981. Sales to non-residents of the trade area, including both those living within the Edmonton CMA and those living outside of the CMA, were assumed to increase in future years at a rate considerably below that for sales to trade area residents.

Table B-1

DSTM Sales to Residents and Non-Residents - All Stores Trade Area - Clareview Town Centre - 1966-2001¹⁾

Sales to Trade Area Residents								
Population Year	Trade Area '000	Income Per Capita	DSTM Exp. as a % of Income	DSTM Exp. '000	% of Exp. Made Within Trade Area	Sales to Trade Area Residents '000	Sales to Non- Residents '000	Total Sales '000
1966	60.2	2,015	20.0	24,280	33.2	8,055	5,210	13,265
1981	135.0	2,700	20.0	72,900	70.0	51,030	9,105	60,135
1991	183.0	3,317	20.0	121,400	70.0	84,980	11,290	96,270
2001	231.0	4,046	20.0	186,925	70.0	130,850	13,475	144,325

\$1966.

1) All dollar figures are in

Total sales in the trade area, minus sales to competing facilities in the area, gives the sales potential for the Clareview Town Centre (Table B-2). Estimates were prepared of sales in existing and future strip retail stores, community shopping centres, and larger shopping centres (over 125,000 square feet / *11,613 square metres*). The major competing facilities in the latter group are the existing Northgate Shopping Centre, the centre at 66th Street and 137th Avenue, which will be opening in the fall of 1972 (500,000 square feet / *46452 square metres* of GLA in DSTM), and a centre expected to have 350,000 square feet / *32516 square metres* of GLA, situated north of 153rd Avenue in the vicinity of 66th Street. This centre will not be built until sometime after 1991, but as the area north of 153rd Avenue develops, it is highly probable that such a centre will be built. A sales level of \$70 per sq. ft. was assumed in these facilities. This figure was selected, not because it is our best estimate of what average sales in competing facilities will be in future years, but rather because it is our best estimate of the lowest average level that would not force competing stores to cease operations. Whether or not the level of sales is kept down to an average of \$70 per sq. ft. depends to a large extent on the amount of floor space which is provided in the trade area. We have assumed that sufficient floor space will be provided to keep the sales level down to \$70 per sq. ft., on the average. In practice, this would only be so if the Clareview Town Centre expands to the maximum floor area that we have specified, in addition to the assumed increase in all other facilities.

Amended by Editor

Table B-2

Total Sales - Trade Area, Sales to Competing Facilities, and Sales Potential - Clareview Town Centre - 1966-2001

Year	Total Sales- Trade Area '000	Sales by Competing Facilities '000	Sales Potential Clareview Town Centre '000
1966	13,625	13,625	-
1981	60,135	60,135 ¹	-
1991	96,270	68,510	27,760
2001	144,325	93,660	50,665

The amount of office space that will be feasible in 2001 and the feasibility of a hotel cannot be estimated with any precision at present. There are so many unknowns that the only reasonable course is to reserve sufficient land to accommodate a hotel and office space in 2001. Fortunately, the land requirements of these two uses, when they are built in conjunction with a large shopping centre, are a small proportion of the total. We recommend that land area be reserved for a hotel of 300 rooms and 100,000 square feet / 9,290 square metres of office Space.²

Amended by Editor

¹ This implies a sales level of \$68 per square foot. If all competing facilities sell \$70 per square foot, sales will equal \$62,990,000. This level of sales requires residents of the trade area to make more than 70% of their expenditures within the area.

² In addition to the 100,000 square feet / 9290 square metres of office space related to the commercial floor area, 75,000 square feet / 6967 square metres of medical office space has been provided adjacent to the hospitals.

3. GROSS LEASEABLE AREA, BUILDING AREA & PARKING AREA REQUIREMENTS

The DSTM sales potential of the Town Centre, divided by sales per square foot of \$90, gives the maximum DSTM floor area that will be feasible (Table 3). Sales of \$70 per square foot is the minimum level required for new suburban floor space to be economically feasible. In view of the very long projection period, it would be quite risky to plan the development on the basis of \$70 per square foot, since unforeseen developments could push the sales potential below the level we have assumed. The \$90 per square foot level provides a certain "cushion" to absorb the effects of unforeseen developments.

DSTM-linked floor space was assumed to equal 15% of total DSTM and DSTM-linked space. This percentage, based on an examination of other centres of similar size, does not vary greatly from one centre to another. For working purposes, the maximum feasible floor area in 2001 was rounded to 650,000 square feet / 60387 square metres.

Amended by Editor

Table B-3 (Amended by Editor)

Maximum Feasible Floor Area - DSTM and DSTM-linked Uses Clareview Town Centre - 1981-2001

Year	DSTM '000 sq.ft./sq.m.	%	DSTM-linked '000 sq. ft./sq.m	%	Total '000 sq.ft./sq.m.
1981	-	-	-	-	-
1991	308/29	85	55/8	15	363/34
2001	563/52	85	99/9	15	662/62

Table B-4 translates these floor area estimates into land area and adds parking requirements to arrive at a total. An average of one-and-a-half storeys is assumed for the gross leaseable DSTM and DSTM-linked floor area and, to provide for pedestrian circulation, 10% of the GLA is then added at grade. With a low-rise hotel, a total of 700 square feet / 65 square metres of land per room would be necessary, including parking for one car per room. The land allocated for the office space implies a building of 10 storeys or so, with some of the office space mixed in with the shopping complex.

Amended by Editor

Based on Urban Land Institute and other parking standards which we consider appropriate, 5.5 parking spaces per 1,000 square feet / 92.9 *square metres* of retail space are assumed; 1 parking space per 1,000 square feet of office space and 300 parking spaces for the hotel. Four hundred square feet is assumed per parking space, and an allowance is also made for bus circulation. All parking is assumed to be at grade. The reason for this assumption is simple. At present, a 400 square foot / 37.2 *square metres* space in a parking structure costs about \$2,400, or \$6 per square foot. A 400 square foot / 37.2 *square metres* space at grade costs about \$500, or \$1.25 per square foot. (Assuming land costs of \$10,000 per acre). This differential may decrease slightly by 2001, but parking in structures will undoubtedly be at least three times as expensive as parking at grade for commercial uses when the Centre is completed. It is completely uneconomical to provide parking in structures for commercial uses when land is relatively plentiful and low in cost.

Amended by Editor

However, there are certain areas within the Town Centre which are suitable for much "higher" uses than parking at grade (i.e., providing a higher economic return). The area in close proximity to the transit stop, for example, appears likely to become a prime area for apartment development. Since apartment development gives a much higher return on the land than parking at grade, this area is likely to be converted to this use in later years (after 1986). Further, if the apartment development is of a high enough density, it could become economically feasible to build structured parking, rather than having large areas used for parking at grade. This would allow a large number of apartments to be built within a given distance of the transit stop, which could more than offset the extra cost of structured parking.

Table B-4 (Amended by Editor)

Land Area Requirements - in Acres Clareview Town Centre

		Buildings	Site or Landscape	Bus. Circ.	Total Land Area
(1)	DSTM & other stores	11.5 acres/ <i>4.7 hectares</i>	0.3 acres/ <i>0.1 hectares</i>	38.0 acres/ <i>15.4 hectares</i>	49.8 acres/ <i>20.2 hectares</i>
(2)	Hotel (300 rooms)	2.0/0.8	0.1/0.04	2.7/1.1	4.8/1.9
(3)	Office Space (100,000 sq. ft.)	0.2/0.02	0.1/0.04	-	0.3/0.12
	Total	13.7/5.5	0.5/0.2	40.7/16.5	54.9/22.2

4. TIMING AND STAGING

It appears most logical to build the DSTM and DSTM-linked floor space in three stages:

- (i) Stage I - basically a neighbourhood shopping centre, with 40,000-50,000 sq. ft. (3716-4645 sq. m.) of GLA, dominated by a grocery store. This stage should be feasible by 1976 or shortly after, if residential development proceeds according to current expectations. Amended by Editor

- (ii) Stage II - this phase would include 250,000-300,000 sq. ft. (23226-27871 sq. m.) of GLA, consisting primarily of DSTM floor space with at least one department store. This stage will not be feasible until after 1986, but it should definitely be able to proceed before 1991. Amended by Editor

- (iii) Stage III - the final stage, consisting of about 300,000 sq. ft. (27871 sq. m.) of GLA, and again dominated by DSTM floor space, will not be feasible until near 2001. As least one, and possibly two, additional department stores will be required for this phase. Amended by Editor

The feasibility of office space and the hotel is very uncertain at present, and thus little can be said about the timing of these developments. It is certain, however, that extensive development of these uses will not occur until sometime in the 1980's, at the earliest.

APPENDIX C

SITE FEASIBILITY STUDY FOR CAMPUS EDUCATION RECREATION FACILITY IN TOWN CENTRE*

1. INTRODUCTION

The purpose of this study was to assess the feasibility of the three combined sites in the proposed Town Centre Plan to accommodate the campus education and recreation and its design and program requirements. These sites will be referred to as X, Y, and Z in this report and are shown in Plate 1.

The feasibility of the sites to accommodate, in the short and long term, the requirements of the Edmonton *Community Services Department*, Separate School Board and Public School Board was assessed by determining:

Amended by Editor

- (i) Constraints imposed by existing site conditions and/or the proposed Town Centre Plan.
- (ii) Programs for recreation facilities required.
- (iii) Space and site planning requirements for recreation facilities.
- (iv) Building site areas required.
- (v) Internal road and parking requirements.
- (vi) Constraints imposed by proposed mode of transportation to service day and evening programs.
- (vii) Constraints imposed by pedestrian walking distances to recreational facilities during day instructional programs.
- (viii) System of internal pedestrian paths required.
- (ix) Alternative plans locating all components on the sites.
- (x) A composite plan organization.

* The material for this Appendix was prepared by Frank Milus and Associates Ltd. for Murray V. Jones & Associates Ltd. during April and May 1971, and has been amended only to provide for consistency of map and other references.

2. EXISTING CONDITIONS

(a) Services & Utilities

A high pressure gas line shown in Plate 2, owned by a *private corporation*, bisects Site Y running from northwest to southeast. This line has a 50' (15.2 m) easement width and a 100' (30.5 m) wide zone within which no structures can be built. (Alberta Subdivision & Transfer Regulations 215/67 para. 37(3)). For the purpose of this study no sports fields were located on or across the 100' (30.5 m) zone. The City Parks Department is obtaining further information to determine whether sports fields may be located to the easement line or possibly upon the easement.

Amended by Editor

The location of water, sanitary, storm, hydro and telephone lines was previously reviewed in the Survey and Analysis Report for the Northeast Edmonton Outline Plan Study prepared by the *Planning and Development Department*. Although the locations indicated for service and utility lines were very general, it appears that only the gas line poses a significant constraint on locating facilities on Sites X and Y.

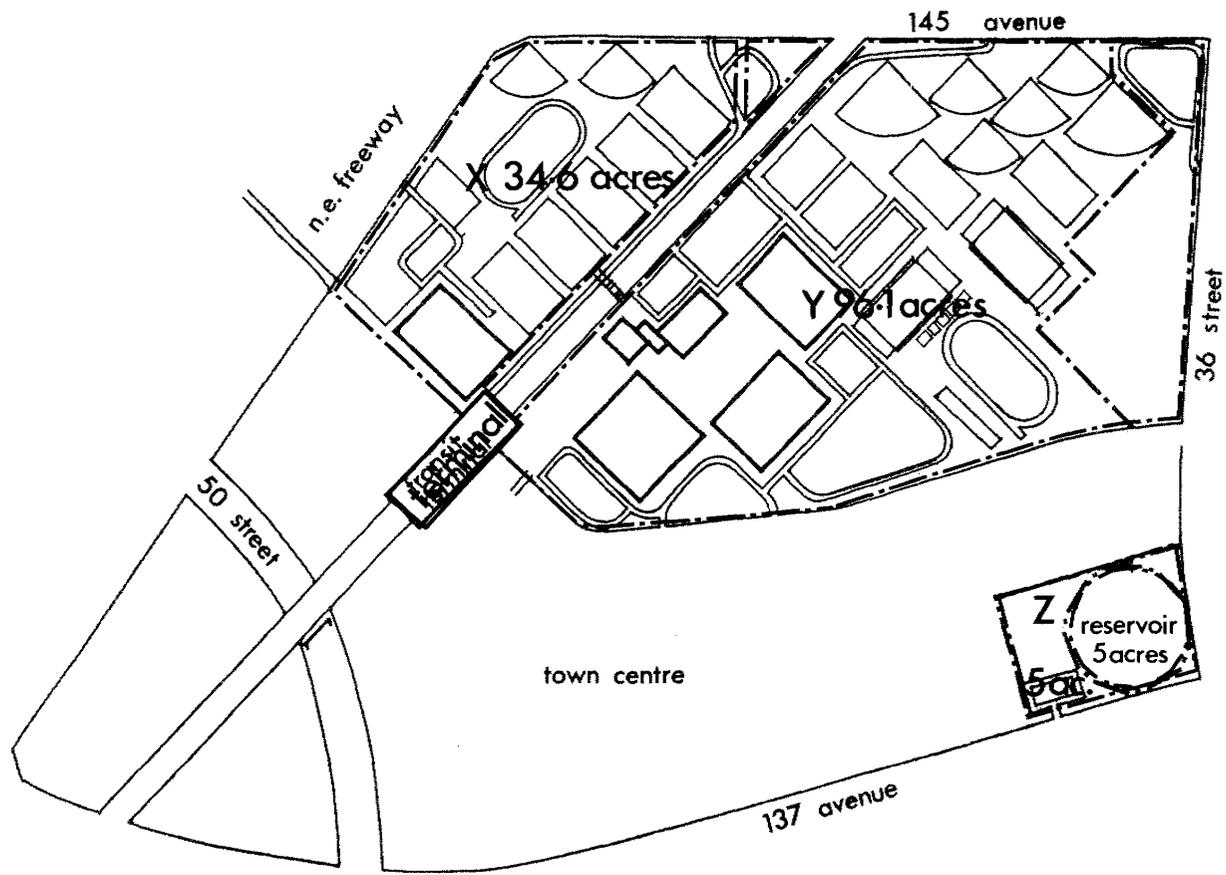
Amended by Editor

(b) Roads and Railroads

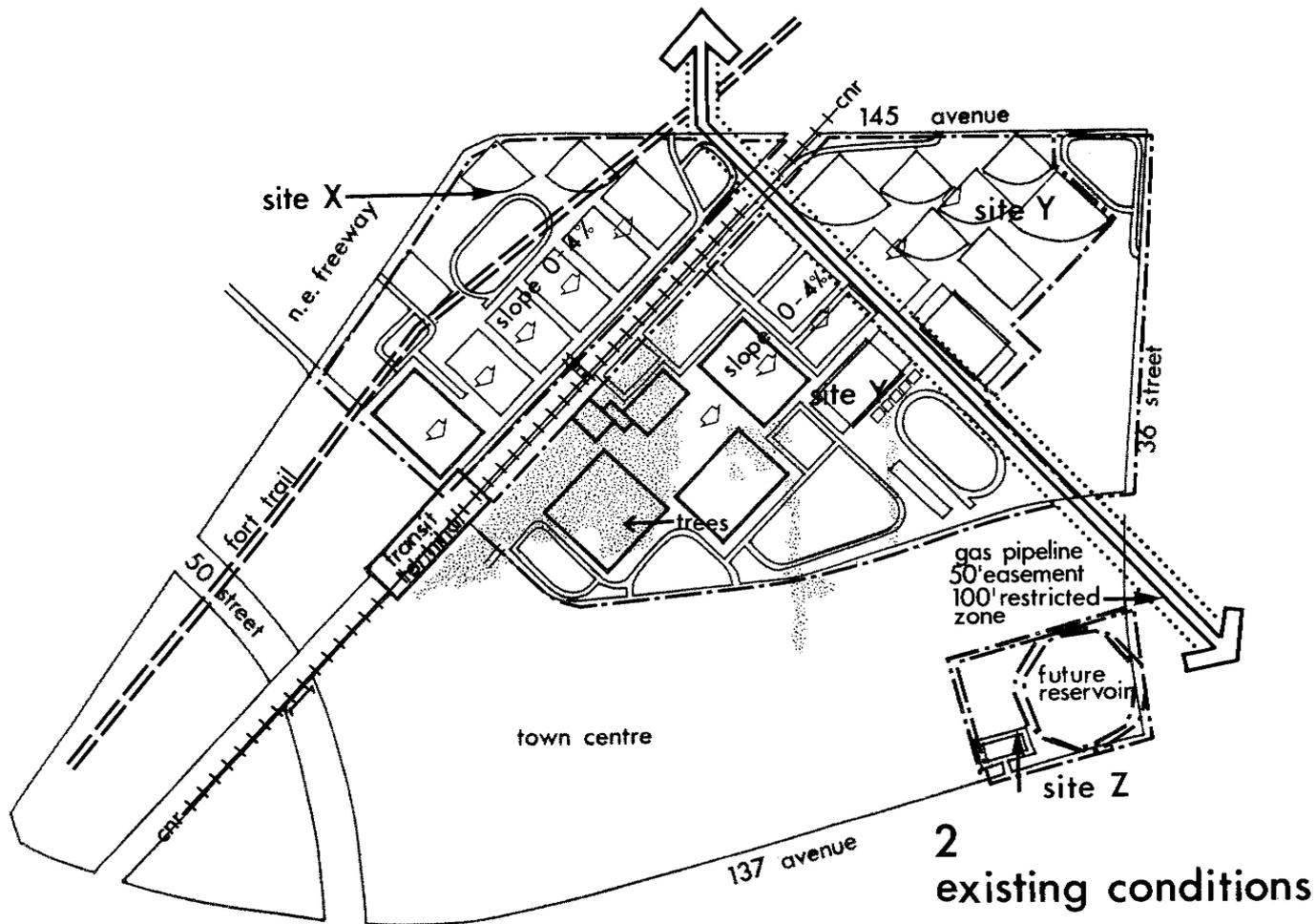
The Fort Trail shown in Plate 2, bisects Site X running from southwest to northeast and it could pose a phasing problem in developing building and sports field facilities on this site. Phasing schedules for the removal of this road and building facilities on this site must be coordinated for ease of transition during the development period. Map 10 “Northeast Town Centre and Vicinity 1973” contained in Part III (main text) suggests a method for phasing out the section of the Fort Trail through the site.

The existing *railway* right-of-way shown in Plate 2, which divides Site X from Site Y is proposed for a rapid transit rail service south of the campus/park. The existing line on a fill bank 4'-5' (1.2-1.5 m) above adjacent existing grades between the above sites is to continue in normal use.

Amended by Editor



1
district park/campus site



The location of the rail line poses special problems:

- (i) it creates a barrier to pedestrians wishing to cross.
- (ii) it creates visual interference, disturbance and distraction from adjacent buildings and sports fields.
- (iii) it generates noise which will probably be a disturbance to adjacent users on both sites.

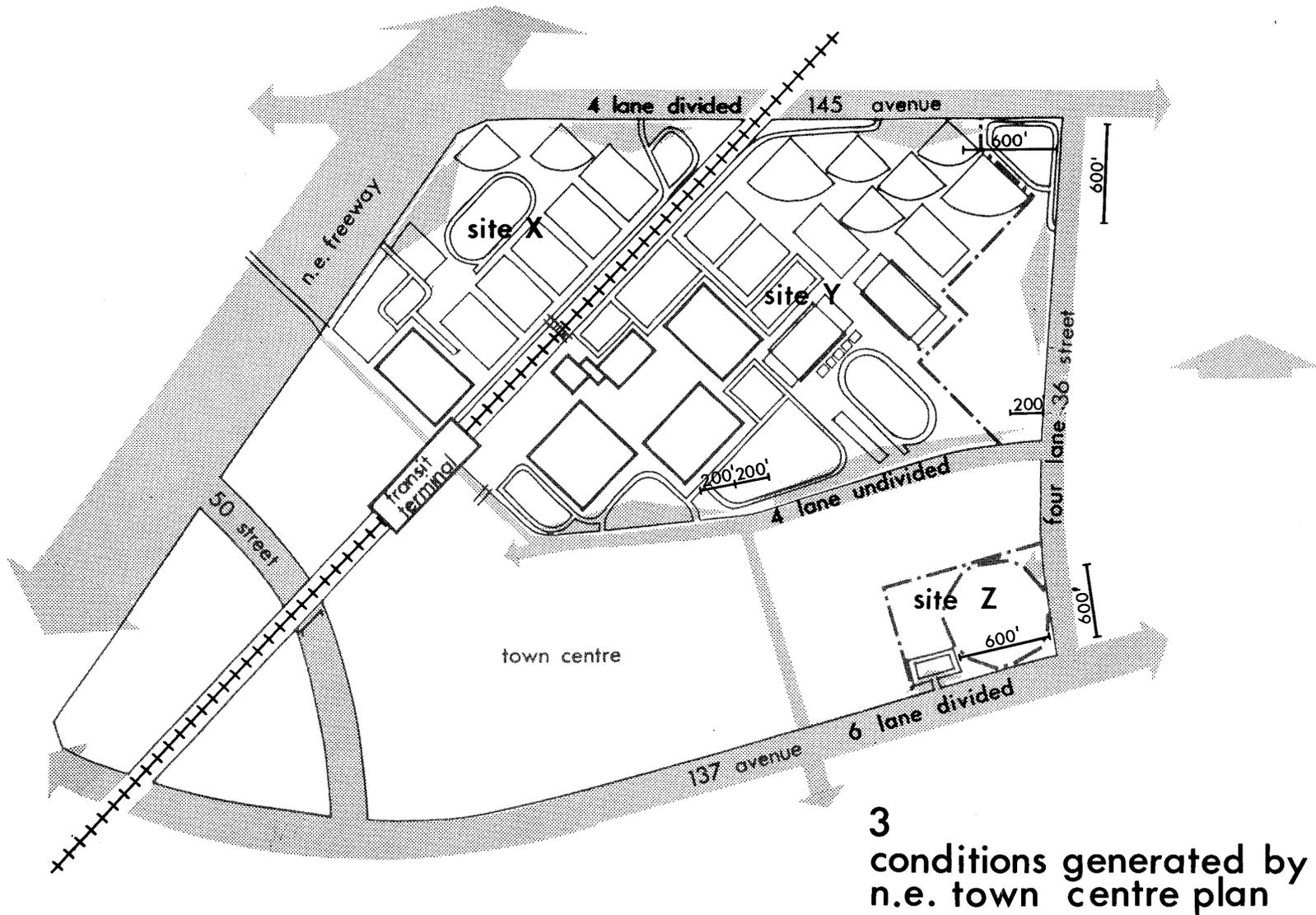
The solution to these problems is based on determining how the disturbances can be overcome or reduced. Later detailed site planning should include a study which assesses the frequency, duration of trains and noise levels generated during the hours of site use. Control requirements for minimizing or overcoming disturbances should be established and the use of trees, landform, and/or structures should be investigated for these purposes. Pedestrian access under the rail right-of-way is examined in a later part of this study.

(c) Vegetation

Site Y contains a tree stand of about 14 acres (5.7 hectares), see Plate 2, scattered hedge rows and other small groups of trees. A detailed inventory of existing trees as to location, type, size, density and quality should be undertaken by the site planning consultants. Trees to be preserved versus trees to be removed should be determined. Trees to be preserved should be evaluated as to their effectiveness as a control of sun, wind, view and noise. This study attempted to incorporate as many of the existing trees as possible in the alternative organizations of facilities without the specific data which would be derived from an inventory.

(d) Micro-Climate

Future site planning should identify whether preservation of existing trees or planting of new trees can reduce chill factor effect (temperature and wind) in winter months. The location, type, density and organization of trees can be effectively used to reduce heat loss from buildings, protect the pedestrian walking outdoors, and persons using outdoor hockey facilities in the winter. Snow distribution on roads, parking lots and pedestrian walks can also be affected by effective tree planting.



The determination of this information, although important to final master plan decisions, was outside the terms of reference for this initial study and is not essential for making preliminary decisions on site flexibility.

(e) Topography and Soils

Topographic survey maps and air photos of the sites were available through the Parks and Recreation Department. The topography of the three sites is sloping from northwest to southeast, between 0-4%, as shown on Plate 2. Although this slope range does not present any limitation to the location of facilities, a careful study will be required for the surface and sub-surface drainage of sports field areas and around buildings. Since there is presently no indication of proposed peripheral road elevations or services, it was not possible to prepare an independent grading study of each site for sports fields. A master grading study of each site should be undertaken concurrently with studies of peripheral road grading and services, making trade-offs and adjustments as required.

The grading of sports fields should be analyzed by comparing the constant sheet grading across all sports fields versus the alternative of "crowning" sports fields and draining water off rather than across the field surface.

The nature of existing soil permeability presents problems of drainage and maintenance of sports fields. One issue that arises from a development of this size, is that the frequency, duration and use intensity of sports fields may determine the quality of the playing field surfaces. It appears that if deterioration of playing surfaces occurs from over use in a season, it will reduce the operational efficiency of the recreational programs.

Since this consultant is not an expert in athletic field playing surfaces, we recommend that the joint school and parks committee further assess this problem and determine whether it warrants specific study. If it does, a consultant who is an expert in this matter should be retained to undertake the work.

(f) Conditions Generated by the Proposed Town Centre Plan

The objective here is to determine whether the respective programming requirements for the school boards and for parks and recreation can be accommodated with an acceptable range of flexibility on Sites X and Y. Site Z is designated by the Plan for the passive district park.

There are two significant conditions generated by the Town Centre Plan, shown in Plate 3:

- (i) the 3 site parcels are separated by either road or rail rights-of-way;
- (ii) access to the roads and across the rail route is limited.

Factors affecting road access are the type and spacing of access points or entry zones within which access can be provided. Two types of access are possible, multi-direction turns in and out of a site, and right turns only in and out of a site, see Plate 3.

On 4-lane divided roads, multi-directional turns would be limited to access points not less than 600' (183 m) from intersections. Right turns on 4-lane divided roads are limited to points not less than 200' from intersections, and can occur at intervals of 200' (61 m), see Plate 3.

Amended by Editor

On 4-lane undivided roads, multi-directional or right turns are limited to points not less than 200' (61 m) from intersections, and at intervals of 200' (61 m).

The proposed road on Site X next to the *railway* tracks on the west side has limited access and is provided for buses only.

Amended by Editor

An analysis of the possible zones for vehicular access shown in Plate 3 confirmed that adequate access will be possible to service the facilities on each site.

3. RECREATION FACILITY PROGRAMS

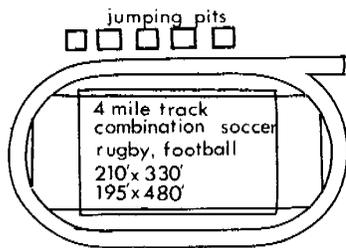
A review of recreation facility programs proposed by each participating agency (which are party to the joint use agreement) was undertaken to verify that the program proposed by each agency would adequately meet anticipated needs.

The following programs were reviewed:

- (a) Edmonton Separate School Board (1 Composite High School, 1200-1500 students)
 - 1 – ¼ mile track, rugby-soccer-football field
 - 2 - combination soccer-fastball (330' x 210') (225'r)
 - 2 - football (225'r)
 - 1 - tennis-hockey combination (4 tennis, 1 hockey), pits - vault, long jump, high jump

Building/Parking/Landscaping Site Requirement - 8.0 acres (3.2 ha).

Amended by Editor

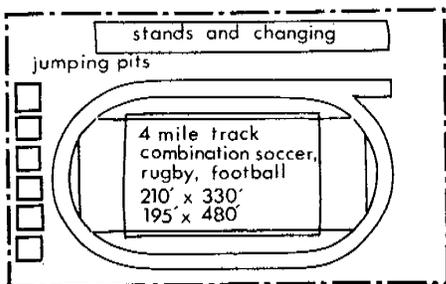


number required

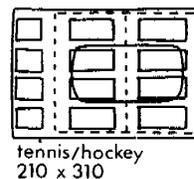
1 type B



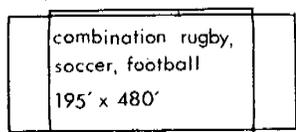
6



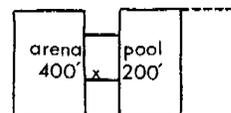
1 type A



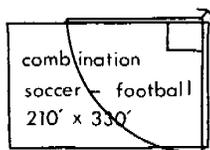
2



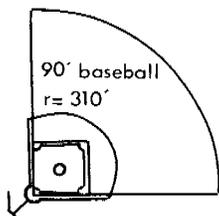
2



1



7



2

4 recreation facility requirements

(b) Edmonton Public School Board (2 Senior High. Schools, 1 Vocational High School,
total students - 3,800)

1 – ¼ mile track, combination rugby-soccer-football (195' x 480')

2 - combination rugby-soccer-football (195' x 480')

5 - combination soccer-fastball (330' x 210'), (225'X)

1 - tennis-hockey combination (4 tennis, 1 hockey)

2 - pole vault

5 - high jump

6 - long jump

1 - driver training area

Building/Parking/Landscaping requirement - 30.0 acres / 12.1 hectares (10 acres /
4.0 hectares per high school)

Amended by Editor

(c) Parks and Recreation

1 - Arena (over-sized)

1 - Pool (over-sized)

1 - tennis-hockey combination (4 tennis, 1 hockey) 4 - 60' baseball-fastball (225'r)

2 - 90' baseball (310'r)

Plus

1 - 20.0 acre / 8.1 hectare District Park (passive)

Amended by Editor

(d) Use Intensity

Each participant confirmed that the programs as proposed would meet their respective needs. The Public School Board qualified their program by stating it was a minimum and would be in 100% use during daily instructional periods. The Separate School Board stated that their program would be in use less than 100% of the time but did not have a specific estimate. The Parks and Recreation Department did not have a specific estimate of the use intensity expected in their programs.

It is recommended that an estimate be prepared of the actual number of daily hours of use each facility must accommodate in order to determine the total number of hours or season for its use. This would be a more definitive way of assessing use and playing surface quality assuming all other factors are constant. These figures could be compared to hours of use on other existing joint use facilities in Edmonton. The condition of the playing surfaces on the existing facilities with actual hours of use known would be one step toward determining whether a special study on playing use should be undertaken.

(e) Space Required

The space and layout required for each element of the program was prepared by the Parks and Recreation Department, and was used by the consultant to determine alternative organizations. These requirements are illustrated in Plate 4.

4. BUILDING FACILITY PROGRAMS

(a) Public School Board

Officials of the Public School Board stated their options for building complexes would be:

- (i) 1 vocational high school 1 academic high school 1 composite high school
- (ii) 1 vocational high school 1 academic composite high school
- (iii) 2 composite high schools with vocational components in each
- (iv) 1 building complex with provision for all educational requirements - with possible semi-autonomous modules of about 600 students sharing the same common facilities.

The maximum use in option (i) would require an estimated 30 acres / *12.1 hectare* for buildings, landscaping and associated parking areas (excluding non-parking area circulation), and assuming a basically single storey solution.

Amended by Editor

For the purpose of this study the maximum was used as the program input, on the basis that if the site was able to accommodate it, then it could also accommodate any of the other options.

Next, a detailed analysis of building areas was prepared (Amended by Editor):

School Type and Enrolment	Floor Area Sq. / Sq. M. Ft. Required	% Allowable 2-Storey	Net First Floor Area Sq. Ft. / Sq. M
Vocational -1,000	180,000 / 16723	25	157,000 / 14586
Composite -1,200-1,400	200,000 / 18581	60	140,000 / 13006
Academic -1,200-1,400	200,000 / 18581	75	125,000 / 11613

Alternative organizations were then prepared based on using the net first floor area as the requirement for building coverage or the building zone.

(b) Separate School Board

The Separate School Board officials stated that they would require a site for one building and associated parking areas (excluding non-parking area circulation). This would require an estimated area of 8.0 acres / 3.2 hectares.

Amended by Editor

Without an input on detailed floor area requirements, the following estimate for the building coverage was used as a program input:

School Type and Enrolment	Floor Area Sq. Ft. / Sq. M. Required	% Allowable 2-Storey	Net First Floor Area Sq. Ft. / Sq. M.
Composite High School 1,200-1,400	200,000 / 18581	60	140,000 / 13006

(c) Parks and Recreation

The Parks and Recreation Department stated that the pool-arena building would require the following:

Facility Type	First Floor Area Sq. Ft./ Sq. M. Required
Arena	21,600 (2007)
Pool	18,000 (1672)
Common Space	5,400 (502)
	45,000 (4181)

For the purpose of this study the consultant doubled the pool requirements to 36,000 sq. ft. in view of the possibility of a second pool being required in the future. The total used for this building facility was therefore 63,000 sq. ft / 5853 sq. m.

Amended by Editor

5. INTERNAL ROAD AND PARKING PROGRAM

(a) School Boards

Parking allocation for each school building was estimated by assessing staff, and student requirements and the amount required on site by city bylaw plus a factor for public auditorium meeting space. It should be noted that although the amount of spaces for student parking does not necessarily have to be located on site, the plan alternatives were prepared on the basis that they would be. The gross parking area required was based on a factor of 400 sq. ft. (37.2 sq. m.) per car. This figure excludes access roads servicing the parking areas.

School Type	Staff Cars	Area Sq. Ft. / Sq. M.	Student Cars Ft. / Sq. M.	Area Sq. % of Enrolment	Cars by Bylaw
Vocational P.S.	135	54,000 / 5016	10%	100 40,000 / 3716	92
Composite P.S.	115	46,000 / 4274	10%	120-140 56,000 / 5016	92
Academic P.S.	115	46,000 / 4274	10%	120-140 56,000 / 5016	92
Separate School	115	46,000 / 4274	10%	120-140 56,000 / 5016	92

The total minimum parking requirement for the public schools was estimated to be 745 cars and for the separate school was 255 cars.

Internal roads are required to service parking areas, service buildings, and for passenger drop-off. For this study it was assumed that each building site should have a minimum of two vehicle service points, and two vehicle drop-off points.

(b) Parks

The parking allocation for the pool complex and sports field facilities could not be accurately determined at this time due to insufficient information.

In preparing the alternatives the consultant opted for capacity parking on the site after all other land use areas were satisfied. The result of this strategy indicated that Site X and Y could accommodate almost twice the amount of spaces required by the school boards. It was concluded that the site had considerable flexibility to accommodate parking areas and

although the parks requirements were not identified, they could be accommodated.

(c) Parking Location

Parking area location criteria was determined on the basis of providing parking areas required for each building in close proximity to the building. The criteria used was that an acceptable maximum walking distance from any parking space would be 2 minutes or approximately 500 feet (152.4 m), see Plate 9.

Amended by Editor

(d) Roads and Parking Organization

The alternative organization of internal roads and parking resulted from the goal to establish pedestrian precincts free of road and parking areas. That goal was established by the consultant for this study, because it was considered that facilities of this nature and size should be oriented to the pedestrian.

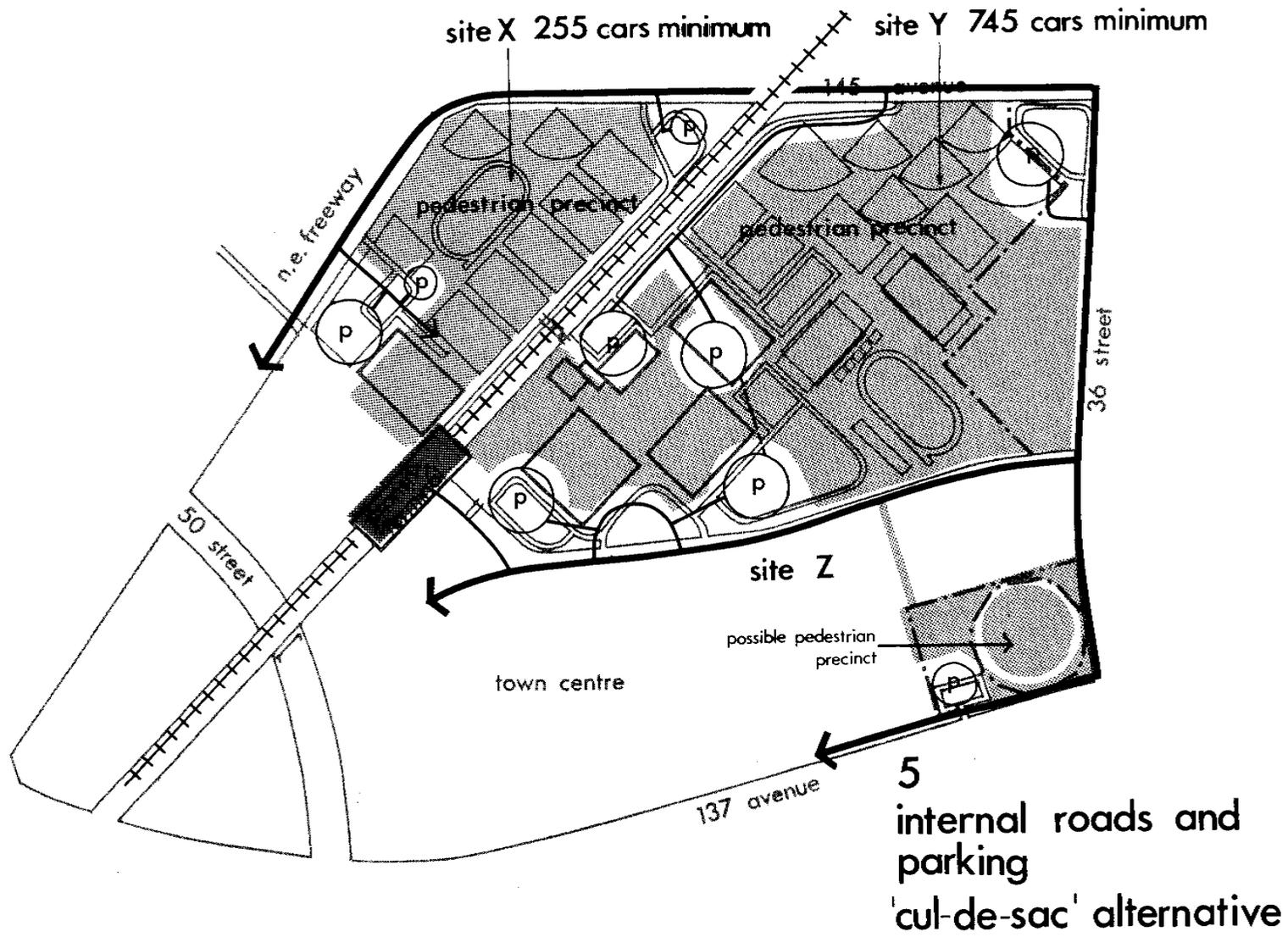
Plates 5 and 6 illustrate two alternative organizations for roads and parking on Sites X and Y. Each organization satisfies the requirements but the cul-de-sac alternative, Plate 5, was used as the basis for the composite organization. Further studies of traffic volumes during peak hours of ingress and egress should be undertaken in the next phase of campus/park planning to reaffirm that the number of access points related to parking distribution will be adequate.

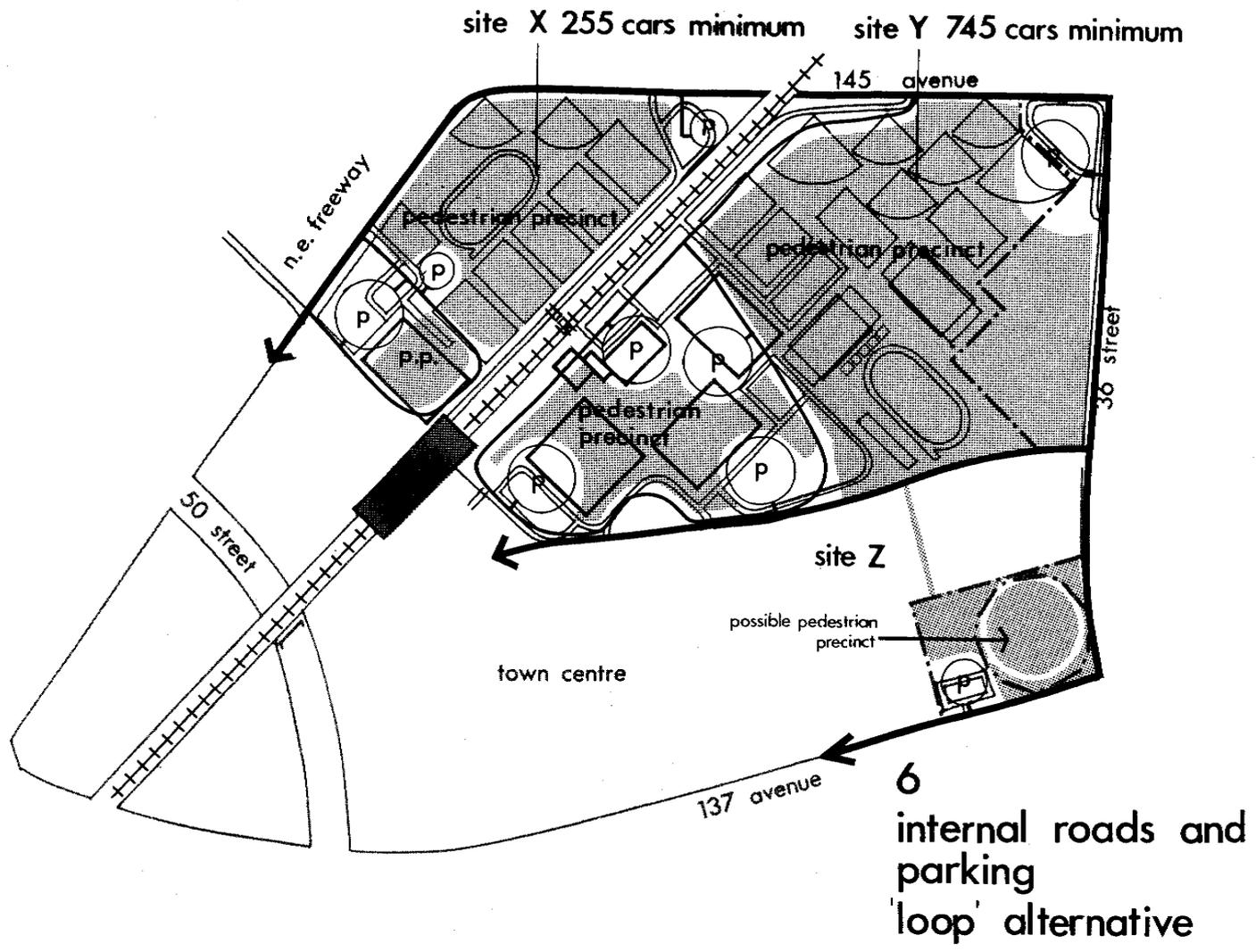
Plate 7 illustrates the application of the cul-de-sac alternative and the distribution of parking on the three sites. This organization illustrates the distribution of 1540 parking spaces on sites X and Y which is almost twice the amount required for day use by the schools.

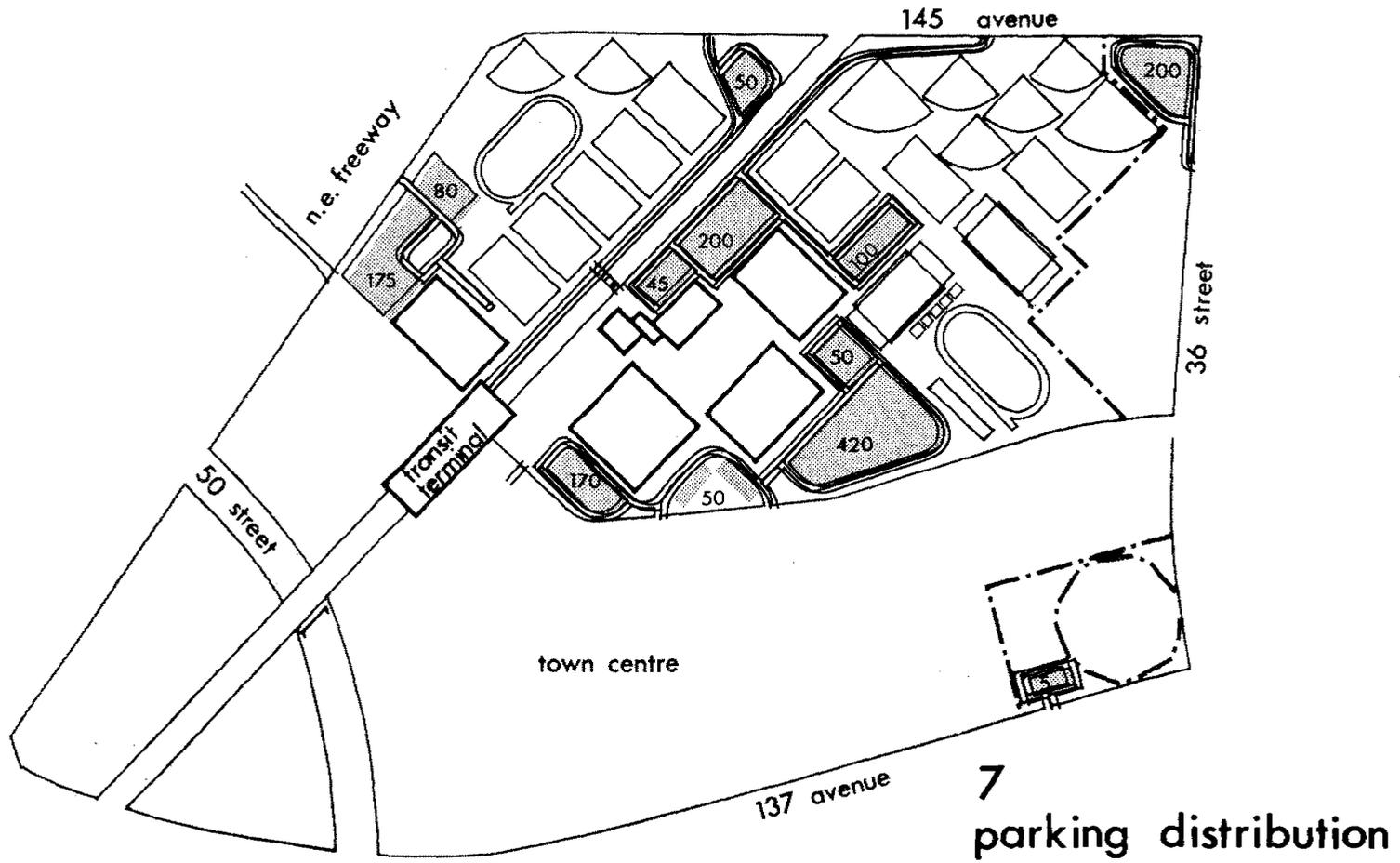
The major entrance road on site Y could serve the function of a short term bus loading and unloading area until the terminal is built.

6. PROPOSED MODES OF TRAVEL

An analysis of modes of travel, travel distance, and student distribution was prepared to determine where students would be arriving on the site at peak hours, and what planning implications would arise from this distribution.







The modal split was interpreted from a graph prepared by the Engineering Department, City of Edmonton, for Jasper Place Composite School, Plate 8, and from information in a letter prepared by Mr. D.B. Rhyason, File 76-01, December 7th, 1970 to Mr. A. Parry, Director of Planning, Public School Board.

(a) Public Schools

Student Origin and Distribution (Amended by Editor)

School Type and Enrolment	District of Origin and Distribution	Student Distribution Distance from Centre	
		1 mile (1.6 km)	1.5 miles (2.4 km)
Vocational - 1,000	900 outside Clareview 100 inside (by bus)		
Composite & Academic - 2,800	Clareview 1,600 Hermitage 400 Beverly 200 Casselman 600	900 400	700 400 200 200

Mode Split Estimated for Composite & Academic Schools

Mode	1 mile to 1.5 mile radius		0-1 mile radius		Total
	% of Students Using Mode	No. of Students	% Students Using Mode	No. of Students	
Auto Driver	10	150	9	130	280
Auto Passenger	7	105	7	91	196
Drop-off	18	270	24	299	569
Bus	60	900	25	325	1,225
Walking	2	30	33	429	459
Other (Bicycle, hitchhike, motorcycle, taxi, etc.)	3	45	2	26	71
	100	1,500	100	1,300	2,800

The analysis indicates that about 900 students will be travelling by rail and 1,325 will be travelling by bus. Discussions between the Public School Board and the Transit Authority further indicates that 1,225 of the 1,325 students travelling by bus will be dropped off in the mass Transit Terminal. These figures are of course based on existing patterns, which may change drastically over the life of the schools. Changing trends should be examined during preparation of the campus/park master plan.

Since over 50% of the students for public schools will be arriving and departing from the terminal, pedestrian access from the terminal to school buildings is very significant.

A maximum acceptable walking distance from the terminal to school buildings should be about 1,250 feet or 5 minutes, see Plate 9. Further studies should be undertaken to determine the nature of the path type with regard to the feasibility of an enclosed pedestrian street as part of the building structures versus an outdoor pedestrian street or a combination of both. It is the opinion of the consultant that regardless of the alternatives, the estimated pedestrian volumes on this street require a minimum pavement width of 15'-0" (4.6 m) and a greater width at the terminal and school building junctions.

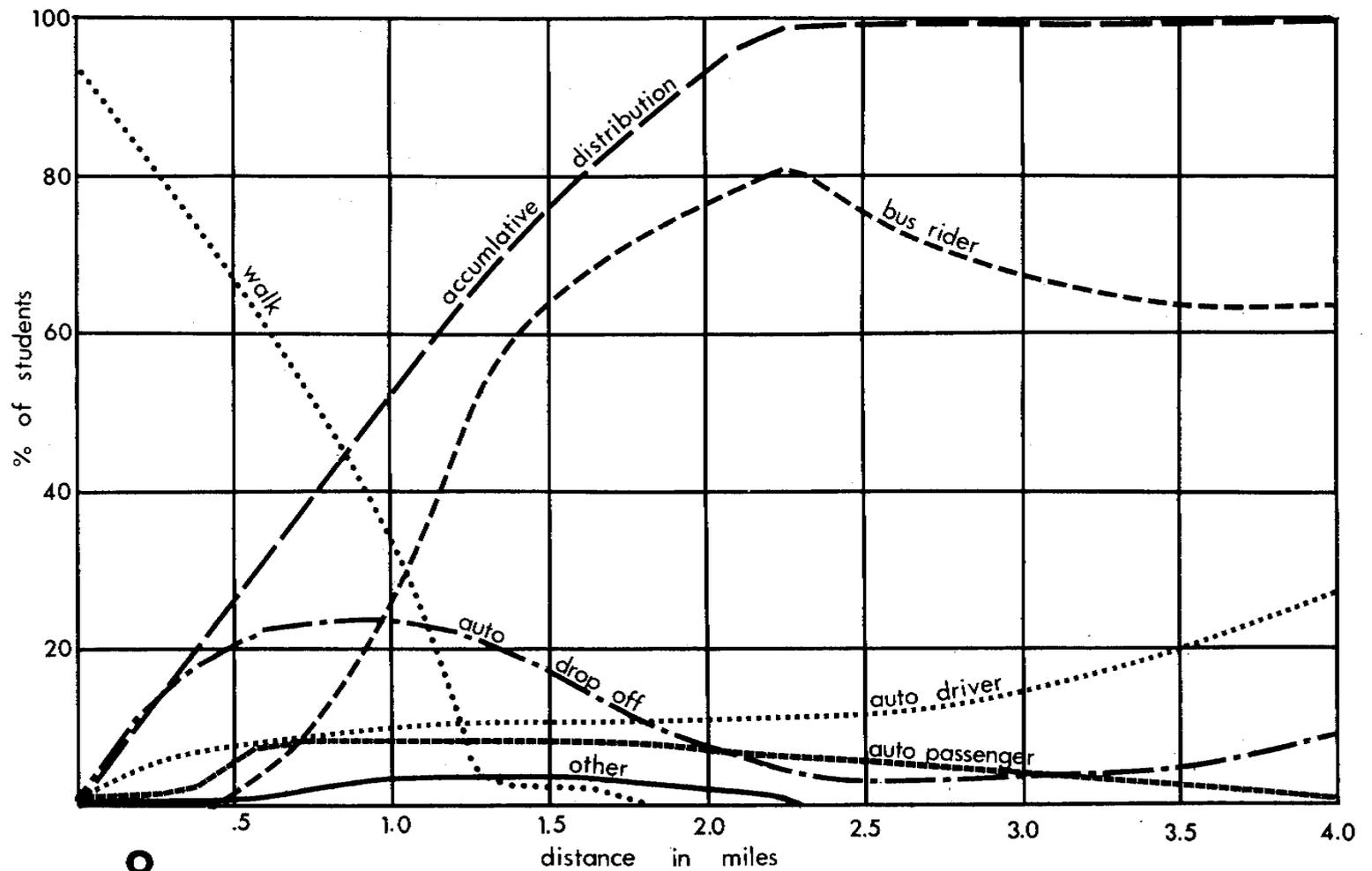
Amended by Editor

(b) Separate Schools

Discussion with officials of the Separate School Board indicated that of the 1,200-1,400 student enrolment, approximately 50% will be travelling by rail and 40% by bus. Since 90% or 1,260 students will be arriving and departing from the terminal, a maximum acceptable walking distance should also be about 1,250 feet or 5 minutes. The pedestrian street connection from the terminal to the building should also be studied by investigating the alternatives suggested for the Public School Board.

(c) Building Locations

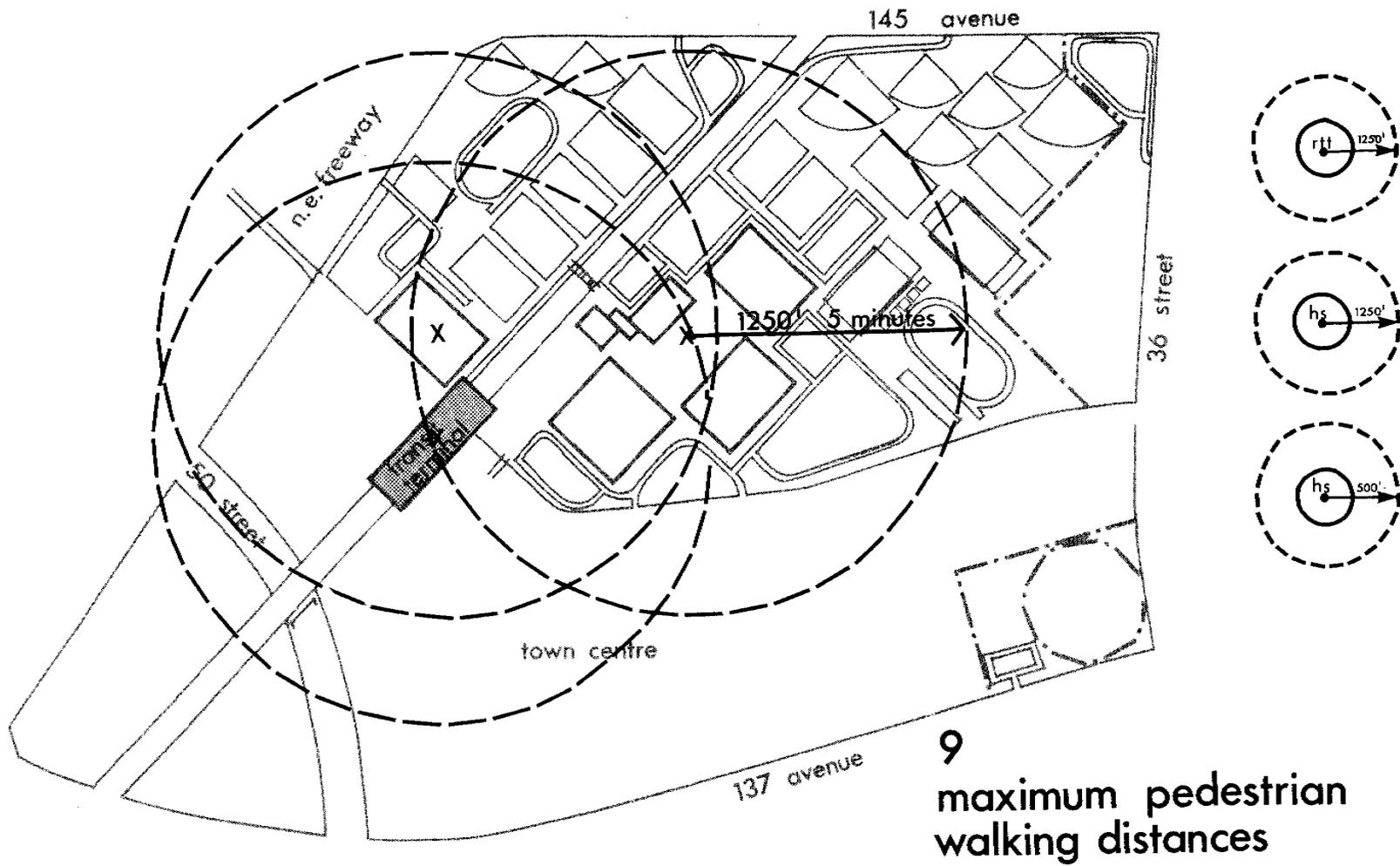
The preceding information verifies the need for school buildings to be located in close proximity to the mass transit terminal. Priorities of location should be given to the separate composite school and public vocational schools being the closest.



8

student distribution & mode of travel to school

jasper place composite school survey 1970



7. ALTERNATIVE PLAN ORGANIZATIONS

(a) Programs

The major determinants affecting organization on the sites were the buildings, roads, parking, and outdoor sports facilities. The programs for the facilities required for each site are as follows:

Site X

- 1 - separate high school, roads and parking 1 – ¼ mile track combination (Type B)
- 1 - tennis-hockey combination
- 2 - fastball fields
- 5 - combination soccer - football fields

Site Y

- 3 - public high schools, roads and parking
- 1 - combination pool-arena complex, roads and parking,
driver training area
- 1 - ¼ mile track combination (Type A)
- 1 - tennis-hockey combination
- 2 - combination soccer football fields
- 2 - combination rugby, soccer, fastball fields
- 4 - fastball 60'
- 2 - baseball 90'
- Passive district park (acreage varies as per alternatives)

Site Z

Passive district park

(The district reservoir is not considered here as part of parks jurisdiction but may and probably should be integrated into parks use).

(b) Site X

There are two alternatives for the location for the school building and sports facilities that will meet the established requirements. Alternative 1, Plate 10, locates the building on the south edge of the site with all sports fields required in one zone north of the school building.

Alternative 2, Plate 10, locates the school building in the centre of the site with sports fields in two separated zones on each side of the building. In both alternatives walking distance relationship between school, terminal and pool-arena (Site Y) are the major determining factors. Alternative 2 provides disadvantages only to the Public School Board in that walking distances would be increased to the 3 combination fields required for their day programs.

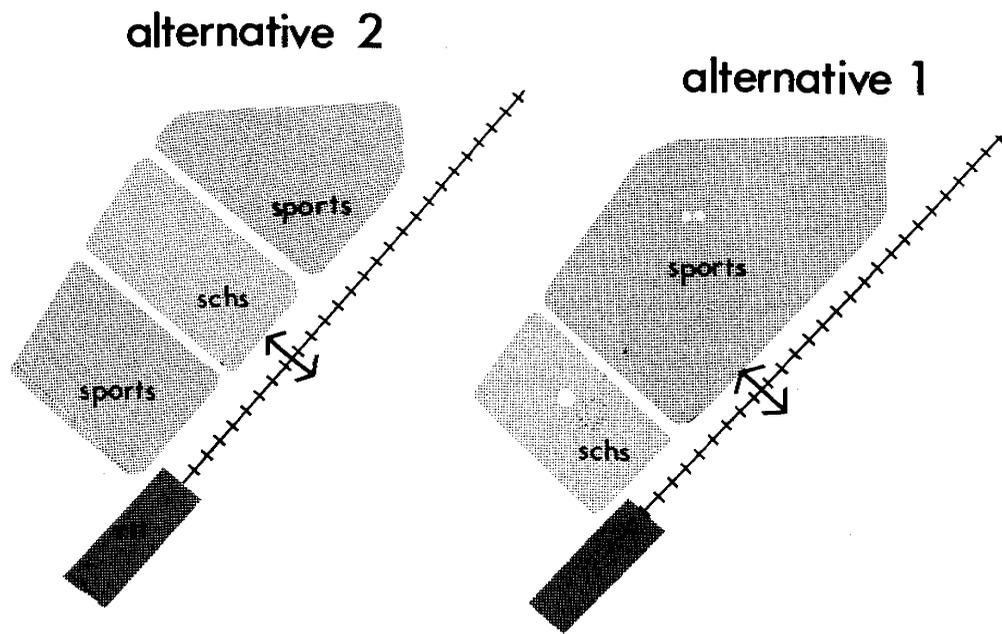
(c) Site Y

There are three alternatives for the locations of building, roads and parking that will meet the established requirements. The zone for sports fields and passive district park is constant in location due to these requirements.

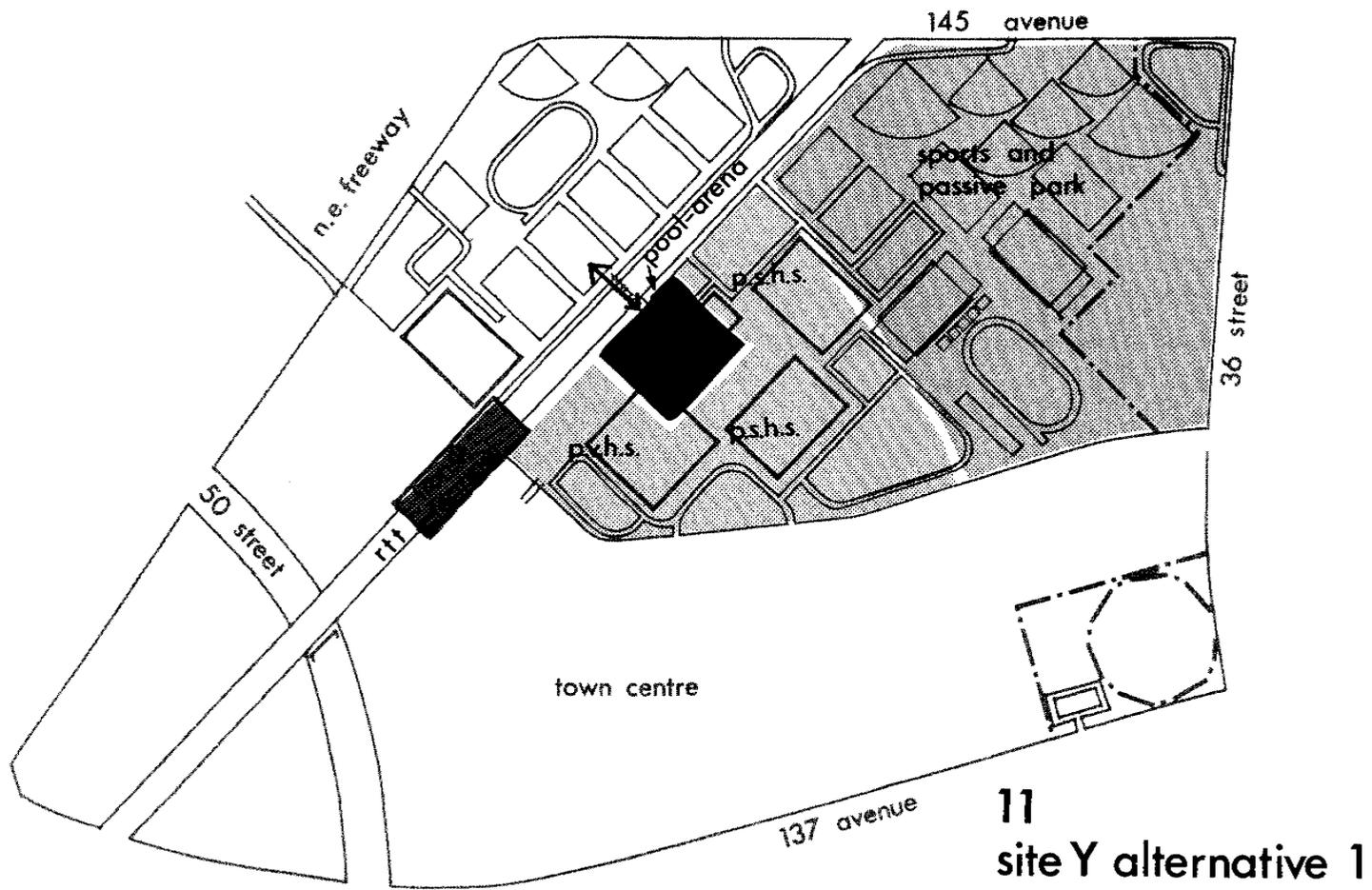
Alternative 1, Plate 11, locates the pool-arena building as a core around which the three public schools are clustered, forming a campus commons. The vocational school is located nearest to the rapid transit terminal.

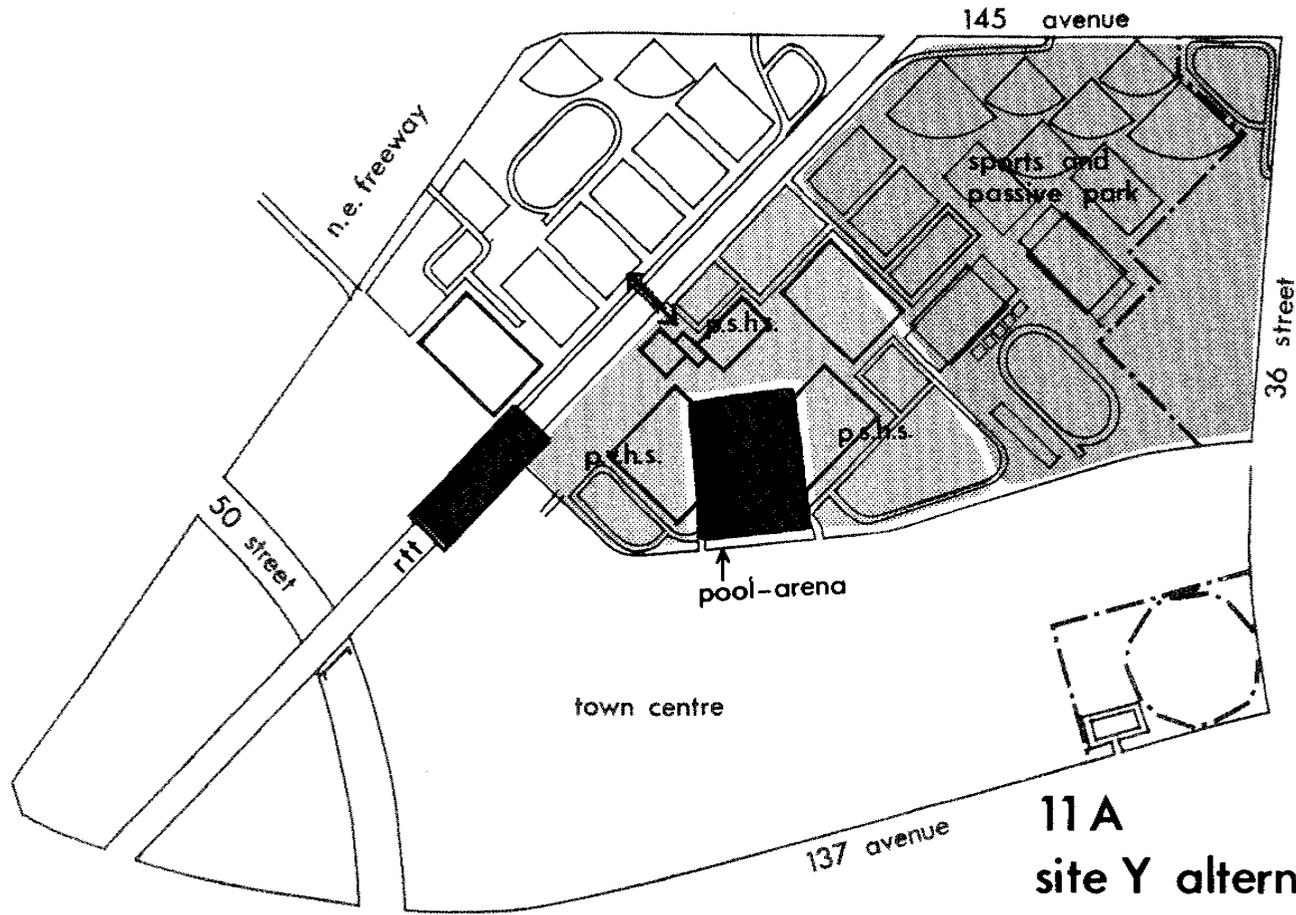
Alternative 2, Plate 11A locates the pool-arena building on the south edge of the site with the three school buildings clustered around a campus commons north of the pool-arena building.

Alternative 3, Plate 11B locates the pool-arena building adjacent to the mass transit terminal with the three schools clustered around a commons.

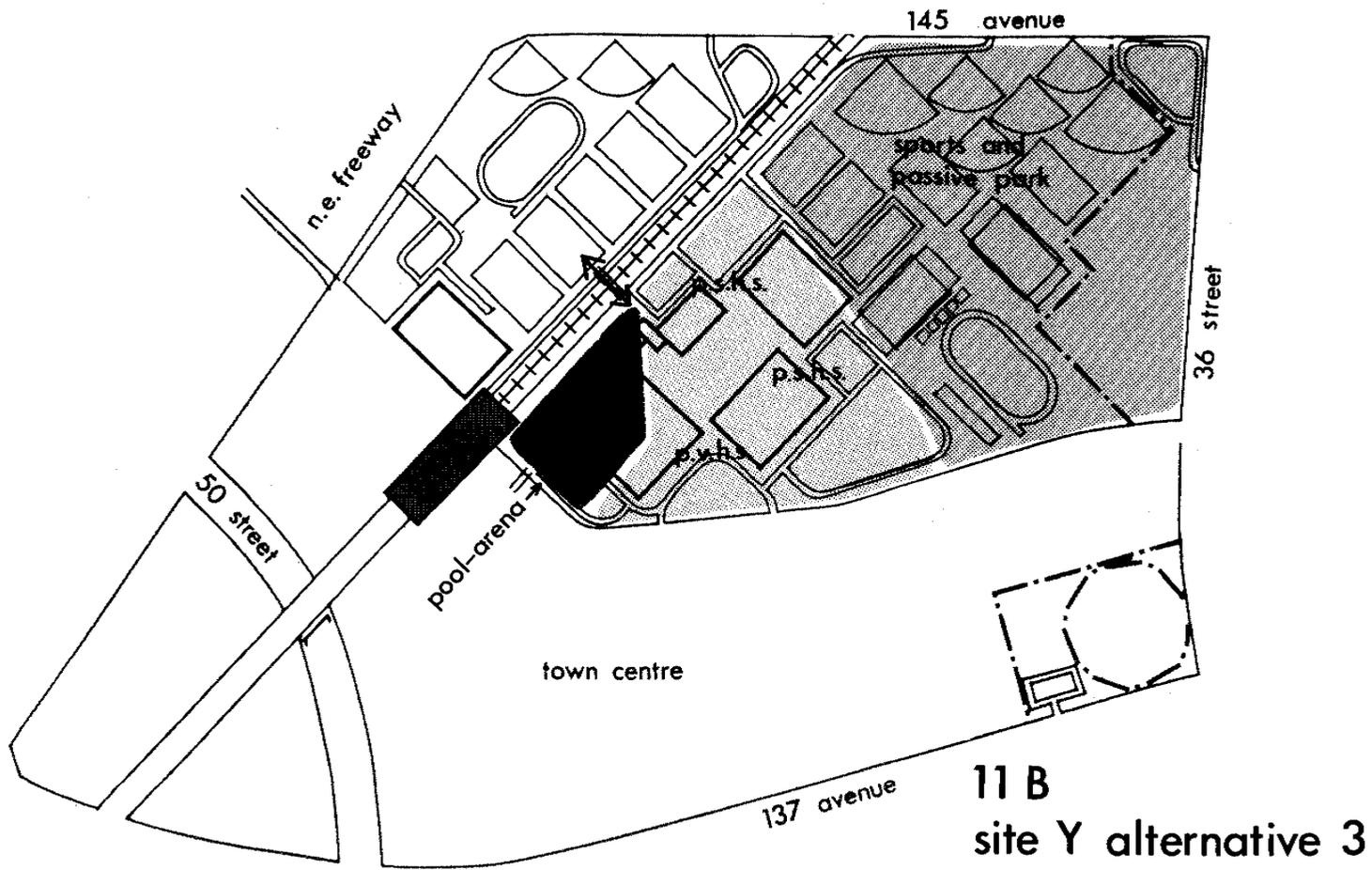


10
site X alternatives





11A
site Y alternative 2



(d) Site Z

The location of a passive district park integrated with housing facilities provides an excellent opportunity for both the community recreation and as a visual open space amenity for housing. The use of the mounded reservoir for public open space would be an added and valuable asset.

Although this site is separated from the passive park on Site Y, it would function as a component of the district open space framework. The issue regarding this allocation is one of location policy and policy interpretation as to function. On the basis of location and function, the consultant cannot identify any significant criteria as to why a passive park should occur in one location and as one parcel of land.

The *Community Services Department* should carefully review their policies regarding this issue and determine whether this proposal provides the flexibility required for them to maintain jurisdiction.

Amended by Editor

8. PEDESTRIAN WALKING DISTANCES

An analysis of time and distance factors related to day physical education programs was undertaken to determine the maximum acceptable walking distance between a school building and sports field.

Discussions with the school boards indicate that the minimum instructional period is 45 minutes, the average is 50 minutes, and in the case of public schools, a maximum of 80 minutes.

The minimum acceptable time on a playing field for an instructional period is 30 minutes. Using the 50 minute instructional period the following table indicates the maximum acceptable walking distances:

Length of Instructional Period	Minimum Time on Field	Changing Time	Total Time for Walking	Distance
45 min.	30 min.	10 min.	5(2.5 each way)	625 ft. (190.5 m)*
50 min.	30 min.	10 min.	10(5 each way)	1250 ft. (381 m)

*Amended by Editor

It was concluded that sports fields should be located within 5 minutes or about 1,250 feet walking distance from the school buildings to facilitate ease of physical education program operation, Plate 9.

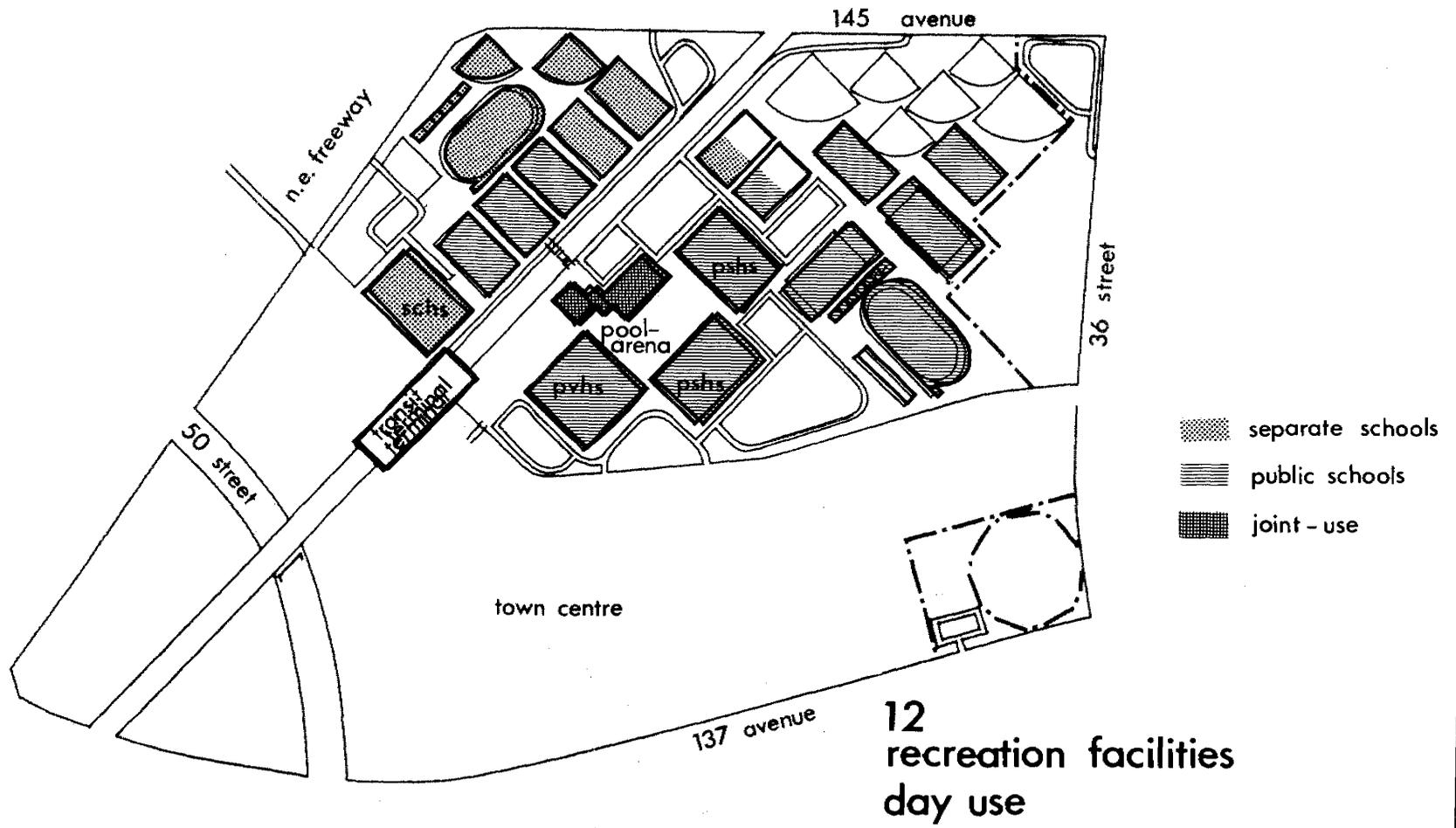
A study of sports field locations, Plate 12, indicates that to meet this requirement:

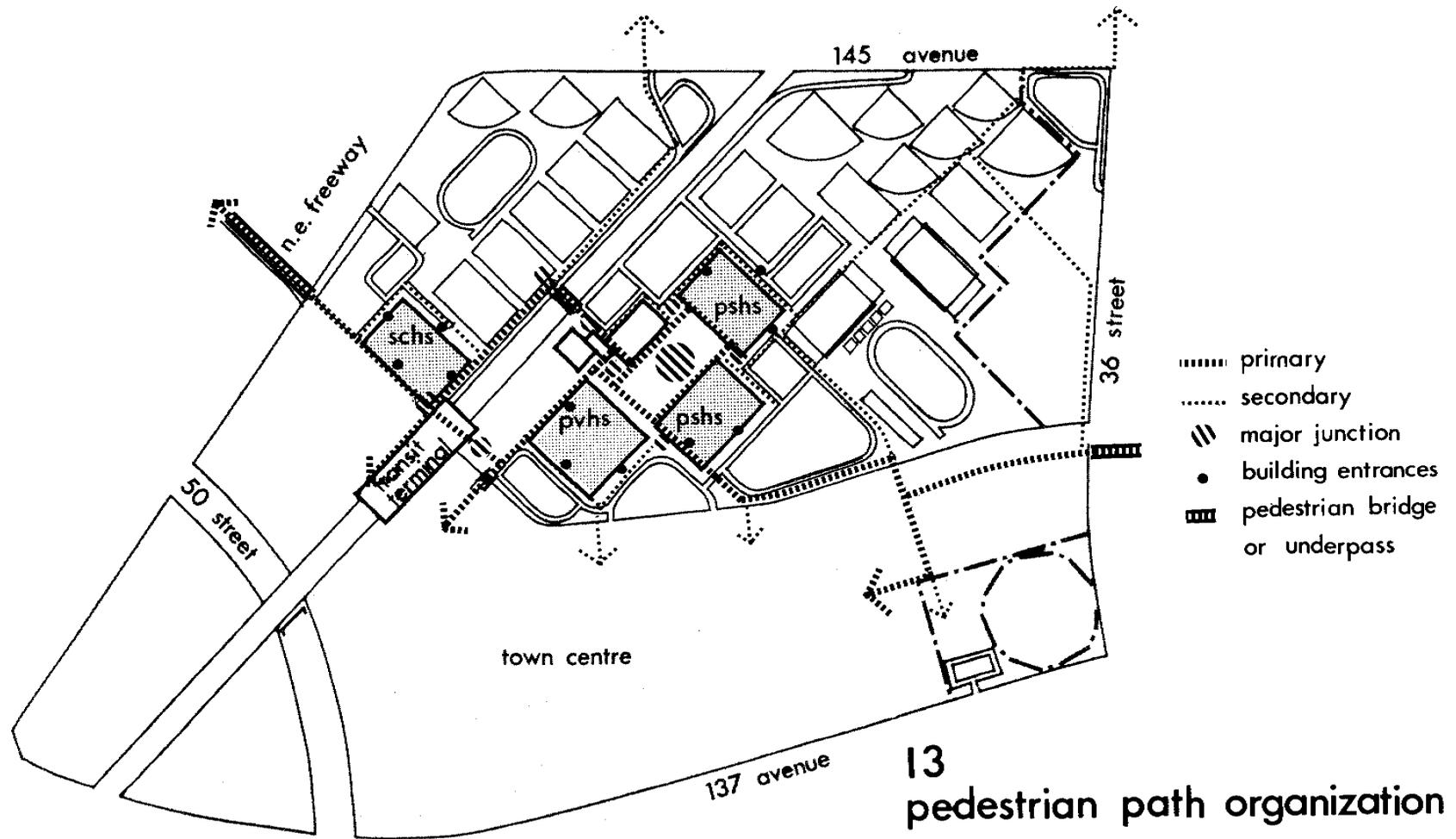
- All separate school outdoor recreation facilities and the school buildings can be accommodated on Site X with the exception of the pool-arena complex and tennis-hockey facility which must be located on Site Y.
- All public school recreation facilities can be accommodated on Site Y with the exception of 3 combination soccer football fields which must be located on Site X to meet the time distance requirement.

It should be noted that if the Public School Board is prepared to make a trade-off in the time distance requirement, the 3 combination fields could also be located on Site Y.

9. INTERNAL PEDESTRIAN PATH SYSTEM

The goal stated previously was to establish pedestrian precincts or zones where conflicts between internal vehicular traffic and pedestrian movement would be eliminated.





On Site Y it is possible to organize the spaces to create a 'campus common' using buildings as an interface between the pedestrian precinct and roads and parking areas.

(a) Location of Paths

Plate 13 illustrates one organization of an internal pedestrian path system. Regardless of which building, parking, and road alternative is selected the following location and types of paths should be considered.

(i) Primary Paths (15'+ /4.5 m) wide)

Amended by Editor

- Mass transit terminal to separate school
- Mass transit terminal to Public Vocational, Academic and Composite Schools, Pool-arena complex and campus commons
- Site Y entrance road loop to campus commons.

(ii) Secondary Paths (8'-0" / 2.4 m) wide)

Amended by Editor

- Around edges of each school building
- Connections from neighbourhood areas to Sites X and Y.

(iii) Major Junctions

- Terminal building on both Site X and Y where primary paths join to terminal building
- Campus Commons
- Vehicle drop-off points to all buildings
- Intersections of pedestrian bridges and paths.

(iv) Pedestrian Bridges

- One across tracks joining Site X and Y
- One across rail line at rapid transit terminal
- One across northeast freeway.

(b) Organization of Paths

Primary paths are oriented in a northeast-southwest direction from the mass transit terminal to and through the building complexes on Sites X and Y to meet the criteria for pedestrian movement.

Secondary paths are oriented in a northwest-southeast direction through Sites X, Y and Z serving the functions for movement from the community to the sites, from parking areas to facilities and from drop-off areas to facilities.

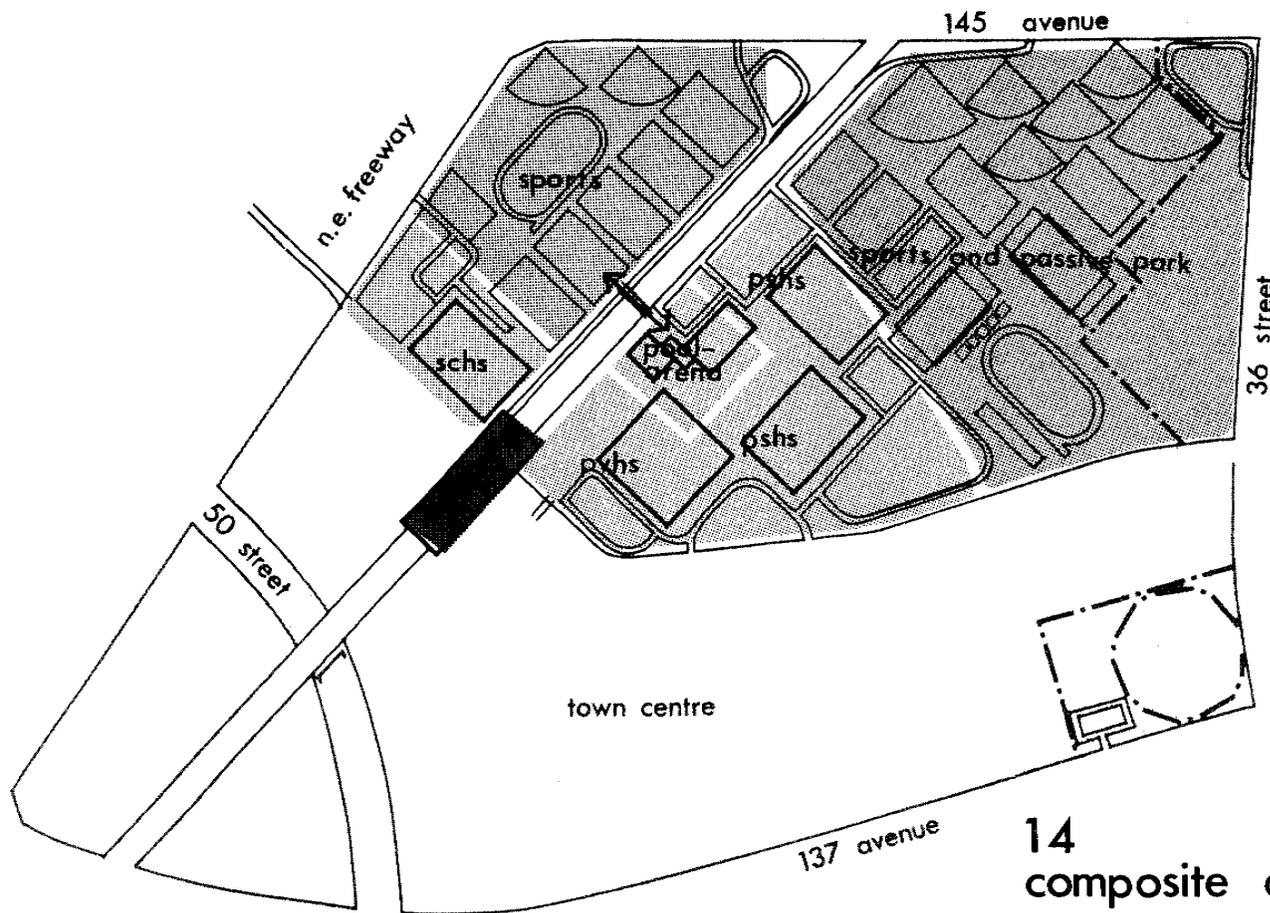
10. CONCLUSIONS

(a) Combinations of the Alternatives for Site X & Y

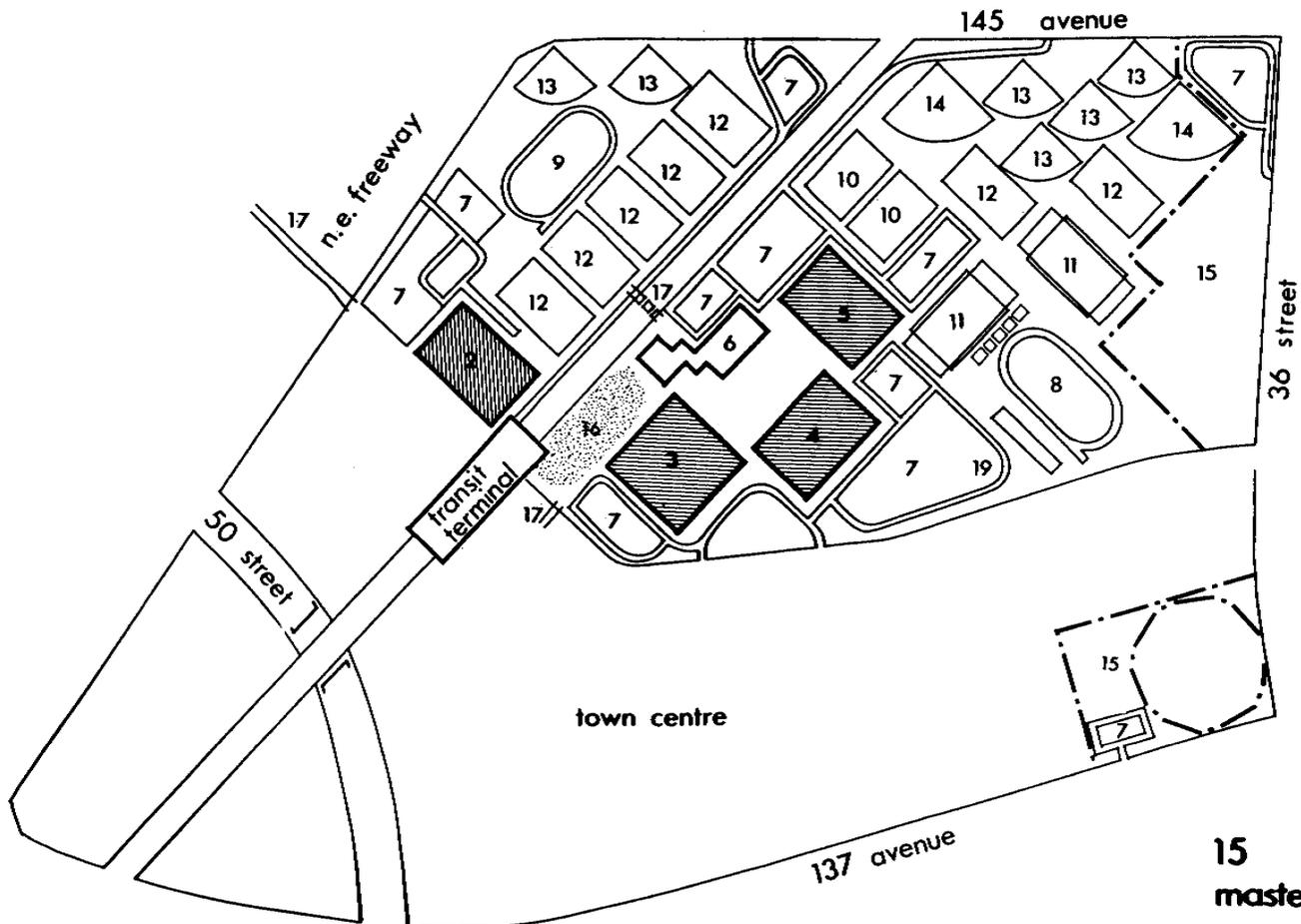
There are 5 possible combinations of the alternatives as illustrated in Plates 10 and 11. After evaluating these possibilities, the combination of A1 and B2 shown in Plate 14 is the most mutually advantageous to all three participating agencies. The organization of this combination is illustrated in more detail in Plate 15.

(b) Site Feasibility

The sites in terms of their size, shape and location as proposed in the Town Centre Plan prove to be feasible by providing a wide range of flexibility in accommodating the programs required within the constraints identified.



14
 composite organization plan



legend

- 1 rapid transit terminal
- 2 separate high school
- 3 public vocational school
- 4 public composite school
- 5 public academic school
- 6 pool arena
- 7 parking
- 8 track 'a' type
- 9 track 'b' type
- 10 tennis - hockey
- 11 rugby - soccer - football
- 12 soccer - fastball
- 13 60' fastball
- 14 90' fastball
- 15 passive park
- 16 existing trees
- 17 pedestrian bridge or underpass
- 19 driver training area

15
master plan alternative composite

(c) Further Planning & Design Studies

The participants will have to review and agree on a combination of the alternative organizations or a modified combination of them. After this agreement is reached the following would form the basis of a composite master site plan for sites X, Y and Z:

- Master layout plan of building sites and sports facilities
- Master layout plan of internal roads and parking
- Master layout plan of pedestrian systems
- Master grading and drainage plan
- Master planting plan
- Master services plan
- Master outdoor illumination and street furniture plan
- Master phasing plan
- Master capital cost plan.

These master plans and related information, reviewed on a regular (possibly 5 year) basis, would form the basis for a framework of development policy and organization. Since development will occur over an extended period of time, such planning information would establish a long term aid to development and provide a guide for short term building and site planning decisions.