

URBAN ENVIRONMENT



A STUDY UNDERTAKEN BY THE GEOGRAPHY SECTION OF THE POLICY & PLANNING DIRECTORATE; POLICY, PLANNING & RESEARCH SERVICE, DEPARTMENT OF THE ENVIRONMENT, AND FINANCED JOINTLY WITH THE REGIONAL STUDIES SECTION OF THE ECONOMIC ANALYSIS BRANCH, DEPARTMENT OF REGIONAL ECONOMIC EXPANSION.

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C.3Introduction:

The construction of the transcontinental railroad is considered to have been the most significant event that has shaped the history of Canada. Land use patterns, the distribution of settlements, and the development of certain industrial towns have their antecedents rooted in railway development. However, today the pioneering spirit of the railroad is a thing of the past and its importance as a carrier of goods and persons has been overtaken by the airplane, automobile, and truck. The abandonment of certain railway tracks (especially in the Prairies) and the drastic reduction in the number of passengers using trains over the last few years reflect a changing trend in Canadian transportation activities. The ownership of a car, which today is regarded as a necessity and not a luxury has changed the life styles of Canadians. They are now far more mobile than their forebearers and employ their cars for a wide variety of uses.

For the less fortunate who do not own cars, their major means of transportation is by public motor bus. The last few years have witnessed an unprecedented growth of public bus services in Canada. Commuters no longer use this service just for the purpose of travelling great distances. The rescheduling of many routes and the addition of a larger number of intermittent stops on established routes has permitted the traveler to use public bus systems for a greater variety of functions. The commuter now takes the bus to work, to shop, and for recreational pleasure.

Air travel is also gaining importance as a travel mode in Canada. The construction of new air fields and airport marinas in many parts of Northern Canada has afforded all-year-round accessibility to many Northern settlements. Recreation and sporting activities have experienced significant increases due to the construction of these airport facilities as well as a marked expansion in private commercial flying corporations.

To discuss the transportation system of any large region, such as the Prairies or the province of Québec, would involve an enormous task. Each travel mode would have to be analysed in terms of traffic flows, origin and destination characteristics, the frequency of use, trip services, cost-benefit analyses, change in travel modes and detailed analyses of those factors attributed to these changes. Comments on only one of these aspects would in fact entail an extensive amount of research. Because of the shortage of time, coupled with the fact that the members of the team openly admit a lack of expertise in the transportation field, priorities had to be established. The decisions finally reached, comprised the investigation of two general areas. These were: 1. public transportation services, and 2. acceptability characteristics.

Method of Approach

1. Public Transportation Services

An extensive analysis of public transportation services would include an examination of the three modes - road, rail, and air. Because the present report is primarily concerned with social and economic characteristics of the local inhabitants of certain centres, an examination of rail and air travel was considered unimportant. This attitude was based upon two factors. First, concerning the movement of people, bus service represents by far the most important carrier in terms of total passengers¹. In addition, bus services were used far more frequently than rail or air for everyday functions such as shopping, work, and recreation. It is fully acknowledged that commuter trains today play an important role in the movement of people for larger centres in the Prairie provinces and the province of Québec. Passenger counts could therefore serve as a useful indicator in the journey-to-work pattern. Unfortunately, passenger counts have only been provided by the C.P.R. and even then, these figures were collected on random surveys for certain routes.

1. According to the Ministry of Transport, 60 percent of total trips are generated by persons using bus service. (Total trips refer to public modes)

Second, when the movements of goods are considered, rail transport was initially regarded to represent an important mode. Because the two major railway companies were reluctant to divulge information on the volume of goods shipped, it was decided that annual freight schedules would serve as a useful indicator of shipment activity. The assumption was that if the schedules of goods services to a particular centre increased substantially over the last few years the commercial and/or industrial activities of that area would reflect similar rates of growth. Conversely, those communities in which services declined markedly would represent centres whose economic activity was also declining. It was argued that increases in output of industrial and commercial products would warrant similar increases in transportation facilities to move these goods.

After speaking with officials of the C.P.R. and C.N.R., it was advised that, in light of the present rail policy², schedules in no way reflect the intensity of shipment of goods. Rather than include a map illustrating the rail network of the Prairies and the province of Québec in relation to selected centres as the only available information on railway transportation, it was decided to exclude the rail component.

Trucking services represent the other important carrier of goods. Because of the competitive element, trucking companies were not willing to release information on either trucking routes, or the nature, volume, and value of goods shipped. The only information available involved the number of trucking companies located in each centre. An inventory of companies would serve little purpose in this report, and it was therefore decided to exclude these functions. For information on the number of trucking companies located in the selective centres the reader may refer to the Trucking Directory found in the bibliography.

Bus service was the only sector in the public transportation field that provided sufficient information for a general analysis. Bus services therefore have been included as one component in the public transportation sector. The purpose of including public bus systems was simply to determine

2. The system of "Block" loading and "Demand" services are two important transportation systems that are widely practiced in the Prairies. Records of these activities are not available for public use.

the level of service offered to each centre. It was argued that the inhabitants of a centre serviced by a frequent and efficient bus system would enjoy a higher level of access to other centres than one in which the service was low. In addition to providing a high degree of access to adjacent centres, an efficient bus service would also afford the surrounding areas greater mobility to the centre in question. The residents of a centre, therefore, in which for example 10 buses arrive (and depart) daily, would be provided a far greater degree of access than one in which there was only one arrival (or departure). Because passenger counts were not available, bus schedules were used as the basic source of information. Factors affecting the propensity to travel were not included in this section. The question posed was not why do people use buses, but rather what type of bus facilities exist?

Schedules of 26 different bus companies were investigated. Sixteen of these operated in the Prairies, while the remaining ten had routes in the province of Québec. Schedules for over 200 individual routes serving the centres in the two regions were recorded. The total number of official stops per week were then totalled for each centre. In order to determine which urban centres were either "under" served or "over" served in terms of frequency of stops, frequency of service was plotted against city size. Those centres having a random distribution with respect to the general trend were considered "atypical". The purpose of identifying the atypical centres is to show which urban areas are serviced by a high (or low) level of bus transportation. An examination of causal relationships (such as travel substitution by other modes) lies outside the scope of this study.

2. Accessibility

Whereas the previous section discussed accessibility in terms of bus transport, the present section deals with accessibility characteristics of the existing highway structure itself. The contention put forward was that a community served by a large number of highways and expressways would be afforded a higher level of accessibility (both to and from the centre) than one which

was located on only a secondary road. Whether or not the local inhabitants have either the desire or financial capability to make use of the existing facilities is of no concern in this project. The capacity of the facilities is the central issue.

For the purpose of this report, capacity is defined as "the maximum number of vehicles per hour without the traffic condensity being so great as to cause unreasonable delay, hazard or restrictions to the driver's freedom to manouvre under the prevailing road and traffic conditions."³ Design geometrics are the major factors which affect road capacities, and of these width and surface type are the two most important characteristics. Based upon several complex formulae, the Highway Capacity Manual furnishes capacity values for certain road types. Modifications of these values have been assigned to the highway system in the Prairies and the province of Québec. These are as follows: -

<u>Road Type</u>	<u>No. of Lanes</u>	<u>Capacity</u> Vehicles/hour	<u>Value</u>
Dual Carriageway	6	4500	9
Divided Highway	4	3500	7
Paved primary	2	1500	3
Paved secondary	2	900	2
Gravel	2	500	1

To construct a road capacity map, the following stages were completed. First, the two major regions were divided into a grid comprised of individual cells measuring 10 miles square. For the Prairies over 2,500 cells were constructed while for the province of Québec, the number was 2,300. Second, for each cell, the length of each type of road was measured and this length in turn was translated into a capacity value. For example, a 10-mile section of paved highway would be assigned a value of 3 while for a similar section of a gravel road, the value would be 1. Third, values for the individual road

3. Traffic Engineering Practice, pp.89

type were summated and entered in each cell. Fourth, isopleth lines were then constructed from the values.

Result and Analysis

PRAIRIES

1. Bus Services

The schedules of the following bus lines were examined: -

Beacon Bus Lines, Ltd.	Greyhound Lines West
Cardinal Coach Lines, Ltd.	Leader-Climax Bus Lines, Ltd.
Coachways System	Manitoba Motor Transit, Ltd.
Crossland Coachways	Moose Mountain Lines
Grey Goose Bus Lines, Ltd.	Safe T Ways Motor Coach Line
Greyhound Lines of Canada	Saskatchewan Transportation Co.

Map V.1 is based upon the route schedules provided by bus companies listed above. Several features arise from this map. First, the immediate area surrounding Winnipeg and the Edmonton-Calgary axis stands out as the two prominent areas having the highest level of service. Such a phenomenon would be expected since both the areas contain the greatest population concentrations in the Prairies. Second, the major bus routes run in a north-west to south-east direction and provide relatively little north - south access. Third, bus services to northern settlements are far less frequent than to urban areas located in the equally sparsely populated central plains. This is especially true for Northern Manitoba but less so for Northern Alberta.

A discussion of bus services in themselves will not necessarily reveal any profound phenomena about the public transportation of the Prairies. Buses, obviously, have to follow the existing circulation system, and therefore one would expect to find a distinctive northwest - southeast trend. Similarly, large urban areas will demand a greater level of service for the movement of their people than small towns. One would again, therefore, expect to find more frequent bus services being provided to Edmonton, Calgary and Winnipeg



SCALE
 ONE INCH EQUALS APPROXIMATELY 99 MILES
 Miles 0 20 40 60 80 100

FREQUENCY OF PUBLIC BUS SERVICE

NUMBER OF RUNS PER WEEK

- 7
- 14
- 28
- 42
- 57
- 76
- 112

than to small centres. The major issue that arises is to what extent do bus services actually differ between settlements of similar size. To determine if any trend arises between size and service, values of bus frequency were plotted against settlement size. Table VI.1 outlines these values and Graph 1 shows the distribution of points.

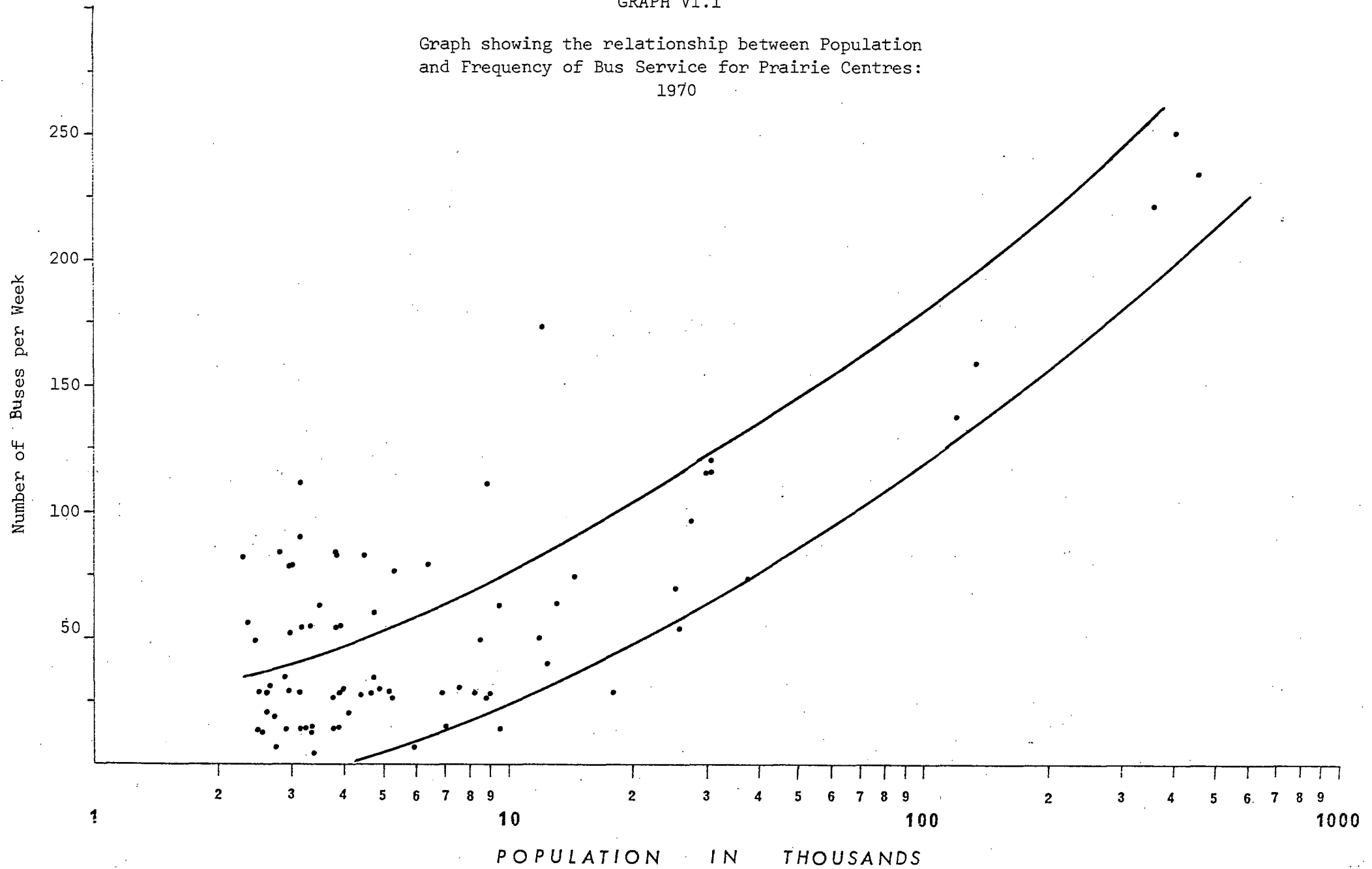
Several observations can be made about Graph VI.1. First, for cities less than 10,000 persons no trend is seen to exist between service and size. (This is evident from the random dispersion of points below the 10,000 population marks.) Second, for cities greater than 10,000, a discernable relationship arises. As population increases above this threshold, bus service also increases. Because the points are plotted on semi-logarithmic graph paper, the relationship between the two variables can be stated as follows: - As population increases at a constant rate the provision of bus service increases at a decreasing rate. When a narrow band is drawn bisected by the centre line, more centres are found to fall above than below it. These centres therefore falling above can be considered as enjoying a relatively higher level of service than the average while those below can be classed as underprovided, with respect to the provision of bus services.

The following classes can be constructed from Graph VI.1 and the values contained in the last column of Table VI.1.

<u>Centre</u>	<u>Level of Bus Service</u>
Neepawa	
Canora	
Rosetown	
Fort Macleod	Very high
Innisfail	
Lacombe	
Leduc	
Dauphin	
Portage la Prairie	
Swan River	
Melville	
Brooks	
Claresholm	High
Edson	
Hinton	
Pincher Creek	
Ponoka	
Westlock	
Flin Flon	
Thompson	Low
Prince Albert	
Fort McMurray	

GRAPH VI.1

Graph showing the relationship between Population
and Frequency of Bus Service for Prairie Centres:
1970



One further factor that should be considered when assessing the level of public transportation service is the configuration of routes serving a particular centre. If a centre is located along a major artery linking two larger centres, it will benefit directly from the bus service that has been established between them. In this situation, the local inhabitants of the intervening centre benefit the most, for it is more likely that persons will travel from the smaller centre to larger metropolitan areas for shopping and work functions rather than the other way around. In general therefore, bus routes serving small centres situated along lineal routes will be used more extensively by people travelling from the centre than by rural residents commuting to the centre. On the other hand, a centre situated at a major road junction would experience a different or even reverse situation. For example, the configuration of bus routes converging upon the town of Rosetown would provide the surrounding settlements a higher degree of access to it than the lineal route system serving the rural residents of the town Biggar. In 1970, both these centres contained approximately the same number of persons, while the weekly number of buses serving them varied by a factor of 1 to 4 in favor of Rosetown.

Keeping in mind the effect that configurations of bus routes have upon the accessibility of centres, the following comments can be made in regards to the classification of bus service levels outlined on the previous page; -

1. Those centres having a very high or high level of service in relation to their size attributable to the confluence of major bus routes include the following: -

Manitoba

Dauphin
Neepawa
Swan River

Saskatchewan

Canora
Yorkton

Alberta

Fort MacLeod
Pincher Creek
Westlock

2. Centres having a very high or high level of service in relation to size and which can be attributed to the fact that they are located between two major urban areas, included the following: -

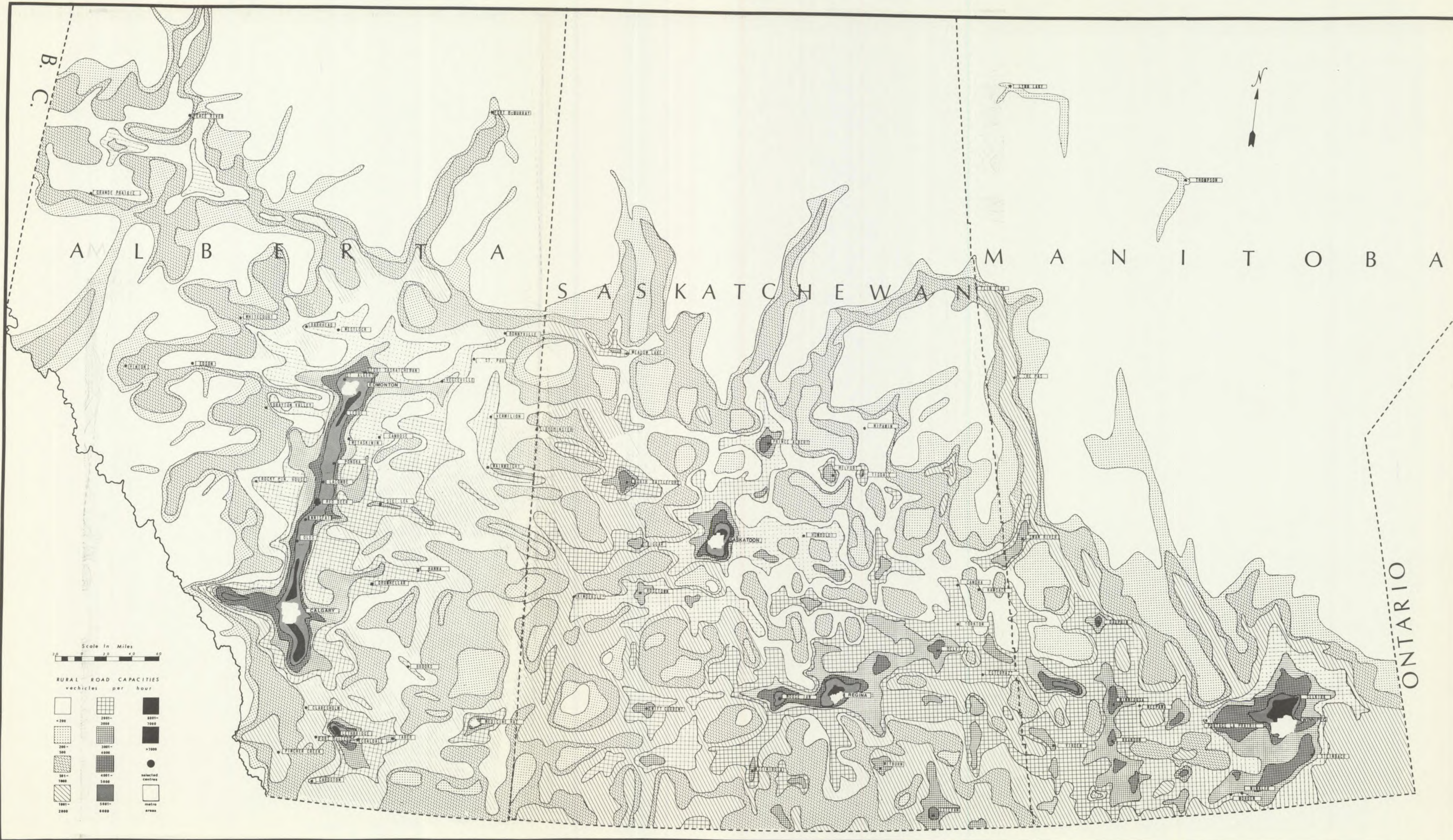
<u>Manitoba</u>	<u>Saskatchewan</u>	<u>Alberta</u>
Portage la Prairie	Melville	Brooks Claresholm Innisfail Lacombe Leduc Ponoka

3. Centres having a low level of service in relation to size and which can be attributed to the fact that they are terminal stations on bus routes include the following:-

<u>Manitoba</u>	<u>Saskatchewan</u>	<u>Alberta</u>
Flin Flon Thompson	Meadow Lake	Fort McMurray

2. Accessibility

Accessibility characteristics are represented by Map VI.2 which outlines the highway capacity of the existing circulation system of the Prairies. Because of the complexity of this map, it would be very difficult to include specific comments on each centre. Furthermore, the nature of the information is presented in such a manner that it does not lend itself to making a significant number of generalities. As a result, only three general observations can be made. First, the Edmonton-Calgary axis stands out as having the highest concentration of road capacity. This of course is attributable to the presence of the four-lane freeway joining the two cities. Second, other areas displaying high concentrations are also found around the remaining metropolitan areas in the Prairies. Winnipeg, Regina, and Saskatoon, and to a lesser extent, Lethbridge; are centres located in areas of high road capacities. Third, in terms of provincial comparisons, the amount of land



serviced by all forms of roads is far smaller in Manitoba than it is for the remaining two provinces.

QUEBEC

1. Bus Services

The schedules of the following bus companies were examined for the province of Québec:

Autobus A. Drolet, Ltd.	Pontiac Bus Lines
Autobus Dupont, Ltd.	Québec Central Transportation Co.
Autobus Fournier, Ltd.	S.M.T. (Eastern) Ltd.
Autobus Laramée Coach Lines, Ltd.	Voyageur Abitibi Inc.
Carrière and Frère, Ltd.	Voyageur Colonial, Ltd.
Eastern Greyhound Lines	Voyageur Provincial Inc.

Map VI 3 outlines the frequency of weekly bus routes serving the selected centres in the province of Québec. Three general observations can be drawn from this map. First, the Montréal-Québec axis stands out as having the greatest concentration of bus routes in the entire province. In fact, when including all bus routes running between Montréal and Québec, the number of buses commuting between these two cities accounts for over 30% of the total bus trips made in the entire province.¹ Second, the city of Montréal and its immediate environs experience by far the greatest level of bus service. Being the largest city in Canada, one would indeed expect Montréal to obtain the highest level of bus service. Québec City received the second highest level, and because of its size in relation to the remaining centres, it is not surprising that it also is serviced by a substantially large number of bus routes. Third, the Gaspé region and the northern extremities of the Clay Belt are provided the lowest level of service. Even though these regions are the

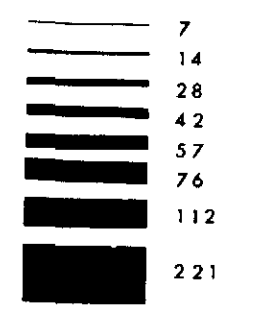
1. Of the 1044 buses departing weekly from all Québec centres, 314 trips were made between Montréal and Québec.



SCALE
MILES 0 20 40 60 80 100

FREQUENCY OF PUBLIC BUS SERVICE

NUMBER OF RUNS PER WEEK



most sparsely populated areas being served by public transportation systems, they nevertheless received a relatively low service in relation to their population densities.

In pursuing the same procedure used to analyse the bus service of the Prairies, level of service was examined in terms of population size for centres located in the province of Québec.

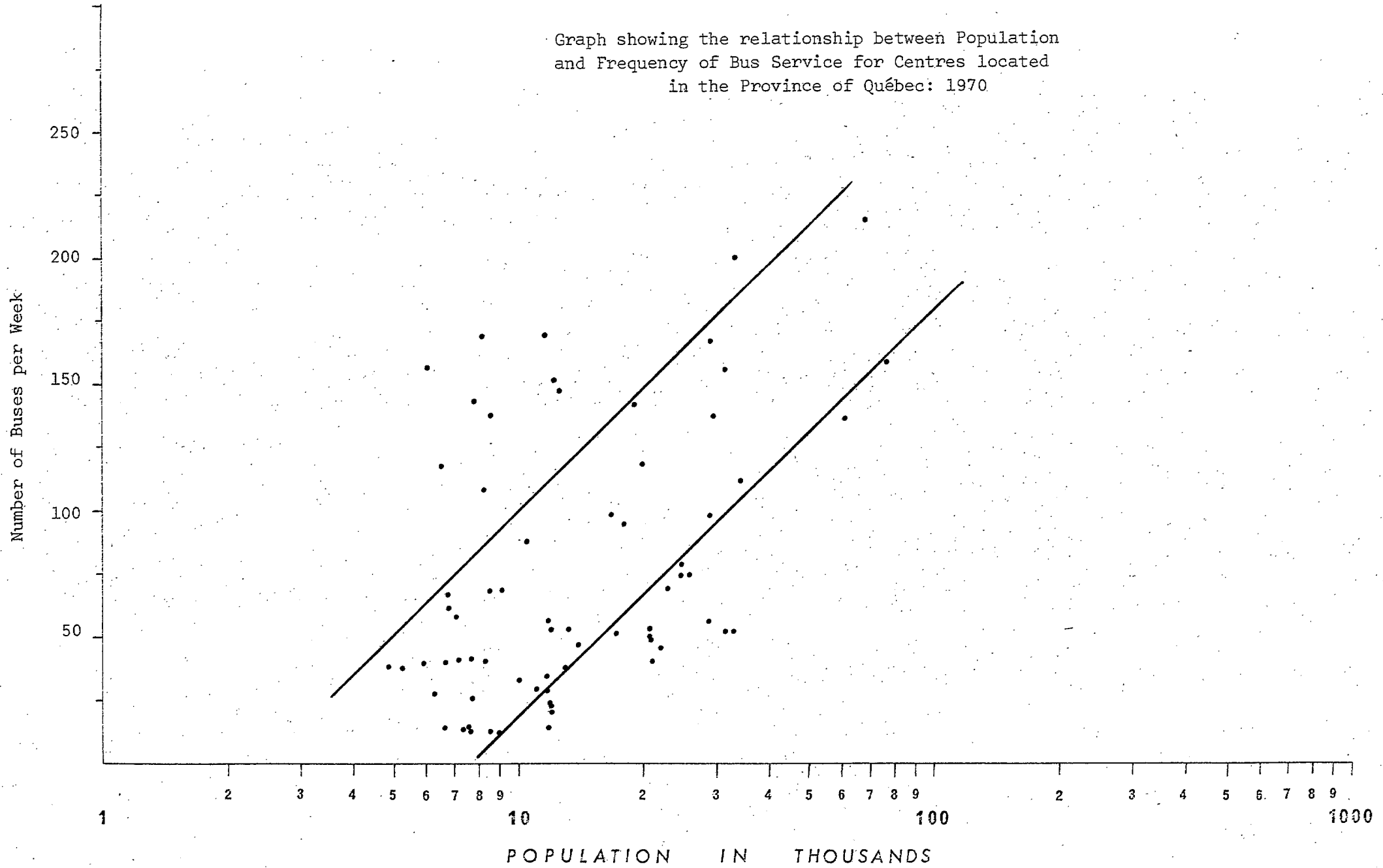
Graph VI.2 illustrates the relationship between frequency of bus trips and size of centre. Unlike Graph VI.1, only a general trend can be identified. By drawing a band encompassing the majority of points, one could conclude that as population size increases at a constant rate, the provision of bus services increases at a decreasing rate. (One should recall that a straight line drawn on semi-logarithmic paper indicates a decreasing trend.) The values contained in the last column of Table VI.2 in conjunction with information provided by Graph VI.2, can be used to construct the following classes of bus services:

<u>Centre</u>	<u>Level of Bus Service</u>
Beauharnois	
Malartic	
Ste-Agathe-des-Monts	Very High
Ste-Thérèse-de-Blainville	
Terrebonne	
Bécancour	
Montmagny	
Mont-Joli	High
Rivière-du-Loup	
Baie-Comeau	
Chibougamau	
Chicoutimi	
Grand'Mère	
Hauterive	Low
Iberville	
Jonquière	
Magog	
Shawinigan	

Referring back to a point made previously concerning the configuration of bus routes, many centres seem to have either high or low service values because of their location on these routes. Those centres therefore

GRAPH VI.2

Graph showing the relationship between Population and Frequency of Bus Service for Centres located in the Province of Québec: 1970



having either a very high or high level of service in relation to their population size, which may be attributed to the confluence of major bus routes, include the following: -

Baie-Comeau, Chibougamau, Gatineau, Hauterive, Magog.

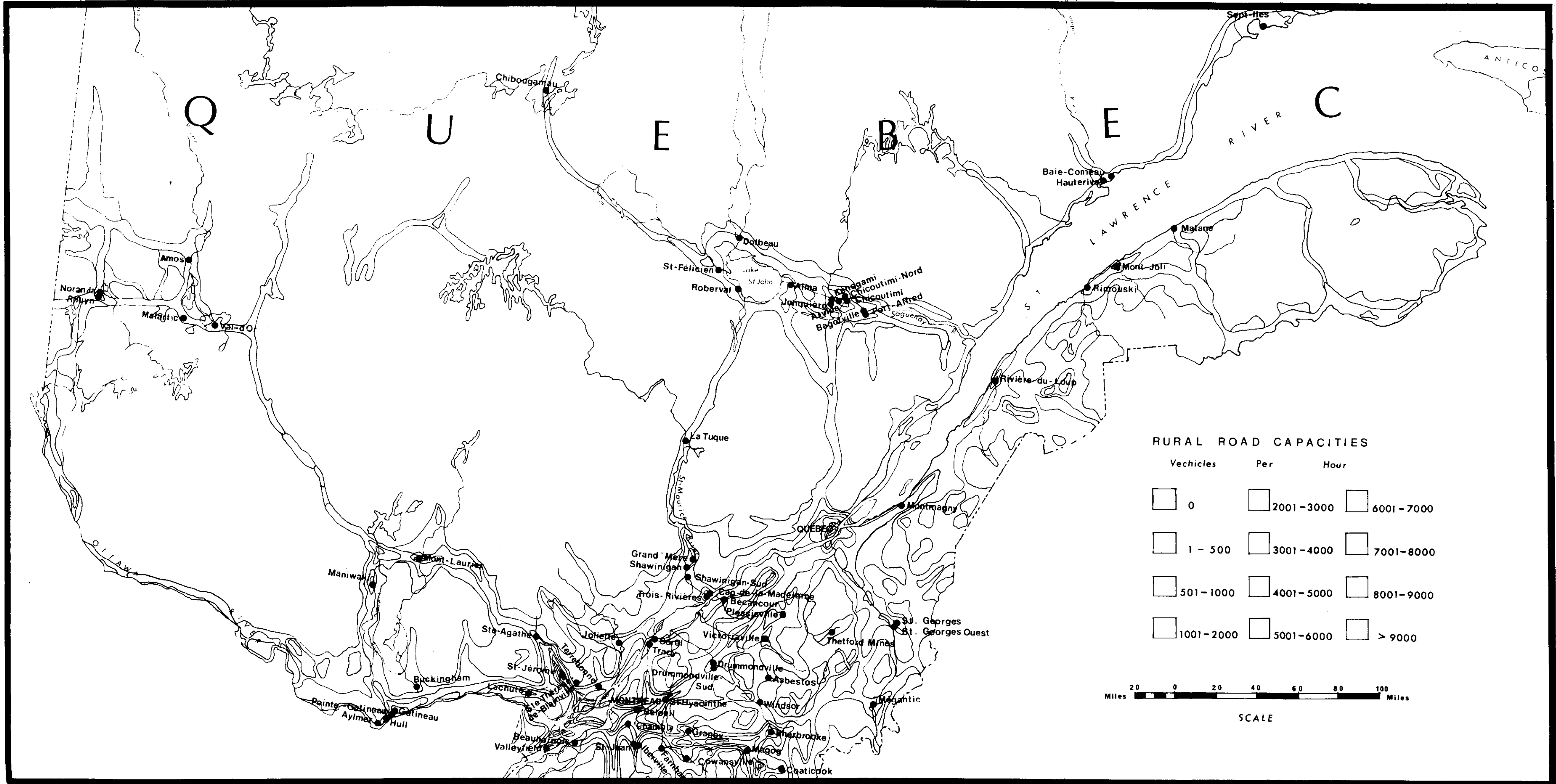
2. Accessibility

Map VI.4 outlines road capacity values for centres located in the province of Québec. As with the discussion of Map VI.2, the extremely complex nature of this map does not make it feasible to discuss every item covered. Consequently only generalities can be highlighted. The most pronounced feature that stands out is the overwhelming concentration of road capacities in the St. Lawrence Lowlands. Within this area, Montréal and Québec appear as the two focal points. A second observation is the noticeable dearth of highways (and thus the absence of high capacities) in areas immediately north of the Montréal-Québec axis. In fact, within 40-50 miles to the north of this axis road, capacities are less than 100 vehicles/hour. Even though a general road map of this area might reveal the presence of many rural roads, their overall capacities are nonetheless extremely low.

The Gaspé region is another area of Québec having very low road capacities in spite of the fact that parts of this area contain a moderately dense network of country roads. Realizing that multi-lane freeways (such as those entering Montréal) have capacities of nearly ten times those of gravel roads, it is not surprising that one finds many areas of low accessibility in the Gaspé region.

The low capacity values in the Lac St-Jean area, is a third feature shown in Map VI.4. Considering that over 150,000 persons live in this region, one would have expected to find a higher level of road capacities servicing the St-Jean region. This lack of accessibility becomes even more apparent when one sees that the capacities surrounding Trois Rivières and environs which contain approximately half the population of St-Jean region, is far higher.

A final observation that can be made from Map VI.4 is the ribbon-like



structure that is found in the upper portions of the map. These structures represent major highways leading to northern settlements. Access therefore to the settlements is confined to major arterials running in a north-south direction.

Concluding Remarks

Before one can implement a transportation policy, the first step that has to be taken should involve what is known as the "fact-finding process". Information covering a wide variety of activities has to be collected. Data on both the existing circulation system as well as the people using this system has to be analysed. This part of the report has only considered the former component and has focused specifically on only one aspect of the public transportation system and one feature of accessibility. Bus services were selected as the only component of public transportation. Lack of even the most fundamental information precluded an examination of other public modes.

The overall conclusion drawn from the part dealing with public bus services was the extremely wide variation within the levels of service provided. In these major regions, a general trend was identified between size of centre and level of service. With several exceptions, larger centres were served by a higher level of service. These exceptions, as was pointed out, were attributed to the configuration of existing bus routes. Examples were included to show that certain small centres situated between two large metropolitan areas would directly benefit from the high frequency of service maintained between the larger centres. In other cases in which the nature of bus routes was seen to affect the level of service, this section illustrated that centres located at major road junctions also experienced high levels of service. At the opposite extreme, centres which were terminal stations, regardless of size, experienced markedly low frequencies of service.

Accessibility characteristics were also covered in this section. The construction of two maps embodying highway capacity principles were included for

each major region. In both regions, noticeable features were illustrated. Because of the grid-like structure of roads, especially in the Prairies, many small centres which were located in areas having high concentrations of road systems obtained an extremely large capacity value. Generally speaking, larger centres in both the Prairie provinces as well as the province of Québec were surrounded by areas having high capacity figures. Exceptions to this trend included several fairly large centres which were located in sparsely populated northern regions.

It should be emphasized that the section dealing with transportation activities, was intended to be descriptive and not analytical. It was included to familiarize the reader with certain transportation elements that exist in the Prairies and the province of Québec. The section was not designed to be definitive. For it to be so would have required an exhaustive examination of all aspects of transportation planning. Rather, its purpose was simply to identify certain features that are unique to the two major regions. Once these have been identified, and once other aspects of the transportation system have been fully analysed, it will then be possible to formulate a transportation policy. Inventories of transportation facilities would serve as valuable tools to planners whether it be for developing a recreation policy, for implementing a conservation programme, for preparing an industrial development scheme, or for undertaking a high project. This section has provided just two inventories.

APPENDIX TO TABLES

The following tables were constructed from
sources included in:

Canadian Bus Guide, Current Bus Schedules
of Canada and Northern United States,
Russell's Guides Inc., Cedar Rapids, 1970

TABLE VI.1

FREQUENCY AND LEVELS OF BUS SERVICES - 1971

	No. of Arrivals and Departures per week	Population - 1970	Tot. weekly Arrivals and Departures/ 1,000 Pop.
<u>Manitoba</u>			
Brandon	118	31,573	3.74
Dauphin	112	9,096	12.31
Flin Flon	14	9,918	1.41
Lynn Lake	N/A	3,266	N/A
Morden	28	3,281	8.53
Neepawa	112	3,272	34.23
Portage la Prairie	175	12,757	13.72
Selkirk	428	9,298	3.01
Steinbach	428	4,890	5.73
Swan River	63	3,611	17.45
The Pas	14	7,249	3.31
Thompson	14	18,769	1.49
Virden	35	2,927	12.00
Winkler	28	3,057	9.16
Winnipeg	237	499,878	.47
TOTAL	1,016	622,842	1.63
<u>Saskatchewan</u>			
Assiniboia	12	2,603	4.61
Biggar	12	2,658	4.57
Canora	56	2,431	23.04
Esterhazy	7	3,301	2.12
Estevan	28	9,247	3.03
Humboldt	28	3,929	7.13
Kamsack	28	2,696	10.39
Kindersley	14	3,196	4.38
Lloydminster	28	3,857	7.26
Meadow Lake	7	3,408	2.05
Melfort	35	4,903	7.14
Melville	77	5,375	14.33
Moose Jaw	117	32,051	3.65
Nipawin	21	4,179	5.03
Battleford	40	12,679	3.16
Prince Albert	55	27,487	2.00
Regina	161	141,020	1.14
Rosetown	49	2,493	19.66
Saskatoon	146	125,598	1.12
Swift Current	75	15,288	4.91
Tisdale	28	2,727	10.27
Weyburn	28	8,525	3.29
Yorkton	63	13,440	4.69
TOTAL	1,108	433,091	2.56
<u>Alberta</u>			
Barrhead	19	2,718	7.00
Brooks	56	3,743	14.96
Calgary	225	385,436	.58
Camrose	50	8,892	5.62
Cardston	4	2,721	1.47
Clareholm	56	3,350	16.72
Coaldale	28	2,541	11.02
Drayton Valley	7	3,471	2.02
Drumheller	28	5,240	5.34

TABLE VI.1 (contd.)

	No. of Arrivals and Departures per week	Population - 1970	Tot. weekly Arrivals and Departures/ 1,000 Pop.
<u>Alberta - (Continued)</u>			
Edmonton	256	422,418	.61
Edson	56	3,872	14.46
Ft. Macleod	34	2,640	31.32
Ft. McMurray	7	6,132	1.14
Ft. Saskatchewan	26	5,302	4.90
Grande Prairie	49	12,054	4.07
Hanna	28	2,539	11.03
Hinton	56	4,461	12.55
Innisfail	84	2,350	35.75
Lacombe	91	3,228	28.20
Leduc	84	3,779	22.23
Lethbridge	73	39,552	1.85
Lloydminster	28	4,318	6.49
Medicine Hat	70	25,713	2.72
Olds	84	3,405	24.67
Peace River	28	5,384	5.20
Pincher Creek	56	3,223	17.38
Ponoka	84	4,554	18.45
Red Deer	98	26,907	3.64
Rocky Mtn. House	14	2,802	5.00
St. Albert	66	10,530	6.27
St. Paul	14	4,051	3.46
Stettler	14	4,381	3.20
Taber	28	4,691	5.97
Vegreville	28	3,776	7.42
Vermilion	28	2,685	10.43
Wainwright	14	3,735	3.75
Westlock	47	3,103	15.15
Wetaskiwin	84	6,456	13.01
Whitecourt	77	2,894	26.61
TOTAL	2,229	1,049,947	2.12

TABLE VI.2

FREQUENCY AND LEVELS OF BUS SERVICES - 1971

	No. of Arrivals and Departures per week	Population - 1970	Tot. weekly Arrivals and Departures/ 1,000 Pop.
<u>Quebec</u>			
Alma	48	23,436	2.05
Amos	14	7,000	2.00
Arvida	54	18,321	2.95
Asbestos	35	10,381	3.37
Aylmer	26	7,300	3.56
Bagotville	60	6,400	9.38
Baie-Comeau	14	12,504	1.19
Beauharnois	140	9,000	15.56
Bécancour	110	8,883	12.38
Beloeil	N/A	11,625	N/A
Buckingham	14	7,900	1.77
Cap-de-la-Madeleine	158	33,000	4.79
Chambly	N/A	12,000	N/A
Chibougamau	13	9,499	1.37
Chicoutimi	54	35,105	1.54
Chicoutimi N.	54	13,600	3.97
Coaticook	14	8,100	1.73
Cowansville	30	11,560	2.60
Dolbeau	42	7,480	5.62
Drummondville	98	30,785	3.18
Drummondville S.	N/A	8,500	N/A
Farnham	30	6,411	4.68
Gatineau	40	21,980	1.82
Granby	204	34,700	5.88
Grand'Mère	58	12,267	4.73
Hauterive	21	12,923	1.63
Hull	140	63,720	2.20
Iberville	14	9,504	1.46
Joliette	120	20,840	5.76
Jonquièrre	54	33,000	1.64
Kénogami	54	12,500	4.32
Lachute	28	12,233	2.29
Lac-Mégantic	14	6,852	2.04
La Tuque	37	13,600	2.72
Magog	21	13,582	1.55
Malartic	120	6,800	17.65
Maniwaki	42	8,000	5.25
Matane	35	11,884	2.95
Mont Joli	70	6,850	10.22
Mont Laurier	70	8,642	8.10
Montmagny	154	12,700	12.13
Montréal	783	2,857,173	0.27
Noranda	90	11,160	8.07
Plessisville	68	7,154	9.51
Pointe-Gatineau	47	14,209	3.3
Port-Alfred	69	9,500	7.26
Québec	455	456,815	1.00
Rimouski	80	26,064	3.07
Rivière-du-Loup	149	13,000	11.46

TABLE VI.2 (contd.)

FREQUENCY AND LEVELS OF BUS SERVICES - 1971

	No. of Arrivals and Departures per week	Population - 1970	Tot. weekly Arrivals and Departures/ 1,000 Pop.
<u>Quebec - (Continued)</u>			
Roberval	42	8,872	4.73
Rouyn	98	18,827	5.21
Ste-Agathe	161	6,100	26.39
St-Félicien	42	5,016	8.37
St-Georges	42	6,998	6.00
St-Georges O.	42	5,536	7.59
St-Hyacinthe	70	24,226	2.89
St-Jean	114	36,000	3.17
St-Jérôme	172	30,000	5.73
Ste-Thérèse	172	8,600	20.0
Sept-Îles	1	21,585	
Shawinigan	58	30,777	1.88
Shawinigan S.	N/A	8,500	
Sherbrooke	159	81,881	1.94
Sorel	142	20,200	7.03
Terrebonne	146	8,153	17.91
Thetford Mines	54	21,919	2.46
Tracy	172	12,201	14.10
Trois-Rivières	221	71,200	3.10
Val-d'Or	105	18,500	5.68
Valleyfield	140	30,865	4.54
Victoriaville	54	23,683	2.28
Windsor	40	6,317	6.33

TOTAL

CHAPTER 7

MUNICIPAL INFRASTRUCTURE

Introduction

The final section of this report investigates infrastructure characteristics. Although the term "infrastructure" may conjure up different connotations to different people, it has been used here fairly loosely. To some people, infrastructure activities comprise those functions that are essential to the livelihood of a city. To others, it is considered as representing the "city serving" or "non-basic" activities. Many people regard the infrastructure as being synonymous with the provision of utilities and services while others consider it as being allied to the "raison d'être" of a city. Each of these opinions has certain merits and the issue therefore is definitional. For the purpose of this report, the definition of infrastructure is taken in its broadest sense. It includes those activities that will support and maintain the urban environment. These activities may be the responsibility of municipal authorities or they may be carried out by private institutions.

Given such a broad definition, infrastructure activities encompass an exceedingly wide spectrum of activities. They range from health facilities to recreation activities, or from the building of expressways to the installation of sewage treatment plants. An investigation of infrastructure activities would therefore necessitate an enormous amount of research not only in data selection and presentation, but also in the analysis of this data. Time did not permit the team to carry out a comprehensive evaluation of infrastructure activities. Priorities had to be established, and as a result, four general areas were selected for investigation. These included: 1.) the labour force involved in infrastructure, 2.) municipal expenditures and assessments, 3.) the building industry in terms of building permits issued, and 4.) municipal services. The last category includes recreational facilities, schooling and medical institutions.

The overall approach adopted for each of the four major areas of interest consists of several interrelated stages. The first is primarily descriptive and presents both absolute and relative information. The main emphasis is upon providing facts on infrastructure activity and includes percent distributional characteristics, per capita values and rates of change. The second stage involves the ranking of the individual activity into a hierarchy of classes. The results of this stage might show, for example, that of the smallest population size centres, Assiniboia ranked first in the per capita values of building permits and last in terms of growth rates of municipal expenditures. The final stage attempts to introduce an analytical element into the investigation of the infrastructure. Not designed to be definitive, the analysis will only consider relationships that arise among the more important variables.

INFRASTRUCTURE LABOUR FORCE

Having defined the general points of reference, the first stage in the examination of the infrastructure should confine itself to labour force characteristics. The questions therefore raised would include the following: - "How many people are employed in infrastructural activities? What does this number represent as a percentage of total labour force, of the total population? To what extent do these percentages vary with the regional averages? and - What is the percent distribution of each sector within a given sector?"

Purpose

The purpose of this section is simply to examine the labour force characteristics of those persons employed in infrastructure activities. Classes will also be constructed according to certain levels of employment within this industry. A second objective is to determine the relationship that exists between size of centre and level of infrastructure activities. Those centres that do not follow the general trend will be identified.

PRAIRIES

Findings and Observations

Table VII.1 addended to the end of this chapter gives absolute figures for the infrastructure labour force according to the three categories - transportation and communications, community services, and public administration. These three categories represent the labour force involved in infrastructure activities. The results of this table were used to calculate the percent distribution for each sector. These percentages are outlined in Table VII.2 from which several observations can be made. First, in terms of all centres located in the Prairies, the labour force employed in community services represents the largest

portion of the infrastructure labour force (42.6%). This is followed by transportation and communication (32.8%) which in turn is followed by public administration (24.6%). In terms of provincial values, all three provinces maintain the same order but the percentages varied quite markedly. Nearly half the infrastructure labour force (49.2%) in Alberta is employed in community services while for Manitoba settlements, the figure was 40%. For Saskatchewan centres, the value fell between these two limits and was 45.3%. In all three provinces, public administration still represented the smallest category of workers.

A second observation relates to the ranges within each category for the individual centres. Wide variations again are commonplace. In certain instances administrative activities comprised the greater portion of total infrastructure labour force, as in Portage la Prairie (40.5%). In other cases, such as Flin Flon, Selkirk, and Steinbach, over 60% of all infrastructure labour force is found in community services. Fort McMurray, Whitecourt, and Biggar are three other centres in which over 60% of all labour force is confined to one sector - the sector this time being transportation and communication.

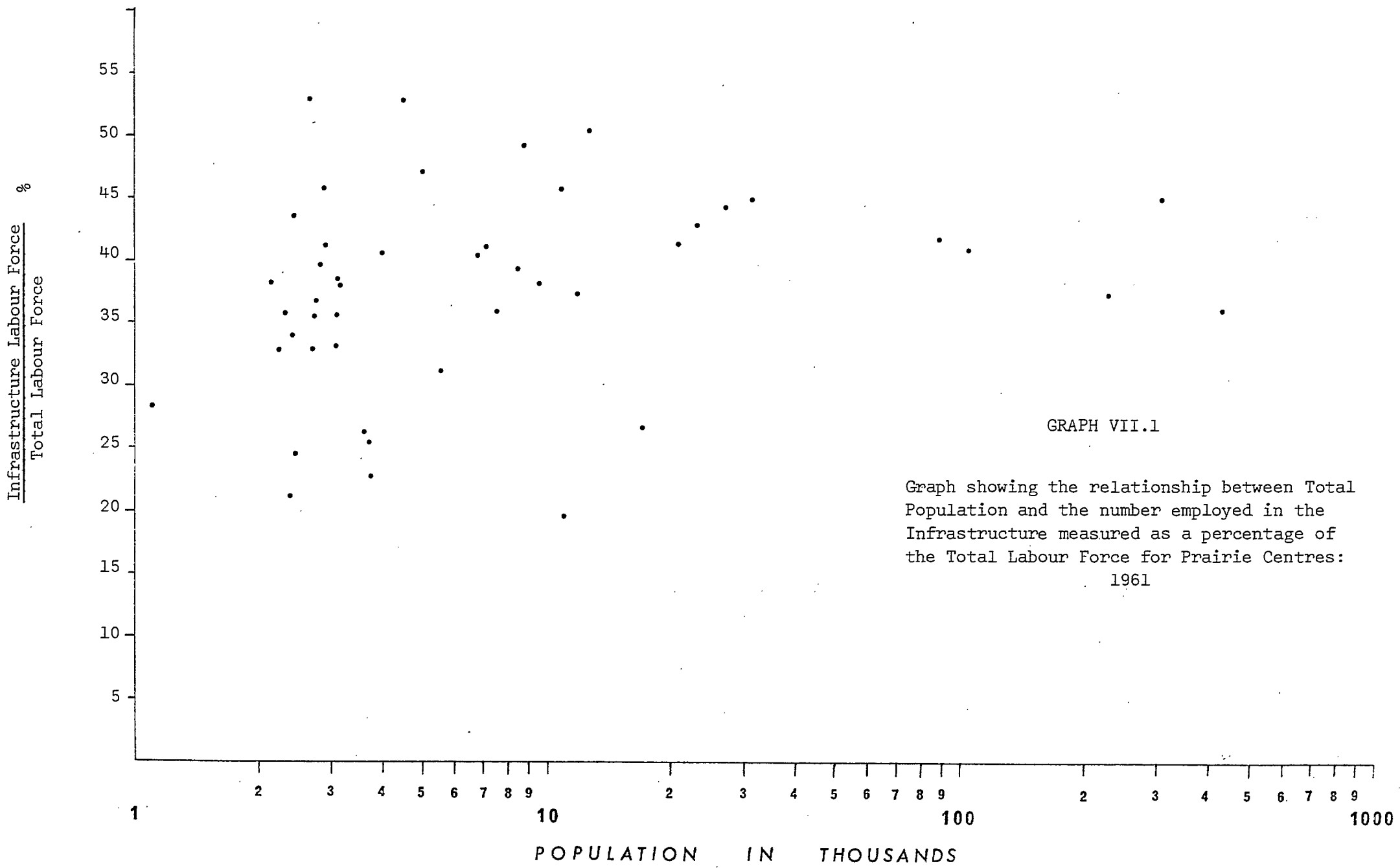
The wide range of percentages within the three sectors would suggest that there would be no trend between the percent distribution and size of the centre. This is found to be the case when one compares population against the percent values for each sector. Smaller centres do not necessarily contain a larger portion of the infrastructure labour force in transportation and communication services, nor do they for that matter have proportionately low numbers. Similarly, one cannot draw the conclusion that larger centres employ a greater percentage of persons in public administration than in community services. However, where one can make certain deductions about the infrastructure labour force, is in terms of the economic base of centres concerned. For example, a centre whose primary resource base is rapidly expanding will probably place a greater emphasis upon the construction of a transportation network than upon the provision of recreation facilities. An assumption here is that roads are needed to provide access into those areas in which the primary resources are

being exploited. On the other hand, an established community which has already invested large sums of money in the transportation system will devote more attention towards community services.

Rather than emphatically state that no trends exist between population size and the percent distribution of the infrastructure labour force, all that this section can suggest is that further research is needed concerning the economic viability of a centre before any concrete conclusions can be drawn.

The number of persons employed in infrastructure activities measured as a percent of the total labour force is another index that can be used to discuss the infrastructure. Table VII.3 outlines these percentage values. Similar limitations to those mentioned above can also be raised here. Without detailed knowledge of both the existing as well as the potential resource base, one cannot state that there is a relationship between size of settlement and the relative number employed in maintaining infrastructure activities. Table VII.3 and Graph VII.1 confirm this point. That is to say that with the information provided it would be erroneous to suggest that larger cities contain a greater percentage of the total labour force employed in infrastructure activities. Conversely, it would be equally incorrect to state that smaller centres have a greater proportion of persons in infrastructure activities. However, one can draw a valid conclusion that the two variables size and total absolute number employed are related. Such a statement is confirmed by Graph VII.2 which plots size of centre against total number employed in infrastructure activities.

Graph VII.2 illustrates that as the size of centre increases, the number of persons employed in infrastructure activities also increases. For those centres containing less than 50,000 persons, the rate of change is constant. However, above this value the numbers employed increase at a decreasing rate; the slope of the line will be concave downwards. The relationship between the two variables, size and infrastructure labour force, does not provide any dramatic revelation. One would indeed expect to find a larger number of persons employed in infrastructure in Edmonton for example, than in Melville. Larger metropolitan areas would obviously require a greater number of persons to support and maintain municipal services than small towns. What one therefore needs to

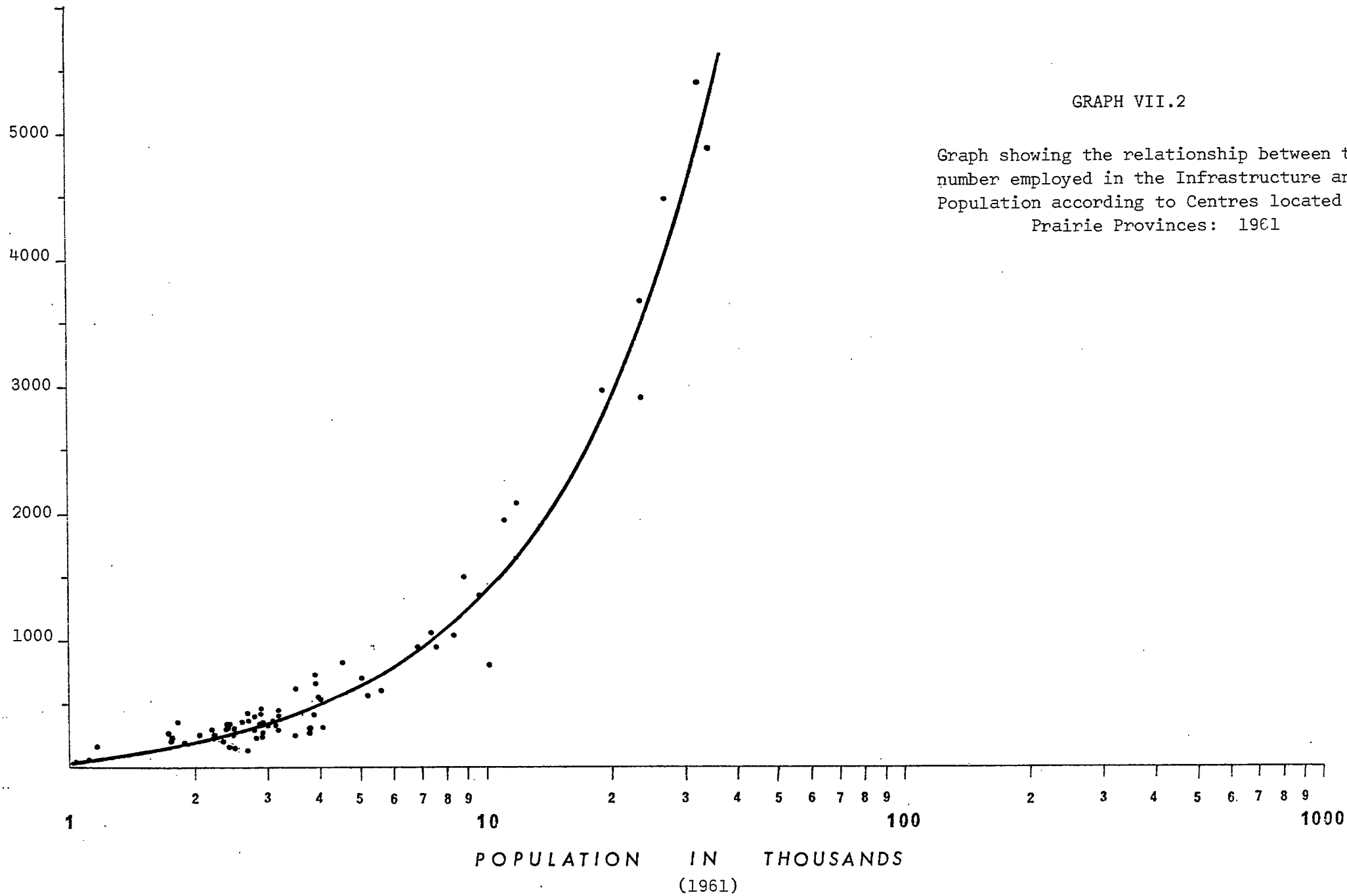


GRAPH VII.1

Graph showing the relationship between Total Population and the number employed in the Infrastructure measured as a percentage of the Total Labour Force for Prairie Centres: 1961

TOTAL INFRASTRUCTURE LABOUR FORCE

Total number of persons employed in the Infrastructure
(1961)



GRAPH VII.2

Graph showing the relationship between total number employed in the Infrastructure and Population according to Centres located in Prairie Provinces: 1961

know is if there are any centres that do not follow the norm. Surprisingly enough, only one centre can be considered "atypical" and this is the town of Flin Flon. The reason for Flin Flon's low value is probably due to the fact that in 1961, this town contained a significantly large number of persons employed in primary and secondary activities. Fewer persons were therefore employed in infrastructure services.

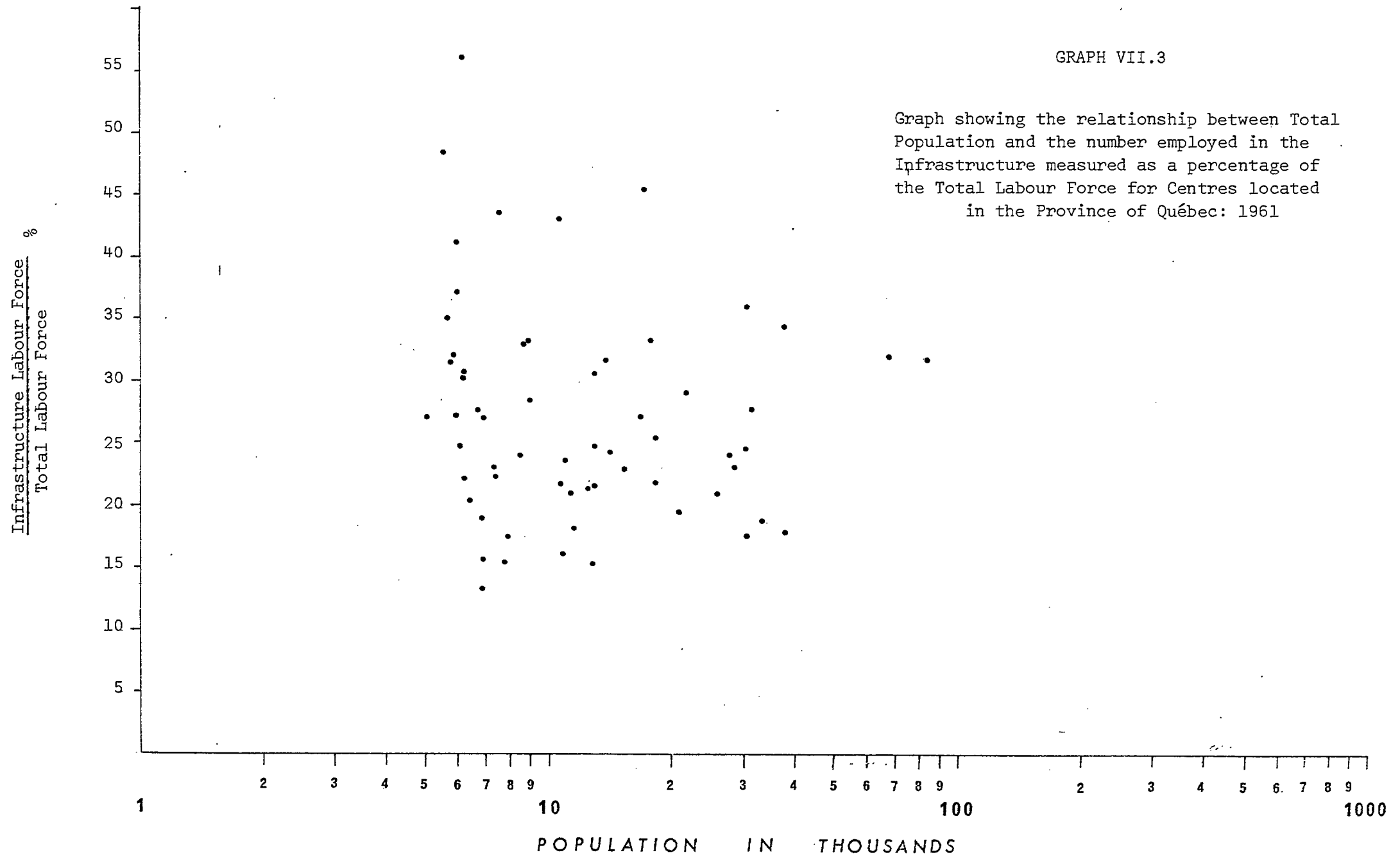
Because of the remarkably close relationship between size and infrastructure labour force, one could use Graph VII.2 for "predicting" the size of infrastructure labour force or, for that matter, population projections. Knowledge therefore about employment estimates would be useful for establishing labour policies. Such an exercise lies outside the scope of this section.

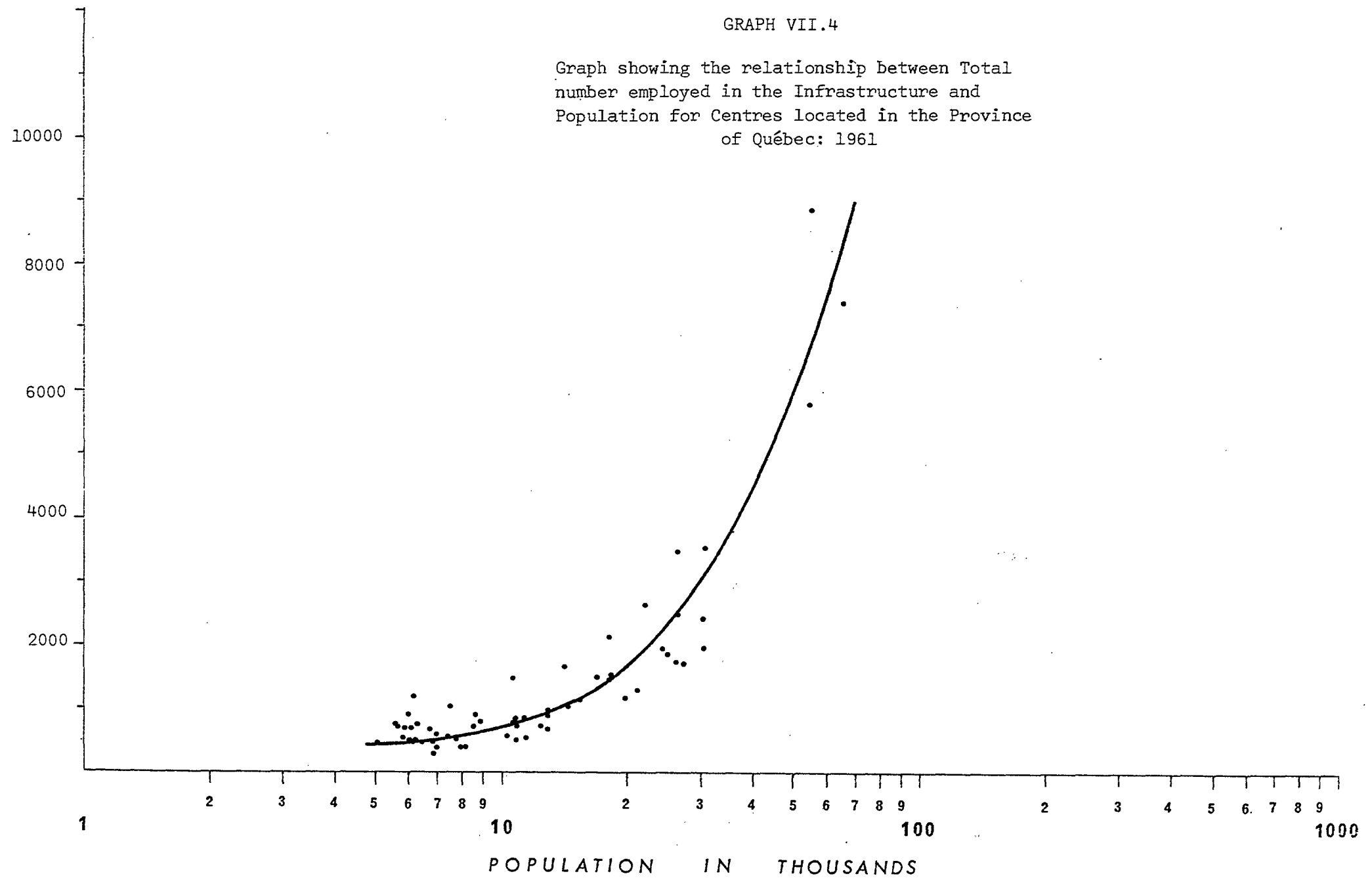
In summary, then, the infrastructure labour force of Prairie centres does not reflect any consistent pattern. In terms of relative value, trends cannot be identified. When absolute figures are considered, trends do arise but they represent the obvious and therefore do not impart to the reader any significant findings.

QUEBEC

Adopting a similar procedure to that used for the Prairies, the following comments can be made concerning the infrastructure labour force of Québec centres.

First, Tables VII.4 and VII.5 outline absolute values and percent distributions of the various employment sectors respectively. The most noticeable feature shown in Table VII.5 is the dominance, in the majority of centres, of the community service sector. The provincial average for this sector was over 50% and only three centres had values less than 25%. These were Bagotville, Farnham and Sept-Îles. Twelve out of the sixty-five centres examined contained more than 60% of the total labour force employed in the infrastructure. A second point shown in Table VII.5 is that employment in public administration represented in by far the majority of centres, the smallest percentage value. In fact, of all these centres investigated, only five did not place public administration the lowest of the three sectors. When the labour force in the transportation sector is considered, the tables show that for the most part this sector received the second highest percent values. As was the case with Prairie settlements, no trend arose between size of centre and the percent distributional characteristics of the infrastructure labour force. A second observation drawn from this section of Québec centres concerns the percent of the total labour force that is employed in infrastructure activities. Table VII.6 outlines these values. The percentages range between the high of 56.9 (Aylmer), and a low of 15.3 (Magog). The average for all centres fell between 25% and 30%. In order to determine whether any trends arise between the level of infrastructure employment measured as a percentage of infrastructure labour/total labour force, and size of centre, Graph VII.3 was constructed. This graph illustrates that absolutely no concrete relationship exists between population and percent employed in the infrastructure. That is to say, large cities do not necessarily contain a correspondingly high percentage of the total labour force employed in the infrastructure, and nor for that





matter do smaller centres have low percentages. Variables other than size obviously are more important factors which affect the number employed in the infrastructure. Time and resources have not permitted an investigation into these factors. Nevertheless, the results presented show conclusively that the percentages employed in infrastructure activities vary considerably. Further research is therefore needed to determine why such wide variations do exist.

A third and final observation raised from the findings of this section involves absolute infrastructure employment figures and total population. One would expect that as a city grows, more personnel will be needed to maintain and support its infrastructure. Larger cities will therefore have greater numbers of persons employed in this activity than small towns. To confirm this statement Graph VII.4 has been included. With possibly only one exception, (Aylmer), this graph illustrates that population and total numbers employed in the infrastructure labour force are directly related. The slope of the line further suggests that as population increases, numbers employed increase but at a decreasing rate. It should be noted that Graph 4 is plotted on semi-logarithmic paper and therefore a concave upward line does not always imply an increasing rate.

It is interesting to note from Graph VII.4 that the slope of the line is nearly horizontal for centres below 10,000. Above this value, it slopes upwards. This trend would suggest that size has less bearing upon the infrastructure labour force for the Smaller Size centres than for Larger Size ones. One could therefore postulate that there is a certain threshold or "minimum requirement" of the number of persons required to maintain and support municipal activities. To quantitatively assess what the minimum value is and to identify those factors that condition this value further research is needed.

In conclusion this section on the infrastructure has examined only one aspect - mainly labour force characteristics. Due to the ever-changing technology, labour-saving devices have significantly reduced the number of persons working in all forms of industry and service. The labour force of the municipal infrastructure is only one sector that has experienced the impact of technological improvements. Other components of the infrastructure that are less vulnerable to technological change would therefore provide more meaningful results with which to identify trends. One such component is municipal expenditures and assessments. The following section examines these two aspects.

APPENDIX TO TABLES

The sources from which the following tables were constructed consisted of the following:

1. Statistics Canada, Census of Canada, "Population", Volume 1, Part 1, 1961, Catalogue No 94-504
2. Statistics Canada, Census of Canada, "Labour Force: Occupations", Volume 111. Part 1, Catalogue No 94-504

TABLE VII.1

NUMBERS EMPLOYED IN INFRASTRUCTURE
ACCORDING TO MAJOR CATEGORIES 1961

	Transportation & Communication	Community Services	Public Administration	Total
<u>Manitoba</u>				
Brandon	1,474	1,993	1,079	4,546
Dauphin	506	364	210	1,080
Flin Flon	176	514	135	825
Lynn Lake	N/A			
Morden	75	132	110	317
Neepawa	135	155	65	355
Portage la Prairie	503	748	850	2,101
Selkirk	253	671	130	1,054
Steinbach	87	209	37	333
Swan River	148	150	81	379
The Pas	433	309	118	860
Thompson	N/A			
Viriden	122	137	36	295
Winkler	50	105	24	179
Winnipeg	26,812	27,820	16,156	70,788
TOTAL				
<u>Saskatchewan</u>				
Assiniboia	96	42	39	177
Biggar	276	135	36	447
Canora	N/A			
Esterhazy	35	50	7	92
Estevan	441	418	117	976
Humboldt	180	202	38	420
Kamsack	179	142	54	375
Kindersley	N/A			
Lloydminster	214	342	69	625
Meadow Lake	110	137	54	301
Melfort	187	325	64	576
Melville	431	243	56	730
Moose Jaw	1,889	2,456	1,135	5,480
Nipawin	73	178	46	297
Battleford	524	1,251	224	1,999
Prince Albert	1,084	1,645	1,010	3,739
Regina	5,805	7,261	6,245	19,311
Rosetown	121	152	44	317
Saskatoon	4,308	7,686	2,966	14,960
Swift Current	623	689	384	1,696
Tisdale	82	191	40	313
Weyburn	333	996	178	1,507
Yorkton	477	640	260	1,377
TOTAL				
<u>Alberta</u>				
Barrhead	80	153	35	268
Brooks	172	182	65	419
Calgary	12,202	15,373	9,786	37,361
Camrose	211	654	116	981
Cardston	70	196	62	328
Claresholm	69	176	62	307
Coaldale	N/A			
Drayton Valley	143	137	32	312
Drumheller	187	226	77	490

TABLE VII.1 (contd.)

	Transportation Community and Communication Services	Community Services	Public Administration	Total
<u>Alberta - (Continued)</u>				
Edmonton	14,649	21,819	15,211	51,679
Edson	207	173	76	456
Ft. Macleod	135	140	77	352
Ft. McMurray	120	45	29	194
Ft. Saskatchewan	51	93	115	259
Grande Prairie	391	488	183	1,062
Hanna	218	117	57	392
Hinton	87	116	64	267
Innisfail	80	133	80	293
Lacombe	123	180	49	352
Leduc	127	89	36	252
Lethbridge	1,573	2,336	1,036	4,945
Lloydminster	N/A			
Medicine Hat	1,044	1,294	620	2,958
Olds	101	158	28	287
Peace River	145	161	89	395
Pincher Creek	71	169	43	283
Ponoka	105	575	69	749
Red Deer	625	1,623	753	3,001
Rocky Mtn. House	69	91	59	219
St. Albert	137	301	126	565
St. Paul	118	210	52	380
Stettler	116	760	54	430
Taber	112	225	87	424
Vegreville	129	233	56	340
Vermilion	128	150	62	340
Wainwright	110	165	364	638
Westlock	67	169	38	274
Wetaskiwin	199	269	107	575
Whitecourt	62	18	4	84
TOTAL				

TABLE VII.2

PERCENT DISTRIBUTION OF NUMBERS EMPLOYED IN THE
INFRASTRUCTURE ACCORDING TO MAJOR CATEGORIES:1961

<u>Manitoba</u>	Transportation & Communication	Community Services	Public Administration	Total
Brandon	32.4	43.8	23.8	100.0
Dauphin	46.9	33.7	19.4	"
Flin Flon	21.3	62.3	16.4	"
Lynn Lake	N/A			
Morden	23.8	41.6	34.6	"
Neepawa	38.0	43.7	18.3	"
Portage la Prairie	23.9	35.6	40.5	"
Selkirk	24.0	63.7	12.3	"
Steinbach	26.1	62.8	11.1	"
Swan River	39.1	39.6	21.3	"
The Pas	50.3	35.9	13.8	"
Thompson	N/A			
Virden	41.4	46.4	12.2	"
Winkler	27.9	58.7	13.4	"
Winnipeg	37.9	39.3	22.8	"
TOTAL	37.0	40.0	23.0	100.0
<u>Saskatchewan</u>				
Assiniboia	54.2	23.7	22.1	100.0
Biggar	61.7	30.2	08.1	"
Canora	N/A			
Esterhazy	38.0	54.3	07.7	"
Estevan	45.2	42.8	12.0	"
Humboldt	42.9	48.1	09.0	"
Kamsack	47.7	37.9	14.4	"
Kindersley	N/A			
Lloydminster	34.2	54.7	11.1	"
Meadow Lake	36.5	45.5	18.0	"
Melfort	32.5	56.4	11.1	"
Melville	59.0	33.3	07.7	"
Moose Jaw	34.5	44.8	20.7	"
Nipawin	24.6	59.9	15.5	"
Battleford	26.2	62.6	11.2	"
Prince Albert	29.0	44.0	27.0	"
Regina	30.1	37.6	32.3	"
Rosetown	38.2	47.9	13.9	"
Saskatoon	28.8	51.4	19.8	"
Swift Current	36.7	40.6	22.7	"
Tisdale	12.8	61.0	26.2	"
Weyburn	22.1	66.1	11.8	"
Yorkton	34.6	46.5	18.9	"
TOTAL	31.3	45.3	23.4	100.0
<u>Alberta</u>				
Barrhead	29.9	57.0	13.1	100.0
Brooks	41.1	43.4	15.5	"
Calgary	32.7	41.1	26.2	"
Camrose	21.5	66.7	11.8	"
Cardston	21.3	59.8	18.9	"
Claresholm	22.5	57.3	20.2	"
Coaldale	N/A			
Drayton Valley	45.8	43.9	10.3	"
Drumheller	38.2	46.1	15.7	"

TABLE VII.2 (contd.)

<u>Alberta - (Continued)</u>	Transportation & Communication	Community Services	Public Administration	Total
Edmonton	28.3	42.2	29.5	100.00
Edson	45.4	37.9	16.7	"
Ft. Macleod	38.4	39.8	21.8	"
Ft. McMurray	61.9	23.2	14.9	"
Ft. Saskatchewan	19.7	35.9	44.4	"
Grande Prairie	36.8	46.0	17.2	"
Hanna	55.6	29.8	14.6	"
Hinton	32.6	43.4	24.0	"
Innisfail	27.3	45.4	27.3	"
Lacombe	34.9	51.1	14.0	"
Leduc	50.4	35.3	14.3	"
Lethbridge	31.8	47.2	21.0	"
Lloydminster				
Medicine Hat	35.3	43.7	21.0	"
Olds	35.2	55.1	09.7	"
Peace River	36.7	40.8	22.5	"
Pincher Creek	25.1	59.7	15.2	"
Ponoka	14.0	76.8	09.2	"
Red Deer	20.8	54.1	25.1	"
Rocky Mtn. House	31.5	41.6	26.9	"
St. Albert	24.2	53.3	22.5	"
St. Paul	31.1	55.3	13.6	"
Stettler	27.0	60.5	12.5	"
Taber	26.4	53.1	20.5	"
Vegreville	30.9	55.7	13.4	"
Vermilion	37.6	44.1	18.3	"
Wainwright	17.2	25.7	57.1	"
Westlock	24.5	61.7	13.8	"
Wetaskiwin	34.6	46.8	18.6	"
Whitecourt	73.8	21.4	04.8	"
TOTAL	33.4	49.2	19.4	100.0

NUMBERS EMPLOYED IN THE INFRASTRUCTURE MEASURED AS A PERCENT
OF TOTAL LABOUR FORCE: 1961

PRAIRIES

MANITOBA

Brandon	44.7
Dauphin	41.4
Flin Flon	19.7
Lynn Lake	N/A
Morden	33.2
Neepawa	33.6
Portage la Prairie	50.9
Selkirk	39.3
Steinbach	26.6
Swan River	35.9
The Pas	53.3
Thompson	N/A
Virden	33.2
Winkler	24.8
Winnipeg	36.4

SASKATCHEWAN

Assiniboia	21.5
Biggar	53.7
Canora	N/A
Esterhazy	28.8
Estevan	36.2
Humboldt	38.3
Kamsack	41.7
Kindersley	N/A
Lloydminster	31.6
Meadow Lake	35.8
Melfort	41.1
Melville	47.7
Moose Jaw	45.2
Nipawin	25.6
Battleford	46.0
Prince Albert	43.3
Regina	41.4
Rosetown	34.3
Saskatoon	42.1
Swift Current	37.7
Tisdale	36.1
Weyburn	49.8
Yorkton	38.4

ALBERTA

Barrhead	33.3
Brooks	39.9
Calgary	37.6
Camrose	40.5
Cardston	37.3
Claresholm	38.6
Coaldale	N/A
Drayton Valley	22.7
Drumheller	46.1
Edmonton	45.8
Edson	38.8
Ft. Macleod	43.9
Ft. McMurray	58.8
Ft. Saskatchewan	27.6
Grande Prairie	33.8
Hanna	35.3
Hinton	20.3
Innisfail	37.2
Lacombe	35.0
Leduc	33.7
Lethbridge	36.8
Lloydminster	N/A
Medicine Hat	34.6
Olds	33.6
Peace River	41.4
Pincher Creek	26.9
Ponoka	50.6
Red Deer	42.1
Rock Mtn. House	27.2
St. Albert	44.2
St. Paul	41.9
Stettler	33.2
Taber	31.6
Vegreville	42.0
Vermilion	38.4
Wainwright	54.9
Westlock	42.5
Wetaskiwin	31.6
Whitecourt	19.4

TABLE VII.4

NUMBERS EMPLOYED IN INFRASTRUCTURE
ACCORDING TO MAJOR CATEGORIES: 1961
QUEBEC

	Transportation & Communications	Comm. Servs.	Public Admin.	Total
<u>Quebec</u>				
Alma	264	629	213	1106
Amos	200	554	161	915
Arvida	221	626	168	1015
Asbestos	104	314	82	500
Aylmer	195	335	666	1196
Bagotville	398	127	243	768
Baie-Comeau	190	208	71	469
Beauharnois	362	264	77	703
Bécancour	-	-	-	-
Beloeil	200	256	138	594
Buckingham	-	-	-	-
Cap-de-la-Madeleine	456	1026	258	1740
Chambly	-	-	-	-
Chibougamau	-	-	-	-
Chicoutimi	693	2354	531	3578
Chicoutimi N.	223	326	142	691
Coaticook	124	234	90	448
Cowansville	114	190	95	399
Dolbeau	87	314	87	488
Drummondville	461	981	263	1705
Drummondville S.	-	-	-	-
Farnham	363	164	147	674
Gatineau	173	290	519	982
Granby	539	1164	292	1995
Grand'Mère	303	501	262	1066
Hauterive	225	372	41	638
Hull	1432	2584	4961	8977
Iberville	166	239	142	547
Joliette	457	1397	298	2152
Jonquièrre	516	1007	298	1821
Kénogami	156	332	73	561
Lachute	262	242	59	563
Laç-Mégantic	215	215	142	572
La Tuque	320	407	136	863
Magog	144	419	120	683
Malartic	104	131	40	275
Maniwaki	161	199	79	439
Matane	278	406	117	801
Mont Joli	383	246	46	675
Mont Laurier	128	353	92	573
Montmagny	176	284	167	627
Montréal	88,634	11,0376	42,050	24,1060
Noranda	243	443	140	826
Plessisville	121	340	53	514
Pointe-Gatineau	152	236	470	858
Port-Alfred	365	232	197	794
Québec	10,976	23,525	17,819	52,320
Rimouski	912	1551	266	2729
Rivière-du-Loup	557	663	222	1442

TABLE VII.4 (contd.)

	Transport. & Comm. Communication Serv.	Comm. Serv.	Public Admin.	Total
<u>Quebec - (Continued)</u>				
Roberval	175	711	133	1019
Rouyn	461	767	317	1545
Ste-Agathe	211	377	109	697
St-Félicien	168	149	89	406
St-Georges	-	-	-	-
St-Georges O.	-	-	-	-
St-Hyacinthe	449	1958	294	2701
St-Jean	469	1260	1772	3501
St-Jérôme	489	1094	371	1954
Ste-Thérèse	-	-	-	-
Sept-Îles	1083	358	172	1613
Shawinigan	648	1233	535	2416
Shawinigan S.	280	325	116	721
Sherbrooke	1448	4697	1311	7456
Sorel	457	797	249	1503
Terrebonne	147	194	148	489
Thetford Mines	370	733	217	1320
Tracy	160	179	58	397
Trois-Rivières	1661	3221	942	5824
Val-d'Or	237	424	137	798
Valleyfield	1066	1142	311	2519
Victoriaville	493	743	217	1453
Windsor				
TOTAL				

TABLE VII.5

THE PERCENT DISTRIBUTION OF NUMBERS EMPLOYED IN THE
INFRASTRUCTURE ACCORDING TO MAJOR CATEGORIES: 1961

	Transportation & Communication	Community Services	Public Administration	Total
<u>Quebec</u>				
Alma	23.87	56.87	19.26	100.00
Amos	21.86	60.54	17.60	"
Arvida	21.77	61.68	16.55	"
Asbestos	20.8	62.8	16.4	"
Aylmer	16.30	28.01	55.69	"
Bagotville	51.82	16.54	31.64	"
Baie-Comeau	40.51	44.35	15.14	"
Beauharnois	51.49	37.56	10.95	"
Bécancour	N/A			"
Beloeil	33.67	43.10	23.23	"
Buckingham	N/A			
Cap-de-la-Madeleine	26.70	58.97	14.83	"
Chambly	N/A			
Chibougamau	N/A			
Chicoutimi	19.37	65.79	14.84	"
Chicoutimi N.	32.27	47.18	20.55	"
Coaticook	27.68	52.23	20.09	"
Cowansville	28.57	47.62	23.81	"
Dolbeau	17.83	64.34	17.83	"
Drummondville	27.04	57.54	15.42	"
Drummondville S.	N/A			
Farnham	53.86	24.33	21.81	"
Gatineau	17.62	29.53	52.85	"
Granby	27.02	58.35	14.63	"
Grand'Mère	28.42	47.00	24.58	"
Hauterive	35.27	58.31	6.42	"
Hull	15.96	28.78	55.26	"
Iberville	30.35	43.69	25.96	"
Joliette	21.23	64.92	13.85	"
Jonquièrre	28.34	55.30	16.36	"
Kénogami	27.81	59.18	13.01	"
Lachute	46.54	42.98	10.48	"
Lac-Mégantic	37.59	37.59	24.82	"
La Tuque	37.08	47.16	15.76	"
Magog	21.08	61.35	17.57	"
Malartic	37.82	47.64	14.54	"
Maniwaki	36.67	45.33	18.00	"
Matane	34.71	50.69	14.60	"
Mont Joli	56.75	36.44	6.81	"
Mont Laurier	22.34	61.60	16.06	"
Montmagny	28.07	45.30	26.63	"
Montréal	36.77	45.79	17.44	"
Noranda	29.42	53.63	16.95	"
Plessisville	23.54	66.15	10.31	"
Pointe-Gatineau	17.71	27.51	54.78	"
Port-Alfred	45.97	29.22	24.81	"
Québec	20.98	44.96	34.06	"
Rimouski	33.42	56.83	9.75	"
Rivière-du-Loup	38.62	45.98	15.40	"

TABLE VII.5 (contd.)

	Transportation & Communication	Community Services	Public Administration	Total
<u>Quebec - (Continued)</u>				
Roberval	17.17	69.76	13.05	100.00
Rouyn	29.84	49.64	20.52	"
Ste-Agathe	30.27	54.09	15.64	"
St-Félicien	41.38	36.70	21.92	"
St-Georges	N/A			
St-Georges O.	N/A			
St-Hyacinthe	16.62	72.50	10.88	"
St-Jean	13.40	35.99	50.61	"
St-Jérôme	25.02	55.99	18.99	"
Ste-Thérèse	N/A			
Sept-Îles	67.14	22.20	10.66	"
Shawinigan	26.83	51.03	22.14	"
Shawinigan S.	38.83	45.08	16.09	"
Sherbrooke	19.42	63.00	17.58	"
Sorel	30.40	53.03	16.57	"
Terrebonne	30.06	39.67	30.27	"
Thetford Mines	28.03	55.53	16.44	"
Tracy	40.30	45.09	14.61	"
Trois-Rivières	28.52	55.31	16.17	"
Val-d'Or	29.70	53.13	17.17	"
Valleyfield	42.32	45.33	12.35	"
Victoriaville	33.93	51.14	14.93	"
Windsor	N/A			
TOTAL				

NUMBERS EMPLOYED IN THE INFRASTRUCTURE MEASURED AS A PERCENT
OF TOTAL LABOUR FORCE: 1961

QUEBEC

Alma	31.0	Maniwaki	22.6
Amos	41.9	Matane	28.9
Arvida	24.7	Mont Joli	37.8
Asbestos	16.2	Mont Laurier	32.0
Aylmer	56.9	Montmagny	28.0
Bagotville	49.1	Montréal	29.9
Baie-Comeau	15.9	Noranda	21.4
Beauharnois	24.1	Plessisville	20.7
Bécancour	N/A	Pointe-Gatineau	33.5
Beloeil	30.7	Port-Alfred	33.7
Buckingham	N/A	Québec	41.4
Cap-de-laMadeleine	21.1	Rimouski	46.1
Chambly	N/A	Rivière-du-Loup	43.8
Chibougamau	N/A	Roberval	44.0
Chicoutimi	36.4	Rouyn	25.7
Chicoutimi N.	24.0	Ste-Agathe	35.4
Coaticook	19.1	St-Félicien	27.4
Cowansville	15.9	St-Georges	N/A
Dolbeau	27.6	St-Georges O.	N/A
Drummondville	18.0	St-Hyacinthe	29.5
Drummondville S.	N/A	St-Jean	34.7
Farnham	31.1	St-Jérôme	23.3
Gatineau	25.0	Ste-Thérèse	N/A
Granby	17.8	Sept-Îles	32.0
Grand'Mère	23.3	Shawinigan	24.9
Hauterive	32.5	Shawinigan S.	21.8
Hull	43.0	Sherbrooke	32.3
Iberville	23.2	Sorel	28.5
Joliette	33.8	Terrebonne	25.2
Jonquière	24.4	Thetford Mines	19.9
Kénogami	18.4	Tracy	18.8
Lachute	22.8	Trois-Rivières	32.0
Lac-Mégantic	27.2	Val-d'Or	22.1
La Tuque	22.0	Valleyfield	28.0
Magog	15.3	Victoriaville	22.0
Malartic	13.5	Windsor	N/A

MUNICIPAL EXPENDITURES AND ASSESSMENTS

Introduction

Before one can analyse municipal expenditure characteristics, it is first necessary to understand what is meant by this term. Every urban centre, whether a thriving metropolis or a small rural village, may be likened to an exchange house in which money is received from the inhabitants in the form of taxes, and is subsequently reinvested in the community in the form of municipal services. The money that the community receives is known as revenue and the money that it expends on municipal services is a form of expenditure. Generally speaking, all forms of revenue balance total expenditures. If a surplus arises between these two amounts, it becomes a source of revenue for subsequent years. On the other hand, if a deficit is incurred (when revenues are not sufficient to meet expenditures) this loss is carried forward to a later year in which it is compensated by a surplus for that period.

Public expenditure in urban areas may be interpreted as the spending of money by local authorities, on municipal services. These municipal services include the following: -

1. General government. These include legislative and administrative expenditures.
2. Protection to persons and property. These include administration of justice, fire and police protection.
3. Health. Expenditures in this service comprise public health, medical and dental services, and hospital care.
4. Social welfare. These include expenditures on aid to aged and blind persons, aid to unemployed and unemployables, and child welfare.
5. Public works.
6. Sanitation and Waste removal.
7. Education.
8. Recreation.
9. Debt charges. These include debentures, and temporary debt charges.

The amount of money expended on municipal services usually conditions the level of services that are provided for the inhabitants of a community. As a community grows, the residents require a greater number and variety of municipal services. They desire a higher level of police and fire protection, more and better roads, increases in the collection of garbage and the cleaning of streets, a larger amount of open space and parkland, and so on. In addition to these desires, responsibilities of local governments have also to be expanded. Among those activities that are mandatory under provincial legislation are social welfare services, health and hospitalization, administration of justice, and education.

Not only do local governments face the problem of having to maintain and provide for an increasing level of municipal services for expanding municipalities, but they also have to contend with many uncontrollable expenditures. These problems result from the very narrow limits in which local governments can either raise or lower the expenditures on certain public services. Public services such as education, the provision of libraries, and debt charges represent uncontrollable expenditures. The increasing demands for better municipal services heavily strain the financial abilities of many local governments in the Prairies and the Province of Québec. Those cities that are exceedingly large or very small tend to suffer the most. This phenomenon is substantiated by an investigation undertaken by Shapiro who discovered that towns with populations fewer than 5,000 persons spend larger sums of money per capita on total expenditures than any other size city.¹ He attributed this relationship to diseconomies of small-scale operations.

Apart from the budgetary constraints imposed upon the operations of municipal services, there are other factors which effect expenditure characteristics. Density of population is one significant factor that conditions the level of per capita expenditures. Brazer and Brech contended that there was a direct relationship between per capita expenditures and population density.²

1 Harvey Shapiro, "Economies of Scale and Local Government Finance", Land Economics, Volume XLIX 1963, pp. 182.

2 Harvey E. Brazer, "City Expenditures in the United States", Occasional Paper No. 66, Bureau of Economic Research, 1959.

Another factor that conditions the level of expenditures is the nature of the hinterland surrounding the centre. A study undertaken by Scott and Fader concluded that per capita expenditures were directly related to the economic and social characteristics of the growing suburban communities surrounding these central areas.³

Levels of income, age/sex ratios and ethnic compositions are further variables that affect expenditure characteristics. Residents having high income levels will both require, as well as being able to afford, a higher level of municipal services. A community in which there is a large number of young people will obviously need a larger number of schools and teachers than a centre in which there is a large portion of old and retired persons.

The allocation of funds towards the provision of municipal services is an extremely complicated procedure and no two communities adopt identical budgetary accounting systems. When discussing therefore, municipal expenditures, one must keep in mind that there are many factors that directly affect the allocation of funds. Revenues are the counterpart to expenditures. Although this component of the municipal infrastructure is not treated specifically in this report, one indirect aspect is discussed. Assessments play an important role in municipal affairs and in many cases the funds raised from assessment taxation represent the major source of municipal revenue.

As with expenditures, assessments cover a wide range of activities. In general, most properties are subject to taxation. Each property, whether buildings, plants, or land; is assessed in real value and preferential taxation rates are applied to them. These rates vary from centre to centre and in many cases municipalities have exempt certain property types from taxation altogether. Assessments are carried out for the following urban-oriented properties: -

- 1.) Land
- 2.) Building
- 3.) Businesses
- 4.) Railways
- 5.) Oil and gas lines
- 6.) Special franchises

³ Stanley Scott and E.L. Fader, "Factors Associated with Variations in Municipal Expenditure Levels", Bureau of Public Administration, University of California, 1957, pp. 53.

A thorough knowledge about the nature of assessable properties is essential for efficient municipal management. Municipal officials should have at their disposal information about the evolving trends in land and building values as well as the spatial distribution of these values.

Purpose

The purpose of this section is to examine municipal expenditures and assessments for selected centres in the Prairies and the Province of Québec. The underlying theme is to identify certain trends whether they occur in absolute or relative values. This section therefore attempts to answer four basic questions. First, how much money is being directed towards maintaining the various services and what are their relative percentages? Second, what are the ranges of per capita values and how have they changed over the last five years? Third, which services have become more important in terms of absolute expenditures? And four, do any relationships arise between municipal expenditures and other variables such as city size, population, or economic characteristics?

Methodology

To answer these questions the examination on municipal expenditures is divided into four parts. The first discusses absolute and relative expenditure values for each centre. The percent distribution according to major activities will be calculated and these values in turn will be used to determine specialization coefficients. The results will identify those centres which place a high priority on one or more services. The second stage will examine per capita values and the third stage will involve trend analysis. The fourth and final stage will attempt to assess the effects that certain variables have upon the allocation of municipal expenditures. Included are population size, age characteristics, migration patterns and assessment values. Assessment values are examined in terms of: 1. absolute values, 2. per capita values and 3. rates of change.

The time selected was 1966-67 to 1969-70 and was adopted for both regions. The selection of variables however differed between the two regions. For the Prairies the following municipal services were selected:

1. General government and administration.
2. Protection to persons and property.
3. Public works.
4. Sanitation.
5. Health.
6. Social Welfare
7. Education.
8. Recreation.

For Québec centres several of the above services were amalgamated into one activity. Education was not included since municipal expenditures donated towards this service represent only a small portion of all educational expenses. It should be noted that the province of Québec operates a more complicated educational system to that in the Prairies. Private and quasi-private schools constitute a significant number of the total schools in the province. The number of municipal services therefore examined for Québec, include the following: -

1. General government and administration.
2. Protection to persons and property.
3. Public works and sanitation.
4. Health and welfare.
5. Recreation.

Findings and Observations

PRAIRIES

1. Municipal Expendituresa. Absolute and Relative Expenditures

Tables VII.7-10 inclusive, appended at the end of this section, outline absolute and relative values for the years 1966 and 1969. The first two relate to the former while the last two discuss the latter year. Because of the large amount of data presented by these tables, it is very difficult to minimize comments on them. Each centre is unique in that no two distributions are identical. However, several general trends emerge. When examining both years, the following comments can be said of each category. In the case of education, both Tables VII.8 and VII.10 show that with only one exception, education services represent by far the greatest portion of total municipal expenditures. The exception was Brooks, a community which directed in 1966 only 32.35% of its total budget on education. For both 1966 and 1969, education expenditures remain surprisingly constant with the average percentage ranging between 45 and 55 percent.

Expenditures on protection represented the second most important service for the majority of centres. They ranged between a high of 23.5% (for Edmonton in 1966) and a low of 6.74% for Thompson. It is interesting to note that larger centres tend to expend more money on protection than smaller ones. In fact, when size of centre is plotted against the amount of funds assigned for protective services measured as a percent of total expenditures, a remarkable significant relationship emerges. A possible explanation for this is that in congested areas the incidence of fire is much higher and that opportunities for indulging in criminal activities is much greater.

General government expenditures represents the third most important service and the values in both years fall on the average between 8 and 12%.

The extremes for both the years were 6.2% for Flin Flon in 1966 and 16.58% for St. Albert for the same year. The small range of values would indicate that, next to education services, administrative activities represent one of the more stable expenditure allocations.

Sanitation, health and social welfare are three services which received a low profile for all centres in both years. In very few cases did the percent rise above five for the three services. Only two comments can be made in regards to these three services. First, for a large number of Alberta centres, expenditures in health services were not made in 1969. The reason for this was due to the carrying-over effect from a previous year of funds assigned to this service. Many health services in Alberta centres operate on a biannum basis. The other feature relates to social welfare expenditures for two Saskatchewan centres that were allocated in 1969. Both Moose Jaw and Prince Albert have values of over 16% for expenditures in social welfare. Without a thorough investigation into the social and economic characteristics of these two centres, it would not be possible to put forward any valid reasons for these abnormally high values. However, in passing, one may recall from previous tables that both these centres have experienced in the last decade noticeable decreases in population, increases in unemployment, and low growth rates in manufacturing and retail trade activities. These features therefore could be factors that caused serious unemployment problems, thus necessitating large allocations of welfare payments.

Public works expenditures represent that service having the most erratic percentage values between 1966 and 1969. In the former year one centre might place this service as a high priority while in the following year it might receive a relatively smaller share of the total budget. For example, in 1966 Flin Flon directed 12.3% of its total budget towards public work activities while in 1969 this percentage rose to 27.1%. The extreme values of this service range between 4.09% for Edmonton in 1969 and 29.2% for Fort McMurray in 1966. Two general observations can be drawn from public works expenditures. The first is that larger cities tend to direct less towards this service than

smaller centres. By way of an example, both in 1966 and 1969, Calgary, Edmonton and Winnipeg, the three largest centres expended less than 7% of their total budget on public works while the value for the three smallest towns, (Claresholm, Rocky Mountain House and Whitecourt), the average value was near 15% or double that of the larger centres.

A second phenomenon which can be seen from Tables VII.8 and VII.10 concerning the percentage of public works expenditures is the relative amount of funds allocated in rapidly growing centres. The maps and accompanying tables dealing with population growth rates (1966-70) show that the following centres were ranked in the highest category. Lynn Lake (49.1%), Thompson (105.8%), Claresholm (30.4%), Fort McMurray (134.6%) and The Pas (44.1%) were centres in the Prairies that were in the top ten centres having the highest population growth rates between 1966 and 1970. Yet, with the exception of Fort McMurray, all these centres fall within the top six centres having the highest percentage of expenditures in public works. When the building industry was considered, these same centres were again found to rank amongst the top centres having the highest growth rates in this industry. It stands to reason that expanding communities will require the construction of roads, the installation of water and sewer mains, the provision of electricity and other basic utilities. In established centres, these utilities have already been installed and expenditures in public works involve mainly the maintenance of these services.

The final municipal service included in Tables VII.7 to VII.10 is recreation. As was the case with public works, wide variations arise in this sector. In general, the percent values for this service increased between 1966 and 1969 thus suggesting that recreation has gained importance and public support over the last few years. A marked feature of Table VII.8 and VII.10 is that Alberta centres allocated relatively larger amounts of expenditures to this service than the two remaining provinces. The extreme values ranged between a high of 19.1% for Peace River and a low of 0% for Lynn Lake; both values occurred in 1969.

There are many factors which have to be considered in attempting to assess the reasons for the large variations within recreational expenditures.

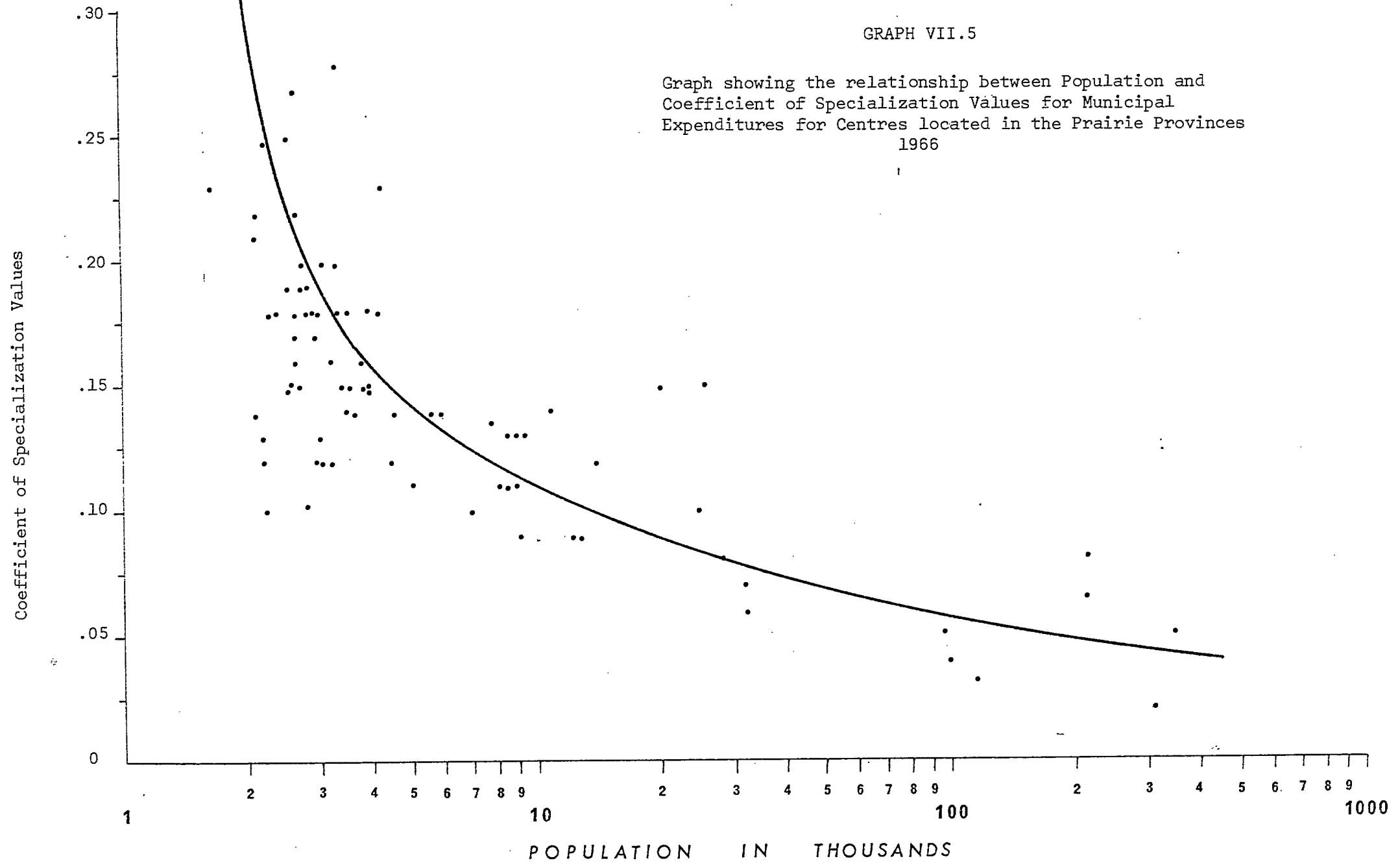
One theory that has been substantiated in recreation planning literature is that high incomes and recreation demands are related. The argument put forward is that as persons acquire more disposable income they have a greater propensity to spend money on leisure time. This argument holds true on a provincial basis when examining the Prairie centres. (It may be recalled from the section dealing with income levels that both per capita income values as well as rates of growth of income were for the most part higher for Alberta centres than those for Manitoba and Saskatchewan.) But when individual centres are examined, income levels are not related to recreational expenditures.

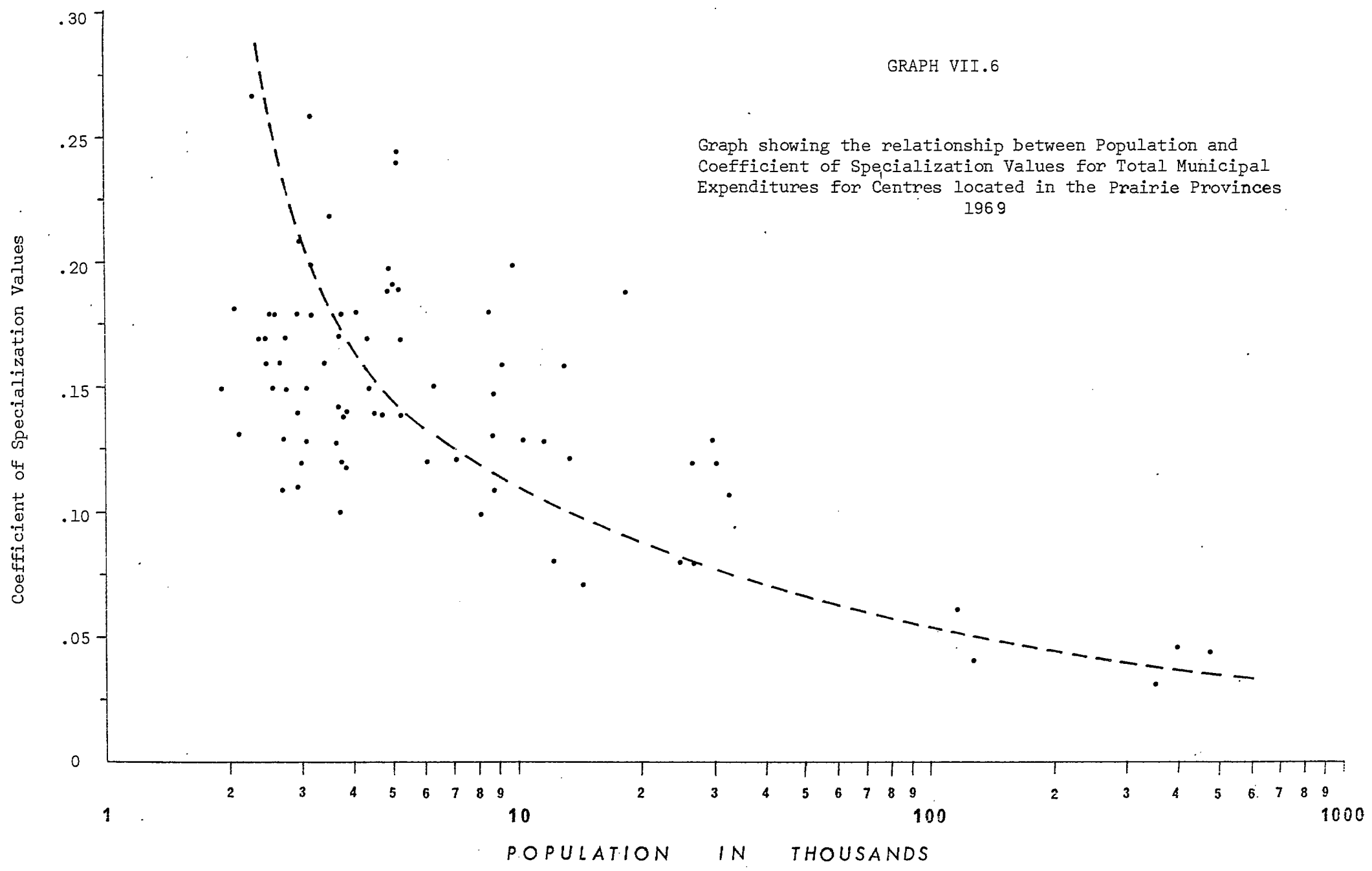
When discussing multivariate tables such as the four referred to above, a major limitation concerns the extent to which one can describe each item covered. An attempt here has been made to discuss some of the more salient features that have arisen from the tables. A simple technique, already adopted in this report, that can succinctly describe a series of data is the coefficient of specialization. This technique will be included when describing relative municipal expenditure values. Table VII.11 outlines coefficients for the two years 1966 and 1969 as well as absolute changes between these two coefficient values.

Two points can be made concerning coefficient values. First, larger cities tend to diversify their expenditures over a larger range of municipal services than smaller centres. This is seen from the fact that the five metropolitan areas have the lowest coefficient value (and are the most diversified in terms of providing municipal services). For the smaller size centres, this relationship is less obvious as seen from Graphs VII.5 and VII.6. The second point relates to the absolute change of coefficient values for the two selected years. Of those centres located in Manitoba, 50% became more specialized; in Alberta the percentage was 40, and for Saskatchewan centres it was 30%. Of those centres exhibiting the greatest change, Thompson stands out as having the highest value. Table VII.11 shows that in 1966 the distribution of municipal services for this town varied the greatest with the Prairie average. As already mentioned, the economic base of this town during the early 1960's was rapidly changing. As a result, those services that were essential for supporting rapid growth, (i.e. public works), would receive first priority. In 1969, after the

GRAPH VII.5

Graph showing the relationship between Population and
Coefficient of Specialization Values for Municipal
Expenditures for Centres located in the Prairie Provinces
1966





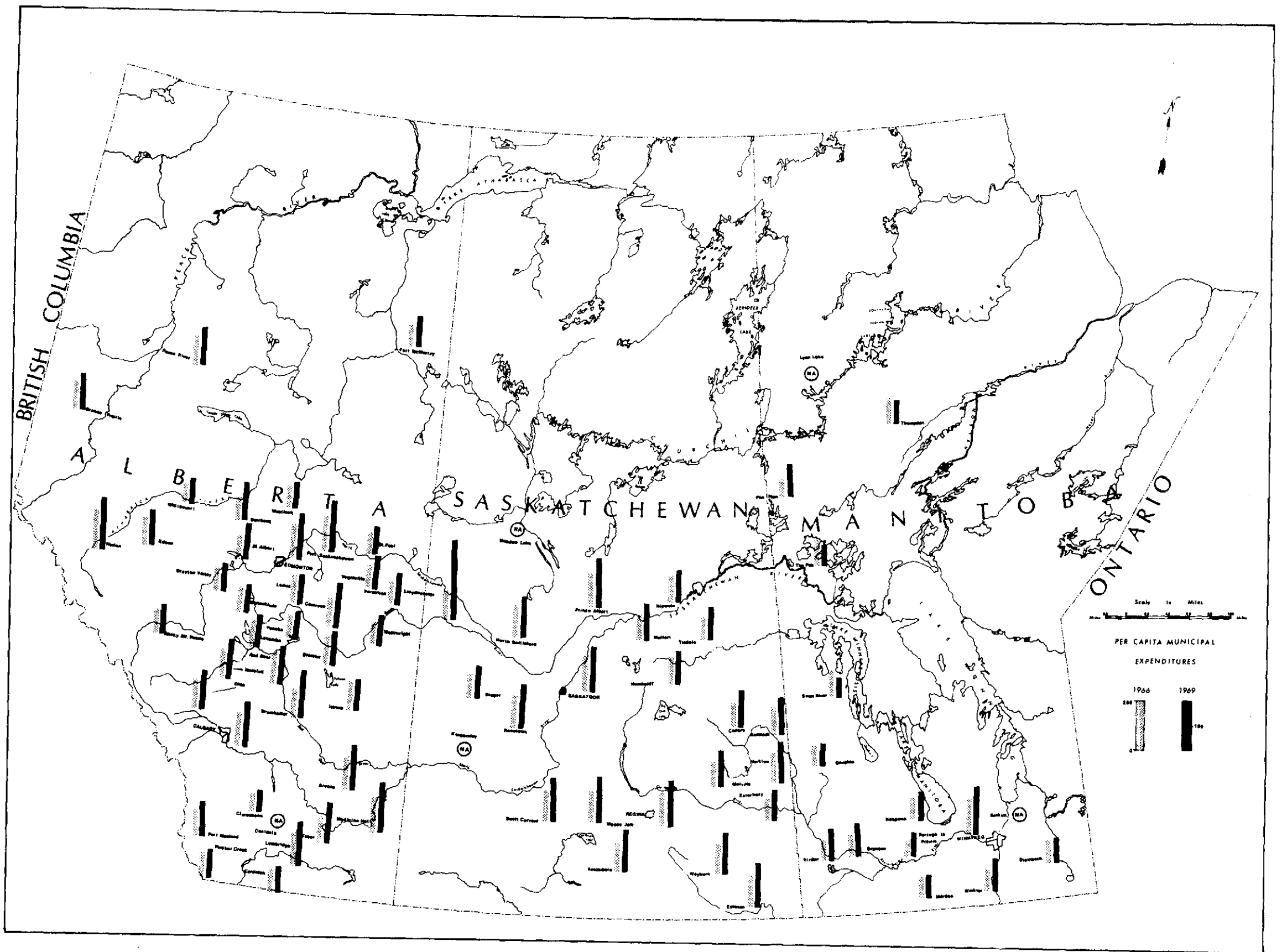
peak had declined, municipal officials in Thompson directed their attention towards the remaining municipal services. Consequently, the distribution of services tended in 1969 to resemble that of the Prairie average. This direction of emphasis would therefore result in a significant decline in specialization coefficient values as evident in Table VII.11.

Similar analysis could be made for other centres in the Prairies when examining coefficient values. Only one example has been included here to show how coefficients can be used for analysing the distribution of municipal expenditures.

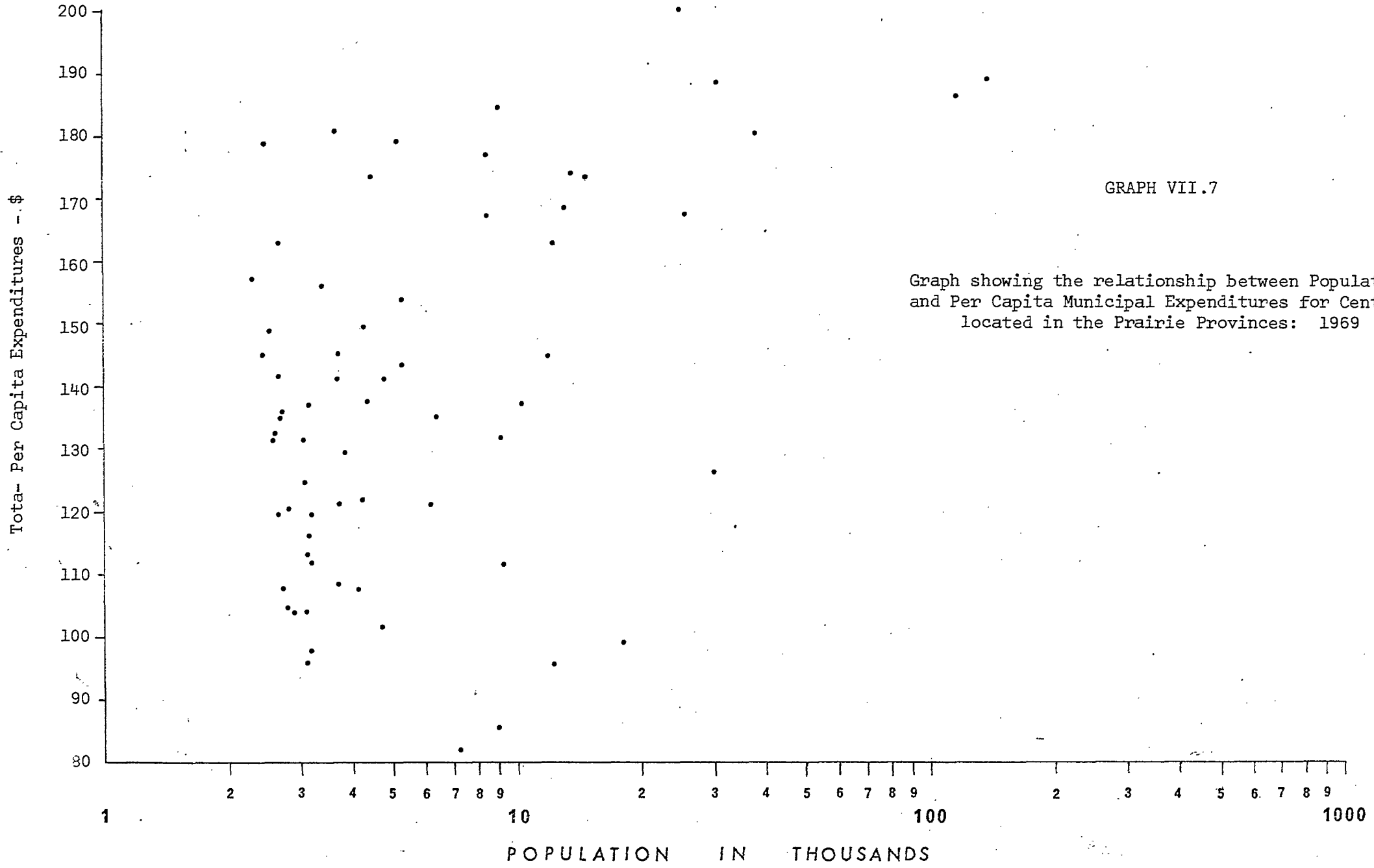
b. Per Capita Values

Table VII.12 outlines per capita values for total municipal expenditures for 1966 and 1969. These values have been used to construct Map VII.1 and Graph VII.7. In discussing the table, several points can be made concerning the range of values for the two years. In 1966, the per capita values ranged between \$153, (for Regina), and \$70, (for Portage la Prairie) - a ratio slightly over 2:1. In terms of provincial comparisons, Alberta and Saskatchewan centres have approximately the same per capita values, while for Manitoba communities, they were significantly lower. The general trend shown in Table VII.12 is that in 1969 per capita values were substantially higher than the preceding years and the extremes this time had a factor of over 4:1. The high in this case was Lloydminster (\$345) and the low was Swan River (\$78).

1969 values can be used to construct a hierarchy of centres using population growth rates as the dependent variable. In designing a budget policy, it would be useful to know which centres falling in the smallest-size population class experienced the highest (or lowest) per capita values of municipal expenditures. For example, Table VII.12 shows that the 1969 per capita values for Lethbridge and Rosetown were very similar (\$181 for the former and \$180 for the latter). Yet, in 1969, the populations of these two centres varied markedly. In fact, the population of Lethbridge was over 15 times that of Rosetown. To overcome the bias of comparing two totally different size centres, the following table examines per capita municipal expenditures according to population cate-



Map VII. 1



GRAPH VII.7

Graph showing the relationship between Population and Per Capita Municipal Expenditures for Centres located in the Prairie Provinces: 1969

gories, and ranks centres having the highest and lowest values (Table VII.13).

A similar ranking procedure could be adopted using a rate of population growth rather than absolute population values as the dependent variable. By way of an example, such a ranking would show that the centre having the highest per capita expenditures, had the highest population growth rate (greater than 10% growth rate, 1966-70), was Fort Saskatchewan. This city had a per capita municipal expenditure value of \$210 and its population growth rate over the 1966-70 period was 28.3%.

The only general theme shown by Map VII.1 is the noticeably low values for Manitoba centres and high values for centres located in Northern Alberta. Although this map includes per capita values for two years, it does not present a growth analysis. Such a consideration, however, is included in the following sub-section.

Graph VII.7 also confirms the absence of trends. The erratic distribution of points indicates that per capita municipal expenditures are not significantly related to size of centre. However, it should be mentioned here that if one or more other variables were included in the graph, trends might indeed arrive. For example, if income levels were used as a third variable which in turn was represented by three categories, (i.e. less than \$200 p.c., \$2-400 p.c., and greater than \$400 p.c.), it might be found that three distinct lines emerge. By comparing the slopes of these lines, one might be able to conclude that for a given size population, those centres in which the average per capita income was high (i.e. greater than \$400), expended a higher amount of municipal funds (measured in terms of per capita municipal expenditures) than smaller size centres in which income levels were at the lowest. If no trends arise, manufacturing or retail characteristics could be substituted for income. One should therefore not discard size completely as a factor regarding municipal expenditures. Rather, one should consider it as one component which in turn is related to other variables.

c. Rate of Growth

Rate of growth has been calculated on the basis of absolute and per capita values. 1966 and 1969 are the two years chosen. Tables VII.12 and VII.14

TABLE VII.13

PER CAPITA MUNICIPAL EXPENDITURES FOR CENTRES HAVING THE THREE
HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES
FOR PRAIRIE CENTRES: 1969

<u>Centre</u>	<u>Per Capita Values - \$</u>
Smallest Centres (less than 3,500)	
<u>Highest</u>	
1) Rosetown	180
2) Assiniboia	165
3) Kamsack	150
<u>Lowest</u>	
1) Morden	96
2) Claresholm	98
3) Whitecourt	105
Small Centres (3,500 - 5,000)	
<u>Highest</u>	
1) Lloydminster	345
2) Hinton	275
3) Brooks	183
<u>Lowest</u>	
1) Swan River	78
2) Steinbach	102
3) Whitecourt	105
Medium Size Centres (5,001 - 10,000)	
<u>Highest</u>	
1) St. Albert	239
2) Fort Saskatchewan	210
3) Estevan	188
<u>Lowest</u>	
1) The Pas	83
2) Dauphin	87
3) Selkirk	112
Large Centres (10,001 - 30,000)	
<u>Highest</u>	
1) Prince Albert	213
2) Medicine Hat	202
3) Lethbridge	181
<u>Lowest</u>	
1) Portage la Prairie	97
2) Thompson	99
3) Grande Prairie	146
Metropolitan Areas	
1) Winnipeg	196
2) Regina	190
3) Saskatoon	189
4) Calgary	186
5) Edmonton	185

found at the end of this section outline growth rates. The former examines per capita growth rates while the latter calculates absolute growth rates for each major sector. Absolute values will be discussed first.

After discussing growth rates for the individual sector, the major emphasis should highlight the extremes for each population category. One does not just want to know which centres in the Prairies experienced the highest or lowest growth rates of expenditures for a particular municipal service. What is further needed is to identify those extremes within a given population size category. It is generally agreed that it is far more economically feasible for a small town to double its expenditures over a five-year period than for a metropolitan area. A comparison therefore between growth rates of, for example, Meadow Lake and Winnipeg, would be less meaningful than one between Meadow Lake and a town having a similar population.

It should be mentioned at this juncture, that population size represents only one of many variables that could be used in a ranking system. For example, growth rates of municipal expenditures could be ranked according to population density, per capita values of manufacturing activities, income levels, migration values, population growth rates, levels of building industry, and so on. Time only permits the selection of absolute population figures as the variable for ranking centres. Table VII.15 outlines the centres having the three highest and lowest growth rates for the individual municipal services according to population class size.

The results of Table VII.15 can be further analyzed in terms of the frequencies with which centres were mentioned. It is interesting to note that only twelve centres out of the total selected for the Prairies are not referred to in Table VII.15. That is to say, only twelve centres did not rank in either the top or bottom three of the selected municipal activities. By applying a scoring system, the following rank can be constructed. (See Table VII.16)

The results of Table VII.16 can be summarized as follows. First, for the smallest size centres, three stand out - Winkler, Barrhead and Morden. The first two had three out of six municipal services that rank in the top three highest growth rates, while Morden had three services that ranked in the lowest

TABLE VII.15

GROWTH RATES FOR MUNICIPAL EXPENDITURE CATEGORIES FOR CENTRES HAVING THE THREE HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES, FOR PRAIRIE CENTRES: 1969

1. General Government

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Claresholm	103.65
2) Morden	91.91
3) Olds	90.37
<u>Lowest</u>	
1) Rosetown	0.57
2) Hanna	7.39
3) Virden	16.17

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Ponoka	82.68
2) Stettler	75.57
3) Brooks	64.96
<u>Lowest</u>	
1) Wainwright	-2.10
2) Nipawin	4.74
3) Meadow Lake	5.81

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Fort McMurray	184.70
2) Fort Saskatchewan	95.10
3) Drumheller	64.84
<u>Lowest</u>	
1) Flin Flon	-15.33
2) St. Albert	3.08
3) Estevan	3.92

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	646.70
2) Portage La Prairie	73.13
3) Brandon	51.92
<u>Lowest</u>	
1) Red Deer	-6.83
2) Lethbridge	8.95
3) Weyburn	24.72

Metropolitan Areas

<u>Highest</u>	
1) Regina	47.14
2) Calgary	42.66
3) Saskatoon	29.02
4) Edmonton	-5.34
5) Winnipeg	-11.36

Table VII.15 cont.d.

2. Protection Services

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Barrhead	82.90
2) Whitecourt	80.20
3) Olds	50.65
<u>Lowest</u>	
1) Morden	-11.73
2) Virden	-4.09
3) Neepawa	-2.95

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Melfort	108.98
2) Meadow Lake	54.64
3) Wainwright	53.02
<u>Lowest</u>	
1) Steinbach	-9.07
2) Swan River	-9.01
3) Vegreville	11.98

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Fort McMurray	270.62
2) Camrose	121.64
3) Peace River	88.50
<u>Lowest</u>	
1) Dauphin	-5.43
2) Selkirk	3.76
3) Wetaskwin	14.04

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	2447.90
2) Swift Current	63.37
3) North Battleford	47.31
<u>Lowest</u>	
1) Portage La Prairie	2.36
2) Brandon	26.74
3) Moose Jaw	29.47

Metropolitan Areas

<u>Highest</u>	
1) Edmonton	48.56
2) Calgary	47.46
3) Winnipeg	36.06
4) Saskatoon	35.48
5) Regina	33.12

Table VII.15 contd.

3. Public Works

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Virden	237.33
2) Winkler	159.56
3) Barrhead	119.03
<u>Lowest</u>	
1) Westlock	-37.55
2) Esterhazy	-30.65
3) Innisfail	-18.27

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Swan River	128.38
2) Stettler	84.47
3) Steinbach	69.30
<u>Lowest</u>	
1) Drayton Valley	-18.28
2) Brooks	-16.82
3) Wainwright	-15.21

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Flin Flon	185.76
2) Fort Saskatchewan	142.45
3) The Pas	50.17
<u>Lowest</u>	
1) St. Albert	-18.48
2) Melville	-15.80
3) Dauphin	-10.49

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	1000.00
2) Portage La Prairie	156.10
3) Lethbridge	105.76
<u>Lowest</u>	
1) Red Deer	-4.04
2) North Battleford	4.64
3) Swift Current	27.09

Metropolitan Areas

<u>Highest</u>	
1) Regina	53.78
2) Winnipeg	27.46
3) Calgary	24.39
4) Saskatoon	14.72
5) Edmonton	8.92

Table VII.15 contd.

4. Social Welfare

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Neepawa	928.31
2) Barrhead	561.11
3) Winkler	61.80
<u>Lowest</u>	
1) Whitecourt	-96.84
2) Claresholm	-90.77
3) Cardston	-89.50

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) St. Paul	327.65
2) Meadow Lake	88.93
3) Taber	45.33
<u>Lowest</u>	
1) Stettler	-99.40
2) Brooks	-96.90
3) Nipawin	-88.21

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Fort McMurray	690.60
2) Peace River	142.93
3) Selkirk	75.46
<u>Lowest</u>	
1) Estevan	-69.23
2) Wetaskiwin	-61.40
3) Dauphin	-54.68

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	505.54
2) Moose Jaw	159.01
3) Grand Prairie	128.70
<u>Lowest</u>	
1) North Battleford	-81.98
2) Swift Current	-59.65
3) Yorkton	-54.05

Metropolitan Areas

<u>Highest</u>	
1) Winnipeg	201.57
2) Edmonton	62.54
3) Saskatoon	30.93
4) Calgary	9.80
5) Regina	-65.58

Table VII.15 contd.

5. Education

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Whitecourt	83.60
2) Canora	82.58
3) Esterhazy	62.90
<u>Lowest</u>	
1) Neepawa	8.45
2) Vermilion	21.44
3) Norden	26.10

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Brooks	141.74
2) Lloydminster	80.96
3) Melfort	79.10
<u>Lowest</u>	
1) Steinbach	-1.56
2) Swan River	-1.00
3) Wainwright	33.76

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Weyburn	1415.90
2) Fort McMurray	349.84
3) Drumheller	269.38
<u>Lowest</u>	
1) Flin Flon	5.00
2) Dauphin	13.77
3) The Pas	19.73

Large Size Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	832.85
2) Yorkton	107.26
3) Red Deer	76.92
<u>Lowest</u>	
1) Portage La Prairie	3.35
2) Moose Jaw	33.03
3) Brandon	30.10

Metropolitan Areas

<u>Highest</u>	
1) Calgary	82.36
2) Edmonton	68.66
3) Saskatoon	67.12
4) Regina	40.13
5) Winnipeg	26.82

Table VII.15 contd.

6. Recreation

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Winkler	250.64
2) Westlock	238.00
3) Virden	159.31
<u>Lowest</u>	
1) Whitecourt	-39.98
2) Morden	-5.84
3) Hanna	1.89

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Steinbach	311.26
2) Leduc	153.07
3) Drayton Valley	97.97
<u>Lowest</u>	
1) Swan River	-28.79
2) Meadow Lake	1.51
3) Stettler	15.64

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Peace River	440.14
2) Fort McMurray	348.17
3) Drumheller	292.84
<u>Lowest</u>	
1) Flin Flon	-22.19
2) The Pas	-21.98
3) Estevan	1.25

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Thompson	2910.69
2) Portage La Prairie	310.18
3) Swift Current	111.85
<u>Lowest</u>	
1) Medicine Hat	5.41
2) North Battleford	17.62
3) Yorkton	20.77

Metropolitan Areas

<u>Highest</u>	
1) Edmonton	68.04
2) Calgary	61.99
3) Saskatoon	48.79
4) Regina	36.37
5) Winnipeg	24.11

TABLE VII.16

FREQUENCIES WITH WHICH CENTRES DISPLAYING EXTREME VALUES
OF MUNICIPAL EXPENDITURES ARE MENTIONED: 1969

<u>Centre</u>	<u>Frequency (Max. 6)</u>
Smallest Centres (less than 3,500)	
<u>Highest</u>	
Winkler	3
Barrhead	3
Olds	2
Whitecourt	2
Virден	2
<u>Lowest</u>	
Morden	3
Neepawa	2
Hanna	2
Small Centres (3,500 - 5,000)	
<u>Highest</u>	
Steinbach	2
Swan River	2
Meadow Lake	2
Melfort	2
Brooks	2
Stettler	2
Wainwright	2
<u>Lowest</u>	
Steinbach	2
Swan River	2
Nipawin	2
Brooks	2
Wainwright	2
Medium Size Centres (5,001 - 10,000)	
<u>Highest</u>	
Fort McMurray	4
Drumheller	2
Fort Saskatchewan	2
Peace River	2
<u>Lowest</u>	
Dauphin	4
Flin Flon	3
Estevan	3
The Pas	2
St. Albert	2
Wetaskiwin	2
Large Centres (10,001 - 30,000)	
<u>Highest</u>	
Thompson	6
Portage la Prairie	3
Brandon	2
<u>Lowest</u>	
North Battleford	3
Brandon	2
Portage la Prairie	2
Moose Jaw	2
Swift Current	2
Red Deer	2

three growth rates. Second, for small centres, no one particular community is unique. Table VII.14 shows that nearly half of the total centres in this category (8 out of 18) contained two services which ranked in either the highest or lowest three growth rates. Four of these centres had growth rates of four municipal services, two of which were placed in the highest three, and the remaining two in the lowest three. Third, for medium size centres, four can be identified as having significant growth rates. Of the six municipal services provided in Fort McMurray, the growth rates of four of them were amongst the highest for this population category. At the other extreme, Dauphin is seen to have an overdeclining growth rate of municipal services. Of the six municipal services provided, four in Dauphin reflected growth rates which were either the lowest or second lowest for this population category. Flin Flon and Estevan also exhibited low overall growth rates as seen from the fact that three out of their six services were ranked amongst the lowest three values. Fourth, of all Prairie centres, Thompson stands out as the one displaying the highest growth rates. In all six municipal services examined, Thompson experienced the highest growth rate of centres classed as "Large Size". Portage la Prairie ranked second in this population class having three services whose growth rates were amongst the highest. North Battleford contained the lowest overall growth rates in municipal services as seen from the fact that three out of its services are within the lowest growth rates.

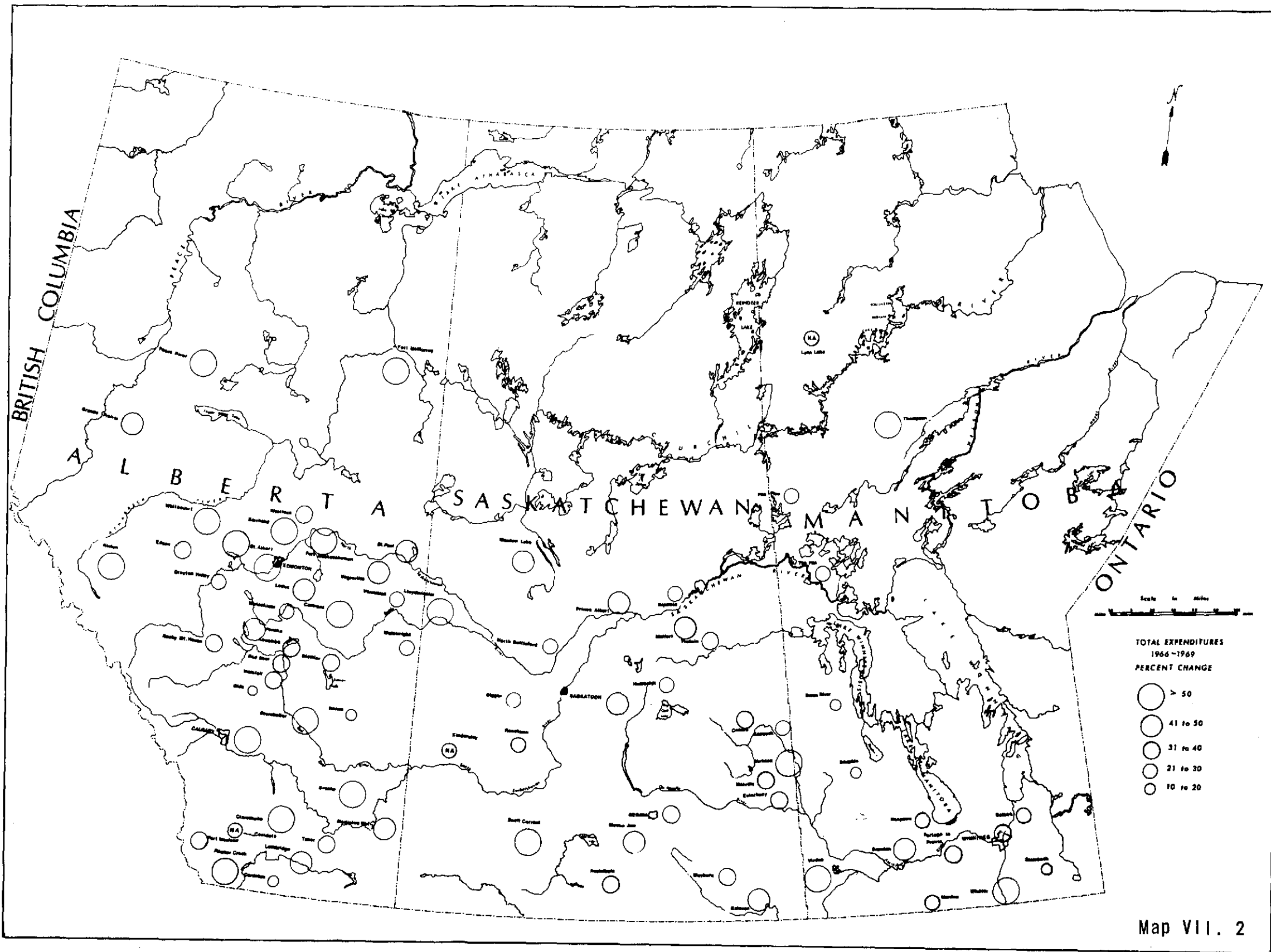
Both Tables VII.15 and VII.16 provide quick identification of centres having either high or low municipal expenditure growth rates. The selection of only three extreme values (high and low) was purely arbitrary. Given time, the number could have been enlarged to include all centres within each population class.

Rates of growth of per capita municipal expenditures are also outlined in Table VII.12. The last three columns show the percent change, quotient values using the Prairie region as the base magnitude, and quotient values using the province as the magnitude. Several observations can be drawn from this table commencing with generalities and then focusing upon specific case studies.

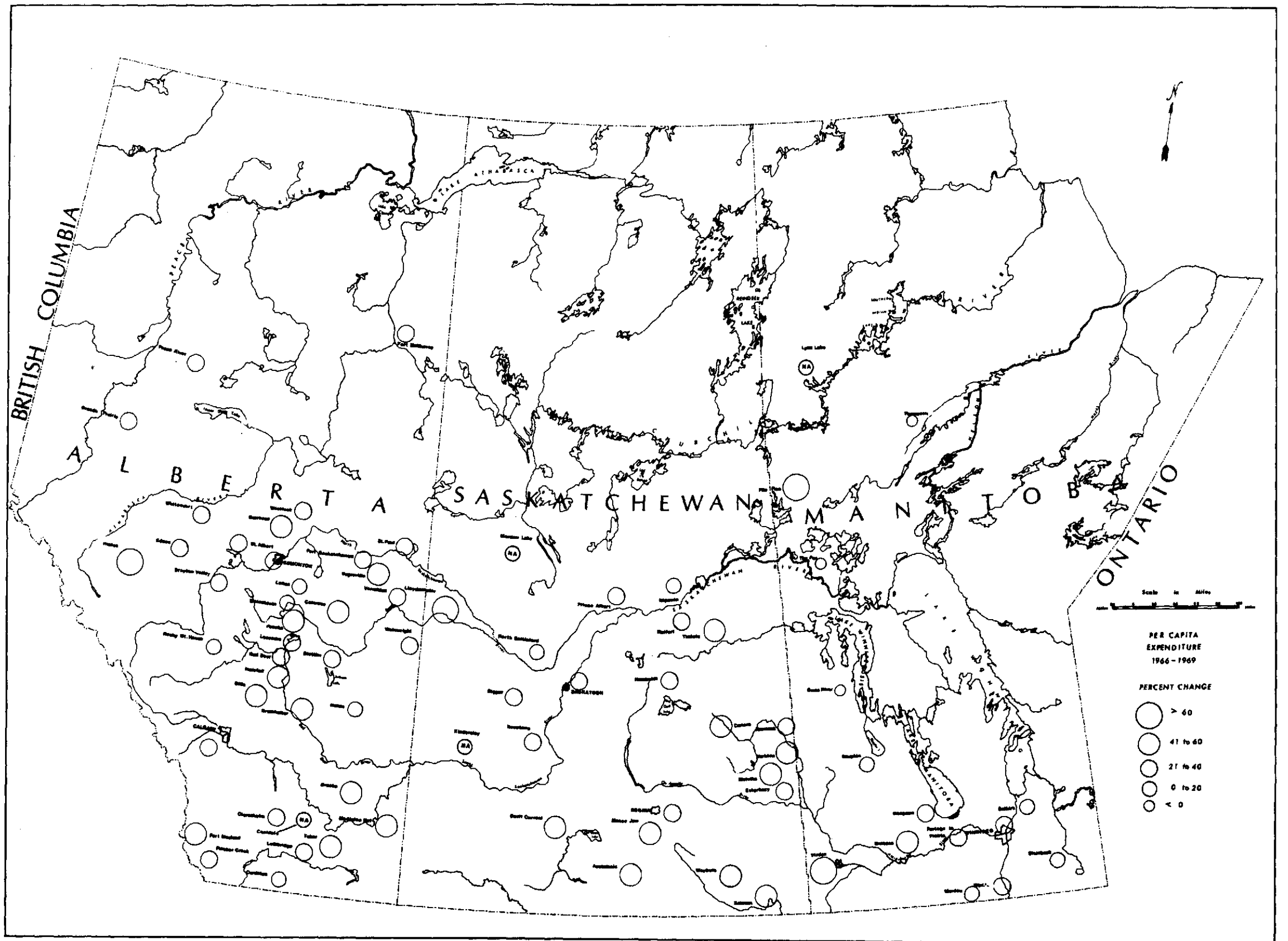
First, the extremes ranged between a high of 192.44% (Lloydminster) and a low of -16.00% (Swan River). The average per capita growth rate for the Prairies as a whole was 35.30% while for the three provinces it was 37.62% - (Alberta), 34.04% -(Saskatchewan), and 31.54% -(Manitoba). Second, the quotient values also exhibited extreme ranges and varied between -9.45 and 5.45 for the regional quotient, and 0.50 and 5.65 for provincial quotients. In the case of the former quotient, a value of 2.0 for a particular centre would signify that this centre's per capita municipal expenditures increased at twice the provincial rate. Third, only three centres, all located in Manitoba, experienced negative growth rates. These were Swan River, Thompson, and The Pas. It is interesting to note that previous comments on Thompson emphasized that this centre ranked first in terms of absolute growth rates of municipal expenditures. Yet the present table indicates that on a per capita basis, Thompson ranked the second lowest in the entire Prairies. This phenomenon is of course attributed to the rapid population growth in this centre between 1961 and 1969 which actually exceeded growth rates in municipal expenditures.

Similar observations to those raised about Thompson can also be made about other centres. A comparison between Table VII.12 and VII.16 will reveal many inconsistencies. To include only two more, Flin Flon and Esterhazy both are seen to have relatively low growth rates of municipal expenditures between 1966 and 1969. (It may be recalled from Table VII.16 that both the centres had the lowest growth rates for three out of six municipal services.) In terms of per capita growth rates, Flin Flon and Esterhazy greatly exceeded the Prairie average (see the quotient values in the second last column of Table VII.12).

Final comments that can be made concerning growth rates for Prairie centres relate to spatial distribution characteristics. Maps VII.2 and VII.3 show growth rates of absolute and per capita values of total municipal expenditures respectively. In terms of absolute growth rates (Map VII.2), three general observations can be made. First, centres having the highest growth rates are concentrated in Alberta, especially around the two largest cities - Edmonton and Calgary. Second, the most northern settlements in the Prairies exhibit exceptionally high absolute growth rates. Fort McMurray, Peace River and Thompson, all are ranked in the highest growth rate category. Third, with



Map VII. 2



Map VII. 3

the exception of Swift Current, Yorkton, Virden and Winkler , the central and eastern Prairies, are characterized by noticeably low growth rates.

When per capita growth rates are examined (Map VII.3) a different picture emerges. First and most apparent, is the declining dominance of Alberta centres. Whereas these centres had high absolute growth rates, their per capita values were far lower. These relatively lower per capita values are attributed to greater increases in population growth - a phenomenon as it may be recalled, that is less evident in Saskatchewan and Manitoba.

A second feature drawn from Map VII.3 is the absence of high growth rates in northern centres. As was the case for Alberta centres, northern settlements are also experiencing rapid population increases, increases it should be noted which surpass growth rates in municipal expenditures. The overall trend therefore is that the per capita growth rates for Grande Prairie, Peace River, Fort McMurray and Thompson are far lower than would be expected.

Finally, Saskatchewan and Manitoba centres tend to have more favourable per capita growth rates as opposed to absolute rates. Such a reverse situation is due more to declining of population rates than to increasing expenditures. Caution, therefore, must be taken by not overemphasizing either of these rates. One should not place too much importance on the per capita growth rates by themselves nor should one, for that matter, consider absolute values as the only yardstick for measuring growth rates of municipal expenditures.

2. Municipal Assessments

Ideally, an examination of revenues should accompany a discussion of expenditures. However, such an examination has not been included in this section for one underlying reason. It is felt that the procedure for raising revenue in no manner directly reflects the economic or social climate of an urban area. Rather, from consulting municipal officials, the opinions reached by the team members was that the sources of revenue reflect astuteness in sophisticated budgetary exercises. To balance anticipated expenditures, municipal affairs

departments can raise revenues from two major sources - taxation and contributions and/or licensing. The latter comprises of licenses and permits, fines, contributions and grants, services and interest charges, rents and concessions, and only one activity which involves the maintenance of a municipal service - mainly revenues from recreation and community services. By examining trends in these forms of revenue, it would be spurious to conclude that high increases in fines, licenses and permits reflect a healthy or expanding economic situation. A discussion of recreation revenues lends itself to such an analysis, but was not included due to insufficient detail regarding the nature of the revenue.

Taxation represents by far the greatest source of revenue. A discussion of absolute taxation figures will only reveal how much revenue is raised from this levy. An increase in the taxation funds does not always assume an overall increase in the general economy. It could, however, be due to increases in assessable structures, thereby generating larger tax levies; or, and which is more often the case, it could be due to adjustments in the mill rate. If, for example, a community has anticipated a large expenditure in education facilities and is unable to raise the necessary revenue by imposing the existing tax rate, it can resort to raising the school tax. In a similar fashion, revenue for public works can be readily provided by raising the general mill rate. Shrewd budgetary procedures, therefore, play an important part in municipal affairs.

It would be erroneous to suggest that increases in taxation funds go hand in hand with increases in the overall economy of a particular centre. However, if all mill rates remained constant, increases in this source of revenue would, to a certain extent, reflect a stable if not prosperous economy. Assessment, therefore, is the determinant variable. This final section examines municipal assessment. As will be seen in the following discussion less detail is placed upon assessments than upon expenditures. The reason for this under-emphasis is due to the complex issues that surround the procedures for assigning assessment values.

As the name implies, assessments are dollar values assigned to all forms of structures. Unlike most expenditures involving support and maintenance

services, assessments relate to fixed investments. The structure having a very long life expectancy will be recorded in assessment files for many years. A centre, therefore, recording a high (absolute or per capita) assessment value in 1969 does not always suggest a prosperous state of affairs. This high value might in fact be due to a "building boom" a decade ago. In the same vein, a reduction in assessments over a short term period does not automatically indicate a decline in the economy. A retrenchment programme or the initial stages of an urban renewal scheme might have caused the demolition of many buildings thus reducing the number of assessable structures.

Bearing in mind these limitations, only three aspects of assessments are considered here. These are: 1. total assessments, 2. per capita assessments, and 3. growth rates of absolute and per capita assessments values. Tables VII.17 and VII.18 appended at the end of this chapter outline these three aspects. Concerning absolute growth rates, (Table VII.17), the following points can be drawn. First, in terms of provincial comparisons, Manitoba ranks first (27.0%), followed by Alberta (17.19%), and then Saskatchewan (15.80%). It is interesting to note that Manitoba centres rank above the remaining two provinces even though they experienced smaller increases in the issuance of building permits (see Table VII.). The large increases in Manitoba assessments have probably resulted in expansions in the business field and not from fixed investments. Those centres containing negative growth rates are confined solely to Alberta. The four communities in this province are Cardston, Drayton Valley, Hanna, and Vermilion.

Second, on a regional basis, the extremes ranged between a low of -17.83% for Vermilion and 200.4% for Fort McMurray. The average Prairie growth rate was 19.66%. To determine regional variations, quotient values can be used. As exemplified previously, a value of 0.5 for a particular centre indicates a growth rate half that of the regional average. At the other extreme a value of 6.0 (such as that for Yorkton) represents a growth rate six times that of the Prairies as a whole.

To make urban comparisons more meaningful, and to avoid equating growth rates for metropolitan areas with small towns, a final feature that can

be provided by Table VII.17 involves constructing a hierarchy based upon population classes. Table VII.19 outlines assessment growth rates according to five population categories for centres having extreme values. These extremes include centres with the highest three and lowest three growth rates.

The usefulness of Table VII.19 lies in one being able to quickly identify the extreme values for a given size population category. For example, on cities classed as "small-sized" Lloydminster stands out as having the highest rate of growth while Edson has the lowest. However, on a regional comparison, Lloydminster ranked 5th out of the 70 selected centres in the Prairies, while Edson ranked 7th from the bottom.

Per capita rates of growth present a slightly different structure to absolute values. Table VII.18 appended at the end of this chapter, outlines these values. Wide variations are again evident for both years. In 1966, per capita values ranged between \$3,500 for Lloydminster and \$102 for Yorkton - a factor of 3:1. In 1970, Lloydminster again had the highest per capita value, (\$4,101), and The Pas the lowest (\$959). In terms of growth rates, Alberta communities reflected the lowest rates while Manitoba centres had the highest values. Because the former centres experienced relatively lower growth rates, coupled with the fact that population increases are the highest for the province, one would indeed expect that per capita values would be low. Such an expectation is confirmed from Table VII.18 when one observes that twelve out of thirteen centres having a negative growth rate are located in Alberta. Extreme growth rate values range between a high of 106.74% - (Yorkton) and a low of -10.22% - (Vermilion). Regional quotients have been included in Table VII.18 from which one can compare growth rates of one city with another.

The most effective way to discuss growth rates is to group centres having a common denominator. In maintaining consistency, population categories represent the common denominator. Tables VII.20 and VII.21 rank according to population class, per capita assessment values for the most recent year (1970) and percent changes of per capita assessment values (1966-70).

Both Tables VII.20 and VII.21 show that population categories are not related to either per capita assessment values or per capita growth rates.

TABLE VII.19

GROWTH RATES FOR TOTAL MUNICIPAL ASSESSMENTS FOR CENTRES HAVING THE THREE HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES, FOR PRAIRIE CENTRES: 1966-1969.

<u>Centre</u>	<u>Growth Rate - %</u>
Smallest Centres (less than 3,500)	
<u>Highest</u>	
1) Morden	47.80
2) Barrhead	30.69
3) Esterhazy	29.21
<u>Lowest</u>	
1) Cardston	-17.83
2) Vermilion	-10.23
3) Hanna	-5.77
Small Centres (3,500 - 5,000)	
<u>Highest</u>	
1) Lloydminster	36.81
2) Nipawin	34.16
3) Vegreville	25.73
<u>Lowest</u>	
1) Drayton Valley	-4.36
2) Hinton	.26
3) Edson	3.07
Medium Size Centres (5,001 - 10,000)	
<u>Highest</u>	
1) Fort McMurray	200.40
2) Peace River	30.33
3) Drumheller	30.19
<u>Lowest</u>	
1) Flin Flon	5.24
2) Melville	7.58
3) Estevan	11.20
Large Centres (10,001 - 30,000)	
<u>Highest</u>	
1) Yorkton	120.59
2) Brandon	29.04
3) Grande Prairie	16.43
<u>Lowest</u>	
1) Red Deer	4.49
2) Moose Jaw	5.16
3) Medicine Hat	8.11
Metropolitan Areas	
1) Saskatchewan	46.29
2) Winnipeg	30.78
3) Edmonton	20.10
4) Calgary	18.55
5) Regina	15.41

TABLE VII.20

PER CAPITA ASSESSMENT VALUES FOR CENTRES HAVING THE THREE
HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES
FOR PRAIRIE CENTRES: 1966-69 incl.

<u>Centre</u>	<u>Per Capita Assessments - \$</u>
Smallest Centres (less than 3,500)	
<u>Highest</u>	
1) Kindersley	2155
2) Barrhead	2119
3) Innisfail	1971
<u>Lowest</u>	
1) Claresholm	1012
2) Cardston	1276
3) Coaldale	1279
Small Centres (3,500 - 5,000)	
<u>Highest</u>	
1) Lloyminster	4101
2) Hinton	2666
3) Taber	2147
<u>Lowest</u>	
1) Drayton Valley	1256
2) Swan River	1407
3) Humboldt	1534
Medium Size Centres (5,001 - 10,000)	
<u>Highest</u>	
1) Fort Saskatchewan	3339
2) Camrose	2076
3) Wetaskiwin	1817
<u>Lowest</u>	
1) The Pas	959
2) Flin Flon	1100
3) Fort McMurray	1335
Large Centres (10,001 - 30,000)	
<u>Highest</u>	
1) Lethbridge	2163
2) Yorkton	2124
3) Red Deer	1876
<u>Lowest</u>	
1) Moose Jaw	1184
2) Portage la Prairie	1424
3) Brandon	1543
Metropolitan Area	
1) Calgary	2262
2) Saskatoon	2176
3) Winnipeg	2124
4) Edmonton	1944
5) Regina	1469

TABLE VII.21

GROWTH RATES OF PER CAPITA ASSESSMENTS FOR CENTRES HAVING THE THREE HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES, FOR PRAIRIE CENTRES : 1966 - 1969.

<u>Centre</u>	<u>Growth Rate - %</u>
Smallest Centres (less than 3,500)	
<u>Highest</u>	
1) Morden	39.49
2) Kindersley	31.56
3) Canora	27.67
<u>Lowest</u>	
1) Claresholm	-19.91
2) Cardston	-17.83
3) Pincher Creek	-6.24
Small Centres (3,500 - 5,000)	
<u>Highest</u>	
1) Nipawin	27.22
2) Vegreville	19.80
3) Humboldt	18.62
<u>Lowest</u>	
1) Leduc	-16.69
2) Drayton Valley	-7.64
3) Hinton	-3.19
Medium Size Centres (5,001 - 10,000)	
<u>Highest</u>	
1) Fort McMurray	28.05
2) Flin Flon	26.67
3) Weyburn	22.16
<u>Lowest</u>	
1) The Pas	-18.21
2) Drumheller	-7.11
3) Camrose	2.53
Large Centres (10,001 - 30,000)	
<u>Highest</u>	
1) Yorkton	106.74
2) Brandon	22.53
3) Portage la Prairie	18.64
<u>Lowest</u>	
1) Red Deer	1.63
2) Lethbridge	5.05
3) North Battleford	6.74
Metropolitan Areas	
1) Saskatoon	34.98
2) Winnipeg	23.12
3) Edmonton	14.10
4) Regina	7.31
5) Calgary	1.67

That is to say, one cannot assume that smaller centres have higher per capita values than larger centres. Nor for that matter, do the figures suggest that large centres reflect greater per capita growth rates than smaller ones. Variables other than size are obviously related to assessment values. The final section of this chapter will attempt to determine if there are any relationships between expenditures and assessments as well as between these two variables and others.

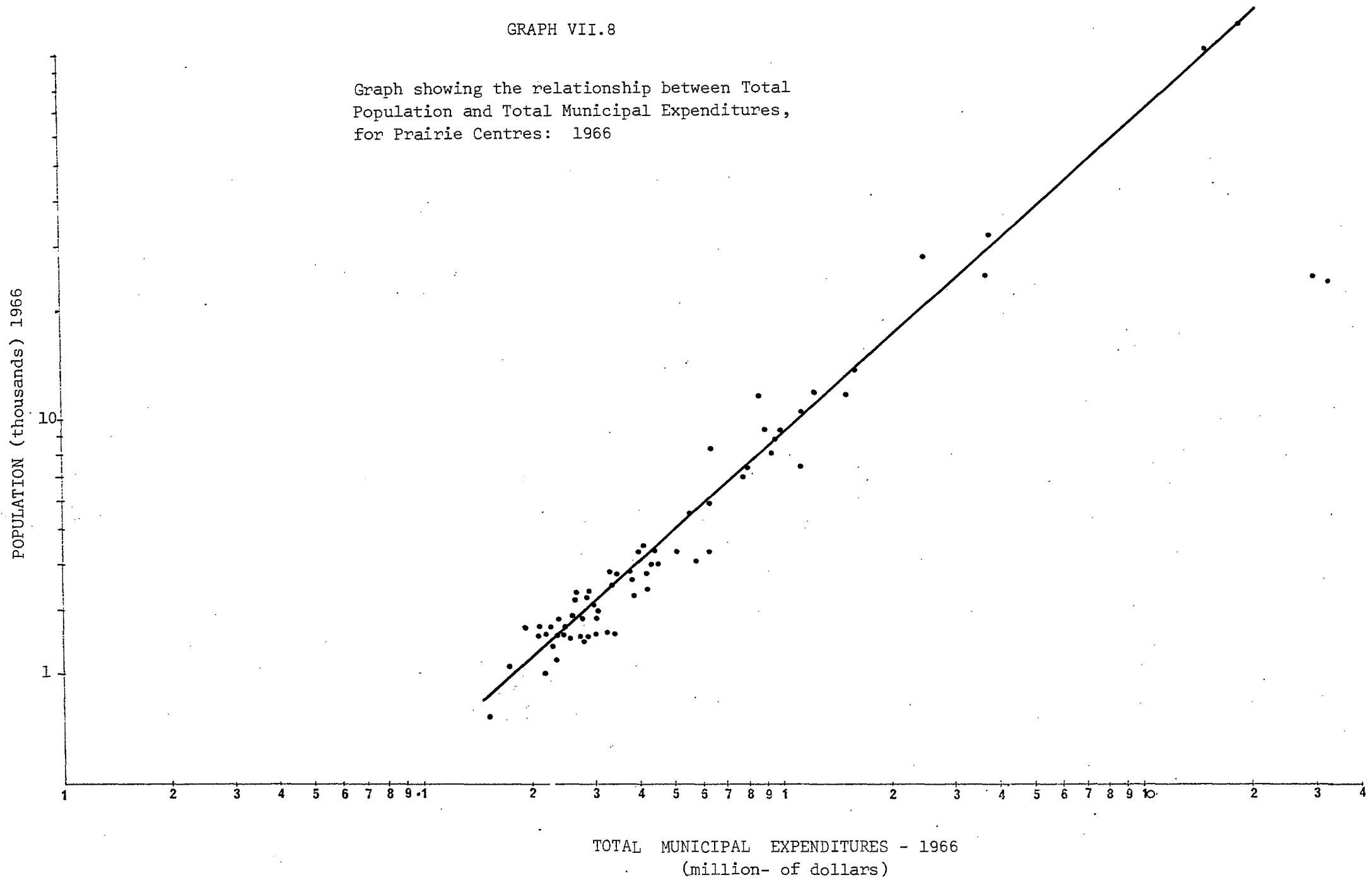
It should be emphasized that the following discussion is not intended to be definitive. Rather, it has been included as representing one of several ways that may be pursued in analysing basic information on municipal expenditures and assessments. The procedure adopted is straightforward in that only three variables are investigated simultaneously. The two dependent variables are population and expenditures while the independent variable is some other economic or social characteristic such as assessment values, changes in building permits and age characteristics. The basic graph used plots total size against absolute municipal expenditures. (See Graph VII.8). Graph VII.8 shows that, with the exception of one centre (Olds), a direct relationship exists between the total population and total municipal expenditures. Such a trend is not the least surprising since one would expect a large metropolitan area to spend a greater amount of funds on municipal services than a small town. When size and expenditures are examined, according to other variables, both significant as well as insignificant trends arise. Graphs VII.9-14 have been included as examples examining these variables. The following conclusions can be drawn from these graphs.

First, commercial activities in terms of per capita retail sales, do not affect expenditures. Since commercial activities represent an effective indicator of the overall economy, it was thought that the former might be related to the distribution of municipal expenditures. Graph VII.9 negates the existence of any positive relationship.

Second, age characteristics in no way were related to absolute expenditure values. It was felt that a community having a potentially large labour force (i.e. a relatively large number of persons in the 25-64 year old category), would demand a different level of expenditures than a centre

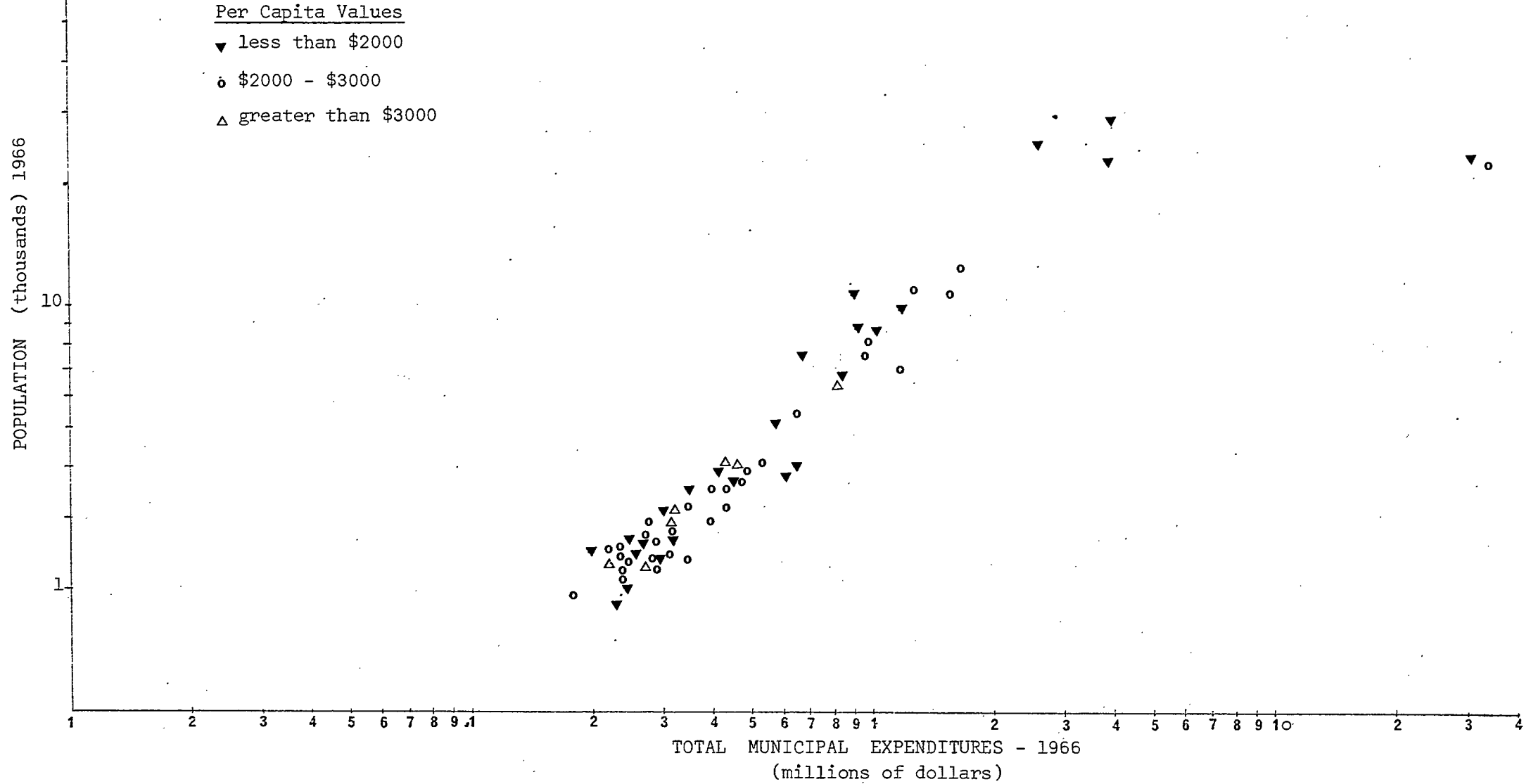
GRAPH VII.8

Graph showing the relationship between Total Population and Total Municipal Expenditures, for Prairie Centres: 1966



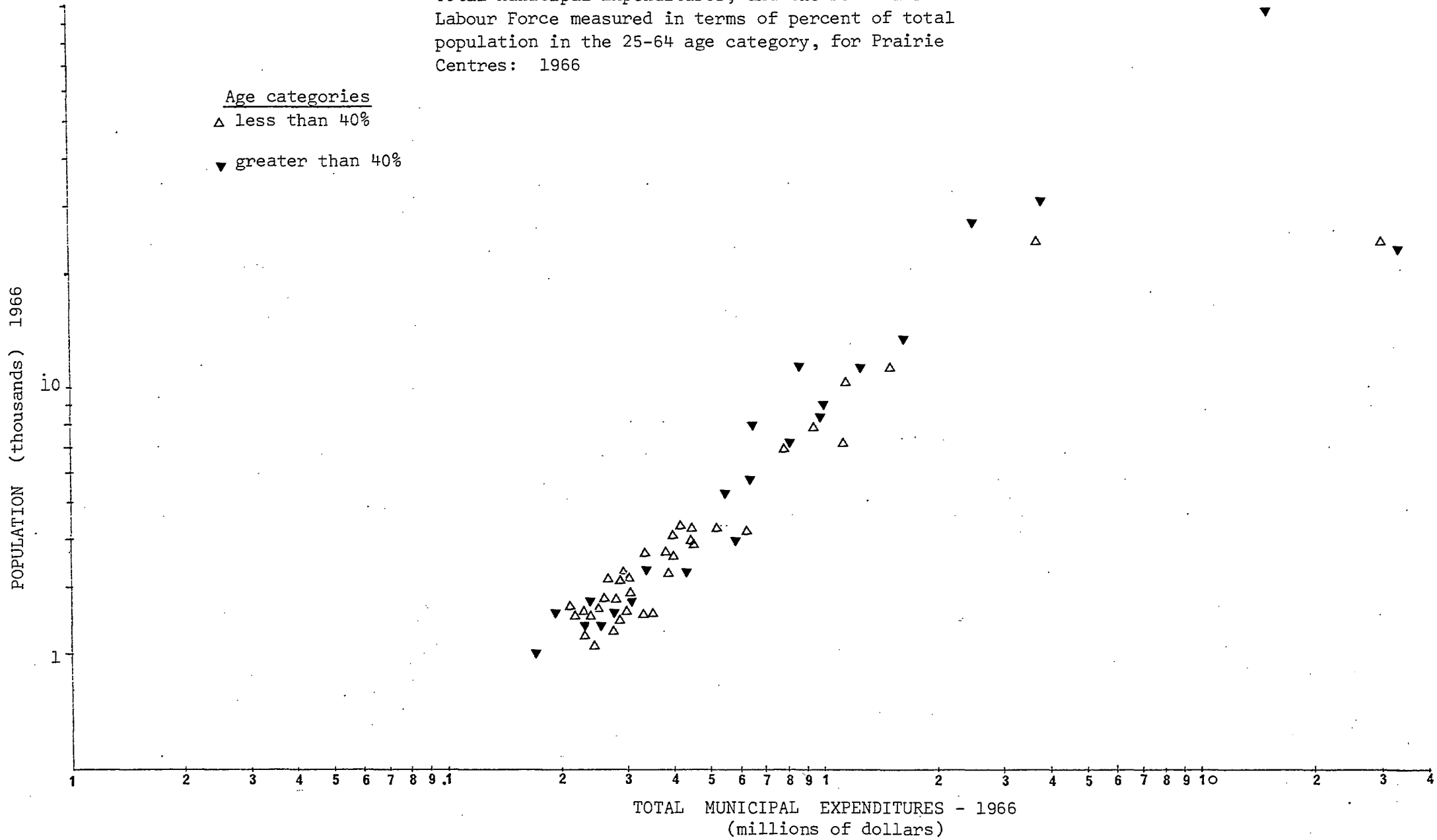
GRAPH VII.9

Graph showing the relationships between Population, Total Municipal Expenditures, and Per Capita Retail Sales Values, for Prairie Centres: 1966



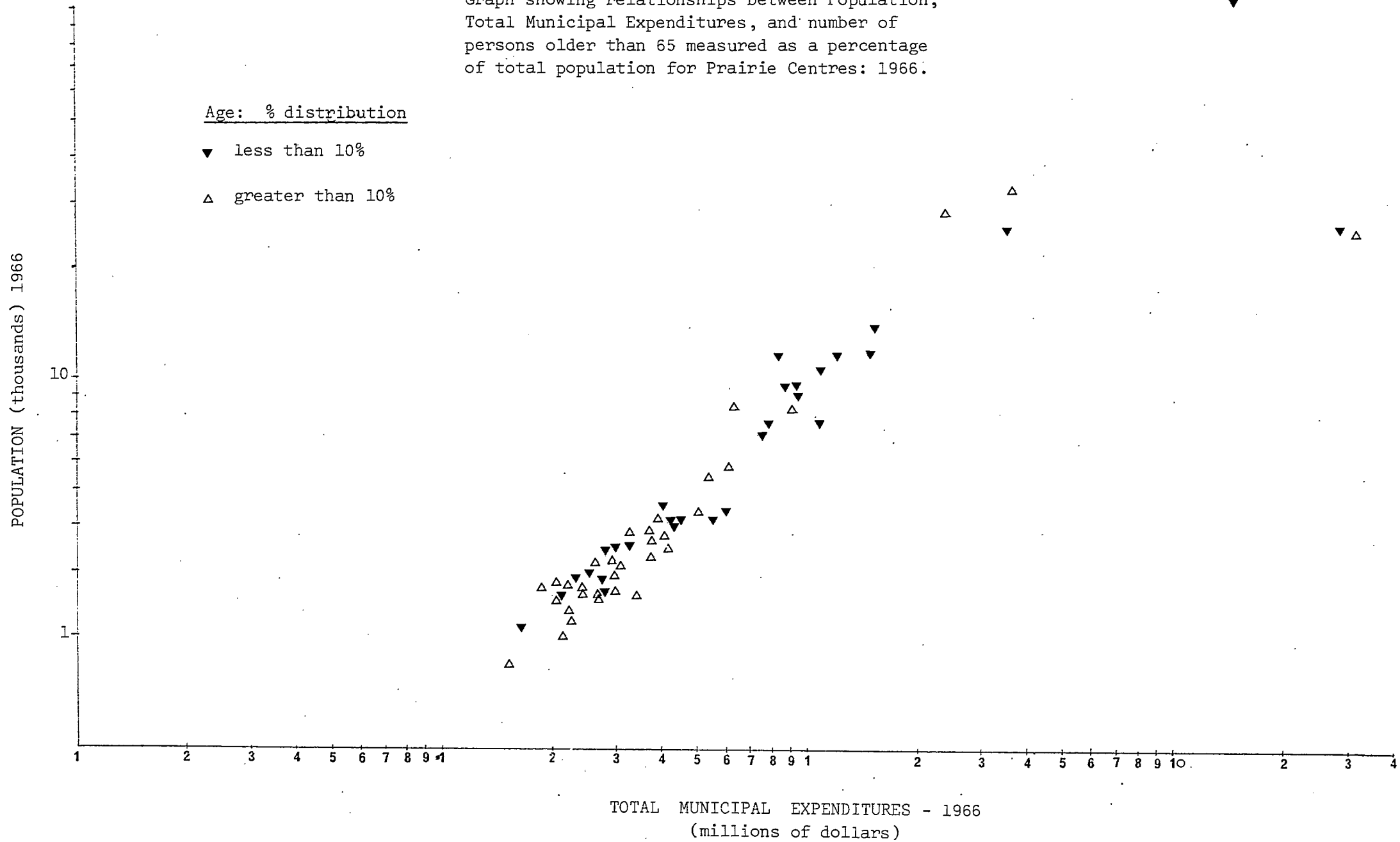
GRAPH VII.10

Graph showing the relationship between Population, Total Municipal Expenditures, and the Potential Labour Force measured in terms of percent of total population in the 25-64 age category, for Prairie Centres: 1966



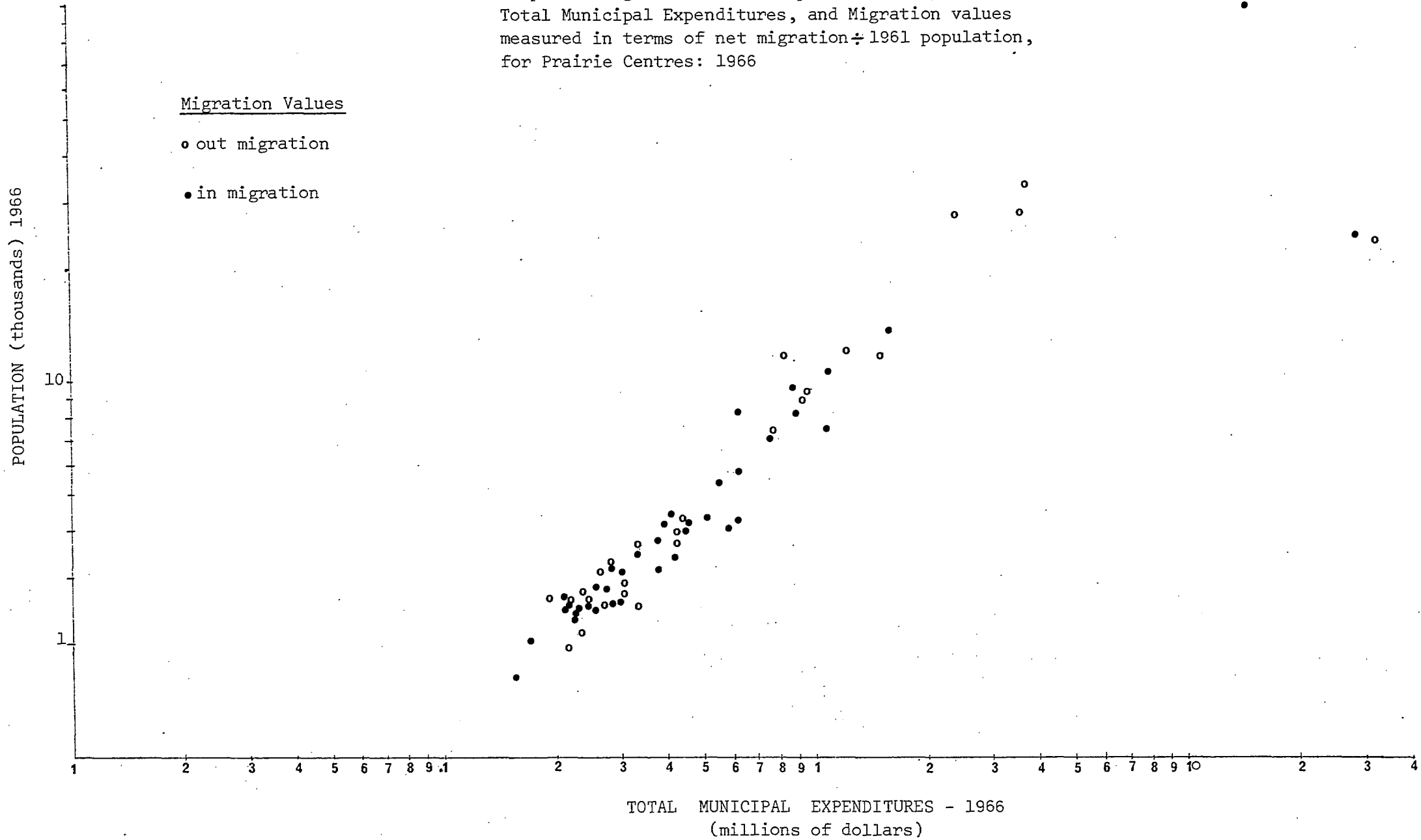
GRAPH VII.11

Graph showing relationships between Population, Total Municipal Expenditures, and number of persons older than 65 measured as a percentage of total population for Prairie Centres: 1966.



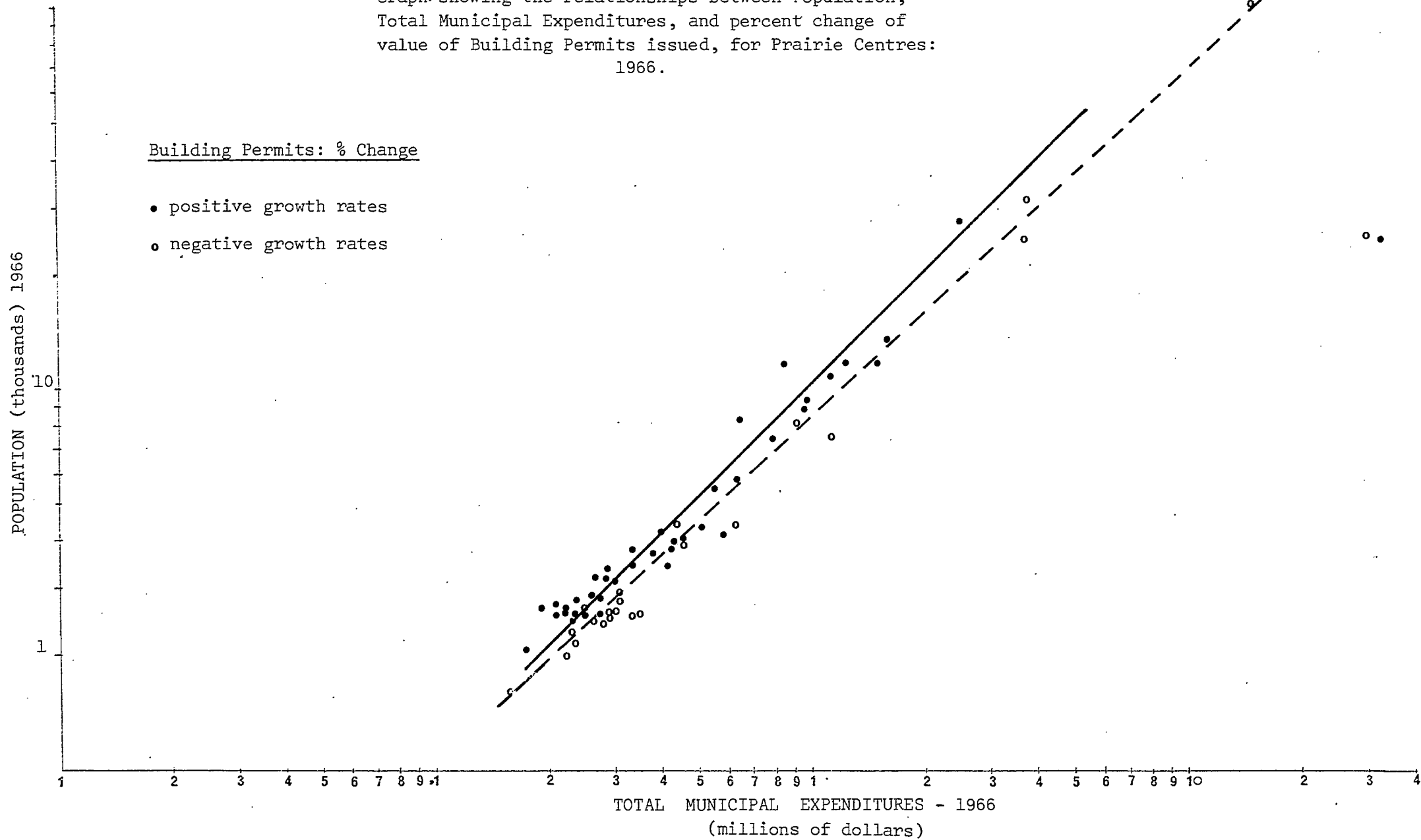
GRAPH VII.12

Graph showing the relationships between Population, Total Municipal Expenditures, and Migration values measured in terms of net migration ÷ 1961 population, for Prairie Centres: 1966



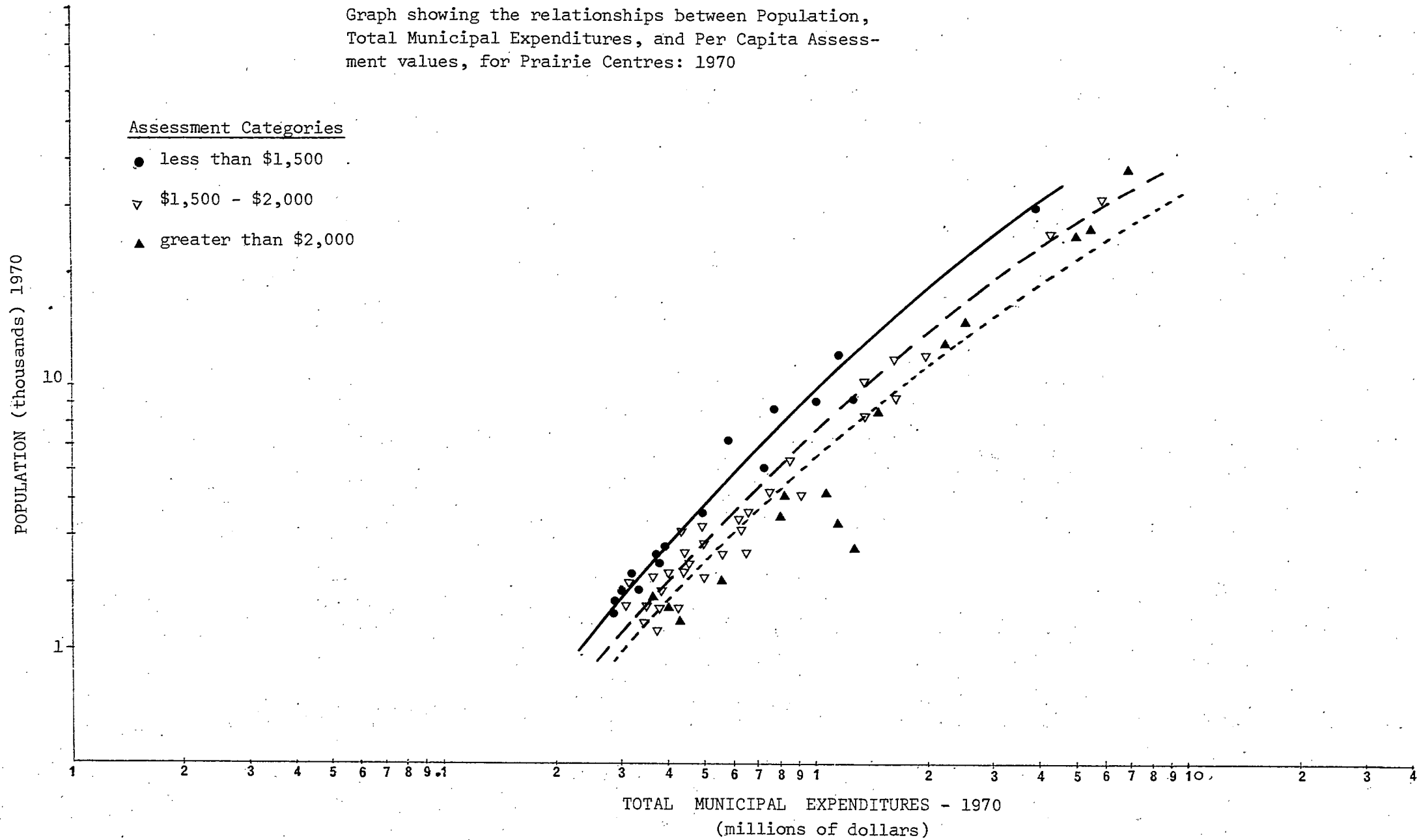
GRAPH VII.13

Graph showing the relationships between Population, Total Municipal Expenditures, and percent change of value of Building Permits issued, for Prairie Centres: 1966.



GRAPH VII.14

Graph showing the relationships between Population, Total Municipal Expenditures, and Per Capita Assessment values, for Prairie Centres: 1970



in which this potential was alone. It was further postulated that a predominantly "older" community would require different municipal services than one in which there was a large number of young people. The erratic distribution of points contained in Graphs VII.10 and VII.11 indicate that age characteristics had no bearing upon expenditures. Third, migration had little bearing on expenditures. Graph VII.12 shows that for a given size community those experiencing extremely high positive migration values, (greater than 10%), did not receive greater municipal expenditures than centres having negative migration rates. Fourth, a strong trend arises when building permits are included as an independent variable. Graph VII.13 shows that centres in which the issuance of building permits greatly increased between 1966 and 1970, expended lower amounts of funds on municipal services than centres having negative rates of change. Such a trend is contrary to what one would have expected since one normally associates high levels of services and utilities with centres experiencing rapid growth in the building industry. The distribution of points shown in Graph 13 might appear on first examination coincidental. However, even when the variable growth of building permits is broken down into more than two categories, a more pronounced trend arises. Obviously, therefore, more research is needed in this area. Fifth, when assessments are included as an independent variable, positive trends arise. Graph VII.14 confirms that per capita assessments are directly related to municipal expenditures. Of two similar size centres, the one having high per capita assessments also expends greater amounts of funds for municipal services. Such an observation warrants little comment, for centres possessing great amounts of investment capital, whether in building or plans, will automatically require a higher level of municipal service, especially in public works and protection than a centre having a lower level of assessments.

The last six graphs represent a mere fraction of the total number that can be constructed when analysing municipal expenditures. Each dependent variable can be further broken down and their components analyzed separately. Combinations of these components would be almost infinite and therefore

priorities have to be selected. Once selected, it would then be possible to identify and subsequently comment upon those "atypical" centres which fell outside the general trend. Further analyses on municipal expenditures and assessments could follow these lines.

QUEBEC

1. Municipal Expendituresa. Absolute and Relative Expenditures

Tables VII.22 to VII.25 inclusive, appended at the end of this section, outline absolute and relative values for the years 1966 and 1969. Absolute values refer to total dollar value of expenditures for each major category while relative value is comprised of the percent distribution according to the individual category. Because of the large amount of information contained in these tables, it would be virtually impossible to comment on each item covered. Therefore, to avoid a lengthy discussion, only the extremes for each sector will be highlighted.

In order of priority, the public works sector displays, for the most part, the highest values for both years although the 1969 percentages tend to be lower. (See Tables VII.23 and VII.24) Only five centres directed more than 50% of total municipal expenditures in public works during 1966 and 1969. These were Bécancour, Hauterive, St-Georges, and Valleyfield (in 1966) and Maniwaki, (1969). At the opposite extreme, only three centres had values less than 10%. These were Mont-Joli and Hull (1966) and Magog (1969). Apart from these extremes, the majority of centres, (60 out of 72), had percentages which ranged between 20 and 45 - a factor of approximately 1:2. Protection services represented the second most important category in terms of total municipal expenditures. With the exceptions of Bécancour (1970) and Terrebonne (1966), the percentages for protection services for all remaining centres exceeded 15% of total municipal expenditures. Only one centre expended more than 50% of its total budget on protection services and this was Farnham, (57.60% in 1969). Next to administration, protection services represent a fairly ubiquitous service in that all communities expend approximately one-quarter to one-third of their budget on this service. The notion that large metropolitan areas need a higher level of protection due to allegedly higher incidence of crime

and underworld warfare, holds little merit when one examines Tables VII.23 and VII.24. Both Québec and Montréal, (the latter sometimes being referred to as the Chicago of Canada!), expend average amounts of funds on protection services. It is the small size centre which is directing proportionately greater amounts of funds towards this sector.

When considering administration services, only one centre stands out. This is Hull and as seen from Table VII.25 nearly three quarters of its total budget (74.4%) is spent on government and administration services. Such an abnormally high value is of course attributed to the setting up in the recent years, of federal government departments in this city. Maintenance and support staff are required to operate these departments and it is these activities which require large amounts of funds. In general, most centres in Québec expend between 20 and 35% of their total budget on administration services.

Public health and welfare contributions represent the least important service from the point of view of funds allocated. Of the five major categories examined, health and welfare expenditures were the lowest for all 72 centres. In general, most centres direct between one and five percent of their total budget towards this field. In 1966, the percentages tend to be higher than in 1969. Only two centres expend more than 10% of total funds in any sector: Cap-de-la-Madeleine and Val-d'Or, (both in 1966).

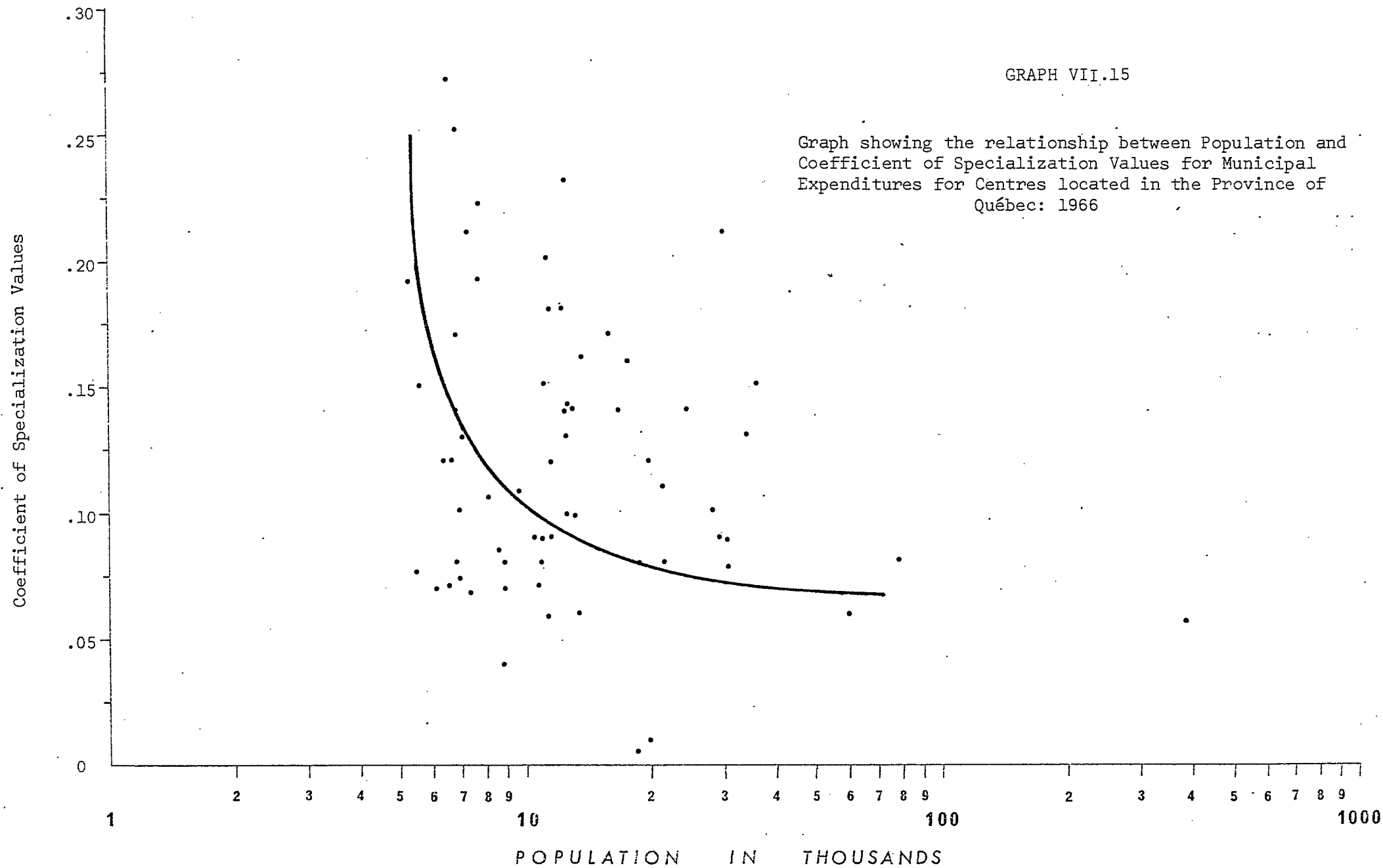
Recreation represents the most inconsistent service examined. The extremes also exhibit the widest range, from 0% to over 20%. In general, 1969 percentages tend to be higher than the 1966 values thus reflecting the gaining importance that municipalities are placing upon leisure and recreation. Ten centres, (three in 1966 and seven in 1969), expended over 20% of their total budget in this service, the highest being Malartic in which the percentage was 27.54. It is interesting to note that municipal authorities in Malartic placed a greater priority on recreation than on administration, protection, and health and welfare services. Even expenditures in public works activities only exceeded recreation expenditures by a very small margin.

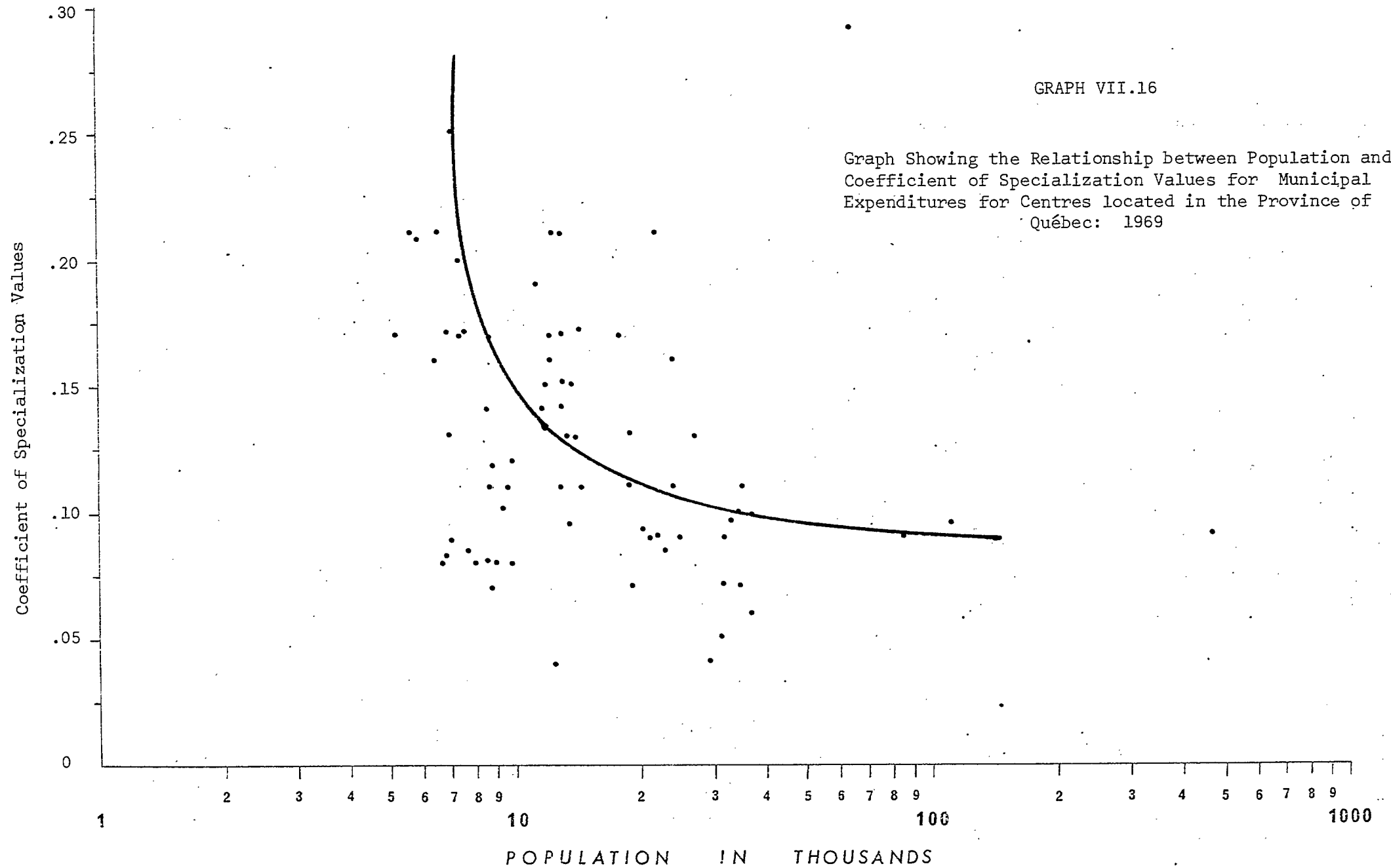
In order to succinctly express the values contained in Tables VII.23 and VII.25, coefficients of specialization values have been computed. Reemphasising

this technique, one may recall that a large value indicates a high level of specialization in one of the five categories, while values approaching zero denote diversification. A centre therefore having a coefficient value of .02 would suggest that its distribution of municipal expenditures approximates that of the province. Table VII.26 outlines coefficient values for 1966 and 1969 as well as the absolute change between these two coefficients.

Several comments can be made from Table VII.26. First, the tendency is for more communities to become more specialized in the allocation of funds for municipal services. This is seen from the fact that 29 centres became more diversified while the remaining ones became more specialized. (The second last column in the above table shows the absolute difference between the two years. A positive sign signifies an increment in specialization while a negative sign indicates a trend towards diversification.) Second, larger cities are seen to diversify their municipal expenditures while small centres tend to specialize their functions. Graphs VII.15 and VII.16 illustrate that a fairly significant relationship arises between size and coefficient values. In 1966, the trend is more apparent. Montréal, Québec, Sherbrooke, and Trois-Rivières, the four largest centres in the province of Québec, are seen to have the lowest coefficient values. This implies that these cities do not place any municipal service as a top priority - each is considered as an essential function. Small communities on the other hand, such as Bagotville, Mont-Joli and Plessisville, are amongst the top five centres having the highest degree of specialization.

A final observation that can be seen from Table VII.26 relates to the last column of figures. This column shows the composite percentage change of the two years. To calculate this value, the absolute change was divided by the sum of the quotient values for the two years. The reason for including the values for both years in the denominator was to include the relative component of both negative and positive values. For example, the percentage change from a value of .0 to .20 would be 100%. (This would represent a case in which a centre is becoming more specialized.) But a percentage change from





.20 to .10 would be -50%. (This would represent a centre that is becoming more diversified.) Yet, in both cases, each centre had similar absolute differences, (Plus .10 in the former and negative .10 in the later). That is to say, one became "more specialized" by the same degree as the other became "more diversified". By including those annual values in calculating the relative change, each centre would obtain the same numerical value, their difference lying in the sign. Returning then to the final column in Table VII.26, the following list was constructed which outlines the five highest centres which have changed most markedly.

<u>Centres becoming more Specialized</u>		<u>Centres becoming more Diversified</u>	
<u>Centre</u>	<u>% Change</u>	<u>Centre</u>	<u>% Change</u>
Sorel	80.0	Valleyfield	50.0
Shawinigan	63.6	Bagotville	48.4
Farnham	44.8	Buckingham	40.7
Drummondville	36.0	Dolbeau	36.0
Thetford Mines	35.5	Mont-Joli	35.0

The above list shows for example that of all centres located in Québec, the one that became most specialized in terms of allocating funds towards municipal services was Sorel. At the other extreme, Valleyfield is seen to be the centre which became most diversified between 1966 and 1969.

The inclusion of specialization values is intended to provide an easy identification of changing trends with respect to the allocation of municipal funds. One knows that no two municipalities allocated exactly the same proportion of funds for municipal expenditures. One further is aware that changes in municipal funds can vary markedly between centres over a relatively short period. What therefore would be most useful to persons involved in municipal accounting would be to develop a yardstick for inter-municipal comparisons. Composite percent changes of coefficient values represent such a yardstick.

b. Per Capita Values

Table VII.27 presents per capita values for total municipal expenditures for 1966 and 1969. The figures contained in this table have been used to construct Map VII.4 and Graph VII.17. Before commenting upon the diagrams, the table will be discussed first. Concerning the range of per capita values for 1966, Hull is seen to have the lowest value, (\$1.28), while Trois-Rivières has the highest, (\$258.90). The average for Québec in 1966 was \$56.04, and, with the exception of the above two and possibly Beauharnois, the range for the remaining centres represented a ratio of less than 3:1. In 1961, the extremes were less pronounced and ranged between \$143, (Québec), and a low \$29, (Roberval). For the province as a whole, the per capita value increased by nearly \$20 over the four-year period.

The values contained in Table VII.27 can also be used to construct a hierarchy or ranking of centres having similar populations. When drawing up a budget policy, it would be expedient to know which centres of similar size have either high or low per capita values. To determine, (therefore, which centres are "under-resourced" or "over-supplied" in terms of total municipal expenditures, one first has to rank centres with the same common denominator or population size. The remaining centres represented a ratio of less than 3:1.

Table VII.28 outlines the per capita values for the most recent year according to five population categories. It is interesting to note that when ratios are calculated between the highest and lowest per capita values, the smaller classes tend to have the lower ratios. That is to say, the extremes for the smaller centres are less pronounced than for larger cities. The ratio high/low for the former was 1.74, while for small centres and medium size centres, it was 2.04 and 3.04 respectively.

The results of Tables VII.27 and VII.28 would suggest that per capita values tended to be greater for larger centres. When the two variables, size and per capita values for total municipal expenditures are plotted, a fairly general trend does indeed arise. Graph VII.17 shows for the majority of centres that as size increases, per capita expenditures also increase. However, the wide dispersion of points would suggest that other factors, equally as

TABLE VII.28

TABLE OUTLINING PER CAPITA EXPENDITURE VALUES FOR CENTRES
HAVING THE THREE HIGHEST AND THREE LOWEST VALUES
ACCORDING TO POPULATION CATEGORIES: 1969

Smallest Centres (5,000-7,500)

<u>Centres</u>	<u>Per Capita Value -\$</u>
<u>Highest</u>	
1) St-Georges	70.78
2) Windsor	65.78
3) Dolbeau	60.88
<u>Lowest</u>	
1) Mont-Laurier	37.27
2) Bagotville	37.41
3) Maniwaki	38.84

Small Centres (7,501-10,000)

<u>Highest</u>	
1) Terrebonne	64.60
2) Port-Alfred	60.08
3) Buckingham	56.42
<u>Lowest</u>	
1) Bécancour	28.49
2) Roberval	29.22
3) Drummondville S.	30.88

Medium Size Centres (10,001-25,000)

<u>Highest</u>	
1) Baie-Comeau	114.13
2) Sept-Isles	90.54
3) St-Hyacinthe	84.48
<u>Lowest</u>	
1) Shawinigan S.	27.05
2) Chicoutimi N.	32.29
3) Pointe-Gatineau	36.42

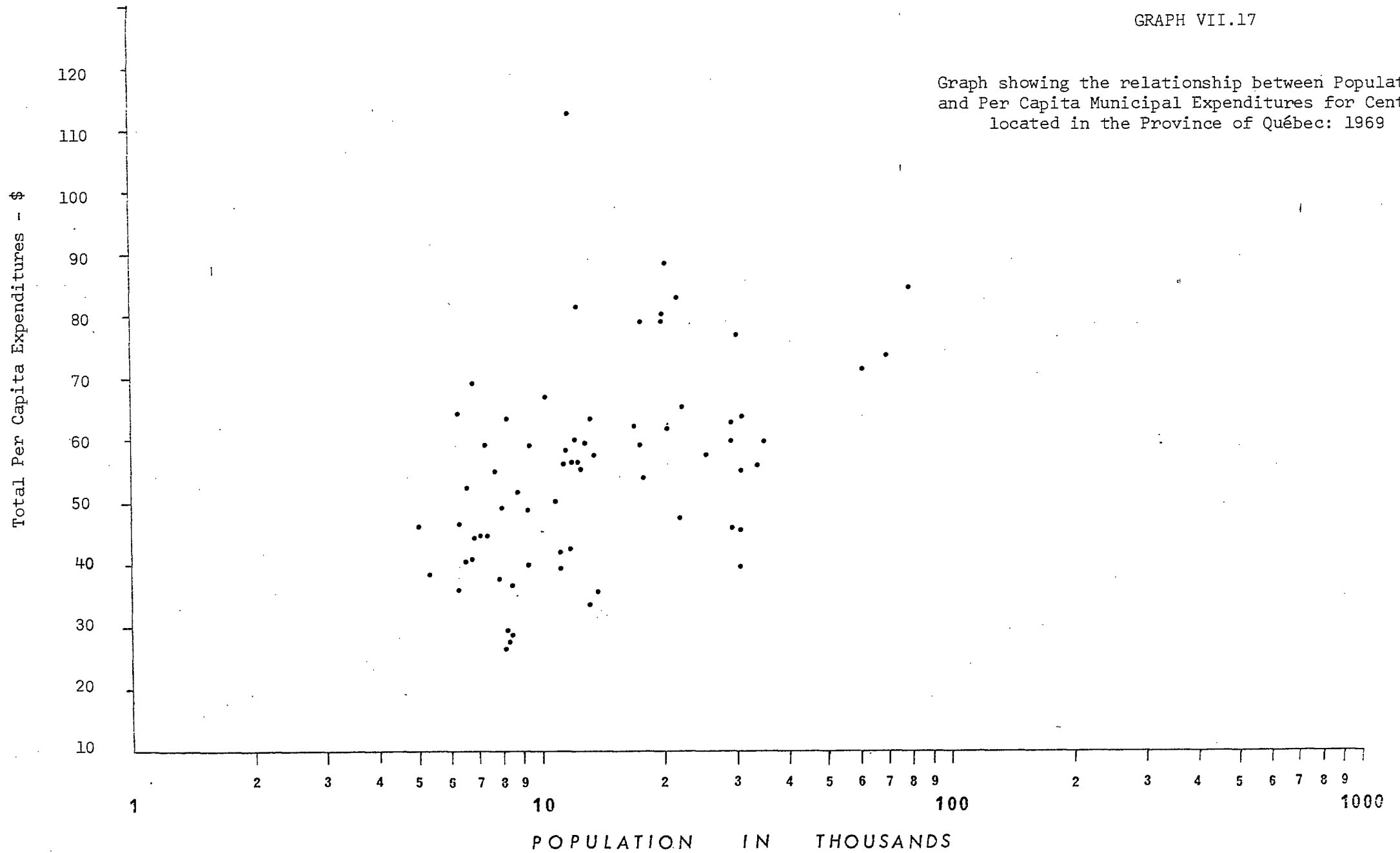
Large Centres (25,001-50,000)

<u>Highest</u>	
1) Granby	64.77
2) Drummondville	64.36
3) St-Jean	61.18
<u>Lowest</u>	
1) Jonquièrre	40.92
2) Cap-de-la-Madeleine	46.52
3) Valleyfield	47.52

Metropolitan Centres

1) Québec	143.48
2) Montréal	136.80
3) Sherbrooke	86.51
4) Trois-Rivières	75.27
5) Hull	73.07

GRAPH VII.17



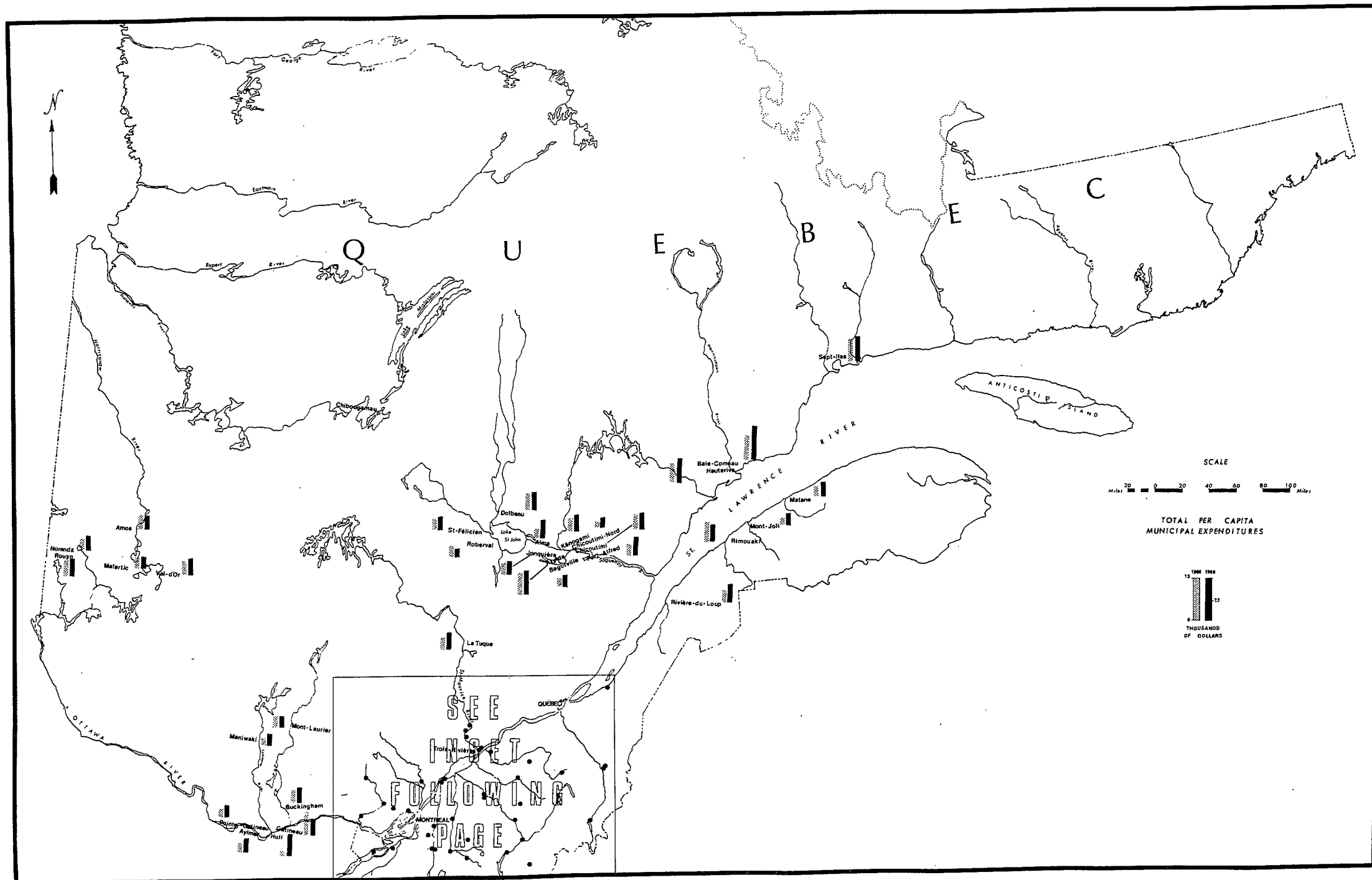
important as size, are also related to the allocation of municipal expenditures. Further research may reveal that rapidly expanding centres necessitate a higher amount of municipal funds than well-established communities. In the former group, it may be further discovered that the public works sector plays a dominant role while recreation facilities may represent the major concern for the latter group of centres. To draw any conclusions therefore, one must not only fully understand the economic and social environment of the centre in question, but also the actual breakdown of municipal expenditures.

The spatial distribution of per capita expenditure values for the two years 1966 and 1969 is shown in Map VII.4. Rather than discuss in depth each centre, only guidelines will be made for the major regions. The regions having below-average per capita values for both years include the Clay Belt area, the western sector of Lac-St-Jean region, southwestern Québec with the exception of Hull and Gatineau, and the southern portion of the St. Lawrence Lowlands. This latter region comprises those centres falling in the Drummondville - Valleyfield - Coaticook triangle. Those areas having above-average values include the Lac-St-Jean region with the exception of the above-mentioned western sector and Chicoutimi North, centres located along the lower reaches of the St. Lawrence River, (Sept-Îles, Baie-Comeau, Hauterive, Matane, Mont-Joli and Rimouski), and the two metropolitan areas Québec and Montréal. It is interesting to note that of all the centres of Québec, two stand out as being highly atypical. These are Beauharnois and Trois-Rivières, both of which are seen to have exceptionally high per capita values in 1966.

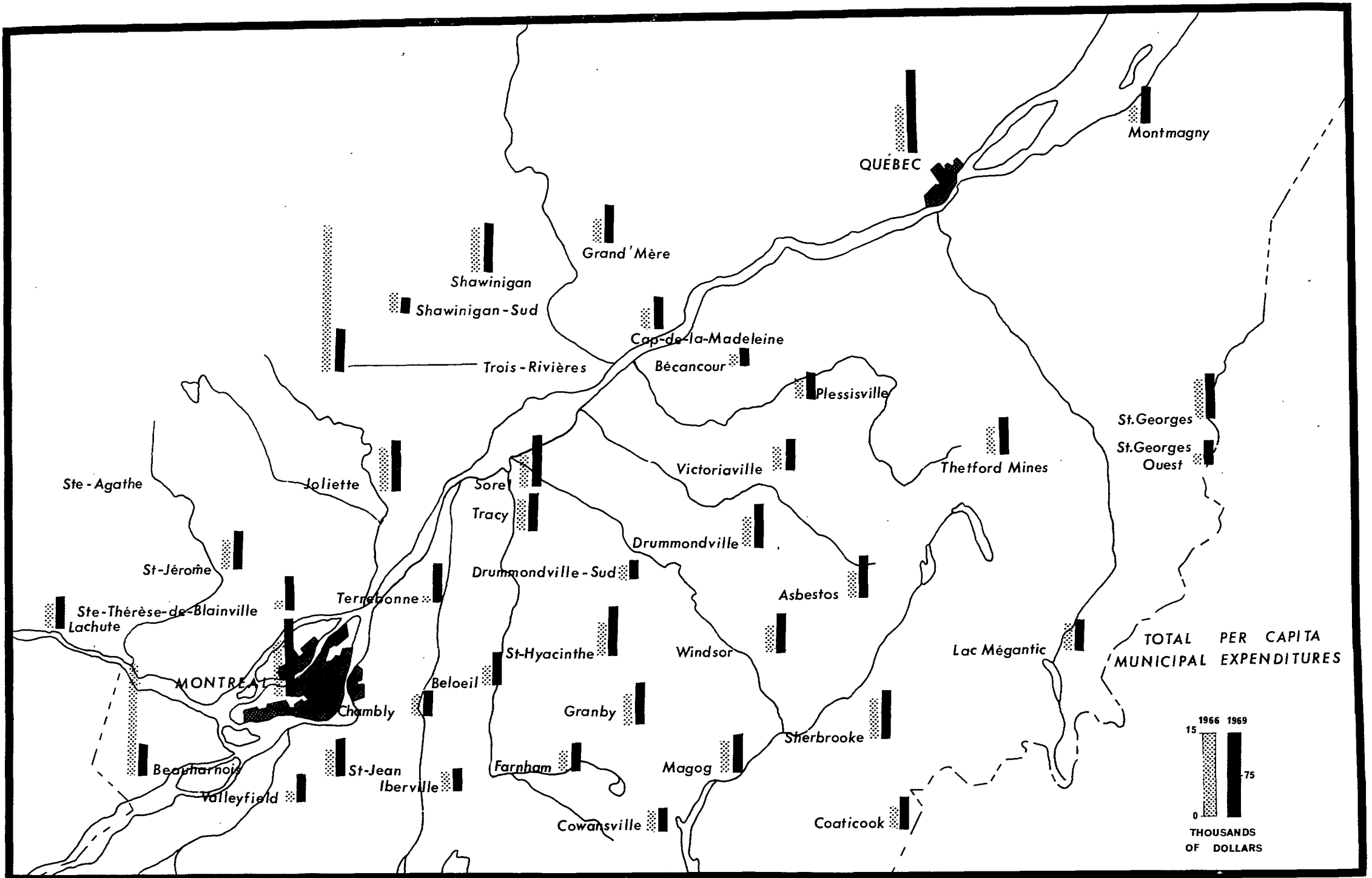
2. Rates of Growth

Two aspects of growth rates have been considered. The first deals with relative changes according to the major municipal activities selected, the results of which are found in Table VII.29. The second examines the rates of change of total expenditures in terms of absolute as well as per capita values. These latter figures are contained in Tables VII.27 and VII.29 (last column). Absolute values will be discussed first.

Table VII.29 emphasizes that municipal growth rates do not follow any



Map VII. 4



Inset Map VII. 4

consistant pattern on an inter-urban basis. Extreme variations characterize municipal sector and general comment can be summarized as follows: First, when examining total expenditures one observes that only six centres actually experienced negative growth rates. In order of magnitude these were Val-d'Or, Beauharnois, Trois-Rivières, Gatineau, Shawinigan South, and Roberval. The extremes ranged between a low of -83.09%, (Val-d'Or), and a high of 13,109.00% (Hull). Second, the public protection sector was the one containing by far the smallest number of centres having negative growth rates. Only four out of seventy-two centres experienced declining expenditure rates in this particular sector. The fact that the majority of centres in Québec contained large positive growth rates in public protection services would suggest that the provision of this service represents one of the most essential basic services. The City of Hull again is seen to have the highest growth rate in this service while Beauharnois scored the lowest. Third, the administrative sector in general reflects a fairly stable service as seen from the fact that only eleven centres contained negative growth rates. Hull, and to lesser extents Val-d'Or and Terrebonne, stand out as having the highest positive values. Of communities having negative values, Beauharnois is placed in a class of its own. Fourth, the public works sector displays the most erratic values. Sixteen out of the total selected centres contained negative values, the highest being Magog with a value of -91.64%. Because of the considerable number of centres having declining rates of change in this sector, plus the fact that many of these rates are markedly high, the overall provincial average growth rate for public works was by far the lowest of all municipal services. Between 1966 and 1969, the average percent increase for this sector was only 2.29%. Fifth, health and welfare expenditures reflected an overall declining situation. 67% of all centres, (48 out of 72), experienced negative growth rates between 1966 and 1969. In spite of this large number, the overall provincial growth rate was nevertheless 10.85%. The reason for this anomaly is due to the fact that the larger centres, (Montréal, Québec and Sherbrooke amongst them), experienced positive growth, and that the absolute volume of expenditures in health and welfare services of these three centres alone, accounted in 1969 for over 88% of the provincial total. Because larger numbers of welfare cases tend

to be concentrated in the bigger cities, one would expect to find proportionately greater amounts of welfare payments being allocated in these centres. Finally, the sixth general observation drawn from Table VII.29 concerns growth rates in the recreation sector. It is interesting to note that the overall provincial rate in this sector was the second highest of all municipal services. This would suggest that the provision of recreation facilities is gaining increasing importance in the majority of Québec centres. In fact, only ten communities experienced declines in this service between 1966 and 1969, whereas over three times this number had growth rates which exceeded 100%. In terms of extreme volumes, Hull again stands out as having the highest and Gatineau the lowest. The exceedingly large value for Hull, (over 26,000%), is of course due to an abnormally low total for 1966 and an average total for 1969.

When discussing the growth for individual municipal services, there is a tendency for one to compare values of one centre with another indiscriminately. Growth rates for the major cities, such as Québec and Montréal, would therefore be ranked against those for Alma and Mont-Joli. Because the latter two are seen to have greater percent changes, one would automatically assume that they are providing a higher level of municipal service than larger cities. However, one must not forget that it is far more difficult for large municipalities to double their expenditures than it is for an extremely small centre. Therefore, to make any valid comparison, one must examine centres having similar populations. Table VII.30 outlines those centres having the three highest and three lowest growth rates for each of the five municipal services according to population class size.

The results of Table VII.30 can be summarized in terms of the frequencies with which the centres were mentioned. For the smallest size category, no centre stands out as continually displaying high positive growth rates. St-Félicien is probably the most outstanding centre in this class since in three out of five services, it is ranked amongst the lowest three centres. When small centres are examined, three communities can be identified as having extreme growth rates. Beauharnois and Roberval invariably scored low

GROWTH RATES FOR MUNICIPAL EXPENDITURE CATEGORIES FOR CENTRES HAVING THE THREE HIGHEST AND LOWEST VALUES, ACCORDING TO POPULATION CATEGORIES, FOR QUEBEC CENTRES: 1969

1. Administration

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) St-Georges O.	179.73
2) Windsor	127.77
3) Mont-Laurier	121.57
<u>Lowest</u>	
1) Amos	-28.95
2) Bagotville	-1.82
3) Dolbeau	2.48

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Terrebonne	633.81
2) Coaticook	129.93
3) Chibougamau	108.74
<u>Lowest</u>	
1) Beauharnois	-74.51
2) Roberval	-24.56
3) Drummondville	-8.70

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Ste-Thérèse	499.02
2) Alma	288.38
3) Noranda	207.24
<u>Lowest</u>	
1) Shawinigan S	-27.81
2) Matane	-18.45
3) Cowansville	-3.45

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Valleyfield	2985.67
2) Jonquière	139.73
3) Cap-de-la-Madeleine	128.99
<u>Lowest</u>	
1) Drummondville	26.12
2) St-Jérôme	26.40
3) Chicoutimi	27.18

Metropolitan Areas

<u>Highest</u>	
1) Hull	4785.00
2) Montréal	92.22
3) Québec	58.35
4) Sherbrooke	57.89
5) Trois-Rivières	-75.07

TABLE VII.30 contd.

2. Protection

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Amos	153.30
2) Aylmer	73.15
3) Plessisville	72.33
<u>Lowest</u>	
1) Malartic	12.03
2) St-Félicien	12.85
3) Dolbeau	20.27

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Terrebonne	4372.99
2) Roberval	1849.21
3) Port-Alfred	51.76
<u>Lowest</u>	
1) Beauharnois	-72.32
2) Coaticook	13.73
3) Chibougamau	40.59

Medium Size Centres(5,001 - 10,000)

<u>Highest</u>	
1) Ste-Thérèse	420.08
2) Val-d'Or	111.35
3) Pointe-Gatineau	69.14
<u>Lowest</u>	
1) Sorel	-87.87
2) Gatineau	-1.24
3) Alma	6.29

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Valleyfield	4910.38
2) St-Jérôme	68.68
3) Cap-de-la-Madeleine	58.54
<u>Lowest</u>	
1) Drummondville	21.75
2) Granby	33.13
3) Jonquière	34.44

Metropolitan Areas

<u>Highest</u>	
1) Hull	11,507.19
2) Québec	35.49
3) Sherbrooke	27.64
4) Montréal	19.92
5) Trois-Rivières	-52.47

TABLE VII.30 contd.

3. Public Works

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Mont-Joli	1087.64
2) Maniwaki	148.48
3) Aylmer	62.54
<u>Lowest</u>	
1) St-Georges	-45.00
2) Lac-Mégantic	-28.17
3) Windsor	-19.49

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Terrebonne	457.50
2) Chibougamau	31.71
3) Port-Alfred	25.30
<u>Lowest</u>	
1) Beauharnois	-76.69
2) Roberval	-15.48
3) Coaticook	12.97

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Ste-Thérèse	1295.57
2) Matane	110.96
3) Thetford Mines	62.24
<u>Lowest</u>	
1) Magog	-91.64
2) Shawinigan S	-49.81
3) Gatineau	-47.09

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Valleyfield	1267.42
2) Chicoutimi N	70.04
3) Drummondville	60.20
<u>Lowest</u>	
1) Jonquièrre	-25.91
2) Granby	-22.88
3) St-Jean	11.92

Metropolitan Areas

<u>Highest</u>	
1) Hull	2066.32
2) Québec	26.41
3) Montréal	4.87
4) Sherbrooke	.87
5) Trois-Rivières	-75.31

TABLE VII.30 contd.

4. Health and Welfare

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Mont-Laurier	208.14
2) Malartic	12.62
3) St-Georges O	-6.30
<u>Lowest</u>	
1) Amos	-100.00
2) St-Félicien	-100.00
3) Plessisville	-100.00
4) Maniwaki	-100.00

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Bécancour	1137.50
2) Coaticook	215.34
3) Port-Alfred	65.59
<u>Lowest</u>	
1) Roberval	-100.00
2) Beauharnois	-98.26
3) Drummondville S	-59.90

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Ste-Thérèse	270.26
2) Matane	175.15
3) Arvida	153.55
<u>Lowest</u>	
1) Beloeil	-100.00
2) Rimouski	-97.80
3) Tracy	-93.61

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Valleyfield	1465.82
2) St-Jean	-1.32
3) Granby	-7.64
<u>Lowest</u>	
1) Chicoutimi	-70.52
2) Drummondville	-59.39
3) Cap-de-la-Madeleine	-50.33

Metropolitan Areas

<u>Highest</u>	
1) Hull	8236.58
2) Montréal	21.49
3) Sherbrooke	11.25
4) Québec	7.51
5) Trois-Rivières	-92.17

TABLE VII.30 contd.

5. Recreation

Smallest Centres (less than 3,500)

<u>Centres</u>	<u>Growth Rate</u>
<u>Highest</u>	
1) Bagotville	2051.28
2) Plessisville	574.25
3) Amos	403.01
<u>Lowest</u>	
1) Maniwaki	-100.00
2) St-Félicien	-100.00
3) St-Georges	-60.33

Small Centres (3,500 - 5,000)

<u>Highest</u>	
1) Terrebonne	5650.00
2) Iberville	417.78
3) Buckingham	259.00
<u>Lowest</u>	
1) Beauharnois	-68.69
2) Roberval	-10.99
3) Drummondville S	17.92

Medium Size Centres (5,001 - 10,000)

<u>Highest</u>	
1) Ste-Thérèse	3207.33
2) Hauterive	2362.65
3) Cowansville	1109.35
<u>Lowest</u>	
1) Alma	-86.47
2) Asbestos	-40.30
3) Rivière-du-Loup	2.43

Large Centres (10,001 - 30,000)

<u>Highest</u>	
1) Granby	112.91
2) Valleyfield	100.00
3) Chicoutimi	96.05
<u>Lowest</u>	
1) St-Jérôme	4.41
2) Jonquière	9.52
3) Drummondville	19.29

Metropolitan Areas

<u>Highest</u>	
1) Hull	26,037.27
2) Québec	473.15
3) Montréal	47.34
4) Sherbrooke	34.19
5) Trois-Rivières	-56.19

growth rates - the former being placed amongst the lowest three for all five municipal services, and the latter being placed in four of these services. Terrebonne is characterized by abnormally high growth rates as seen from the fact that it had the highest percent changes in its population class for four out of five services. Only one centre stands out in the medium size category and this is Ste-Thérèse. Next to Hull, this centre is the most unique of the entire province in terms of municipal expenditures. Of the five services, Ste-Thérèse ranked first by a large margin. For centres classed as "large", Valleyfield and Drummondville are the two outstanding cities. The former ranked first in four services and was placed highest in the remaining one, while the latter was ranked in the lowest three of four services. When the last population sized category was considered, Hull was assumed to stand in a class of its own. Apart from scoring the highest rate of growth for all municipal services, the lead it had over its closest rival made the growth rates of the remaining centres seem trivial.

Table VII.30 provides quick identification of centres having either abnormally high or low municipal expenditure growth rates according to individual sectors. Rates of change for per capita municipal expenditures, (as opposed to absolute values), are outlined in Table VII.27. The last two columns of this table show the percent change values from 1966-1969 and quotient values. Referring to statements made previously while discussing quotient values, these figures compare the city's growth with that of the province. The exceeding high value of Hull, for example, (166.00), means that the growth rate of this city was 166 times that for the province of Québec

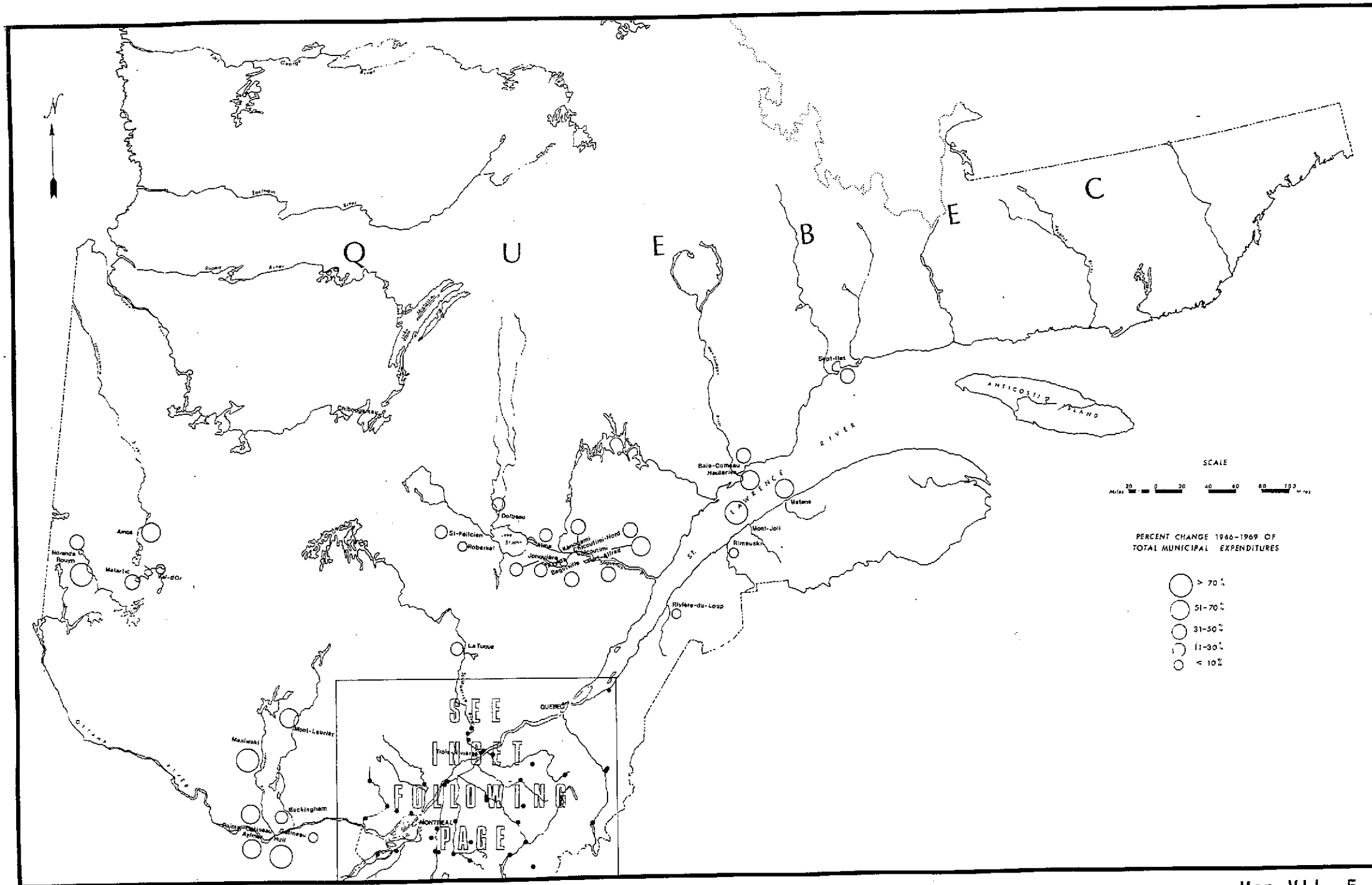
Rather than discuss separately the values contained in Table VII.27, a more useful contribution of this table lies in comparing it with absolute rates shown in Table VII.29. The results from the former table shows six centres experienced negative growth rates for per capita values while the latter table confirms that there were only five having negative rates of total expenditures. The only centre having different signs for per capita and absolute values was Rimouski. Table VII.29 shows that for absolute expenditures this centre had a positive growth rate even though it was only one-

eighth the provincial average. In terms of per capita values on the other hand it experienced a marked decline (-16.59%), as seen in the second last column of Table VII.27. These two opposing growth rates would suggest that the population growth rate of Rimouski actually increased during the 1966-1970 period. Such a trend is indeed confirmed from Table II.33, contained in Chapter 2 which shows that population change for this centre was 28.2% or over double the provincial average.

Another centre displaying marked differences between per capita values and absolute growth rates is Val-d'Or. This centre is seen to have a relatively low per capita value, (approximately one-third that of the province) and a significantly absolute growth rate, (over three times the provincial rate). Such a situation would strongly suggest that the population of Val-d'Or was rapidly increasing. Table II.33 again illustrates that the population growth of Val-d'Or was exceptionally high. In fact, it may be noted that this rate was the highest for the entire province of Québec.

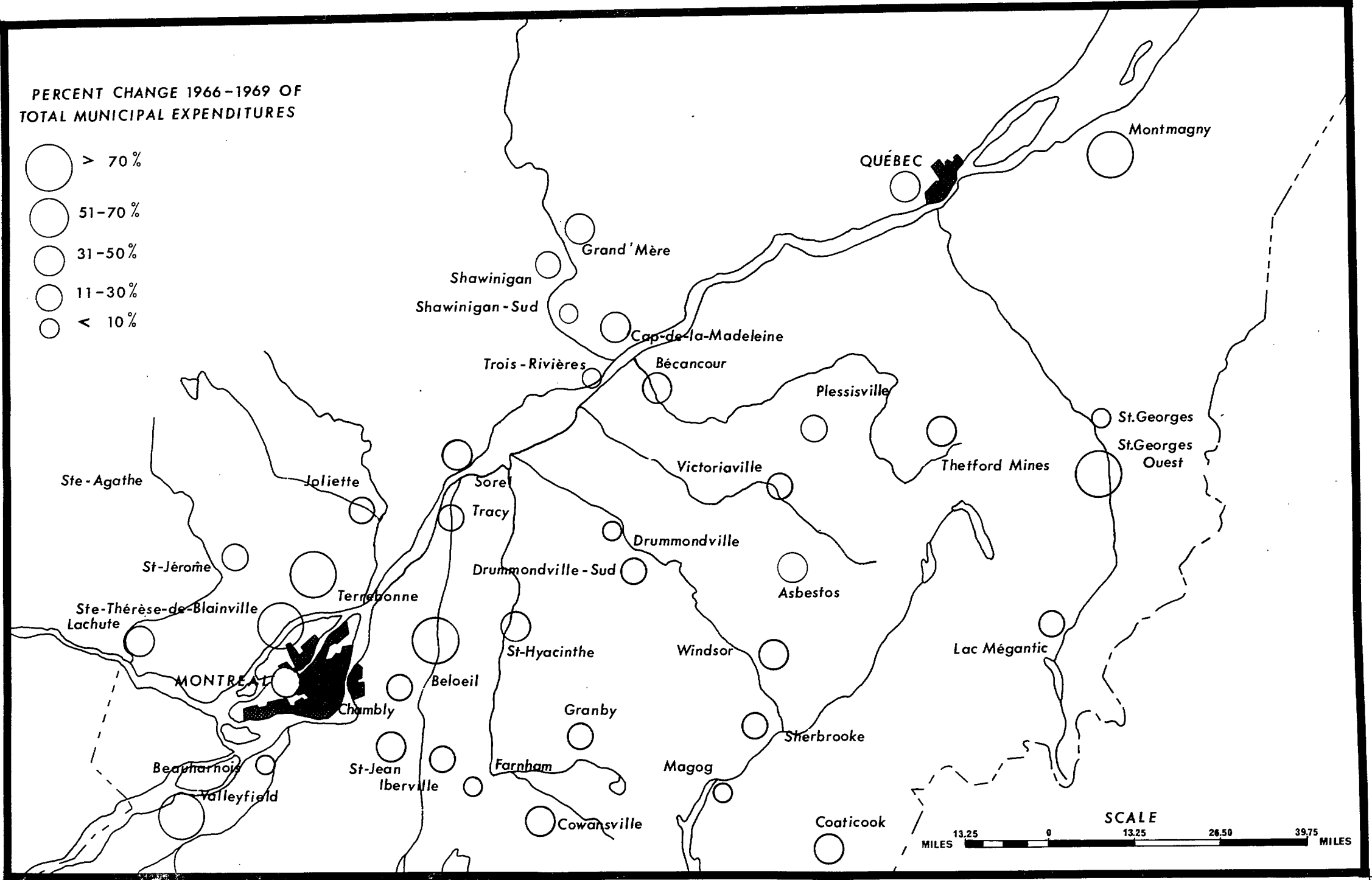
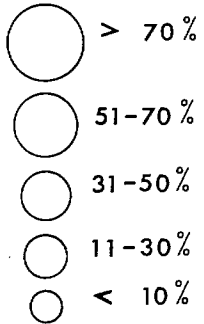
Montréal (along with Drummondville South) represents two centres having a reverse trend to that of Val-d'Or. Results of Tables VII.27 and VII.29 show that for both these centres, the per capita growth rates were higher than absolute rates thus indicating that the populations have declined over the 1966-1969 period. Table II.33 further substantiates this assumption in that it shows both these centres to have negative population growth values (-2.6% for Drummondville South and -3.1% for Noranda). Shawinigan South is yet another centre which reflects a similar trend to that of Val-d'Or. Its large negative per capita rate and its small negative absolute rate would infer that its population grew fairly substantially during the 1966-1969 period. A large population growth rate of 30.6%, (incidentally, the second largest in the province) for Shawinigan South indeed reconfirms such an inference.

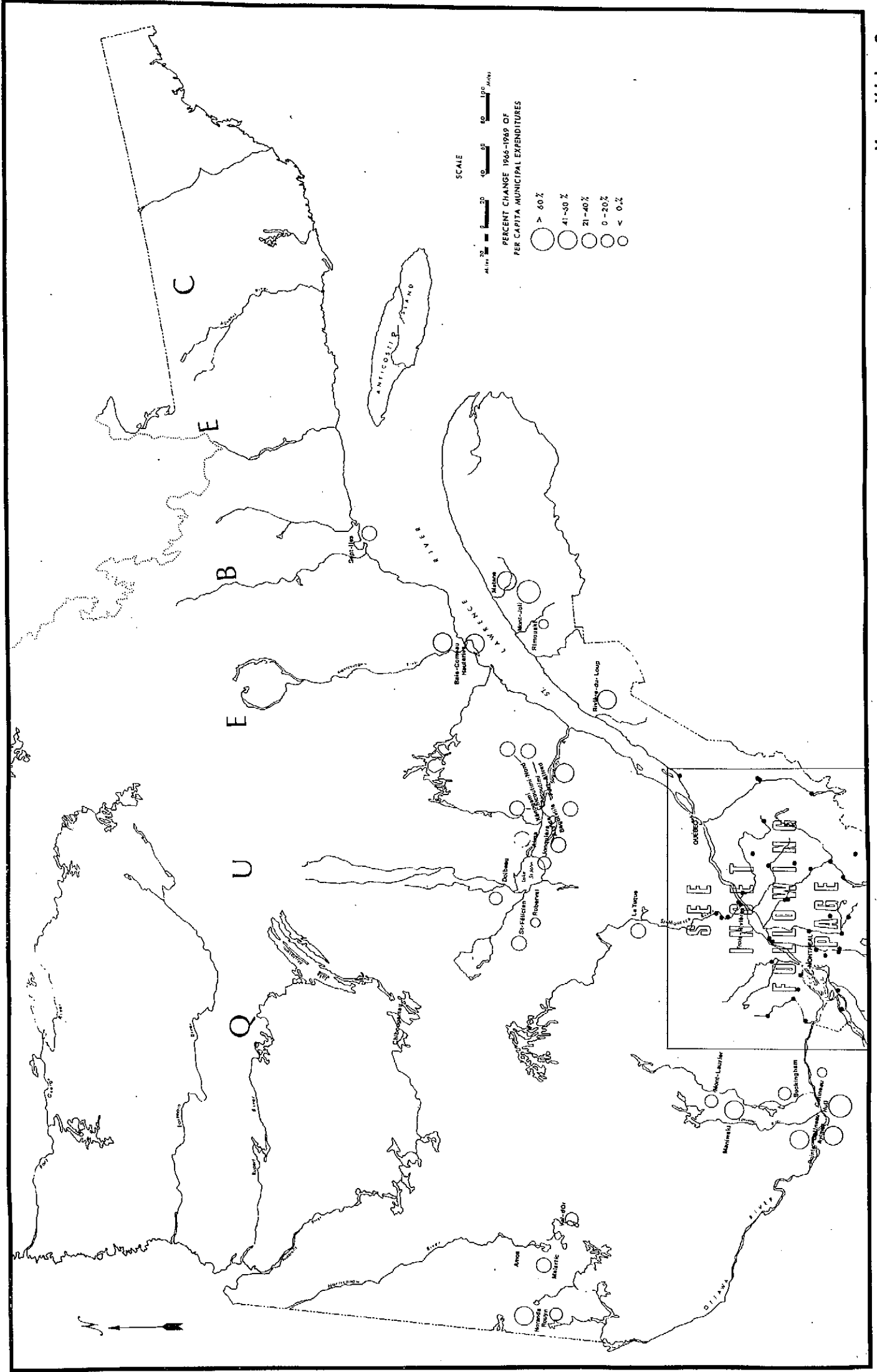
To avoid a lengthy discussion involving comparisons between absolute and per capita values of municipal expenditures for each centre in Québec, Maps VII.5 and VII.6 have been included to show the spatial distribution of growth rate values. The first of these maps show absolute growth rates while the second outlines per capita changes. In terms of absolute growth rates, several trends arise, first with the exception of Port-Alfred, the Lac-St-Jean



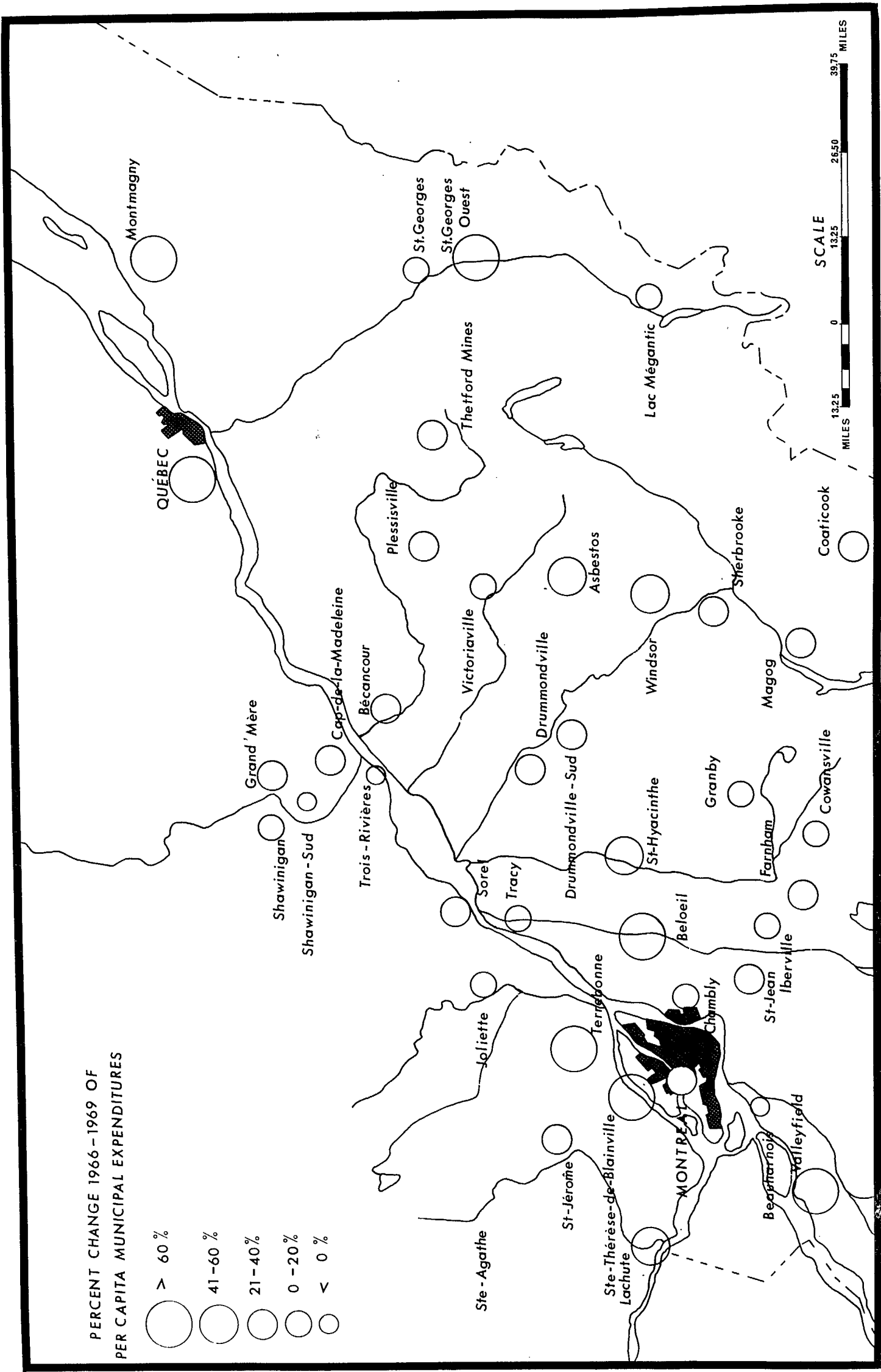
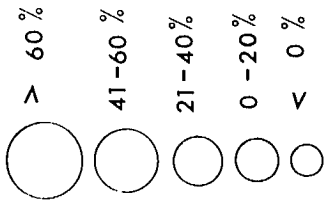
Map VII. 5

PERCENT CHANGE 1966-1969 OF
TOTAL MUNICIPAL EXPENDITURES





PERCENT CHANGE 1966 - 1969 OF
PER CAPITA MUNICIPAL EXPENDITURES



region is characterized by relatively low growth rates. The centres in this area are seen to fall within the two low growth rate categories. Second, the far western portion of the province in general has high growth rates, the exceptions being Buckingham and Gatineau. Third, the Clay Belt region contains two centres with about average percentages and three that are below average. Fourth, the two most eastern centres located in the Gaspé Bay region, (Mont-Joli and Matane), and their neighbours across the St. Lawrence, (Baie-Comeau and Hauterive), experienced fairly large growth rates. Fifth, when the inset map is examined the majority of centres, (33 out of 39), fell within the three lowest growth rate categories. The six centres which are not included, and which incidently are ranked in the high category, are Valleyfield, Ste-Thérèse, Beloeil, Terrebonne, Montmagny and St-Georges Ouest. Because of the predominance of centres having a low average growth rate, one could conclude that no discernable trend arises.

Per capita growth rates follow a similar pattern to absolute values. Map VII.6 again shows that the Lac-St-Jean region reflects the low average values while the southwestern portion of the province and eastern sections of the Gaspé and neighbouring environs are seen still to retain high per capita growth rates. The major differences that arise between Maps VII.5 and VII.6 relate to the inset diagrams, and more specially, to the central areas of these insets. Of the six centres having high absolute rates, five are again seen to have large per capita values. The centre which does not follow this trend is Québec. However, cities situated along the St. Maurice River, (Trois-Rivières, Cap-de-la-Madeleine, Shawinigan, Shawinigan South and Grand-Mère) retain identical ranks in both maps. There is also little change between centres located in the immediate vicinity of Montréal. Likewise, the five most eastern centres, (Montmagny, St-Georges, St-Georges Ouest, Thetford Mines and Lac-Mégantic) display, with one exception, identical ranks. (The exception is St-Georges which had a slightly lower per capita rate thereby indicating a population increase for this centre).

Where changes between per capita values and absolute values are manifest involve those centres located in the south-to-centre portion of the St. Lawrence Lowlands. For example, Plessisville, Drummondville, Drummondville

South, Asbestos, Windsor, Sherbrooke, Magog, Cowansville, Farnham, Granby, and St-Hyacinthe, are centres whose ranks in per capita values differed from those involving absolute rates of growth. Unstable migration trends, highlighted in Chapter 2, are reflected in the erratic nature of per capita municipal expenditure values.

2. Municipal Assessments

As was the case with the Prairies, an examination of assessments for Québec centres will be less detailed than the previous discussion on expenditures. Only three aspects of assessments are considered. These are: 1. total assessments, 2. per capita assessments, and 3. growth rates of absolute and per capita assessments. Tables VII.31 and VII.32 appended at the end of this chapter, outline figures for these three aspects. Concerning absolute growth rates, (Table VII.31), the following points can be drawn. First, only two centres actually experienced negative growth rates. These were Trois-Rivières and Magog - the latter barely being identifiable as having a negative percent change. (It may be noted that the rate of growth for Magog was $-.96\%$.) Second, eight centres experienced positive growth rates that exceeded 100% , the highest being Cowansville with a value of 231.30% , while double this number (16) had positive growth rates that were less than 10% . The average for the province of Québec was 21.98% . Third, when regional quotients are examined, Bécancour and Cowansville are the two centres which stand out. Both these communities have quotient values which exceed 10; that is to say, their assessment growth rates were ten times the provincial average.

To make urban comparisons more meaningful and to avoid equating growth rates for metropolitan areas with small towns, the results of Table VII.31 can be used to construct a ranking system using population as a basis. Table VII.33, included in the text, outlines absolute assessment growth rates according to five population categories for centres which exhibit extreme values. Centres which are considered extreme are those which rank either amongst the highest or lowest three within each population category.

The usefulness of Table VII.33 is that it provides an easy and quick identification of extreme values according to a given size population category. For example, for cities classes as "large", Jonquière stands out as having the highest rate while Valleyfield has the lowest. It is interesting to note that on a provincial comparison there were 31 centres which had lower growth rates than Valleyfield, and there was only one centre which had a higher growth rate than Jonquière.

When per capita rates of growth are examined, a totally different picture emerges. Because, as has been pointed out in Chapter II, population trends vary markedly between centres in Québec, one would also expect to find equally erratic per capita values of total municipal assessments. Table VII.32, appended at the end of this section, shows that wide variations arise in per capita values. In 1966, the extremes ranged between a high of \$6,225 -(Alma) and a low of \$1,128 -(Québec). In 1969, Alma still retained the highest value (\$5,975) and Bécancour scored the lowest (\$710). In terms of growth rate, Table VII.32 illustrates that eight centres are seen to have negative growth rates for absolute values (2). Such a contrast would suggest that populations were increasing for those six centres having negative per capita growth rates. The six centres are Bagotville, Buckingham, Maniwaki, Mont-Laurier, Rivière-du-Loup, and Sept-Îles. Tables contained in Chapter II confirm that the populations of these centres increased between 1966 and 1970. In fact, the average population growth rate for the six centres was one and a half times that of the province.

One could apply a similar analysis for assessment as was done for growth rates of municipal expenditures. Variations between per capita and absolute values could be attributed to the wide variations of population trends. However, such an analysis has not been included here since a more effective way to discuss growth rates would be to rank them according to a common base. In maintaining consistency, population categories can be constructed so that growth rates can be examined for centres of equal size. Tables VII.34 and VII.35 rank per capita assessment values for the most recent year (1969), and percent change of per capita assessment values (1966-1969) respectively.

TABLE VII.33

TABLE OUTLINING TOTAL ASSESSMENT GROWTH RATES
FOR CENTRES HAVING THE THREE HIGHEST AND THREE
LOWEST VALUES ACCORDING TO POPULATION CATEGORIES - 1969

Smallest Centres (5,000 - 7,500)

<u>Centre</u>	<u>Growth Rate -%</u>
<u>Highest</u>	
1) Farnham	45.61
2) Aylmer	38.97
3) Plessisville	35.09
<u>Lowest</u>	
1) Windsor	1.27
2) Bagotville	2.65
3) St-Félicien	5.82

Small Centres (7,501 - 10,000)

<u>Highest</u>	
1) Coaticook	99.15
2) Terrebonne	33.51
3) Chibougamau	23.60
<u>Lowest</u>	
1) Bécancour	2.20
2) Port-Alfred	4.67
3) Buckingham	7.12

Medium Size Centres (10,001-25,000)

<u>Highest</u>	
1) Cowansville	231.30
2) Baie-Comeau	180.70
3) Kénogami	173.09
<u>Lowest</u>	
1) Magog	-.96
2) Noranda	3.18
3) Shawinigan	4.17

Large Centres (25,001-50,000)

<u>Highest</u>	
1) Jonquièrre	183.41
2) St-Jean	
3) Granby	46.00
<u>Lowest</u>	
1) Valleyfield	16.55
2) Chicoutimi	25.31
3) St-Jérôme	25.42

Metropolitan Centres

1) Québec	30.09
2) Montréal	21.22
3) Sherbrooke	17.48
4) Trois-Rivières	-5.54

TABLE VII.34

TABLE OUTLINING PER CAPITA ASSESSMENTS FOR CENTRES
HAVING THE THREE HIGHEST AND THREE LOWEST VALUES ACCORDING
TO POPULATION VALUES - 1969

Centre Per Capita Value-\$

Smallest Centres (5,000 - 7,500)

Highest

1) Plessisville	3293
2) Windsor	3117
3) Dolbeau	3090

Lowest

1) Maniwaki	1337
2) Bagotville	1637
3) Malartic	1881

Small Centres (7,501 - 10,000)

Highest

1) Port-Alfred	3497
2) Buckingham	3228
3) Terrebonne	2821

Lowest

1) Drummondville S.	1609
2) Beauharnois	1788
3) Coaticook	1883

Medium Size Centres (10,001-25,000)

Highest

1) Baie-Comeau	8382
2) Alma	6225
3) Shawinigan	5785

Lowest

1) Grand'Mère	1533
2) Rivière-du-Loup	1538
3) Rouyn	1661

Large Centres (25,001-50,000)

Highest

1) Chicoutimi	3364
2) St-Jean	2778
3) Drummondville	2651

Lowest

1) Valleyfield	1595
2) Jonquièrre	1990
2) St-Jérôme	2350

Metropolitan Centres

1) Trois-Rivières	2601
2) Sherbrooke	2141
3) Montréal	2125
4) Québec	1128

TABLE OUTLINING GROWTH RATES OF PER CAPITA ASSESSMENTS FOR CENTRES HAVING THE THREE HIGHEST AND THREE LOWEST VALUES ACCORDING TO POPULATION CLASSES: 1966-1969

<u>Centre</u>	<u>% Change</u>
Smallest Centres (5,000-7,500)	
<u>Highest</u>	
1) Farnham	53.36
2) Aylmer	37.66
3) Plessisville	37.52
<u>Lowest</u>	
1) Mont-Laurier	-12.76
2) Maniwaki	-9.93
3) Bagotville	-5.75
Small Centres (7,501 - 10,000)	
<u>Highest</u>	
1) Bécancour	200.92
2) Coaticook	71.71
3) Terrebonne	22.49
<u>Lowest</u>	
1) Buckingham	-2.00
2) Port-Alfred	5.23
3) Beauharnois	5.48
Medium Size Centres (10,001-25,000)	
<u>Highest</u>	
1) Cowansville	206.42
2) Baie-Comeau	174.68
3) Kénogami	151.99
<u>Lowest</u>	
1) Sept-Îles	-7.22
2) Val-d'Or	-1.04
3) Rivière-du-Loup	-.38
Large Centres (25,001-50,000)	
<u>Highest</u>	
1) Jonquière	154.75
2) St-Jean	57.56
3) Granby	44.52
<u>Lowest</u>	
1) Valleyfield	9.92
2) St-Jérôme	10.83
3) Drummondville	11.93
Metropolitan Areas	
1) Québec	17.72
2) Sherbrooke	8.60
3) Montréal	3.39
4) Trois-Rivière	-23.66

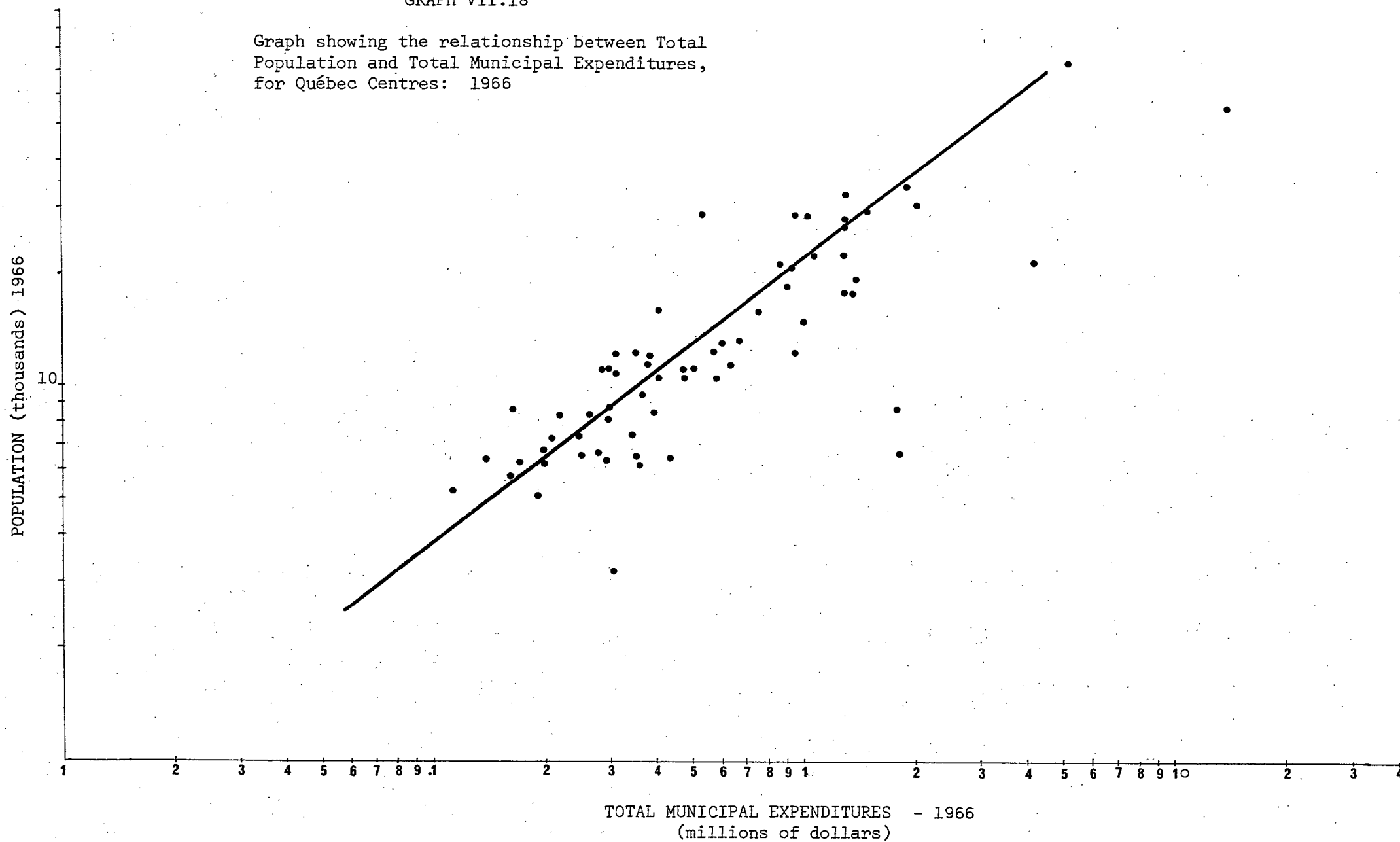
The results of Tables VII.34 and VII.35 would indicate that growth rates of both per capita assessments as well as percent changes of these values are in no way related to size of centre. Tables containing expenditures figures also indicate that size was not a significant factor with respect to the allocation of municipal funds. Obviously, other variables play important roles, and the question that is invariably raised is "what factors are related to the municipal infrastructure?" The final part of this section will attempt to determine what variables condition expenditure and assessment values. It should be reemphasized that the following comments are not intended to be all-encompassing. Rather, they have been included purely as an exercise that should be further developed when assessing the municipal infrastructure. The procedure adopted therefore involves examining three variables simultaneously. The two dependent variables are size and total expenditures while the independent variables includes assessment values, changes in the building industry, and demographic characteristics. The basic graph constructed plots size against expenditures (see Graph VII.18) and into this structure the independent variables are inserted.

With the exception of five centres, Graph VII.18 shows that municipal expenditures are directly related to population. That is, larger centres tend to expend greater amounts of funds on the maintenance and support of municipal services than smaller ones. The exceptions to this rule are Amos, Beauharnois, Lachute, Rimouski, and Trois-Rivières. Each of these five centres are seen to receive proportionately greater amounts of expenditures than other Québec centres of similar size. The reasons for these abnormally high values could be attributed to many factors. The identification of which lies outside the scope of this study. However, in passing, it is interesting to note that the five centres directed by far the greatest proportion of their municipal expenditures towards the public works sector.

When other variables are examined in the relationship: - size and expenditures, distinct trends arise in some sectors while no relationships can be identified in others. Demographic characteristics in terms of age compositions, and migration movements are seen to have very little effect upon expenditure values. Graphs VII.19 to VII.21 confirm that those levels of

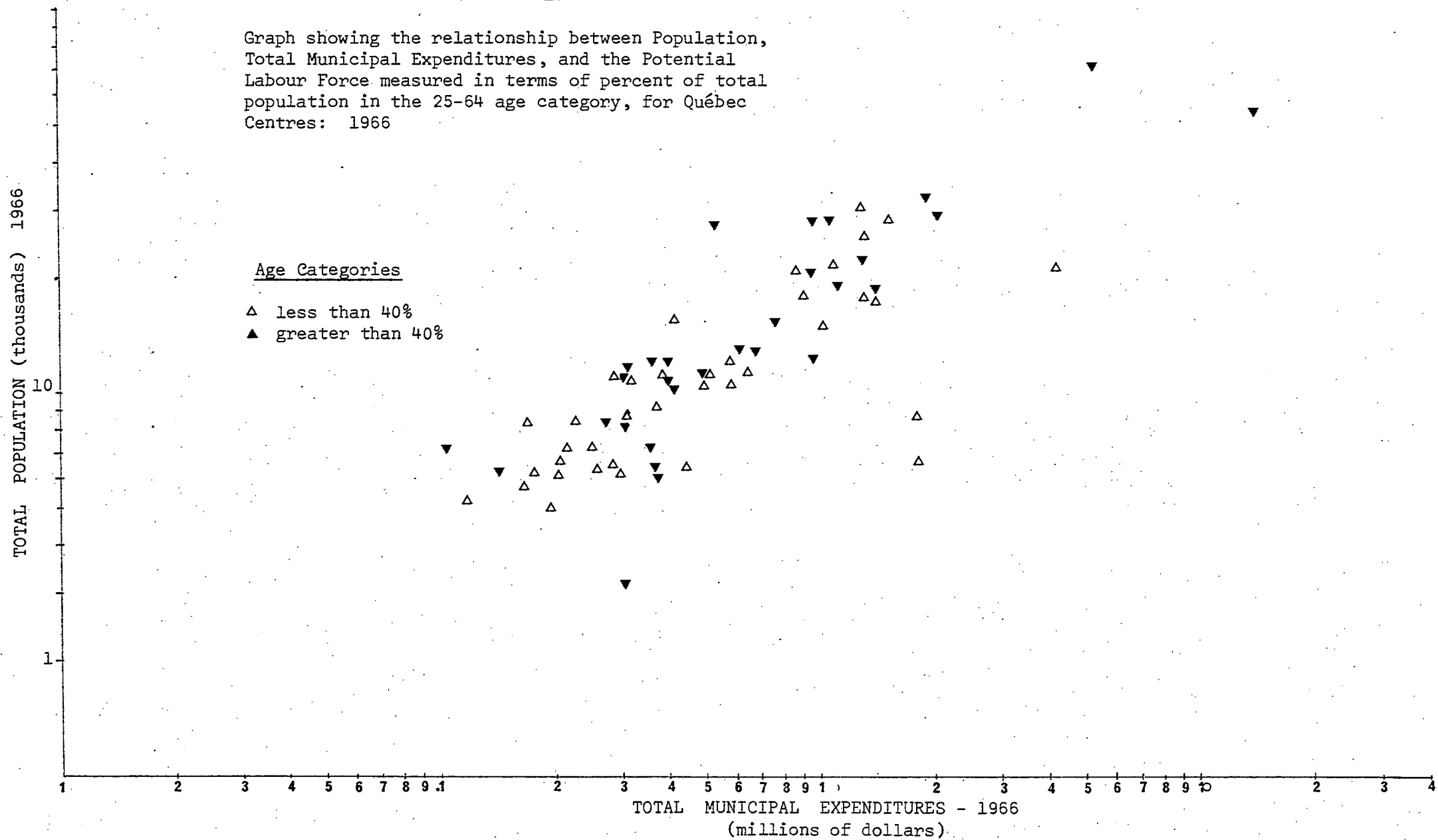
GRAPH VII.18

Graph showing the relationship between Total Population and Total Municipal Expenditures, for Québec Centres: 1966



GRAPH VII.19

Graph showing the relationship between Population, Total Municipal Expenditures, and the Potential Labour Force measured in terms of percent of total population in the 25-64 age category, for Québec Centres: 1966



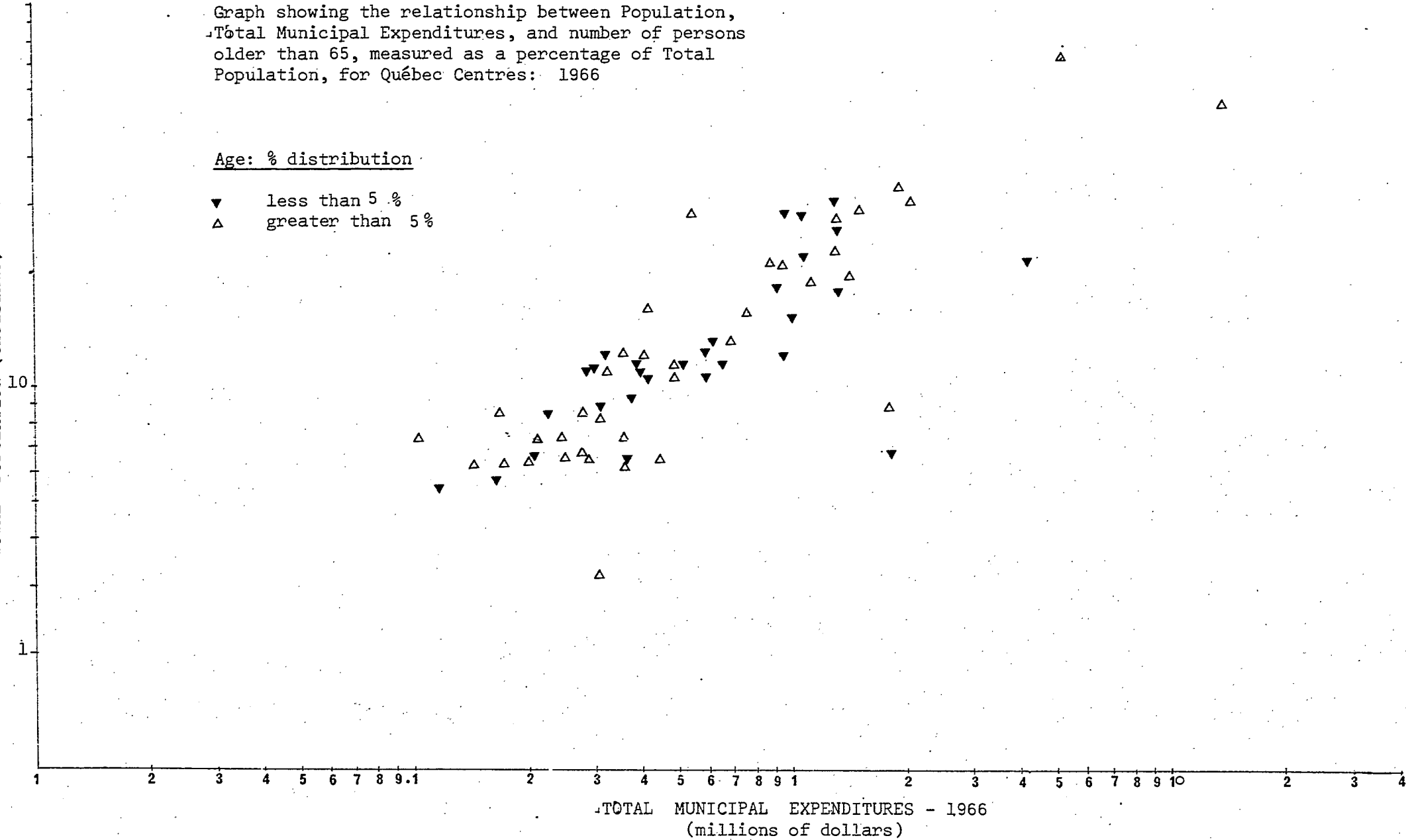
GRAPH VII.20

Graph showing the relationship between Population, Total Municipal Expenditures, and number of persons older than 65, measured as a percentage of Total Population, for Québec Centres: 1966

TOTAL POPULATION (thousands) 1966

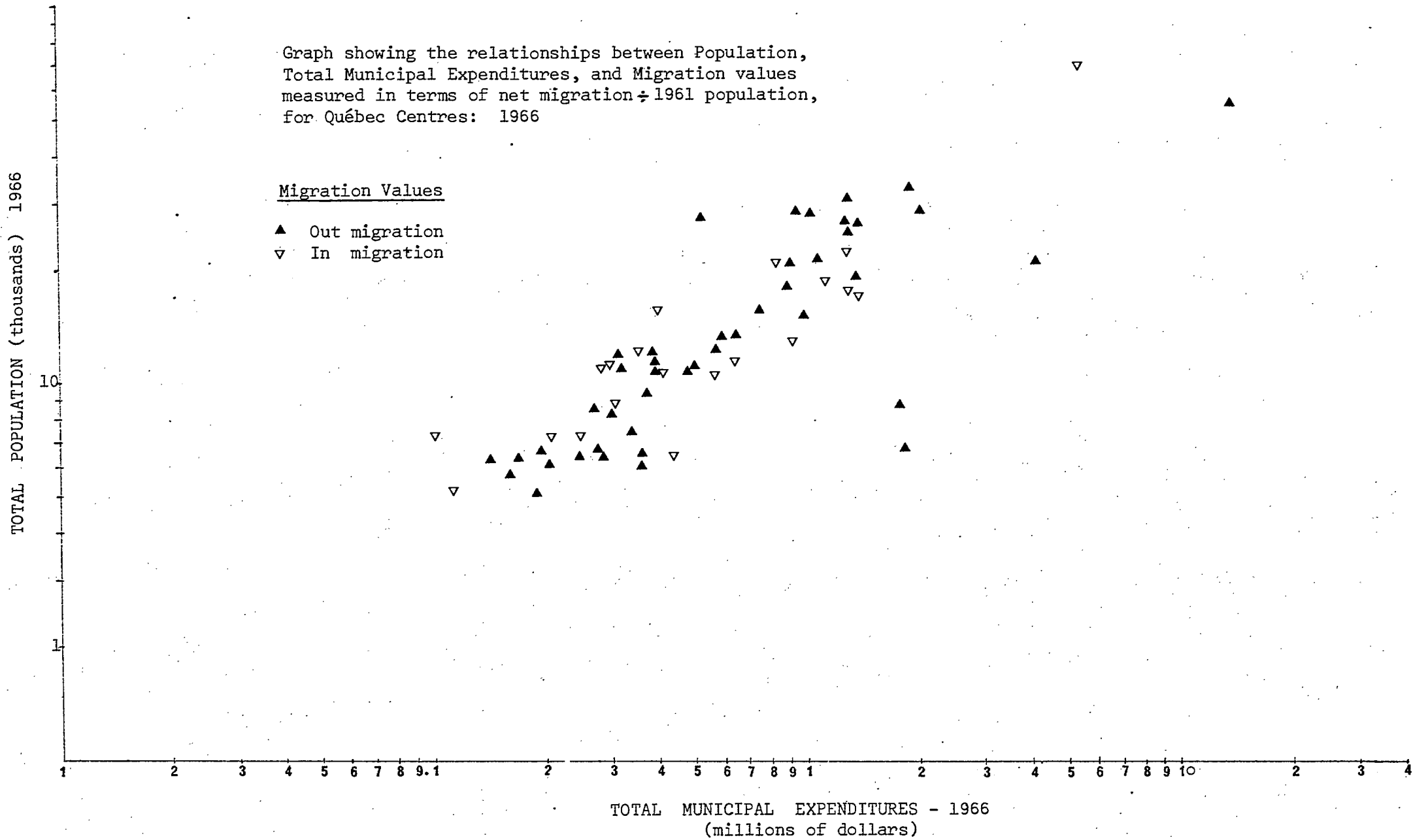
Age: % distribution

- ▼ less than 5 %
- △ greater than 5 %



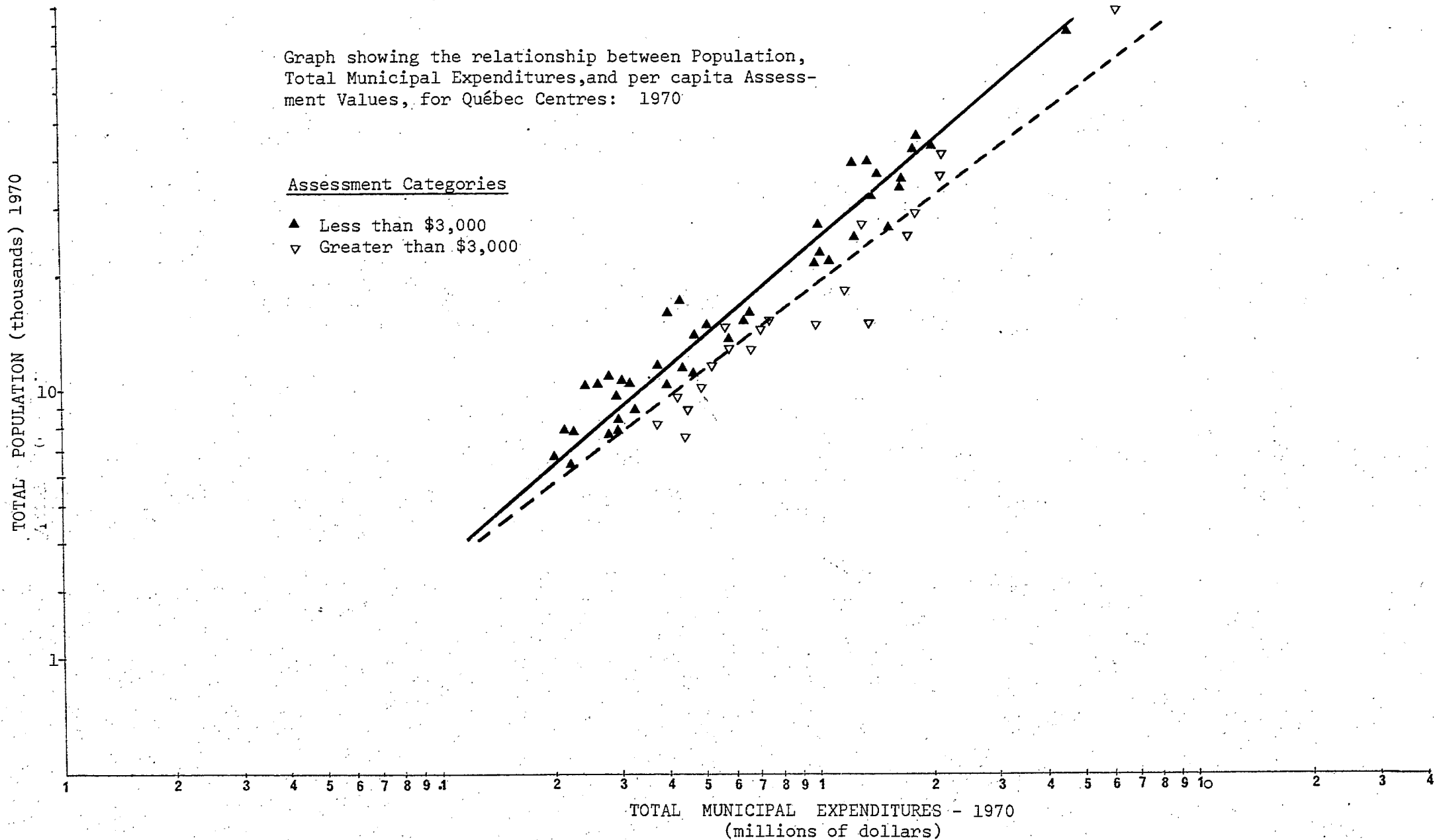
GRAPH VII.21

Graph showing the relationships between Population, Total Municipal Expenditures, and Migration values measured in terms of net migration ÷ 1961 population, for Québec Centres: 1966



GRAPH VII.22

Graph showing the relationship between Population, Total Municipal Expenditures, and per capita Assessment Values, for Québec Centres: 1970



migration as well as the percent distribution of certain population categories have no bearing upon municipal expenditure allocations. For example, Graph VII.19 shows that for given size centres, those in which the labour force potential is high do not necessarily receive either greater or lower amounts of expenditures. Likewise, Graph VII.20 illustrates that "Older" communities are not characterized by a certain level of expenditures. That is to say, for a group of centres having approximately the same number of persons, those displaying a predominance of senior citizens do not always receive greater or lesser amounts of expenditures than communities in which there is a large proportion of young people.

Migration values also have little bearing upon the allocation of municipal expenditures. Graph VII.21 emphasizes this point. One would have thought that centres experiencing large 'in' migration would require a larger input of municipal services to support the increasing populations. Conversely, it would seem that centres in which many persons were leaving at a high rate would warrant correspondingly lower levels of service. However, such hypotheses are not substantiated from the findings of Graph VII.21 indicating that other variables or combinations of them, are more significant. Further research is obviously needed in the field of migration and municipal expenditures.

The final variable included is municipal assessments, and the three-way relationship between it and size and expenditures is shown in Graph VII.22. A definite trend is seen to emerge from this graph. For communities in which assessment levels are high, a greater amount is expended in municipal services than in smaller centres. Conversely, centres having low levels of assessment direct proportionately lower amounts for the provision of municipal services.

A word of caution should be introduced concerning the results of Graph VII.22. Although a trend is indeed seen to arise, the actual configuration of points is not due to assessment values themselves but rather to other elements of which assessments are a direct function. Commercial and industrial enterprises are activities which affect the level of assessments. The more extensive these activities the greater is a need to provide buildings, plants,

and machinery (assets) to maintain them. To construct yardsticks for quantifying the commercial and industrial base of centres poses many problems which, due to the time constraints, have not been researched in this report. Future analyses could be directed in this field.

APPENDIX TO TABLES

The sources from which the following tables were constructed consisted of the following:

1. Province of Alberta, Municipal Statistics, the Department of Municipal Affairs, Edmonton, Alberta, for the years 1966 to 1970 inclusive
2. Province of Manitoba, Statistical Information, the Department of Municipal Affairs, Winnipeg, Manitoba, for the years 1966 to 1970 inclusive
3. Province of Saskatchewan, Annual Report, the Department of Municipal Affairs, Regina, Saskatchewan, for the years 1966 to 1970 inclusive

TOTAL MUNICIPAL EXPENDITURES
ACCORDING TO MAJOR CATEGORY IN 1966 - \$

	General Government	Protection	Public Works	Sanitation
<u>Manitoba</u>				
Brandon	312,281	601,759	234,077	120,394
Dauphin	61,961	121,903	104,693	28,612
Flin Flon	97,791	130,961	125,908	28,754
Lynin Lake	N/A			
Morden	23,901	29,188	30,922	5,744
Neepawa	42,807	49,448	27,908	11,727
Portage la Prairie	103,878	202,599	74,165	22,998
Selkirk	97,470	135,629	138,261	18,107
Steinbach	50,113	53,055	42,333	16,704
Swan River	31,038	45,265	40,906	10,253
The Pas	44,141	73,773	67,199	17,209
Thompson	18,823	11,258	44,035	--
Virden	34,836	39,561	20,923	6,060
Winkler	28,374	22,894	31,152	3,982
Winnipeg	1,983,933	8,439,550	2,323,148	1,748,148
TOTAL				
<u>Saskatchewan</u>				
Assiniboia	28,130	27,898	50,391	9,839
Biggar	22,910	28,579	33,311	5,895
Canora	31,731	27,566	41,741	5,544
Esterhazy	30,250	37,305	62,886	8,674
Estevan	105,557	148,908	108,125	47,891
Humboldt	39,446	38,638	58,820	5,812
Kamsack	31,758	46,551	54,604	12,675
Kindersley	N/A			
Lloydminster	81,598	116,035	98,767	44,495
Meadow Lake	30,355	35,414	55,236	1,165
Melfort	32,657	45,790	50,409	10,502
Melville	65,907	74,977	70,873	49,340
Moose Jaw	286,192	724,113	226,519	260,311
Nipawin	39,830	55,519	51,812	16,381
Battleford	151,485	225,283	108,537	81,373
Prince Albert	267,405	561,458	239,671	135,900
Regina	899,561	3,839,853	1,565,053	1,202,285
Rosetown	24,483	27,642	49,650	7,127
Saskatoon	1,292,329	3,425,235	797,388	838,898
Swift Current	117,468	260,192	123,044	132,613
Tisdale	23,307	27,574	49,335	49,007
Weyburn	47,293	148,867	99,380	49,007
Yorkton	115,206	197,117	80,543	80,564
TOTAL				
<u>Alberta</u>				
Barrhead	17,668	29,501	23,055	8,804
Brooks	33,461	39,445	148,145	28,085
Calgary	3,287,590	9,739,713	2,984,671	2,628,885
Camrose	89,264	163,231	145,513	69,393
Cardston	30,000	32,681	37,963	19,753
Claresholm	23,421	22,421	39,374	6,340
Coaldale	N/A			
Drayton Valley	35,308	50,506	59,431	18,893
Drumheller	58,086	64,249	64,942	19,358

TABLE VII.7 contd.

	General Government	Protection	Public Works	Sanitation
<u>Alberta - (Continued)</u>				
Edmonton	4,045,364	11,959,023	2,942,669	2,743,905
Edson	44,389	62,786	76,076	21,007
Ft. Macleod	36,533	41,606	39,922	7,418
Ft. McMurray	26,704	27,416	68,799	15,683
Ft. Saskatchewan	36,576	65,088	50,809	31,704
Grande Prairie	155,754	160,400	142,271	47,658
Hanna	31,319	27,519	63,121	11,011
Hinton	40,061	64,424	61,965	28,384
Innisfail	29,033	36,869	50,625	17,071
Lacombe	26,336	43,905	35,711	26,650
Leduc	25,343	37,427	34,629	17,078
Lethbridge	387,958	1,040,491	291,109	400,557
Lloydminster	N/A			
Medicine Hat	318,913	582,784	269,784	258,393
Olds	33,328	34,953	66,243	10,799
Peace River	35,912	54,561	73,308	40,248
Pincher Creek	23,623	32,116	25,815	21,057
Ponoka	30,252	46,433	61,830	29,548
Red Deer	515,882	731,650	332,467	230,862
Rocky Mtn. House	18,254	39,296	33,371	22,690
St. Albert	159,034	121,538	106,259	43,605
St. Paul	22,465	36,542	65,702	8,472
Stettler	29,710	60,722	72,234	24,314
Taber	55,681	71,701	56,850	42,638
Vegreville	27,229	50,609	44,511	9,402
Vermilion	22,254	29,036	24,662	18,257
Wainwright	36,116	38,579	76,564	18,362
Westlock	16,611	29,072	35,964	12,271
Wetaskiwin	80,187	83,783	118,407	43,654
Whitecourt	19,416	30,714	27,375	12,719
TOTAL				

TOTAL MUNICIPAL EXPENDITURES
ACCORDING TO MAJOR CATEGORY IN 1966 - \$

	Health	Social Welfare	Education	Recreation
<u>Manitoba</u>				
Brandon	3,331	2,321	97,799	3,491
Dauphin	13,037	4,817	334,217	25,966
Flin Flon	11,087	24,827	555,111	51,666
Lynn Lake	N/A			
Morden	273	4,883	142,381	12,343
Neepawa	4,821	1,946	138,462	19,163
Portage la Prairie	20,503	16,935	454,195	17,304
Selkirk	14,921	22,649	365,769	63,163
Steinbach	14,276	7,778	253,015	5,239
Swan River	5,163	4,661	168,037	18,748
The Pas	4,251	6,215	210,252	37,291
Thompson	160	1,136	87,973	3,515
Virden	6,085	6,215	210,252	37,291
Winkler	619	2,686	133,851	7,061
Winnipeg	921,176	1,291,315	18,645,200	2,387,369
TOTAL				
<u>Saskatchewan</u>				
Assiniboia	17,694	6,672	159,932	25,673
Biggar	7,864	40,447	110,816	13,821
Canora	9,034	20,807	109,581	10,384
Esterhazy	1,827	11,419	133,549	15,157
Estevan	12,296	68,082	605,910	104,346
Humboldt	16,279	17,016	192,691	44,456
Kamsack	3,925	33,084	132,643	12,784
Kindersley	N/A			
Lloydminster	38,722	14,293	360,945	78,702
Meadow Lake	16,838	4,612	116,520	10,434
Melfort	10,099	39,748	233,865	40,364
Melville	17,107	35,697	230,112	38,972
Moose Jaw	98,002	384,552	1,936,340	357,359
Nipawin	9,167	62,352	167,496	24,898
Battleford	57,322	139,576	740,123	190,810
Prince Albert	119,937	737,154	1,664,487	239,240
Regina	548,399	1,303,029	8,863,760	1,888,655
Rosetown	15,634	14,614	161,811	51,413
Saskatoon	376,948	252,523	7,490,655	1,453,318
Swift Current	68,327	79,324	813,186	124,713
Tisdale	11,031	4,000	130,799	14,989
Weyburn	21,875	31,974	459,797	145,884
Yorkton	46,313	62,185	704,073	86,694
TOTAL				
<u>Alberta</u>				
Barrhead	-	9,000	126,803	16,054
Brooks	-	3,974	137,826	34,999
Calgary	572,860	1,970,862	18,946,165	3,968,501
Camrose	500	9,381	414,735	93,500
Cardston	-	11,473	92,715	20,024
Claresholm	-	5,292	80,694	23,153
Coaldale	N/A			
Drayton Valley	-	6,908	102,998	31,733
Drumheller	-	4,923	178,283	29,753

TABLE VII.7 contd.

	Health	Social Welfare	Education	Recreation
<u>Alberta - (Continued)</u>				
Edmonton	1,598,517	2,261,731	20,474,505	4,919,029
Edson	415	3,804	175,411	38,188
Ft. Macleod	-	4,079	98,864	41,502
Ft. McMurray	5,909	4,853	75,839	10,309
Ft. Saskatchewan	-	1,155	367,766	73,146
Grande Prairie	-	25,183	612,935	97,735
Hanna	-	5,668	113,522	36,963
Hinton	120	1,698	417,324	34,822
Innisfail	-	6,250	108,519	27,099
Lacombe	-	2,210	157,957	42,516
Leduc	300	14,003	139,956	23,304
Lethbridge	12,437	112,759	2,030,492	617,179
Lloydminster	N/A			
Medicine Hat	600	123,908	1,445,628	565,163
Olds	1,200	1,445	153,688	31,978
Peace River	-	4,810	192,268	77,214
Pincher Creek	200	4,626	112,327	29,845
Ponoka	-	7,431	203,779	51,061
Red Deer	1,500	57,698	1,097,808	36,613
Rocky Mtn. House	-	2,509	95,099	36,613
St. Albert	1,509	30,795	417,086	79,141
St. Paul	45	2,264	148,463	23,536
Stettler	-	3,002	214,695	68,958
Taber	-	6,309	256,665	45,561
Vegreville	-	867	194,154	33,608
Vermilion	-	2,860	143,462	41,143
Wainwright	-	4,602	156,612	27,771
Westlock	-	1,739	126,504	12,884
Wetaskiwin	297	6,140	298,058	56,404
Whitecourt	-	2,375	79,463	26,314
TOTAL				

MUNICIPAL EXPENDITURES BY MAJOR CATEGORIES - 1966

Percent Distribution of Total Expenditures

	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI TATION	HEALTH	SOCIAL WELFARE	EDUCA TION	RECREA- TION
<u>Manitoba</u>								
Brandon	11.68	22.5	8.70	4.50	1.27	2.17	43.40	5.61
Dauphin	8.84	17.54	15.07	4.11	1.87	.69	48.10	3.73
Flin Flon	9.53	12.76	12.27	2.80	1.08	2.41	54.09	5.03
Lynn Lake	N/A							
Morden	9.57	11.69	12.38	2.30	.10	1.95	57.03	4.94
Neepawa	14.44	16.68	9.41	3.95	1.62	.65	46.73	6.46
Portage la Prairie	11.38	22.2	8.12	2.52	2.24	1.85	49.77	1.89
Selkirk	11.38	15.84	16.15	2.11	1.74	2.64	42.73	7.37
Steinbach	11.32	11.98	9.56	3.77	3.22	1.75	57.17	1.18
Swan River	9.57	13.96	12.62	3.16	1.59	1.43	51.85	5.78
The Pas	9.58	16.02	14.59	3.73	.92	1.35	45.67	8.10
Thompson	11.27	6.74	26.38	NE	.09	.68	52.71	2.10
Virden	14.45	16.42	8.68	2.51	2.52	1.62	47.13	6.63
Winkler	12.30	9.92	13.50	1.72	.26	1.16	58.03	3.06
Winnipeg	5.25	22.36	6.15	4.63	2.44	3.42	49.40	6.32
TOTAL								
<u>Saskatchewan</u>								
Assiniboia	8.63	8.55	15.45	3.02	5.42	2.05	49.02	7.87
Biggar	8.69	10.84	12.64	2.22	2.98	15.34	42.04	5.24
Canora	12.38	10.75	16.28	2.16	3.52	8.12	42.75	4.04
Esterhazy	10.05	12.39	20.89	2.88	.61	3.79	44.36	5.03
Estevan	8.79	12.40	9.00	3.99	1.02	5.67	50.45	8.69
Humboldt	9.55	9.35	14.24	1.41	3.94	4.12	46.64	10.76
Kamsack	9.68	14.19	16.65	3.86	1.20	10.09	40.44	3.90
Kindersley	N/A							
Lloydminster	9.79	13.92	11.85	4.34	4.65	1.71	43.30	9.44
Meadow Lake	10.78	12.58	19.62	.41	5.98	1.99	44.93	3.71
Melfort	7.05	9.88	10.88	2.27	2.18	8.58	50.46	8.71
Melville	11.31	12.86	12.16	8.46	2.93	6.12	39.47	6.68
Moose Jaw	6.70	16.94	5.30	6.09	2.29	9.00	45.31	8.36
Nipawin	9.54	13.30	10.02	3.92	2.20	14.94	40.12	5.96
Battleford	8.94	13.29	6.41	4.80	3.38	8.24	43.68	11.26
Prince Albert	6.74	14.16	6.04	3.43	3.02	18.59	41.98	6.03
Regina	4.47	19.09	7.78	5.98	2.73	6.48	44.07	9.39
Rosetown	6.95	7.84	14.09	2.02	4.44	4.15	45.92	14.59
Saskatoon	8.11	21.51	5.01	5.27	2.37	1.58	47.03	9.12
Swift Current	6.83	15.14	7.16	7.72	3.98	4.61	47.31	7.26
Tisdale	8.60	10.17	18.60	3.72	4.07	1.48	48.24	5.53
Weyburn	9.23	14.12	9.43	4.65	2.08	3.03	43.62	13.84
Yorkton	8.39	14.36	5.87	5.87	3.37	4.53	51.39	6.32
TOTAL								
<u>Alberta</u>								
Barrhead	7.95	13.29	10.38	5.96	NE	.04	57.12	7.23
Brooks	7.85	9.25	34.77	6.59	NE	.93	32.35	8.21
Calgary	7.45	22.08	6.76	5.96	1.29	4.46	42.96	8.99
Camrose	9.05	16.56	14.76	7.04	.05	.95	42.08	9.48
Cardston	12.26	13.36	15.51	8.07	NE	4.69	37.90	8.18
Claresholm	11.67	11.17	19.61	3.15	NE	2.63	40.20	11.53
Coaldale	N/A							
Drayton Valley	11.54	16.51	19.43	6.17	NE	2.25	33.68	10.37
Drumheller	13.84	15.31	15.47	4.61	NE	1.17	42.49	7.09

TABLE VII.8 contd.

Alberta - (Continued)	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI- TATION	HEALTH	SOCIAL WELFARE	EDUCA- TION	RECREA- TION
Edmonton	7.93	23.47	5.77	5.38	3.13	4.43	40.18	9.65
Edson	10.51	14.87	18.02	4.97	.09	.90	41.55	9.04
Ft. Macleod	13.53	15.41	14.78	2.74	NE	1.51	36.62	15.37
Ft. McMurray	11.34	11.63	29.20	6.65	2.50	2.06	32.1-	4.37
Ft. Saskatchewan	5.84	10.39	8.11	5.06	NE	.18	58.72	11.67
Grande Prairie	12.54	12.91	11.45	3.83	NE	2.02	49.35	7.86
Hanna	10.83	9.51	21.83	38.50	NE	1.96	39.26	12.78
Hinton	6.17	9.92	9.55	4.37	.01	.26	64.32	5.36
Innisfail	10.53	13.38	18.37	6.19	NE	2.26	39.39	9.83
Lacombe	7.85	13.09	10.65	7.94	NE	.65	47.11	12.68
Leduc	8.67	12.81	11.85	5.84	.10	4.79	47.92	7.97
Lethbridge	7.92	21.26	5.94	8.18	.25	2.30	41.49	12.61
Lloydminster	N/A							
Medicine Hat	8.94	16.34	7.56	7.24	.01	3.47	40.55	15.85
Olds	10.02	10.51	19.92	3.24	NE	.43	46.22	9.61
Peace River	7.50	11.40	15.32	8.41	NE	1.00	40.19	16.14
Pincher Creek	9.46	12.86	10.34	8.43	.07	1.85	45.00	11.95
Ponoka	7.02	10.78	14.36	6.86	NE	1.72	47.35	11.86
Red Deer	15.68	22.23	10.10	7.01	.04	1.75	33.36	9.78
Rocky Mtn. House	7.36	15.85	13.46	9.15	NE	1.01	38.37	14.77
St. Albert	16.58	12.67	11.08	4.54	.15	3.21	43.49	8.25
St. Paul	7.30	11.88	21.36	2.75	.01	.73	98.28	7.65
Stettler	6.27	12.82	15.25	5.13	NE	.63	45.32	14.55
Taber	10.39	13.39	10.61	7.96	NE	1.17	47.93	8.50
Vegreville	7.55	14.04	12.35	2.60	NE	.24	53.87	9.32
Vermilion	7.90	10.30	8.75	6.48	NE	1.01	50.93	14.60
Wainwright	10.07	10.74	21.35	5.12	NE	1.28	43.67	7.74
Westlock	7.06	12.37	15.30	5.22	NE	.73	53.83	5.48
Wetaskiwin	11.67	12.19	17.23	6.35	.04	.89	43.39	8.21
Whitecourt	10.68	16.90	15.06	6.99	NE	1.30	43.72	5.32

TOTAL

TABLE VII.9

TOTAL MUNICIPAL EXPENDITURES BY MAJOR CATEGORY: 1969 - \$

	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI- TATION	HEALTH
<u>Manitoba</u>					
Brandon	474,424	762,694	477,530	144,409	52,137
Dauphin	83,346	115,276	93,708	38,200	21,785
Flin Flon	82,793	172,489	359,796	43,813	16,954
Lynn Lake	48,640	22,829	49,170	18,637	2,126
Morden	45,869	25,764	42,666	8,137	2,582
Neepawa	59,486	47,986	46,685	12,045	22,541
Portage la Prairie	179,854	207,388	189,943	40,589	39,718
Selkirk	115,737	140,730	158,740	22,414	13,625
Steinbach	65,761	48,239	71,670	20,125	22,891
Swan River	39,069	41,186	93,423	12,038	12,550
The Pas	50,730	96,709	100,919	33,216	12,980
Thompson	140,553	286,843	457,098	28,162	13,263
Virden	40,471	37,939	70,611	7,579	4,599
Winkler	36,489	26,454	80,861	8,353	9,910
Winnipeg	1,758,504	10,977,015	2,961,285	2,437,106	1,612,493
TOTAL	3,221,726	13,009,539	5,254,105	1,860,154	4,329,266
<u>Saskatchewan</u>					
Assiniboia	41,396	36,328	56,059	14,791	16,005
Biggar	34,507	40,066	40,377	8,704	15,872
Canora	40,392	36,480	32,907	12,803	11,576
Esterhazy	45,416	44,520	43,607	12,025	3,517
Estevan	109,697	190,122	136,098	69,461	23,495
Humboldt	49,585	52,253	52,494	13,037	19,287
Kamsack	52,897	46,979	64,920	11,994	9,785
Kindersley	44,593	59,237	70,279	27,559	25,780
Lloydminster	112,702	175,672	113,655	48,636	77,383
Meadow Lake	32,119	54,765	81,810	1,954	13,157
Melfort	51,761	95,696	50,154	13,966	14,985
Melville	97,533	104,080	59,673	35,173	18,005
Moose Jaw	373,797	937,517	327,800	289,583	142,459
Nipawin	41,721	66,092	60,581	16,245	8,058
Battleford	197,767	331,882	113,577	98,253	83,383
Prince Albert	428,470	784,605	351,318	196,663	150,790
Regina	1,323,695	5,111,869	2,406,856	1,704,200	849,116
Rosetown	24,625	39,940	73,467	8,497	19,287
Saskatoon	1,667,459	4,640,552	914,798	1,006,320	448,298
Swift Current	163,299	425,091	156,379	159,766	72,337
Tisdale	32,267	38,461	62,204	13,434	13,234
Weyburn	129,389	191,807	130,113	65,020	26,383
Yorkton	143,690	276,350	128,232	119,612	50,506
TOTAL	5,238,777	13,780,364	5,527,368	3,942,696	2,112,698
<u>Alberta</u>					
Barrhead	24,565	53,958	50,498	17,345	-
Brooks	55,199	58,718	123,218	43,482	1,252
Calgary	4,690,387	14,363,070	3,712,771	4,706,657	988,228
Camrose	134,653	361,786	186,776	97,017	711
Cardston	35,633	38,978	37,918	24,020	-
Claresholm	47,698	33,565	75,930	15,026	-
Coaldale	30,714	35,493	42,377	10,360	-
Drayton Valley	39,946	61,981	48,564	16,229	-
Drumheller	95,753	119,557	103,335	35,217	-

TABLE VII.9 contd.

	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI- TATION	HEALTH
<u>Alberta - (Continued)</u>					
Edmonton	3,829,180	17,767,276	3,205,350	4,102,212	2,904,275
Edson	56,729	80,425	76,571	28,555	-
Ft. Macleod	47,449	59,375	53,817	26,126	-
Ft. McMurray	76,028	101,610	73,738	63,276	7,703
Ft. Saskatchewan	71,362	91,031	123,187	30,967	-
Grande Prairie	195,802	224,674	203,748	41,575	-
Hanna	35,635	31,706	61,236	13,576	-
Hinton	50,912	78,675	62,980	30,082	-
Innisfail	35,529	46,333	41,374	28,435	-
Lacombe	30,939	56,391	38,203	24,452	-
Leduc	36,937	55,658	42,971	19,371	370
Lethbridge	422,691	1,421,144	598,994	459,274	6,308
Lloydminster					
Medicine Hat	413,809	766,189	466,894	357,788	611
Olds	63,448	52,658	87,824	21,599	900
Peace River	53,583	102,851	100,366	57,115	-
Pincher Creek	40,983	46,902	42,243	25,983	1,613
Ponoka	55,265	63,970	65,152	43,122	-
Red Deer	480,607	1,007,385	319,029	226,599	2,400
Rocky Mtn.House	34,351	55,908	46,245	14,486	-
St. Albert	163,941	173,422	86,619	63,912	1,170
St. Paul	31,699	54,739	81,313	17,178	-
Stettler	52,162	73,192	133,255	31,109	-
Taber	89,422	103,451	81,347	46,405	-
Vegreville	38,690	56,674	58,076	18,734	-
Vermilion	26,187	42,096	29,941	19,376	-
Wainwright	35,354	59,037	64,912	34,868	25
Westlock	19,723	40,575	22,456	16,134	-
Wetaskiwin	87,655	95,549	124,635	51,921	-
Whitecourt	28,852	55,348	33,856	24,218	-
TOTAL	11,759,472	37,991,350	10,807,719	10,903,801	3,915,566

TABLE VII.9 contd.

	SOCIAL WELFARE	EDUCA- TION	RECREA- TION	TOTAL
<u>Manitoba</u>				
Brandon	269,451	1,581,317	251,445	4,013,407
Dauphin	2,183	380,258	56,352	791,108
Flin Flon	29,025	586,883	40,200	1,327,953
Lynn Lake	-	117,059	-	258,461
Morden	1,388	179,546	11,621	317,573
Neepawa	10,281	150,166	24,004	373,194
Portage la Prairie	35,596	469,447	70,978	1,233,513
Selkirk	39,742	477,750	74,450	1,043,188
Steinbach	4,126	249,064	21,546	503,422
Swan River	5,594	166,345	13,350	383,555
The Pas	25,591	251,735	29,091	600,971
Thompson	6,879	820,661	105,826	1,859,285
Virden	804	199,304	41,457	402,764
Winkler	4,346	191,002	24,759	382,174
Winnipeg	3,894,260	23,647,138	2,963,195	50,250,996
TOTAL	4,329,266	29,463,675	3,728,274	64,975,077
<u>Saskatchewan</u>				
Assiniboia	4,856	222,241	38,971	430,647
Biggar	5,341	157,757	18,305	320,929
Canora	8,924	200,079	14,025	357,186
Esterhazy	10,882	217,554	20,105	397,626
Estevan	20,944	1,081,049	105,652	1,736,518
Humboldt	6,865	263,613	54,228	511,362
Kamsack	4,898	192,669	21,694	405,836
Kindersley	12,783	263,078	60,659	563,968
Lloydminster	16,688	653,179	131,763	1,329,678
Meadow Lake	10,603	204,170	10,592	409,170
Melfort	7,467	412,147	50,319	696,495
Melville	996,040	2,576,106	462,958	6,106,260
Moose Jaw	7,350	279,060	36,530	515,637
Nipawin	25,141	1,024,226	224,443	2,098,672
Battleford	1,047,546	2,584,066	334,573	5,842,031
Prince Albert	448,434	12,421,407	2,575,745	26,841,332
Regina	6,689	210,402	65,909	448,816
Rosetown	330,384	12,518,563	2,162,502	23,688,876
Saskatoon	32,004	1,388,940	264,214	2,662,030
Swift Current	5,309	194,883	15,342	375,134
Tisdale	18,407	697,088	187,791	1,445,998
Weyburn	28,568	1,459,317	104,706	2,305,981
Yorkton				
TOTAL	3,070,081	39,612,306	7,023,036	80,286,618
<u>Alberta</u>				
Barrhead	595	183,474	39,900	370,335
Brooks	135	333,192	68,513	683,709
Calgary	2,164,160	34,551,492	6,428,894	71,605,659
Camrose	14,750	578,800	174,575	1,549,068
Cardston	1,204	123,669	32,802	294,224
Claresholm	488	121,961	36,397	331,065
Coaldale	4,756	140,179	17,359	281,238
Drayton Valley	3,760	161,434	62,822	394,736
Drumheller	4,671	473,853	116,884	949,270

TABLE VII.9 contd.

	SOCIAL WELFARE	EDUCA- TION	RECREA- TION	TOTAL
<u>Alberta - (Continued)</u>				
Edmonton	3,676,293	34,532,364	8,266,083	78,283,033
Edson	1,183	268,479	55,879	567,821
Ft. Macleod	3,390	144,718	43,508	378,383
Ft. McMurray	38,368	341,155	46,202	748,080
Ft. Saskatchewan	808	662,923	134,010	1,114,288
Grande Prairie	57,594	868,670	170,193	1,762,256
Hanna	2,861	152,487	37,663	335,164
Hinton	1,077	624,400	42,451	1,225,741
Innisfail	1,716	176,341	45,562	375,290
Lacombe	1,172	246,106	49,941	447,204
Leduc	5,271	194,736	58,976	414,290
Lethbridge	155,729	3,252,129	850,734	7,167,003
Lloydminster				
Medicine Hat	129,780	2,472,660	595,766	5,203,497
Olds	1,488	233,544	76,292	537,753
Peace River	11,238	353,357	161,207	839,717
Pincher Creek	2,019	162,312	58,211	380,266
Ponoka	2,751	331,832	74,171	636,263
Red Deer	106,732	1,942,265	463,532	4,548,549
Rocky Mtn.House	999	144,501	45,162	341,652
St. Albert	45,221	806,440	117,914	1,458,639
St. Paul	4,682	212,872	32,504	439,987
Stettler	18	295,112	79,749	664,597
Taber	9,169	432,470	58,829	821,093
Vegreville	233	326,084	40,211	538,702
Vermilion	1,733	174,226	60,858	354,417
Wainwright	2,264	209,486	49,743	455,689
Westlock	171	187,016	43,556	329,631
Wetaskiwin	2,370	431,774	88,741	882,645
Whitecourt	75	145,900	15,793	304,042
TOTAL	6,465,924	86,994,413	18,841,587	188,014,976

TABLE VII.10

MUNICIPAL EXPENDITURES BY MAJOR CATEGORIES - 1969

Percent Distribution of Total Expenditures

	GENERAL GOVERN MENT	PROTEC- TION	PUBLIC WORKS	SANI TATION	HEALTH	SOCIAL WELFARE	EDUCA TION	RECREA- TION
<u>Manitoba</u>								
Brandon	11.82	19.00	11.89	3.59	1.24	6.71	39.40	6.26
Dauphin	10.53	14.57	11.84	4.82	2.75	0.27	48.06	7.12
Flin Flon	6.23	12.98	27.09	3.29	1.27	2.18	43.89	3.02
Lynn Lake	18.81	8.83	19.02	7.20	0.82	0	45.29	0
Morden	14.44	8.11	13.43	2.56	0.81	.43	56.53	3.65
Neepawa	15.93	12.85	12.50	3.22	6.04	2.75	40.23	6.43
Portage la Prairie	14.58	16.81	15.39	3.29	3.21	2.88	38.05	5.75
Selkirk	11.09	13.49	15.22	2.75	1.31	3.81	45.30	7.14
Steinbach	13.05	9.58	14.23	3.99	4.54	.81	49.47	4.27
Swan River	10.18	10.73	24.35	3.13	3.27	1.45	43.36	3.48
The Pas	8.44	16.09	16.79	5.52	2.15	4.25	41.88	4.84
Thompson	7.55	15.92	24.58	1.57	0.71	0.36	44.13	5.69
Virden	10.04	9.41	17.53	1.88	1.14	0.19	49.48	10.29
Winkler	9.54	6.92	21.15	2.18	2.59	1.13	49.97	6.47
Winnipeg	3.49	21.84	5.89	4.84	3.20	7.74	33.26	5.89
TOTAL								
<u>Saskatchewan</u>								
Assiniboia	9.61	8.43	13.01	3.43	3.71	1.12	51.60	9.04
Biggar	10.75	12.48	12.58	2.71	4.94	1.66	49.15	50.70
Canora	11.30	1.21	9.21	3.58	3.24	2.49	56.01	3.92
Esterhazy	11.42	11.19	10.96	3.02	0.88	2.73	54.71	5.05
Estevan	6.31	10.94	7.83	4.00	1.35	1.20	62.25	6.08
Humboldt	9.69	16.21	16.26	2.54	3.77	1.34	51.55	10.00
Kamsack	13.03	11.57	15.99	2.95	2.41	1.20	47.47	5.34
Kindersley	7.90	10.50	12.46	4.88	4.57	2.26	46.64	10.75
Lloydminster	8.47	13.21	8.54	3.65	5.81	1.25	49.12	9.90
Meadow Lake	7.84	13.38	19.99	0.47	3.21	2.59	49.89	2.58
Melfort	7.43	13.73	7.2	2.00	2.15	1.07	59.17	7.22
Melville	12.48	13.36	7.63	4.50	2.30	1.78	50.02	7.93
Moose Jaw	6.12	18.35	5.36	4.74	2.33	16.31	42.18	7.58
Nipawin	8.09	12.81	11.24	3.15	1.56	1.42	54.11	7.08
Battleford	9.42	15.81	5.41	4.68	3.97	1.19	48.80	10.69
Prince Albert	7.33	13.43	6.01	3.36	2.58	17.93	44.23	5.72
Regina	4.93	19.04	8.96	6.34	3.16	1.67	46.27	9.57
Rosetown	5.48	8.89	16.36	1.89	4.29	1.49	46.87	14.68
Saskatoon	7.03	19.58	3.86	4.24	1.89	1.39	52.84	9.12
Swift Current	6.13	15.96	5.87	6.0	2.71	1.2	52.17	9.92
Tisdale	8.60	10.25	16.58	3.58	3.52	1.41	51.95	4.08
Weyburn	8.94	13.26	8.99	4.49	1.62	1.27	48.20	12.98
Yorkton	6.23	11.98	5.56	4.97	2.19	1.23	63.28	4.54
TOTAL								
<u>Alberta</u>								
Barrhead	6.63	14.59	13.63	4.68	0.00	.16	49.54	10.77
Brooks	8.07	8.58	18.02	6.35	.18	.01	48.73	10.02
Calgary	6.55	20.05	5.18	6.57	1.38	3.02	48.25	8.97
Camrose	8.69	23.35	12.05	6.16	.04	.95	37.36	11.26
Cardston	12.11	13.24	12.88	8.16	0.00	.40	42.03	11.14
Clareholm	14.40	10.13	22.93	4.53	0.00	.14	36.83	10.99
Coaldale	10.92	12.62	15.06	3.68	0.00	1.69	49.84	6.17
Drayton Valley	10.11	15.70	12.30	4.11	0.00	.95	40.89	15.91
Drumheller	10.08	12.54	10.88	3.70	0.00	.49	49.91	12.31

TABLE VII.11

COEFFICIENT OF SPECIALIZATION VALUES FOR MUNICIPAL EXPENDITURES

	1966	1969	Absolute change
<u>Manitoba</u>			
Brandon	.08	.13	.05
Dauphin	.13	.11	-.02
Flin Flon	.17	.20	.03
Lynn Lake	N/A	.27	
Morden	.20	.24	.04
Neepawa	.12	.19	.07
Portage la Prairie	.12	.18	.06
Selkirk	.13	.13	0
Steinbach	.20	.19	-.01
Swan River	.15	.22	.07
The Pas	.11	.12	.01
Thompson	.31	.19	-.12
Virден	.12	.18	.06
Winkler	.25	.21	-.04
Winnipeg	.08	.06	-.02
TOTAL			
<u>Saskatchewan</u>			
Assiniboia	.18	.15	-.03
Biggar	.19	.15	-.04
Canora	.19	.17	-.02
Esterhazy	.16	.19	.03
Estevan	.11	.16	.05
Humboldt	.15	.14	-.01
Kamsack	.17	.16	-.01
Kindersley		.11	
Lloydminster	.10	.10	0
Meadow Lake	.20	.18	-.02
Melfort	.14	.14	0
Melville	.14	.10	-.04
Moose Jaw	.06	.12	.06
Nipawin	.15	.14	-.01
Battleford	.09	.08	-.01
Prince Albert	.15	.14	-.01
Regina	.04	.04	0
Rosetown	.17	.17	0
Saskatoon	.05	.06	.01
Swift Current	.07	.07	0
Tisdale	.18	.18	0
Weyburn	.09	.10	.01
Yorkton	.09	.16	.07
TOTAL			
<u>Alberta</u>			
Barrhead	.16	.11	-.05
Brooks	.28	.17	-.11
Calgary	.02	.03	.01
Camrose	.11	.15	.04
Cards ton	.15	.17	.02
Claresholm	.19	.26	.07
Coaldale		.16	
Drayton Valley	.18	.16	-.02
Drumheller	.14	.14	0

TABLE VII. 11 contd.

	1966	1969	Absolute change
<u>Alberta - (Continued)</u>			
Edmonton	.05	.06	.01
Edson	.14	.12	-.02
Ft. Macleod	.20	.18	-.02
Ft. McMurray	.27	.12	-.16
Ft. Saskatchewan	.18	.20	.02
Grande Prairie	.14	.13	-.01
Hanna	.22	.18	-.04
Hinton	.17	.17	0
Innisfail	.15	.13	-.02
Lacombe	.13	.13	0
Leduc	.10	.12	.02
Lethbridge	.07	.06	-.01
Lloydminster	N/A		
Medicine Hat	.10	.08	-.02
Olds	.18	.20	.02
Peace River	.18	.17	-.01
Pincher Creek	.12	.15	.03
Ponoka	.15	.15	0
Red Deer	.15	.08	-.07
Rocky Mtn. House	.15	.15	0
St. Albert	.13	.13	0
St. Paul	.18	.14	-.04
Stettler	.15	.18	.03
Taber	.12	.14	.02
Vegreville	.15	.18	.03
Vermilion	.15	.13	-.02
Wainwright	.16	.13	-.03
Westlock	.18	.14	-.04
Wetaskiwin	.14	.15	.01
Whitecourt	.12	.12	0
TOTAL			

TOTAL MUNICIPAL EXPENDITURES:
PER CAPITA VALUES FOR 1966 AND 1969
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	P. C. E. 1966	P. C. E. 1969	% Change 1966 to 1969	% Δ City % Δ Prairie	% Δ City % Δ Province
<u>Manitoba</u>					
Brandon	89.14	127.11	42.59	1.02	1.35
Dauphin	80.27	86.79	8.12	0.23	0.75
Flin Flon	71.81	133.89	86.45	2.44	2.74
Lynn Lake	N/A				
Morden	80.61	96.79	20.07	0.56	0.63
Neepawa	91.76	114.06	24.30	0.63	0.77
Portage la Prairie	70.13	96.68	37.85	1.07	1.20
Selkirk	43.48	112.30	20.13	0.57	0.63
Steinbach	95.21	102.95	8.12	0.23	0.25
Swan River	93.39	78.44	- 16.00	-0.45	-0.50
The Pas	91.50	82.90	- 9.39	-0.26	-0.29
Thompson	109.66	99.05	- 9.67	-0.27	-0.30
Virden	82.14	132.60	61.43	1.74	1.94
Winkler	89.74	125.02	39.31	1.11	1.24
Winnipeg	146.84	194.42	32.40	0.91	1.02
TOTAL	77.52	101.97	31.54	- -	- -
<u>Saskatchewan</u>					
Assiniboia	113.59	165.44	45.64	1.29	1.34
Biggar	95.68	120.74	26.19	0.74	0.76
Canora	93.05	146.93	57.90	1.64	1.70
Esterhazy	94.38	126.46	27.63	0.78	0.81
Estevan	132.54	187.79	41.68	1.18	1.22
Humboldt	103.83	130.15	25.34	0.71	0.74
Kamsack	110.00	150.53	36.84	1.04	1.08
Kindersley	N/A				
Lloydminster	117.88	344.74	192.44	5.45	5.65
Meadow Lake	N/A				
Melfort	105.67	142.05	34.42	0.97	1.01
Melville	102.46	145.32	41.83	1.18	1.22
Moose Jaw	127.88	190.52	48.98	1.38	1.43
Nipawin	105.34	123.39	17.13	0.48	0.50
Battleford	138.19	164.73	19.20	0.54	0.56
Prince Albert	150.95	212.54	40.80	1.15	1.19
Regina	153.37	190.34	24.10	0.68	0.70
Rosetown	132.57	180.03	35.79	1.01	1.05
Saskatoon	137.43	188.61	37.24	1.05	1.09
Swift Current	118.67	174.13	46.73	1.32	1.37
Tisdale	93.04	137.56	47.85	1.35	1.40
Weyburn	117.12	169.62	44.82	1.26	1.31
Yorkton	108.56	171.58	58.05	1.64	1.70
TOTAL	138.32	185.40	34.04	- -	- -
<u>Alberta</u>					
Barrhead	85.64	136.25	59.09	1.67	1.57
Brooks	127.01	182.66	43.81	1.24	1.16
Calgary	133.40	185.78	39.26	1.11	1.04
Camrose	117.86	179.27	52.10	1.47	1.38
Cardston	89.90	108.13	20.27	0.57	0.53
Claresholm	78.12	98.83	26.51	0.75	0.70
Coaldale	N/A				
Drayton Valley	91.22	113.72	24.66	0.69	0.65
Drumheller	117.39	181.16	54.32	1.53	1.44

TABLE VII.12 contd.

	P. C. E. 1966	P. C. E. 1969	% Change 1966 to 1969	% City % Prairie	% City % Prov.
<u>Alberta - (Continued)</u>					
Edmonton	135.16	185.32	37.11	1.05	0.98
Edson	114.42	146.65	28.16	0.79	0.74
Ft. Macleod	99.64	143.33	43.84	1.24	1.16
Ft. McMurray	90.11	122.00	35.39	1.00	0.94
Ft. Saskatchewan	150.83	210.16	39.33	1.11	1.04
Grande Prairie	108.27	146.20	35.03	0.99	0.93
Hanna	109.81	132.01	20.21	0.57	0.53
Hinton	150.64	274.77	82.40	2.33	2.19
Innisfail	108.84	159.70	46.72	1.32	1.24
Lacombe	110.47	138.54	25.40	0.71	0.67
Leduc	102.25	109.63	7.21	0.20	0.19
Lethbridge	131.58	181.20	37.71	1.06	1.06
Lloydminster	N/A				
Medicine Hat	139.40	202.37	45.17	1.27	1.20
Olds	110.85	157.93	42.47	1.20	1.12
Peace River	117.03	155.97	33.27	0.94	0.88
Pincher Creek	86.61	117.99	36.23	1.02	0.96
Ponoka	97.34	139.72	43.50	1.23	1.15
Red Deer	125.70	169.05	34.48	0.97	0.91
Rocky Mtn. House	101.32	121.92	20.33	0.57	0.54
St. Albert	98.51	238.52	40.61	1.15	1.07
St. Paul	86.79	108.61	25.14	0.71	0.66
Stettler	118.47	151.70	28.04	0.79	0.74
Taber	116.80	175.04	49.86	1.41	1.32
Vegreville	100.16	142.66	42.43	1.20	1.12
Vermilion	104.91	132.00	75.82	0.73	0.68
Wainwright	92.72	122.01	31.58	0.89	0.83
Westlock	87.52	106.73	21.37	0.60	0.56
Wetaskiwin	114.33	136.72	19.58	0.55	0.52
Whitecourt	79.74	105.06	31.75	0.89	0.84
TOTAL	130.00	178.90	37.62		

TABLE VII.14

PER CENT CHANGE OF MUNICIPAL EXPENDITURES BY MAJOR
SECTOR: 1966 - 1969

	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI- TATION
<u>Manitoba</u>				
Brandon	51.92	26.74	104.00	19.94
Dauphin	35.60	- 5.43	- 10.49	33.51
Flin Flon	- 15.33	31.71	185.76	53.47
Lynn Lake				
Morden	91.91	-11.73	37.97	41.66
Neepawa	38.96	- 2.95	67.28	2.71
Portage la Prairie	73.13	2.36	156.10	76.48
Selkirk	18.74	3.76	14.81	23.78
Steinbach	31.22	- 9.07	69.30	20.48
Swan River	25.91	- 9.01	128.38	17.40
The Pas	14.92	31.08	50.17	93.01
Thompson	646.70	2447.90	1000.00	938.00
Virден	16.17	- 4.09	237.33	25.06
Winkler	28.60	15.54	159.56	109.76
Winnipeg	-11.36	30.06	27.46	39.41
TOTAL	7.57	29.77	54.93	41.01
<u>Saskatchewan</u>				
Assiniboia	47.15	30.21	11.24	50.33
Biggar	50.61	40.19	21.21	48.91
Canora	27.29	32.33	-21.16	130.93
Esterhazy	50.13	19.34	-30.65	38.63
Estevan	3.92	27.67	25.87	45.03
Humboldt	25.70	35.23	-10.75	124.31
Kamsack	66.56	.91	18.88	- 5.37
Kindersley				
Lloydminster	38.11	51.39	15.07	9.98
Meadow Lake	5.81	54.64	48.10	67.72
Melfort	58.49	108.98	- 0.50	32.75
Melville	47.98	38.81	-15.80	-28.71
Moose Jaw	30.61	29.47	44.71	11.24
Nipawin	4.74	19.04	44.88	- .83
Battleford	30.55	47.31	4.64	20.74
Prince Albert	60.23	39.74	46.58	44.70
Regina	47.14	33.12	53.78	41.67
Rosetown	.57	44.49	47.96	19.22
Saskatoon	29.02	35.48	14.72	19.95
Swift Current	39.01	63.37	27.09	20.47
Tisdale	38.44	39.48	26.08	33.22
Weyburn	32.98	28.84	30.92	32.67
Yorkton	24.72	40.19	59.20	42.26
TOTAL	35.08	35.23	33.47	30.00
<u>Alberta</u>				
Barrhead	39.03	82.90	119.03	97.01
Brooks	64.96	48.86	- 16.82	54.82
Calgary	42.66	47.46	24.39	79.03
Camrose	50.84	121.64	28.35	39.80
Cardston	18.77	19.26	- .11	21.60
Claresholm	103.65	49.70	92.89	137.00
Coaldale				
Drayton Valley	13.13	22.72	-18.28	-14.10
Drumheller	64.84	86.08	59.11	81.92

TABLE VII.14 contd.

	GENERAL GOVERN- MENT	PROTEC- TION	PUBLIC WORKS	SANI- TATION
<u>Alberta - (Continued)</u>				
Edmonton	5.34	48.56	8.92	49.56
Edson	27.79	28.09	.65	35.93
Ft. Macleod	29.87	42.67	34.80	252.19
Ft. McMurray	184.70	270.62	7.17	303.46
Ft. Saskatchewan	95.10	39.85	142.45	- 2.32
Grande Prairie	25.71	40.07	43.21	-12.76
Hanna	7.39	15.21	- 2.98	23.29
Hinton	27.08	22.12	1.63	5.98
Innisfail	22.37	25.66	-18.27	66.56
Lacombe	17.47	28.43	6.97	- 8.24
Leduc	45.74	48.71	24.08	13.42
Lethbridge	8.95	36.58	105.76	14.65
Lloydminster				
Medicine Hat	29.75	31.52	73.06	38.46
Olds	90.37	50.65	32.57	100.00
Peace River	49.20	88.50	36.91	41.90
Pincher Creek	73.48	46.03	63.63	23.42
Ponoka	82.68	37.76	5.37	45.93
Red Deer	- 6.83	37.68	- 4.04	- 1.84
Rocky Mtn. House	88.10	42.27	38.57	-36.15
St. Albert	3.08	42.71	-18.48	46.57
St. Paul	41.10	49.79	23.76	102.76
Stettler	75.57	20.53	84.47	27.94
Taber	60.59	44.28	43.09	8.83
Vegreville	42.09	11.98	30.29	99.75
Vermilion	11.67	44.97	21.40	6.12
Wainwright	- 2.10	53.02	-15.21	89.89
Westlock	18.37	39.56	-37.55	32.01
Wetaskiwin	9.31	14.04	5.25	18.83
Whitecourt	48.59	80.20	23.94	90.40
TOTAL	18.29	46.79	21.33	33.14

PER CENT CHANGE OF MUNICIPAL EXPENDITURES BY MAJOR
SECTOR: 1966 - 1969

	HEALTH	SOCIAL WELFARE	EDUCA- TION	RECREA- TION	TOTAL
<u>Manitoba</u>					
Brandon	52.63	36.77	36.10	67.42	50.15
Dauphin	67.10	-54.68	13.77	117.02	13.87
Flin Flon	52.91	16.90	5.00	-22.19	29.41
Lynn Lake					
Morden	845.78	-71.57	26.10	- 5.84	27.21
Neepawa	367.55	428.31	8.45	25.26	25.95
Portage la Prairie	93.71	110.19	3.35	310.18	35.16
Selkirk	- 8.86	75.46	30.61	17.86	21.87
Steinbach	60.34	-46.95	- 1.56	311.26	13.76
Swan River	143.07	20.01	- 1.00	-28.79	18.35
The Pas	205.33	311.76	19.73	-21.98	30.55
Thompson	8189.00	505.54	832.85	2910.69	1014.01
Virden	-24.42	-79.43	75.49	159.31	67.17
Winkler	1500	61.80	42.69	250.64	65.71
Winnipeg	75.04	201.57	26.82	24.11	33.15
	75.68	196.91	27.90	31.56	38.72
TOTAL	75.68	196.91	27.90	31.56	38.72
<u>Saskatchewan</u>					
Assiniboia	- 9.54	-27.21	38.95	51.79	32.00
Biggar	101.83	-86.80	42.35	32.44	21.75
Canora	28.13	-57.11	82.58	35.06	39.33
Esterhazy	92.50	- 4.70	62.90	32.64	32.07
Estevan	91.07	-69.23	78.41	1.25	44.57
Humboldt	18.47	-59.65	36.80	21.98	23.76
Kamsack	149.29	-85.19	45.25	69.69	23.72
Kindersley					
Lloydminster	99.84	16.75	80.96	67.42	59.51
Meadow Lake	-21.86	88.93	61.37	1.51	45.31
Melfort	43.38	-81.21	79.10	24.66	50.28
Melville	5.24	-61.03	69.79	59.11	33.98
Moose Jaw	45.36	159.01	33.03	29.54	42.89
Nipawin	-12.09	-88.21	66.60	46.71	23.51
Battleford	45.46	-81.98	38.38	17.62	23.22
Prince Albert	25.72	42.10	55.24	39.84	47.33
Regina	54.83	-65.58	40.13	36.37	33.46
Rosetown	23.36	-54.22	30.02	28.19	27.37
Saskatoon	18.92	30.93	67.12	48.79	48.73
Swift Current	5.86	-59.65	70.80	111.85	54.87
Tisdale	19.97	32.72	48.99	2.35	38.38
Weyburn	20.60	-42.43	1415.90	28.72	37.18
Yorkton	9.05	-54.05	107.26	20.77	67.98
TOTAL	35.79	- 9.88	53.21	40.57	40.75
<u>Alberta</u>					
Barrhead	0.00	561.11	44.69	148.53	66.83
Brooks	100.00	-96.60	141.74	95.75	60.49
Calgary	72.50	9.80	82.36	61.99	62.37
Camrose	42.20	57.23	39.55	86.69	57.18
Cardston	0.00	-89.50	33.38	63.81	20.28
Claresholm	0.00	-90.77	51.14	57.20	64.96
Coaldale					
Drayton Valley	0.00	-45.57	56.73	97.97	29.11
Drumheller	0.00	- 5.11	269.38	292.84	126.20

TABLE VII.14 contd.

	HEALTH	SOCIAL WELFARE	EDUCA- TION	RECREA- TION	TOTAL
<u>Alberta - (Continued)</u>					
Edmonton	81.68	62.54	68.66	68.04	53.66
Edson	-100.00	-68.90	53.05	46.32	34.53
Ft. Macleod	0.00	-16.89	46.38	4.83	40.18
Ft. McMurray	30.36	690.60	349.84	348.17	217.59
Ft. Saskatchewan	0.00	-30.04	80.25	83.20	77.93
Grande Prairie	0.00	128.70	41.72	74.13	41.89
Hanna	0.00	-49.52	34.32	1.89	15.92
Hinton	-100.00	-36.53	49.61	21.90	88.92
Innisfail	0.00	-72.54	62.49	68.13	36.23
Lacombe	0.00	-46.96	55.80	17.46	33.38
Leduc	23.33	-62.35	39.06	153.07	41.86
Lethbridge	-49.28	38.10	60.16	37.84	46.47
Lloydminster					
Medicine Hat	1.83	4.73	71.04	5.41	45.96
Olds	7400.00	2.97	51.95	138.57	12.42
Peace River	-100.00	142.93	214.57	440.14	75.55
Pincher Creek	706.50	-56.35	44.49	95.04	52.34
Ponoka	0.00	-62.97	62.82	45.25	47.85
Red Deer	60.00	84.98	76.92	43.97	38.26
Rocky Mtn. House	0.00	-60.18	51.94	23.34	37.85
St. Albert	-22.46	46.84	93.35	48.99	52.10
St. Paul	-100.00	327.65	43.38	38.10	43.09
Stettler	0.00	-99.40	37.45	15.64	40.31
Taber	0.00	45.33	68.59	29.12	53.35
Vegreville	0.00	-73.12	67.95	19.64	49.48
Vermilion	0.00	-39.40	21.44	47.91	25.82
Wainwright	100.00	-50.80	33.76	79.11	27.09
Westlock	0.00	-90.16	47.83	238.06	40.26
Wetaskiwin	100.00	-61.40	49.37	57.33	28.49
Whitecourt	0.00	-96.84	83.60	-39.98	67.29
TOTAL	78.32	36.87	72.69	60.58	55.43

TABLE VII.17

TOTAL MUNICIPAL ASSESSMENTS (thousands of dollars)

	1966	1970	% Change	% Change Quotient
<u>Manitoba</u>				
Brandon	37749	48710	29.04	1.48
Dauphin	10965	13339	21.65	1.10
Flin Flon	10368	10911	5.24	.27
Lynn Lake	N/A			
Morden	4255	6288	47.80	2.43
Neepawa	4744	5162	8.81	.45
Portage la Prairie	16343	18175	11.21	.57
Selkirk	10297	12587	22.24	1.13
Steinbach	6899	7900	15.51	.74
Swan River	4514	5083	12.61	.64
The Pas	5900	6953	12.85	.91
Thompson	N/A	13275		
Virden	3490	4400	26.06	1.33
Winkler	3708	4452	20.06	1.02
Winnipeg	877672	1147794	30.78	1.57
TOTAL	1499374	1905255	27.07	1.38
<u>Saskatchewan</u>				
Assiniboia	4418	4938	11.77	.60
Biggar	3256	3735	14.71	.75
Canora	3793	4306	13.52	.69
Esterhazy	4153	5366	29.21	1.49
Estevan	13503	15015	11.20	.57
Humboldt	5189	6031	17.13	.87
Kamsack	4170	4454	6.81	.35
Kindersley	5791	6890	18.98	.97
Lloydminster	11564	15821	36.81	1.87
Meadow Lake	3462	3809	10.02	.51
Melfort	6808	8233	20.93	1.06
Melville	7453	8018	7.58	.39
Moose Jaw	36103	37966	5.16	.26
Nipawin	5094	6841	34.16	1.74
Battleford	19062	21040	10.38	.53
Prince Albert	33824	37890	12.02	.61
Regina	179556	207226	15.41	.78
Rosetown	4165	4743	13.88	.71
Saskatoon	186897	273418	46.29	2.35
Swift Current	22243	25927	16.56	.84
Tisdale	4373	4835	10.56	.54
Weyburn	12556	14529	15.71	.80
Yorkton	12946	28558	120.59	6.13
TOTAL	1606243	1860050	15.80	.80
<u>Alberta</u>				
Barrhead	4408	5761	30.69	1.56
Brooks	5515	6683	21.18	1.08
Calgary	735673	872155	18.55	.94
Camrose	16935	18465	9.03	.46
Cardston	4228	3474	- 17.83	-.90
Claresholm	3249	3393	4.50	.23
Coaldale	2843	3251	14.35	.73
Drayton Valley	4562	4363	- 4.36	-.22
Drumheller	6066	8261	36.19	1.85

TABLE VII.17 contd.

	1966	1970	% Change '66-'70	% Change Quotient
<u>Alberta - (Continued)</u>				
Edmonton	683855	821542	20.10	1.02
Edson	5697	5872	3.07	.16
Ft. Macleod	3654	3718	1.75	.09
Ft. McMurray	2726	8189	200.40	10.19
Ft. Saskatchewan	13449	17707	31.66	1.61
Grande Prairie	17025	19890	16.83	.86
Hanna	4768	4493	- 5.77	- .29
Hinton	11765	11796	.26	.01
Innisfail	4419	4632	4.82	.25
Lacombe	5852	6268	6.77	.34
Leduc	4987	4597	10.23	.52
Lethbridge	76572	85564	11.74	.60
Lloydminster				
Medicine Hat	52416	56668	8.11	.41
Olds	5158	6046	17.22	.88
Peace River	6281	8563	36.33	1.85
Pincher Creek	4584	4806	4.84	.25
Ponoka	7331	8688	18.51	.94
Red Deer	48316	50486	4.49	.23
Rocky Mtn. House	3039	3677	20.99	1.07
St. Albert	15082	17569	16.49	.84
St. Paul	5819	6882	18.27	.93
Stettler	7612	8490	11.53	.59
Taber	8902	10075	13.18	.67
Vegreville	6315	7940	25.73	1.31
Vermilion	5534	4968	- 10.23	- .52
Wainwright	5509	6082	10.40	.53
Westlock	4599	5416	17.72	.90
Wetaskiwin	10359	11736	13.29	.68
Whitecourt	3403	4316	26.83	1.37
TOTAL	1993552	2336164	17.19	.87

TABLE VII.18

TOTAL MUNICIPAL ASSESSMENTS - PER CAPITA 1966 AND 1970

	Per Capita Assessment - \$		p.c. Ass. of Centre p.c. Ass. of Region		% Change p.c. Ass. 1966-1970	%Change Quotient
	1970	1966				
<u>Manitoba</u>						
Brandon	1543	1254	.89	.84	22.52	1.52
Dauphin	1467	1287	.85	.84	15.75	1.01
Flin Flon	1100	1071	.63	.71	2.67	.18
Lynn Lake	N/A					
Morden	1916	1373	1.10	.91	39.49	2.67
Neepawa	1577	1469	.91	.97	7.38	.49
Portage la Prairie	1424	1200	.82	.79	18.64	1.26
Selkirk	1353	1124	.78	.74	20.38	1.37
Steinbach	1615	1484	.93	.98	8.84	.59
Swan River	1407	1300	.81	.86	8.20	.55
The Pas	959	1172	.55	.77	-18.21	-1.23
Thompson						
Virden	1506	1191	.87	.78	26.46	1.78
Winkler	1456	1442	.84	.95	.93	.06
Winnipeg	2124	1725	1.22	1.14	23.12	1.56
TOTAL	1905	1556	1.10	1.03	22.36	1.51
<u>Saskatchewan</u>						
Assiniboia	1897	1538	1.09	1.02	23.32	1.57
Biggar	1405	1181	.81	.78	18.89	1.27
Canora	1771	1387	1.02	.91	27.67	1.87
Esterhazy	1625	1301	.93	.86	24.86	1.68
Estevan	1630	1490	.94	.98	9.40	.63
Humboldt	1534	1294	.88	.85	18.62	1.75
Kamsack	1652	1398	.95	.92	18.14	1.22
Kindersley	2155	1638	1.24	1.08	31.56	2.13
Lloydminster	4101	3500	2.36	2.32	17.19	1.16
Meadow Lake						
Melfort	1679	1552	.97	1.02	8.17	.55
Melville	1491	1309	.86	.86	13.88	.93
Moose Jaw	1184	1080	.68	.71	9.64	.65
Nipawin	1636	1286	.94	.85	27.22	1.84
Battleford	1659	1554	.95	1.03	6.74	.45
Prince Albert	1378	1287	.79	.85	7.05	.47
Regina	1469	1369	.84	.90	7.31	.49
Rosetown	1902	1566	1.09	1.03	21.41	1.44
Saskatoon	2176	1612	1.25	1.06	34.98	2.36
Swift Current	1695	1535	.97	1.01	10.44	.70
Tisdale	1773	1500	1.02	.99	18.14	1.22
Weyburn	1704	1395	.98	.92	22.16	1.49
Yorkton	2124	1027	1.22	.68	106.74	7.21
TOTAL	1961	1681	1.13	1.11	16.65	1.12
<u>Alberta</u>						
Barrhead	2119	1700	1.22	1.12	24.63	1.66
Brooks	1785	1644	1.03	1.09	8.58	.58
Calgary	2262	2225	1.30	1.47	1.67	.11
Camrose	2076	2025	1.19	1.34	2.53	.17
Cardston	1276	1553	.73	1.03	-17.83	-1.20
Claresholm	1012	1264	.58	.83	-19.91	-1.34
Coaldale	1279	1118	.73	.74	14.35	.97
Drayton Valley	1256	1360	.72	.90	-7.64	-.51
Drumheller	1576	1697	.91	1.12	-7.11	-.48

TOTAL MUNICIPAL ASSESSMENTS - PER CAPITA 1966 AND 1970

	Per Capita Assessment - \$		p.c. Ass. of Centre p.c. Ass. of Region		% Change p.c. Ass. 1966-1970	% Change Quotient
	1970	1966	(c)	(d)		
<u>Alberta - (Continued)</u>						
	(a)	(b)	(c)	(d)		
Edmonton	1944	1704	1.12	1.13	14.10	.95
Edson	1576	1503	.87	.99	.83	.05
Ft. Macleod	1408	1348	.81	.89	4.41	.29
Ft. McMurray	1335	1042	.77	.69	28.05	1.89
Ft. Saskatchewan	3339	3239	1.92	2.14	3.10	.20
Grande Prairie	1650	1484	.95	.98	11.17	.75
Hanna	1769	1810	1.02	1.20	- 2.27	-.15
Hinton	2644	2731	1.52	1.81	- 3.19	-.21
Innisfail	1971	1745	1.13	1.15	12.89	.87
Lacombe	1935	1928	1.11	1.27	.38	.02
Leduc	1454	1746	.84	1.15	-16.69	-1.12
Lethbridge	7163	2059	1.24	1.36	5.05	.34
Lloydminster						
Medicine Hat	2203	2049	1.27	1.35	7.52	.50
Olds	1775	1719	1.02	1.40	3.23	.21
Peace River	1590	1536	.91	1.01	3.48	.23
Pincher Creek	1491	1590	.86	1.05	- 6.24	-.42
Ponoka	1907	1658	1.10	1.09	15.04	1.01
Red Deer	1876	1846	1.08	1.22	1.63	.11
Rocky Mtn. House	1312	1242	.75	.82	5.62	.38
St. Albert	1688	1549	.96	1.02	7.70	.52
St. Paul	1698	1642	.98	1.08	3.43	.23
Stettler	1937	1908	1.11	1.26	1.52	.10
Taber	2147	1941	1.24	1.28	10.59	.71
Vegreville	2102	1755	1.21	1.16	19.80	1.33
Vermilion	1850	2061	1.06	1.36	-10.22	-.69
Wainwright	1628	1424	.94	.94	14.30	.96
Westlock	1744	1712	1.00	1.13	1.86	.12
Wetaskiwin	1817	1724	1.05	1.14	5.43	.36
Whitecourt	1491	1493	.86	.99	-.12	-.00
TOTAL	1481	1362	.85	.90	8.76	.59

TOTAL MUNICIPAL EXPENDITURES
ACCORDING TO MAJOR CATEGORY IN 1966 - \$

	Administration	Protection	Public Works
<u>Québec</u>			
Alma	111,635	358,185	485,956
Amos	51,379	40,722	78,640
Arvida	270,251	274,987	236,283
Asbestos	122,510	150,289	136,490
Aylmer	43,008	88,925	57,473
Bagotville	64,360	67,767	31,726
Baie-Comeau	337,973	207,461	349,884
Beauharnois	457,139	632,604	630,642
Bécancour	61,781	15,233	89,440
Beloeil	76,910	90,984	81,405
Buckingham	148,663	86,233	93,531
Cap-de-la-Madeleine	131,009	320,636	336,078
Chambly	110,601	116,343	131,994
Chibougamau	56,266	89,053	108,793
Chicoutimi	444,597	356,166	352,486
Chicoutimi N.	94,398	108,906	104,743
Coaticook	62,090	77,976	113,839
Cowansville	115,557	124,267	154,607
Dolbeau	149,489	106,924	103,024
Drummondville	406,113	500,435	384,200
Drummondville S.	54,492	85,074	61,103
Farnham	65,103	90,141	68,098
Gatineau	318,291	319,691	664,621
Granby	338,132	461,090	929,644
Grand'Mère	117,847	178,469	324,165
Hauterive	159,098	151,024	311,793
Hull	15,529	16,143	42,545
Iberville	93,890	96,229	100,797
Joliette	464,738	401,525	369,779
Jonquièrre	221,136	289,633	444,064
Kénogami	93,305	137,615	180,900
Lachute	103,173	123,152	137,698
Laç-Mégantic	67,098	98,541	140,339
La Tuque	114,233	184,284	141,398
Magog	158,992	206,531	269,338
Malartic	45,420	72,739	47,172
Maniwaki	32,640	49,574	79,660
Matane	93,941	117,589	85,798
Mont-Joli	57,658	60,181	9,566
Mont-Laurier	44,036	45,324	79,199
Montmagny	83,930	93,317	164,118
Montréal	28,854,640	49,579,617	40,141,500
Noranda	37,714	168,993	159,465
Plessisville	74,872	44,130	104,055
Pointe-Gatineau	103,690	106,006	59,093
Port-Alfred	79,070	95,721	133,355
Québec	3,177,273	6,295,014	5,426,627
Rimouski	352,662	352,277	608,179
Rivière-du-Loup	96,075	135,380	204,100

TABLE VII.22 (cont.)

	Administration	Protection	Public Works
<u>Québec</u> - (Continued)			
Roberval	108,493	56,517	89,027
Rouyn	198,165	313,197	242,156
Ste-Agathe	93,026	85,952	122,704
St-Félicien	83,209	49,532	50,517
St-Georges	132,462	51,877	225,453
St-Georges O.	22,874	27,033	55,429
St-Hyacinthe	367,799	440,532	246,518
St-Jean	229,629	380,942	403,277
St-Jérôme	363,032	349,809	384,843
Ste-Thérèse	44,996	53,959	23,054
Sept-Îles	381,053	358,186	368,039
Shawinigan	554,218	557,930	617,988
Shawinigan S.	141,855	91,143	128,566
Sherbrooke	916,701	1,891,142	1,724,666
Sorel	276,253	345,054	372,013
Terrebonne	23,846	3,784	23,930
Thetford Mines	173,532	252,801	368,454
Tracy	120,304	118,311	279,306
Trois-Rivières	3,252,151	4,065,529	5,640,030
Val-d'Or	138,412	161,385	134,960
Valleyfield	13,138	11,170	28,082
Victoriaville	146,784	270,155	308,122
Windsor	76,259	77,282	106,947
TOTAL	46,692,590	73,878,538	67,469,554

TABLE VII.22 (cont.)

TOTAL MUNICIPAL EXPENDITURES
ACCORDING TO MAJOR CATEGORY IN 1966 - \$

	Health & Welfare	Recreation	Total
<u>Québec</u>			
Alma	43,209	87,905	1,086,890
Amos	4,474	12,126	187,341
Arvida	15,262	240,159	1,036,942
Asbestos	47,490	20,057	476,836
Aylmer	8,034	12,170	209,610
Bagotville	4,561	1,285	169,699
Baie-Comeau	0	84,323	979,641
Beauharnois	34,532	125,804	1,880,721
Bécancour	1,301	1,320	169,075
Beloeil	6,889	48,510	304,698
Buckingham	13,679	9,850	351,956
Cap-de-la-Madeleine	105,103	98,667	991,493
Chambly	0	47,625	406,563
Chibougamau	11,571	41,579	307,262
Chicoutimi	95,055	149,141	1,397,445
Chicoutimi N.	6,866	0	314,913
Coaticook	9,006	15,130	278,041
Cowansville	7,576	12,056	414,058
Dolbeau	6,354	0	365,791
Drummondville	45,557	192,934	1,529,239
Drummondville S.	8,729	11,448	220,846
Farnham	3,289	23,264	249,895
Gatineau	25,954	40,596	1,369,153
Granby	53,635	154,722	1,937,223
Grand'Mère	29,735	94,841	745,057
Hauterive	9,727	7,851	639,493
Hull	1,025	2,315	77,557
Iberville	6,630	4,453	301,999
Joliette	29,372	174,792	1,440,206
Jonquière	75,235	79,890	1,059,958
Kénogami	16,005	77,194	505,019
Lachute	7,509	18,977	390,509
Laç-Mégantic	4,883	16,636	327,497
La Tuque	20,844	151,261	612,020
Magog	29,984	28,870	693,715
Malartic	4,403	44,386	214,120
Maniwaki	4,266	9,829	175,969
Matane	2,544	16,174	316,046
Mont-Joli	5,407	10,990	143,802
Mont-Laurier	2,369	29,616	200,544
Montmagny	8,438	7,370	357,173
Montréal	7,405,771	11,238,598	137,220,126
Noranda	6,860	25,086	398,118
Plessisville	22,955	2,614	248,626
Pointe-Gatineau	10,975	0	279,764
Port-Alfred	6,522	60,588	375,256
Québec	1,250,287	308,236	16,457,437
Rimouski	23,904	87,499	1,424,521
Rivière-du-Loup	12,195	35,609	483,359

TABLE VII.22 (cont.)

<u>Québec - (Continued)</u>	Health & Welfare	Recreation	Total
Roberval	3,408	19,101	276,541
Rouyn	31,437	142,864	927,819
Ste-Agathe	23,446	35,951	361,079
St-Félicien	3,434	7,388	194,080
St-Georges	10,084	20,741	440,617
St-Georges O.	4,803	5,154	115,293
St-Hyacinthe	125,120	403,383	1,383,352
St-Jean	46,516	247,588	1,307,952
St-Jérôme	18,932	192,766	1,309,382
Ste-Thérèse	3,484	3,000	128,493
Sept-Îles	25,685	245,776	1,378,739
Shawinigan	58,588	253,627	2,042,351
Shawinigan S.	6,015	16,550	384,129
Sherbrooke	93,031	666,247	5,291,787
Sorel	48,782	88,699	1,130,801
Terrebonne	3,416	400	55,376
Thetford Mines	42,267	107,314	944,368
Tracy	15,667	43,097	576,685
Trois-Rivières	517,322	1,422,353	14,897,385
Val-d'Or	62,187	102,631	599,575
Valleyfield	995	0	53,385
Victoriaville	20,598	129,595	875,254
Windsor	8,411	20,883	289,780
TOTAL	10,676,183	17,939,054	216,655,919

TABLE VII.23

MUNICIPAL EXPENDITURES BY MAJOR CATEGORIES - 1966

Percent Distribution of Total Expenditures

Québec	ADMINIS- TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH & WELFARE	RECREA- TION
Alma	27.42	21.73	41.97	2.38	6.47
Amos	10.27	32.95	44.71	3.97	8.08
Arvida	26.06	26.51	22.78	1.47	23.16
Asbestos	25.69	31.51	28.62	9.95	4.20
Aylmer	20.51	42.42	27.41	3.83	5.75
Bagotville	37.92	39.93	18.69	2.68	0.75
Baie-Comeau	34.49	21.17	35.71	0	8.60
Beauharnois	24.30	33.63	33.53	1.83	6.68
Bécancour	36.54	9.00	52.89	0.76	0.78
Beloeil	25.24	29.86	26.71	2.26	15.92
Buckingham	42.23	24.50	26.57	3.88	2.79
Cap-de-la-Madeleine	13.21	32.33	33.89	10.60	9.95
Chambly	27.20	28.61	32.46	0	11.71
Chibougamau	18.31	28.98	35.40	3.76	13.53
Chicoutimi	81.81	25.48	25.22	6.80	10.67
Chicoutimi N.	29.97	34.58	33.26	2.18	0
Coaticook	22.33	28.04	40.94	3.23	5.44
Cowansville	27.90	30.01	37.33	1.82	2.91
Dolbeau	46.86	29.13	28.16	1.73	0
Drummondville	26.55	32.72	25.12	2.97	12.61
Drummondville S.	24.67	38.52	27.66	3.95	5.18
Farnham	26.05	36.07	27.25	1.31	9.30
Gatineau	23.24	23.34	48.54	1.89	2.96
Granby	17.45	23.80	47.98	2.76	7.98
Grand'Mère	15.81	23.95	43.50	3.99	12.72
Hauterive	24.87	23.61	48.75	1.52	1.22
Hull	20.02	20.81	54.85	1.32	2.98
Iberville	31.08	31.86	33.37	2.19	1.47
Joliette	32.26	27.87	25.67	2.03	12.13
Jonquière	20.86	27.32	41.89	2.38	7.53
Kénogami	18.47	27.24	35.82	3.16	15.28
Lachute	26.42	31.53	35.26	1.92	4.85
Lac-Mégantic	20.48	30.08	42.85	1.49	5.07
La Tuque	18.66	30.11	23.10	3.40	24.71
Magog	22.91	29.77	38.82	4.32	4.16
Malartic	21.21	33.97	22.03	2.05	20.72
Maniwaki	18.54	28.17	45.26	2.42	5.58
Matane	29.72	37.20	27.14	.80	5.11
Mont-Joli	40.09	41.84	6.65	3.76	7.64
Mont-Laurier	21.95	22.60	39.49	1.18	14.76
Montmagny	23.49	26.12	45.94	2.36	2.06
Montréal	22.91	32.66	31.05	4.41	8.94
Noranda	9.47	42.44	40.05	1.72	6.30
Plessisville	30.11	17.74	41.85	9.23	1.05
Pointe-Gatineau	37.06	37.89	21.12	3.92	0.
Port-Alfred	21.07	25.50	35.53	1.73	16.14
Québec	22.03	29.52	39.02	4.80	4.61
Rimouski	24.75	24.72	42.69	1.67	6.14
Rivière-du-Loup	19.87	28.00	42.22	2.52	7.36

TABLE VII.23 (cont.)

	ADMINIS- TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH & WELFARE	RECREA- TION
<u>Québec</u> - (Continued)					
Roberval	39.23	20.43	32.19	1.23	6.90
Rouyn	21.35	33.75	26.09	3.38	15.40
Ste-Agathe	25.76	23.80	33.98	6.49	9.95
St-Félicien	42.87	25.52	26.02	1.76	3.80
St-Georges	30.06	11.77	57.16	2.28	4.70
St-Georges O.	19.83	23.44	48.07	4.16	4.47
St-Hyacinthe	26.58	31.84	17.82	9.04	14.70
St-Jean	17.55	29.12	30.83	3.55	18.92
St-Jérôme	27.72	26.71	29.39	1.44	14.72
Ste-Thérèse	35.01	41.99	17.94	2.71	2.33
Sept-Îles	27.63	25.97	26.69	1.86	17.82
Shawinigan	27.13	27.31	30.25	2.86	12.41
Shawinigan S.	36.92	23.72	33.46	1.56	4.30
Sherbrooke	17.32	35.73	32.59	1.75	12.59
Sorel	24.42	30.51	32.89	4.31	7.84
Terrebonne	43.06	6.83	43.21	6.16	.72
Thetford Mines	18.37	25.42	39.01	4.47	11.36
Tracy	20.86	20.51	48.43	2.71	7.47
Trois-Rivières	21.83	27.29	37.85	3.47	9.54
Val-d'Or	23.08	26.91	22.50	10.37	17.11
Valleyfield	24.60	20.92	52.60	1.86	0
Victoriaville	16.77	30.86	35.20	2.35	14.80
Windsor	26.31	26.66	36.90	2.90	7.10
TOTAL					

TOTAL MUNICIPAL EXPENDITURES
ACCORDING TO MAJOR CATEGORY IN 1969 - \$

Quebec	Administration	Protection	Public Works
Alma	433,570	380,711	264,393
Amos	36,500	103,150	102,600
Arvida	325,337	320,400	298,463
Asbestos	246,920	202,340	214,095
Aylmer	67,100	153,980	93,420
Bagotville	63,184	92,264	49,795
Baie-Comeau	453,350	292,000	379,090
Beauharnois	116,495	175,075	147,000
Bécancour	101,275	23,000	109,873
Beloeil	223,650	136,173	112,900
Buckingham	161,330	123,825	112,400
Cap-de-la-Madeleine	300,000	482,700	443,702
Chambly	160,876	172,505	138,275
Chibougamau	117,450	125,200	143,300
Chicoutimi	565,420	497,600	599,370
Chicoutimi N.	92,620	150,175	148,500
Coaticook	142,766	88,684	128,613
Cowansville	115,560	180,400	162,370
Dolbeau	156,206	128,608	126,240
Drummondville	512,220	609,300	615,493
Drummondville S.	49,750	123,500	72,000
Farnham	80,450	115,680	71,600
Gatineau	307,627	315,715	351,614
Granby	537,879	613,850	716,875
Grand'Mère	236,736	235,562	412,196
Hauterive	222,062	220,436	388,075
Hull	758,592	1,873,741	921,662
Iberville	106,050	139,335	117,360
Joliette	488,323	526,461	465,300
Jonquièrre	530,137	389,405	329,004
Kénogami	205,179	183,279	198,850
Lachute	203,100	189,500	120,500
Lac-Mégantic	133,392	130,470	100,805
La Tuque	156,000	236,200	168,400
Magog	277,010	263,945	22,500
Malartic	63,759	81,493	59,709
Maniwaki	37,371	74,200	197,947
Matane	76,600	178,500	181,000
Mont Joli	66,405	91,800	113,610
Mont Laurier	97,571	75,260	102,400
Montmagny	222,024	155,514	246,758
Montréal	55,467,131	59,457,985	42,099,141
Noranda	115,875	246,739	182,650
Plessisville	123,580	76,050	103,200
Pointe-Gatineau	129,844	179,300	67,500
Port-Alfred	135,800	145,268	167,100
Québec	5,031,216	8,529,516	6,860,022
Rimouski	381,303	382,355	475,575
Rivière-du-Loup	249,710	208,400	285,810

TABLE VII.24 contd.

Quebec - (Continued)	Administration	Protection	Public Works
Roberval	81,838	101,640	75,240
Rouyn	202,510	418,371	282,250
Ste-Agathe			
St-Félicien	106,549	55,900	60,575
St-Georges	244,170	86,740	123,830
St-Georges O.	63,987	38,931	89,770
St-Hyacinthe	662,185	590,368	375,902
St-Jean	499,755	567,348	451,369
St-Jérôme	458,900	589,408	451,072
Ste-Thérèse	269,536	297,070	321,735
Sept-Îles	488,445	496,565	464,530
Shawinigan	815,549	597,568	601,236
Shawinigan S.	102,392	132,058	64,520
Sherbrooke	1,447,398	2,413,976	1,739,730
Sorel	488,225	418,150	432,540
Terrebonne	174,985	169,258	133,412
Thetford Mines	239,290	341,575	597,795
Tracy	173,000	196,925	266,500
Trois-Rivières	810,675	1,932,000	1,392,000
Val-d'Or	255,675	341,100	241,400
Valleyfield	405,396	559,660	384,000
Victoriaville	145,000	339,200	390,200
Windsor	173,700	94,250	86,100
TOTAL	79,516,465	90,655,610	69,014,761

TABLE VII.24 contd.

	Health & Welfare	Recreation	Total
<u>Quebec</u>			
Alma	36,300	254,179	1,369,153
Amos	-	60,996	303,246
Arvida	38,698	263,811	1,246,709
Asbestos	18,395	11,973	693,723
Aylmer	6,400	8,845	329,745
Bagotville	2,800	27,644	235,687
Baie-Comeau	18,200	264,270	1,406,910
Beauharnois	600	39,385	478,556
Bécancour	16,100	3,800	254,048
Beloell	-	119,543	592,266
Buckingham	11,300	35,362	444,217
Cap-de-la-Madeleine	52,195	209,900	1,488,497
Chambly	-	52,725	524,381
Chibougamau	11,000	71,400	468,350
Chicoutimi	28,020	292,400	2,234,810
Chicoutimi N.	4,500	28,000	423,795
Coaticook	28,400	25,865	414,328
Cowansville	12,300	145,800	612,430
Dolbeau	5,500	40,080	456,634
Drummondville	18,500	230,159	1,985,672
Drummondville S.	3,500	13,500	262,250
Farnham	1,630	34,810	224,178
Gatineau	8,000	128,786	1,111,742
Granby	49,532	329,428	2,247,564
Grand'Mère	13,341	110,319	1,008,154
Hauterive	10,000	193,343	1,033,916
Hull	85,450	605,078	10,244,523
Iberville	4,801	23,057	390,603
Joliette	25,760	200,150	1,705,994
Jonquière	14,710	87,500	1,350,756
Kénogami	13,600	151,596	752,504
Lachute	6,500	40,000	559,600
Lac-Mégantic	2,400	17,650	384,717
La Tuque	24,000	196,600	781,200
Magog	42,400	93,431	699,286
Malartic	4,959	79,815	289,735
Maniwaki	-	-	309,518
Matane	7,000	56,500	499,600
Mont Joli	2,600	38,675	313,090
Mont Laurier	7,300	23,220	305,751
Montmagny	5,000	33,000	662,296
Montréal	8,997,777	16,559,469	182,581,503
Noranda	5,428	48,200	598,892
Plessisville	-	17,675	320,455
Pointe-Gatineau	11,285	56,500	444,429
Port-Alfred	10,800	93,800	552,768
Québec	1,344,225	1,766,675	23,531,654
Rimouski	525	233,892	1,473,650
Rivière-du-Loup	4,000	36,560	784,480

TABLE VII:24 contd.

	Health & Welfare	Recreation	Total
<u>Quebec - (Continued)</u>			
Roberval	-	17,000	275,718
Rouyn	14,384	218,150	1,135,665
Ste-Agathe			
St-Félicien	-	12,696	235,720
St-Georges	4,000	7,000	465,740
St-Georges O.	4,500	9,000	206,188
St-Hyacinthe	69,533	297,965	1,995,955
St-Jean	45,900	305,750	1,870,122
St-Jérôme	14,386	201,281	1,715,047
Ste-Thérèse	12,900	99,220	1,000,461
Sept-Îles	21,100	340,090	1,810,730
Shawinigan	54,741	302,980	2,372,074
Shawinigan S.	6,060	18,415	323,445
Sherbrooke	103,500	894,037	6,598,641
Sorel	17,682	261,745	1,618,342
Terrebonne	4,500	23,000	505,155
Thetford Mines	19,105	173,500	1,371,265
Tracy	1,000	99,500	736,925
Trois-Rivières	40,500	623,000	4,798,175
Val-d'Or	7,200	168,100	1,013,475
Valleyfield	15,580	84,680	1,449,316
Victoriaville	24,200	143,100	1,041,700
Windsor	11,243	57,400	422,693
TOTAL	11,834,745	27,812,925	-

MUNICIPAL EXPENDITURES BY MAJOR CATEGORIES - 1969

Percent Distribution of Total Expenditures

	ADMINIS- TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH & WELFARE	RECREA- TION
<u>Québec</u>					
Alma	31.66	27.80	19.31	2.65	18.56
Amos	12.03	34.01	33.83	0	20.11
Arvida	26.09	25.69	23.94	3.10	21.16
Asbestos	35.59	29.16	30.86	2.65	1.72
Aylmer	20.34	46.69	28.33	1.94	2.68
Bagotville	26.80	39.13	21.12	1.18	11.72
Baie-Comeau	32.22	20.75	26.94	1.29	18.78
Beauharnois	24.34	36.58	30.71	.12	8.22
Bécancour	39.86	9.05	43.24	6.33	1.49
Béloeil	37.76	22.99	19.06	0	20.18
Buckingham	36.31	27.87	25.30	2.54	7.96
Cap-de-la-Madeleine	20.15	32.42	29.80	3.50	14.10
Chambly	30.67	32.89	26.36	0	10.05
Chibougamau	25.07	26.73	30.59	2.34	15.24
Chicoutimi	25.30	22.26	26.81	1.25	13.08
Chicoutimi N.	21.85	35.43	35.04	1.06	6.60
Coaticook	34.45	21.40	31.04	6.85	6.24
Cowansville	18.21	29.45	26.51	2.00	23.80
Dolbeau	34.20	28.16	27.64	1.20	8.77
Drummondville	25.79	30.68	30.99	.93	11.59
Drummondville S.	18.97	47.09	27.45	1.33	5.14
Farnham	35.88	57.60	31.93	.72	15.52
Gatineau	27.67	28.39	31.62	.71	11.58
Granby	23.93	27.31	31.76	2.20	14.65
Grand'Mère	23.48	23.36	40.88	1.32	10.94
Hauterive	21.47	21.32	37.53	.96	18.70
Hull	74.40	18.29	8.99	.83	5.9
Iberville	27.15	35.67	30.04	1.22	5.90
Joliette	28.62	30.85	27.27	1.50	11.73
Jonquière	39.24	28.82	24.35	1.08	6.47
Kénogami	27.26	24.35	26.42	1.80	20.14
Lachute	36.29	33.86	21.53	1.16	7.14
Lac-Mégantic	34.67	33.91	26.20	0.62	4.58
La Tuque	19.96	30.23	21.55	3.07	25.16
Magog	39.61	37.74	3.21	6.06	13.36
Malartic	22.00	28.12	20.60	1.71	27.54
Maniwaki	12.07	23.97	63.95	0	0
Matane	15.33	35.72	36.22	1.40	11.30
Mont-Joli	21.20	29.32	36.28	0.8	12.35
Mont-Laurier	31.91	24.61	33.49	2.38	7.59
Montmagny	33.52	23.48	37.25	.75	4.98
Montréal	30.37	32.56	23.05	4.92	9.06
Noranda	19.34	41.19	30.49	.90	8.04
Plessisville	38.56	23.73	32.20	0	5.49
Pointe-Gatineau	29.21	40.34	15.18	2.53	12.71
Port-Alfred	24.56	26.28	30.22	1.95	16.96
Québec	21.38	36.24	29.15	5.91	7.50
Rimouski	25.87	25.94	32.27	0.03	15.87
Rivière-du-Loup	31.83	26.56	36.43	.50	4.66

TABLE VII.25 (cont.)

	ADMINIS TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH & WELFARE	RECREA- TION
Québec - (Continued)					
Roberval	29.68	36.86	27.28	0	6.16
Rouyn	17.83	26.83	24.85	1.26	19.20
Ste-Agathe	N/A				
St-Félicien	45.20	23.71	25.69	0	5.38
St-Georges	52.41	18.62	26.58	.85	1.50
St-Georges O.	31.03	18.88	43.53	2.18	4.36
St-Hyacinthe	33.17	29.57	18.83	3.48	14.92
St-Jean	26.72	30.33	24.13	2.45	16.34
St-Jérôme	26.75	34.36	26.30	.83	11.73
Ste-Thérèse	26.94	29.69	32.15	1.28	9.91
Sept-Îles	26.97	27.42	25.65	1.16	18.78
Shawinigan	34.38	25.19	25.34	2.30	12.77
Shawinigan S.	31.65	40.82	19.94	1.87	5.69
Sherbrooke	21.93	36.58	26.36	1.56	13.84
Sorel	30.16	25.83	26.72	1.09	16.17
Terrebonne	34.63	33.50	26.41	.89	4.55
Thetford Mines	17.45	24.90	43.59	1.39	12.65
Tracy	23.47	26.72	36.16	.13	13.50
Trois-Rivières	16.89	40.26	29.01	.84	12.98
Val-d'Or	25.22	33.65	23.81	.71	16.58
Valleyfield	27.97	38.61	26.49	1.07	5.84
Victoriaville	13.91	32.56	37.45	2.32	13.73
Windsor	41.09	22.29	20.36	2.65	13.57
TOTAL					

TABLE VII.26

COEFFICIENT OF SPECIALIZATION VALUES FOR MUNICIPAL EXPENDITURES

	1966	1969	ABSOLUTE CHANGE	COMPOSITE % CHANGE 1966-1969
<u>Quebec</u>				
Alma	.13	.11	-.02	- 8.33
Amos	.13	.20	.07	21.21
Arvida	.17	.11	-.05	-17.85
Asbestos	.08	.13	.05	23.80
Aylmer	.10	.17	.07	25.92
Bagotville	.23	.08	-.15	-48.38
Baie-Comeau	.14	.14	0	0
Beauharnois	.04	.10	.06	28.57
Bécancour	.33	.31	-.02	- 3.12
Beloeil	.09	.19	.10	35.71
Buckingham	.19	.08	-.11	-40.74
Cap-de-la-Madeleine	.09	.09	0	0
Chambly	.07	.04	-.03	-27.27
Chibougamau	.07	.11	.04	22.22
Chicoutimi	.13	.10	-.03	-13.04
Chicoutimi N.	.10	.13	.03	13.04
Coaticook	.08	.14	.06	27.27
Cowansville	.09	.15	.06	25.00
Dolbeau	.17	.08	-.09	-36.00
Drummondville	.08	.07	-.01	- 6.66
Drummondville S.	.08	.17	.09	36.00
Farnham	.08	.21	.13	44.82
Gatineau	.16	.08	-.08	-33.33
Granby	.15	.11	-.04	-15.38
Grand'Mère	.14	.17	.03	9.67
Hauterive	.18	.21	.03	7.69
Hull	.22	.29	.07	13.72
Iberville	.09	.08	-.01	- 5.88
Joliette	.12	.04	-.08	-50.00
Jonquièrre	.09	.10	.01	5.26
Kénogami	.09	.11	.02	10.00
Lachute	.06	.09	.03	20.00
Laç-Mégantic	.10	.09	-.01	- 5.26
La Tuque	.16	.15	-.01	- 3.22
Magog	.06	.21	.05	18.51
Malartic	.14	.17	.03	9.67
Maniwaki	.12	.39	.17	33.33
Matane	.12	.16	.04	14.28
Mont Joli	.27	.13	-.14	-35.00
Mont Laurier	.12	.12	0	0
Montmagny	.13	.17	.04	13.33
Montréal	.01	.02	.01	33.33
Noranda	.18	.14	-.04	-12.50
Plessisville	.21	.17	-.04	-10.52
Pointe-Gatineau	.20	.11	-.09	-29.03
Port-Alfred	.10	.12	.02	9.09
Québec	.06	.09	.03	20.00
Rimouski	.11	.13	.02	8.33
Rivière-du-Loup	.09	.15	.06	25.00

TABLE VII.26(cont.)

	1966	1969	ABSOLUTE CHANGE	COMPOSITE % CHANGE 1966-1969
<u>Quebec - (Continued)</u>				
Roberval	.16	.08	-.97	-33.32
Rouyn	.08	.13	.05	23.80
Ste-Agathe	.07			
St-Félicien	.19	.17	-.02	- 5.55
St-Georges	.25	.25	0	0
St-Georges O.	.15	.21	.06	16.66
St-Hyacinthe	.14	.09	-.05	-21.73
St-Jean	.10	.06	-.04	-25.00
St-Jérôme	.10	.05	.05	33.33
Ste-Thérèse	.22	.07	-.15	-51.72
Sept-Îles	.13	.09	-.04	-18.18
Shawinigan	.02	.09	.07	63.63
Shawinigan S.	.14	.11	-.03	-12.00
Sherbrooke	.08	.09	.01	5.88
Sorel	.01	.09	.08	80.00
Terrebonne	.32	.08	-.14	-35.00
Thetford Mines	.10	.21	.11	35.48
Tracy	.15	.14	-.01	-3.44
Trois-Rivières	.06	.15	.09	42.85
Val-d'Or	.14	.07	-.07	-33.33
Valleyfield	.21	.07	-.14	-50.00
Victoriaville	.08	.16	.08	33.33
Windsor	.07	.16	.09	39.13
TOTAL				

TABLE VII.27

TOTAL PER CAPITA EXPENDITURES: 1966 - 1969 (\$)

	1966	1969	PER CENT CHANGE	PER CENT CHANGE CITY OF REGION
<u>Québec</u>				
Alma	48.97	65.61	33.53	.99
Amos	27.39	45.04	64.44	1.91
Arvida	67.58	81.81	21.05	.62
Asbestos	45.30	68.43	51.05	1.51
Aylmer	28.98	45.61	57.38	1.70
Bagotville	28.88	37.41	29.53	.87
Baie-Comeau	80.06	114.13	42.55	1.26
Beauharnois	213.47	53.17	- 75.09	-2.22
Bécancour	20.28	28.49	40.48	1.20
Beloeil	30.03	57.80	92.47	2.74
Buckingham	48.70	56.42	15.85	.47
Cap-de-la-Madeleine	33.67	46.52	38.16	1.13
Chambly	37.65	43.70	16.06	.47
Chibougamau	34.51	49.30	42.85	1.27
Chicoutimi	42.96	57.22	33.19	.98
Chicoutimi N.	24.57	32.29	31.42	.93
Coaticook	39.81	51.76	30.01	.89
Cowansville	38.72	41.66	7.59	.22
Dolbeau	55.17	60.88	10.34	.30
Drummondville	52.34	64.36	22.96	.68
Drummondville S.	25.31	30.88	22.00	.65
Farnham	37.01	47.05	27.12	.80
Gatineau	77.23	56.34	- 27.04	- .80
Granby	56.39	64.77	14.86	.44
Grand'Mère	45.41	63.35	39.50	1.17
Hauterive	56.26	83.38	48.20	1.43
Hull	1.28	73.07	5608.59	166.00
Iberville	35.95	41.13	14.40	.42
Joliette	75.05	82.33	9.70	.28
Jonquièrre	35.73	40.92	14.52	.43
Kénogami	43.78	57.89	32.22	.95
Lachute	38.22	55.33	44.76	1.32
Laç-Mégantic	47.06	53.41	13.49	.40
La Tuque	45.15	57.87	28.17	.83
Magog	50.28	64.08	27.44	.81
Malartic	32.41	41.39	27.70	.82
Maniwaki	27.47	38.84	41.39	1.22
Matane	28.44	43.45	52.77	1.56
Mont-Joli	22.58	41.26	82.72	2.45
Mont-Laurier	32.66	37.27	14.11	.41
Montmagny	29.17	56.12	92.38	2.74
Montréal	97.29	136.8	40.61	1.20
Noranda	34.56	51.70	49.59	1.47
Plessisville	34.35	45.89	33.59	.99
Pointe-Gatineau	25.31	36.42	43.89	1.30
Port-Alfred	39.29	60.08	52.91	1.57
Québec	87.30	143.48	64.35	1.91
Rimouski	70.07	58.44	- 16.59	- .49
Rivière-du-Loup	41.54	60.32	45.20	1.34

TABLE VII.27 (cont.)

	1966	1969	PER CENT CHANGE	PER CENT CHANGE CITY OF REGION
<u>Québec - (Continued)</u>				
Roberval	32.34	29.22	- 9.64	- .28
Rouyn	49.93	60.03	20.22	.60
Ste-Agathe	60.08	- -	- -	- -
St-Félicien	38.03	47.15	23.98	.71
St-Georges	65.96	70.78	7.30	.21
St-Georges O.	20.82	39.43	89.38	2.65
St-Hyacinthe	58.71	84.48	43.89	1.30
St-Jean	47.08	61.88	31.43	.93
St-Jérôme	49.39	61.14	23.79	.70
Ste-Thérèse	8.27	59.28	621.16	18.43
Sept-Îles	72.76	90.54	24.43	.72
Shawinigan	66.26	78.15	17.76	.52
Shawinigan S.	31.36	27.05	- 13.74	- .40
Sherbrooke	69.91	86.51	23.74	.70
Sorel	59.45	80.50	35.40	1.05
Terrebonne	7.40	64.60	772.97	22.94
Thetford Mines	43.69	63.20	44.65	1.32
Tracy	52.82	61.41	16.26	.48
Trois-Rivières	258.90	75.27	- 70.92	-2.10
Val-d'Or	49.36	55.37	12.17	.36
Valleyfield	1.83	47.52	2496.70	74.10
Victoriaville	41.05	48.29	17.63	.52
Windsor	44.61	65.78	47.45	1.40
TOTAL	56.04	74.92	33.69	

TABLE VII.29

PER CENT CHANGE OF MUNICIPAL EXPENDITURES BY MAJOR
SECTOR: 1966 - 1969

	ADMINIS- TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH WELFARE	RECREA- TION	TOTAL
<u>Québec</u>						
Alma	288.38	62.88	- 45.59	- 15.98	- 86.47	25.96
Amos	- 28.95	153.30	30.46	-100.00	403.01	61.86
Arvida	20.38	16.51	26.31	153.55	9.84	20.22
Asbestos	101.55	34.63	56.85	- 61.26	- 40.30	45.48
Aylmer	56.01	73.15	62.54	- 20.33	- 27.32	57.31
Bagotville	- 1.82	36.14	56.95	- 38.60	2051.78	38.88
Baie-Comeau	34.13	40.74	8.34	100.00	213.40	43.61
Beauharnois	- 74.51	- 72.32	- 76.69	- 98.26	- 68.69	- 74.55
Bécancour	63.92	50.98	22.84	1137.50	187.87	50.25
Beloil	190.79	49.66	38.68	-100.00	146.42	94.37
Buckingham	8.52	43.59	20.17	- 17.39	259.00	26.12
Cap-de-la-Madeleine	128.99	58.54	32.02	- 50.33	112.73	50.12
Chambly	45.45	48.27	4.75	0	10.70	28.95
Chibougamau	108.74	40.59	31.71	- 4.93	71.72	52.42
Chicoutimi	27.18	34.65	70.04	- 70.52	96.05	59.92
Chicoutimi N.	- 1.88	37.89	38.91	- 34.45	100.00	34.57
Coaticook	129.93	13.73	12.97	215.34	70.95	49.01
Cowansville	- 3.45	45.17	5.02	62.35	1109.35	47.90
Dolbeau	2.48	20.27	22.53	- 13.44	100.00	24.83
Drummondville	26.12	21.75	60.20	- 59.39	19.29	10.22
Drummondville S.	- 8.70	45.16	17.83	- 59.90	17.92	18.86
Farnham	23.57	28.33	5.14	- 50.44	49.63	- 10.29
Gatineau	- 3.35	- 1.24	- 47.09	- 69.17	217.23	- 18.80
Granby	59.07	33.13	- 22.88	- 7.64	112.91	16.01
Grand'Mère	100.88	31.99	27.15	- 55.13	16.31	35.31
Hauterive	39.57	45.96	24.46	2.80	2362.65	61.67
Hull	4785.00	11507.14	2066.32	8236.58	26037.27	13109.00
Iberville	12.95	44.79	16.43	- 27.58	417.78	29.33
Joliette	5.07	31.11	25.83	- 12.29	14.50	18.45
Jonquièrre	139.73	34.44	- 25.91	- 41.70	9.52	27.43
Kénogami	119.90	33.18	9.92	- 15.02	96.38	49.00
Lachute	96.85	53.87	- 12.48	- 13.43	110.78	43.30
Laç-Mégantic	98.80	37.40	- 28.17	- 50.84	6.09	17.47
La Tuque	36.56	28.17	19.09	15.14	29.97	27.64
Magog	74.22	27.79	- 91.64	41.40	223.62	.80
Malartic	40.37	12.03	26.57	12.62	79.82	35.31
Maniwaki	14.49	49.67	148.48	-100.00	-100.00	75.89
Matane	- 18.45	51.79	110.96	175.15	249.31	58.07
Mont-Joli	15.17	52.53	1087.65	- 51.91	251.91	117.72
Mont-Laurier	121.57	66.04	29.29	208.14	- 21.59	52.46
Montmagny	164.53	66.65	50.35	- 40.74	347.76	85.42
Montréal	92.22	19.92	4.87	21.49	47.34	33.05
Noranda	207.24	45.99	14.53	- 20.87	92.13	50.43
Plessisville	65.05	72.33	- .82	-100.00	574.25	28.89
Pointe-Gatineau	25.22	69.14	14.22	2.82	100.00	58.85
Port-Alfred	71.74	51.76	25.30	65.59	54.81	47.30
Québec	58.35	35.49	26.41	7.51	473.15	42.98
Rimouski	8.12	8.53	- 21.80	- 97.80	167.30	3.44
Rivière-du-Loup	159.91	53.93	40.03	- 67.19	2.43	62.29

TABLE VII.29 (cont.)

	ADMINIS- TRATION	PROTEC- TION	PUBLIC WORKS	HEALTH & WELFARE	RECREA- TION	TOTAL
<u>Québec</u> - (Continued)						
Roberval	- 24.56	1849.21	- 15.48	- 100.00	- 10.99	- .29
Rouyn	2.19	33.58	16.55	- 54.24	52.69	1100.17
Ste-Agathe						
St-Félicien	28.04	12.85	19.91	- 100.00	71.84	21.45
St-Georges	84.33	67.20	- 45.00	- 60.33	- 66.25	5.70
St-Georges O.	179.73	44.01	61.95	- 6.30	74.62	78.83
St-Hyacinthe	80.03	34.01	52.48	- 44.42	46.50	44.28
St-Jean	117.63	48.93	11.92	- 1.32	23.49	42.98
St-Jérôme	26.40	68.68	17.20	- 24.01	4.41	30.98
Ste-Thérèse	499.02	420.08	1295.57	270.26	3207.33	678.61
Sept-Îles	28.18	38.63	26.21	- 17.85	38.37	31.33
Shawinigan	47.15	7.10	- 2.71	- 6.56	19.45	16.14
Shawinigan S.	- 27.81	44.89	- 49.81	.74	11.26	- 15.79
Sherbrooke	57.89	27.64	.87	11.25	34.19	24.69
Sorel	76.73	- 87.87	16.27	- 63.75	195.09	43.11
Terrebonne	633.81	4372.99	457.50	31.73	5650.00	812.22
Thetford Mines	37.89	35.11	62.24	- 54.79	61.67	45.20
Tracy	43.80	66.44	- 4.58	- 93.61	130.87	27.78
Trois-Rivières	- 75.07	- 52.47	- 75.31	- 92.17	- 56.19	- 67.79
Val-d'Or	84.72	111.35	78.86	- 88.42	63.79	73.09
Valleyfield	2985.67	4910.38	1267.42	1465.82	100.00	2614.83
Victoriaville	- 1.21	25.55	26.63	17.48	10.42	19.01
Windsor	127.77	21.95	- 19.49	33.67	174.86	45.86
TOTAL	70.29	22.70	2.29	10.85	55.04	28.69

TABLE VII.31

TOTAL MUNICIPAL ASSESSMENTS 1966 and 1969

	TOTAL ASSESSMENTS - \$		% Change 1966-1969	% Change Centre % Change Region
	1966	1969		
<u>Québec</u>				
Alma	132,017,462	145,901,920	10.01	.45
Amos	12,545,801	14,826,015	18.17	.82
Arvida	67,056,965	83,490,130	24.50	1.11
Asbestos	53,863,780	59,869,040	11.14	.50
Aylmer	12,029,880	16,718,685	38.97	1.77
Bagotville	10,211,080	10,481,700	2.65	.12
Baie-Comeau	37,342,300	104,819,500	180.70	8.22
Beauharnois	14,941,009	16,100,000	7.75	.35
Bécancour	5,923,497	19,000,000	2.20	10.03
Beloeil	25,833,000	36,500,000	41.29	1.87
Buckingham	23,811,704	25,507,833	7.12	.32
Cap-de-la-Madeleine	48,507,190	62,837,870	29.54	1.34
Chambly	29,118,961	34,607,079	18.85	.85
Chibougamau	15,750,496	19,468,908	23.60	1.07
Chicoutimi	94,245,979	118,105,540	25.31	1.15
Chicoutimi N.	11,560,030	26,877,420	132.50	6.02
Coaticook	7,659,705	15,255,388	99.15	4.51
Cowansville	11,600,000	38,431,170	231.30	10.52
Dolbeau	20,029,470	23,115,361	15.40	.70
Drummondville	69,206,765	81,030,240	17.95	.81
Drummondville S.	11,864,250	13,683,615	15.34	.69
Farnham	12,026,740	17,512,390	45.61	2.07
Gatineau	59,100,759	89,859,287	52.04	2.36
Granby	58,239,720	85,031,945	46.00	2.09
Grand'Mère	25,033,054	26,471,175	5.74	.26
Hauterive	40,934,005	49,384,200	20.64	.93
Hull	428,031,147	---	---	---
Iberville	16,572,650	20,755,945	25.23	1.14
Joliette	50,397,800	57,544,680	14.18	.64
Jonquièrre	23,175,970	65,685,080	183.41	8.34
Kénogami	12,473,760	34,066,220	173.09	7.87
Lachute	16,088,000	25,569,825	58.93	2.68
Lac-Mégantic	10,746,900	13,766,950	28.10	1.27
La Tuque	48,282,374	52,858,374	9.47	.43
Magog	38,541,225	38,170,325	-.96	-.04
Malartic	11,053,746	12,794,580	15.74	.71
Maniwaki	9,511,840	10,701,920	12.51	.56
Matane	13,627,030	29,867,985	119.16	5.42
Mont-Joli	11,641,275	13,707,300	17.74	.80
Mont-Laurier	13,708,447	16,832,840	22.78	1.03
Montmagny	21,023,870	23,415,619	11.37	.51
Montréal	5,009,534,370	6,072,822,077	21.22	.96
Noranda	22,426,868	23,141,066	3.18	.14
Plessisville	17,439,900	23,559,900	35.09	1.59
Pointe-Gatineau	12,717,780	28,925,410	127.43	5.79
Port-Alfred	31,744,940	33,227,430	4.67	.21
Québec	396,297,230	515,554,725	30.09	1.36
Rimouski	37,889,625	60,558,875	59.82	2.72
Rivière-du-Loup	17,971,328	19,998,441	11.27	.51

TABLE VII.31 (cont.)

TOTAL MUNICIPAL ASSESSMENTS 1966 and 1969

Québec - (Continued)	TOTAL ASSESSMENTS - \$		% Change	$\frac{\% \text{ Change Centre}}{\% \text{ Change Region}}$
	1966	1969	1966-1969	
Roberval	16,762,825	20,636,800	23.11	1.05
Rouyn	28,614,157	31,287,987	9.34	.42
Ste-Agathe	22,327,565	-	-	-
St-Félicien	9,105,800	9,700,400	5.82	.26
St-Georges	16,763,911	18,349,937	9.46	.43
St-Georges O.	9,578,700	10,948,700	14.30	.65
St-Hyacinthe	81,316,046	90,108,119	10.81	.49
St-Jean	48,987,090	100,013,709	104.16	4.73
St-Jérôme	56,228,800	70,523,700	25.42	1.15
Ste-Thérèse	13,709,404	-	-	-
Sept-Îles	88,440,850	93,459,550	5.67	.25
Shawinigan	170,919,534	178,055,789	4.17	.18
Shawinigan S.	17,071,625	18,494,075	8.32	.37
Sherbrooke	149,253,150	175,347,250	17.48	.79
Sorel	43,130,600	58,114,700	34.74	1.58
Terrebonne	17,227,010	23,000,000	33.51	1.52
Thetford Mines	59,236,212	64,808,565	9.40	.42
Tracy	47,008,605	60,762,575	29.25	1.33
Trois-Rivières	196,093,787	185,220,117	- 5.54	-.25
Val-d'Or	28,680,630	43,226,365	50.71	2.30
Valleyfield	42,248,484	49,241,584	16.55	.75
Victoriaville	42,180,500	59,784,900	41.73	1.89
Windsor	19,447,520	19,696,290	1.27	.05
TOTAL	20,973,081,129	25,583,072,000	21.98	1.00

TABLE VII.32

TOTAL MUNICIPAL ASSESSMENTS - PER CAPITA 1966 and 1969

	Per Capita Assessment - \$		p.c.Ass. of Centre p.c.Ass. of Region		% Change p.c. Ass. 1966-1969	% Change (Quotient)
	1969	1966	1969	1966		
<u>Québec</u>						
Alma	6225	5975	1.55	1.64	4.19	.39
Amos	2118	1834	.52	.50	15.43	1.44
Arvida	4557	4370	1.13	1.20	4.26	.39
Asbestos	5767	5113	1.43	1.40	12.78	1.19
Aylmer	2290	1663	.57	.45	37.66	3.52
Bagotville	1637	1737	.40	.47	- 5.75	-.53
Baie-Comeau	8382	3051	2.08	.84	174.68	16.35
Beauharnois	1788	1695	.44	.46	5.48	.51
Bécancour	2138	710	.53	.19	200.92	18.81
Beloeil	3139	2544	.78	.70	23.38	2.18
Buckingham	3228	3294	.80	.90	- 2.00	-.18
Cap-de-la-Madeleine	1904	1647	.47	.45	15.58	1.45
Chambly	2884	2697	.71	.74	6.91	.64
Chibougamau	2049	1769	.51	.48	15.83	1.48
Chicoutimi	3364	2897	.83	.79	16.11	1.50
Chicoutimi N.	1976	902	.49	.24	119.06	11.14
Coaticook	1883	1076	.46	.30	71.71	6.71
Cowansville	3324	1084	.82	.29	206.42	19.32
Dolbeau	3090	3021	.76	.83	2.28	.21
Drummondville	2651	2368	.66	.65	11.93	1.11
Drummondville S.	1609	1359	.40	.37	18.39	1.72
Farnham	2731	1781	.68	.49	53.36	4.99
Gatineau	4088	3333	1.01	.91	22.62	2.11
Granby	2450	1695	.61	.46	44.52	4.16
Grand'Mère	1533	1525	.38	.42	.47	.04
Hauterive	3821	3601	.95	.99	6.10	.57
Hull						
Iberville	2165	1972	.53	.54	9.76	.91
Joliette	2761	2626	.68	.72	5.12	.48
Jonquièrre	1990	781	.49	.21	154.75	14.49
Kénogami	2725	1081	.67	.29	157.99	14.23
Lachute	2090	1574	.52	.43	32.71	3.06
Lac-Mégantic	2009	1544	.50	.42	30.08	2.81
La Tuque	3886	3562	.96	.98	9.10	.85
Magog	2810	2793	.69	.76	.60	.05
Malartic	1881	1673	.46	.46	12.44	1.16
Maniwaki	1337	1485	.33	.40	- 9.93	-.93
Matane	2513	1226	.62	.33	104.87	9.81
Mont-Joli	2001	1828	.49	.50	9.42	.88
Mont-Laurier	1947	2232	.48	.61	-12.76	-1.19
Montmagny	1843	1717	.45	.47	7.35	.68
Montréal	2125	2055	.52	.56	3.39	.31
Noranda	2073	1946	.51	.53	6.52	.61
Plessisville	3293	2394	.82	.66	37.52	3.51
Pointe-Gatineau	2035	1150	.50	.31	76.91	7.20
Port-Alfred	3497	3323	.87	.91	5.23	.48
Québec	1128	958	.28	.26	17.72	1.65
Rimouski	2323	1863	.57	.51	24.66	2.30
Rivière-du-Loup	1538	1544	.38	.42	- .38	-.03

TABLE VII.32 (cont.)

	Per Capita Assessment - \$		p.c.Ass. of Centre p.c.Ass. of Region		% Change p.c. Ass. 1966-1969	% Change (Quotient)
	1969	1966	1969	1966		
<u>Québec - (Continued)</u>						
Roberval	2326	1960	.57	.54	18.67	1.74
Rouyn	1661	1539	.46	.42	7.91	.74
Ste-Agathe						
St-Félicien	1933	1795	.48	.49	7.68	.71
St-Georges	2622	2509	.65	.69	4.48	.42
St-Georges O.	1977	1729	.49	.47	14.34	1.34
St-Hyacinthe	3719	3419	.92	.94	8.77	.82
St-Jean	2778	1763	.69	.48	57.56	5.39
St-Jérôme	2350	2120	.58	.58	10.83	1.01
Ste-Thérèse						
Sept-Îles	4329	4667	1.07	1.28	- 7.22	- .67
Shawinigan	5785	5553	1.44	1.53	4.17	.39
Shawinigan S.	2175	1393	.54	.38	56.12	5.25
Sherbrooke	2141	1971	.53	.54	8.60	.80
Sorel	2876	2267	.71	.62	26.87	2.57
Terrebonne	2821	2303	.70	.63	22.49	2.10
Thetford Mines	2956	2740	.73	.75	7.88	.73
Tracy	4980	4305	1.24	1.18	15.66	1.46
Trois-Rivières	2601	3407	.64	.93	-23.66	-2.21
Val-d'Or	2336	2361	.58	.65	- 1.04	- .09
Valleyfield	1595	1451	.39	.40	9.92	.92
Victoriaville	2524	1978	.62	.54	27.59	2.58
Windsor	3117	2993	.77	.82	4.14	.38
TOTAL	4051	3628	1.00	1.00	10.68	1.00

Building Activities

Introduction

An examination of the municipal infrastructure would be incomplete if no mention was made about local building activities. In the days of the pioneer, instant prosperity meant instant towns, and instant towns in turn meant intensive activity in the building trade. During these times, the state of the building sector was an accurate barometer of the economic climate of a particular town. The depletion of an ore reserve or a timber stand invariably resulted in a dramatic decline of population. In many instances, what were once thriving settlements were literally transformed over-night into ghost towns. Today, one still finds similar situations arising - but the transformations are less dramatic. Because of the large amounts of fixed capital investments accumulated over the years, the total abandonment of a centre due to the depletion of a basic raw material is neither socially or economically expedient. The substitution of one industry by another or the introduction of an entirely new industry, prompted in many cases by government intervention, are several ways in which the economy of a "dying" community can be revitalized.

Indirect governmental intervention can also have a negating effect upon the activities of a settlement. The abandonment of railway lines, or the closure of marginally productive plants (to mention just two) are measures which inextricably affect the livelihood of the local residents. The building trade is the first to suffer. When money is scarce, the private individual is financially unable to afford building improvements on his property. Construction companies and real estate agencies are reluctant to invest large sums of money. Conversely, in times of economic prosperity public institutions and, to a lesser extent, private individuals are more willing to capitalize on fixed investments. The building industry under these circumstances would enjoy a healthy state of affairs.

A major problem encountered in measuring the level of building activities, is the selection of variables used. The number of persons employed in this industry gives some indication of magnitude. Trends in employment figures would also show whether this industry has declined in manpower strength over the selected time period. However, one should not place too much reliability on these figures since they do not take into account the effects of technological progress. For example, a centre in which the number of persons employed in the building industry have actually declined does not necessarily infer that it has experienced a decline in building activities. Rather, such a reduction in the labour force could be attributed to technological improvements that have introduced labour-saving devices thereby actually increasing productivity per worker.

One of the most reliable indicators of building activities is the number and value of building permits issued. The assumption here is that a centre which experiences a marked increase in the value of building permits would indicate a stable or prosperous economy. Conversely, a centre in which the volume of building permits has declined sharply would represent a community that was experiencing depressed economic times.

Purpose

The underlying objective of this section is simply to discuss building activities in terms of the issuance of building permits. Three aspects will be covered. The first involves an examination of absolute values according to type of permit issued. The second discusses trends in terms of growth rates of both total as well as per capita values. The third aspect ranks centres in appropriate classes.

Methodology

The methodology adopted in this section is straight forward. The basic source of information used is dollar values of approved building permits. These values relate to the construction of buildings that have actually been completed. Four types of building permits were examined and these were: - 1. residential, 2. industrial, 3. commercial and 4. institutional. Residential permits include the

construction and/or improvements of only self-contained housing units. These units may take the form of single or family residences, double residential units (such as duplexes), and apartment complexes. Industrial permits are issued for buildings used for: manufacturing and processing; transportation, communication and other utilities, and agriculture, forestry, mine and mill buildings. Commercial permits include the building and/or improvements of stores, warehouses, garages, office buildings, theatres, hotels, beauty salons and other miscellaneous commercial constructions. Permits approved for institutional building constructions include schools, universities, hospitals, clinics, churches, homes for the aged, and underprivileged, government offices and administration buildings, defence and protection buildings, and units which involve support and maintenance services of the above mentioned buildings.

The analyses of data is carried out in three inter-related stages. The first of these outlines total absolute values for each individual year spanning 1966 to 1970 inclusive as well as the summations of these values. Reiterating a point made in the Introductory chapter, a five-year period is considered to be an adequate time interval in which to identify short-term trends. Annual absolute values are subsequently reported in terms of per cent distribution according to each of the four categories. Tables containing this information will highlight those centres in which a particular building activity plays a dominant role. To emphasize the dominance of one sector over another in a particular centre, location quotients have been calculated. The values of these quotients will reveal the degree to which the per cent distribution of a given centre varies with the regional average.

The second stage focuses upon relative as opposed to absolute values. Per capita values and rates of growth are covered in two stages. To arrive at these values, two approaches were adopted. In the case of the former, the calculations of per capita values were conditioned by several major constraints. The first of these involved the erratic nature of building permit values, and the second related to the absence of annual population figures. Because total building permit values varied markedly between the various years (in the majority of cases

no consistent trends were evident) per capita annual values would also reflect dramatic variations. To use these latter values for identifying trends would be spurious. Moreover, annual population figures for the years 1966 to 1970 are not wholly available. Only 1966 and 1970 values have been published. (The latter, it may be recalled were furnished by health authorities.) Therefore, to provide any reliable per capita figures, the only information that can be reliably used include population values for the two years 1966 and 1970; and total values of building permits for the years 1966 to 1970 inclusive. The final calculation of per capita values was obtained from dividing total value of building permits by average population figures - the latter representing the average for 1966 and 1970. The limitations arising from adopting this method are fully acknowledged. However, it is felt that, under the existing data restraints, such calculations will nevertheless be useful for identifying certain phenomena.

Similar problems to those encountered in computing per capita values also arose when rates of growth were calculated. The erratic nature of total annual building permit figures prevented the inclusion of the commonly accepted growth-rate techniques. In most of the calculations involving rates of growth (or per cent change) the report so far has adopted the simple technique of only using two years - the first and last of a given time interval. If such a technique was used to determine growth rates of the building industry, the ensuing results would be totally inaccurate. To overcome the element of error, a relative growth rate involving a moving time series was computed. This rate was obtained by first calculating the rates of growth of the first year (1966) and the second year (1967), adding this value to the growth rates of year one and year three, adding this value to the growth rates of year one and year four, and then adding the growth rates of year one and year five. The same procedure was carried out using 1967 as year one, then 1968, and so on, until the final addition was the rate of growth between 1969 and 1970. The relative growth rate was arrived at by calculating the average of all the values. For an account of calculations using moving averages, the reader may refer to Isard's publication: "Methods of Regional Analysis".¹

1 Walter Isard: Methods of Regional Analysis, M.I.T. Press, 1966, Chapter 11.

The third and final stage of this section involves a discussion of the relative importance that each centre plays in a functional classification of building activities. Percent distribution of the major activities, per capita values, and the growth rates of each centre, are the three variables used to construct hierarchies. To determine which centres are "atypical", several graphs have been included which plot value of building permits against size of centre. Those centres which vary markedly with the overall trend can be considered as atypical whether they fall above or below the line depicting this general trend.

The identification of atypical centres is based upon one overriding assumption. This section assumes that larger centres will invest greater amounts in all forms of building activities than smaller ones. A centre, therefore, falling into a particular population size category which expends a far lower amount in building activities than the remaining centres in the same category, can be considered "atypical". Per capita values can be used to rank centres in a given class size so that their relative position can be determined.

Analysis involving causal relationships lie outside the scope of this section. However, such examinations are essential if one wants to discover the major forces which have influenced the building activities. Once these forces are known, the decision-maker will have at his disposal relative information with which to formulate a building policy.

PRAIRIES

1. Findings and Observations

Tables VII.36 to VII.41 inclusive, addended at the end of this chapter, have been included to show the absolute values of building permits issued for annual values. Absolute values in themselves say very little about building activities, but they do however provide basic data for subsequent analysis. Three further calculations have used absolute figures and these are: 1. percent distribution according to type of building activity, 2. per capita values, and 3. rates of growth.

a. Percent Distribution

It has already been pointed out in the introductory comments to this section that the values of building permits varied considerably from one year to another. Tables VII.36 to VII.41 inclusive substantiate this point. An examination therefore of the percent distribution according to building categories for each centre on an annual basis, would provide misleading information for a trend analysis. However, where this information would be useful is when it illustrates certain phenomena at a given point in time. For example, as the following tables will show, residential construction represents for the most part the greatest amount of funds expended in the building industry. The question that arises is to what extent do values for the individual centre vary with those for the region. To answer this question, Tables VII.42 to VII.45 have been included. The first three of these outline the percent distribution by sector for the first and last years of the selected time period (1966 and 1970) as well as the average value for all years. The fourth table (Table VII.45) presents quotient values for each centre - that is it shows the percent distribution of one centre measured against regional values.

Several observations can be made from Tables VII.42 through VII.44

inclusive. First, no consistent trend arises between 1966 and 1970 values. Many centres which invested the greater proportion of capital in one particular sector during 1966, directed a far smaller amount towards the same activity in 1970. In fact, for several centres a completely contrasting situation arose in which the dominant sector of a former year became the least important for a subsequent year. Second, with very few exceptions industrial permits represented the smallest amount of funds. For only two centres was this sector the most important. In 1966, 47.4% of Prince Albert's total building activities comprised industrial construction. Over the 1966-1970 period, industrial construction represented 46.0% of the total building construction for The Pas. This exceedingly high value is attributed to the fact that this latter sector has experienced an unprecedented rate of growth in mining and associated fields. Third, institutional and governmental building activities played a more important role in Alberta than it did for the two remaining provinces in 1966. However, for average annual values, (Table VII.44), the percent distribution according to each category was remarkably similar for the three provinces.

The relationship between the percent distribution of each centre with that of the region (in this case, the province represents the region) is shown in Table VII.45. The greatest variation is found in the industrial sector in which the values range between a low of 0.04 (Assiniboia), and a high of 5.41 (The Pas). The first of these two extremes emphasizes that the centre in which industrial building construction plays the least important role, (Assiniboia) displays a percentage value which is approximately twenty-five times lower than the province's average. The second extreme value illustrates that industrial construction in The Pas is relatively far more dominant for this centre than it is for the Prairies as a whole by a factor of 5:1.

The smallest variation of location quotients is found in the residential sector. This is seen from the fact that the extremes range between .36 -(Fort McLeod) to 1.66 -(Biggar) with the Prairie average being around 1. Such a phenomenon would be expected since residential construction represents

the most ubiquitous of all building activities. It is an obvious fact that people will always need houses regardless of the nature of the economic base of the community in which they live. The two remaining sectors (commercial and institutional), exhibit slightly larger variations than residential values. But these variations are far less acute than those found in the industrial sector.

b. Per Capita Values

Table VII.46 outlines per capita values of building construction for Prairie centres for the 1966 to 1970 period. Several conclusions can be drawn from this table. First, in terms of provincial comparisons, Alberta communities expend a larger amount of funds for all forms of building construction on a per capita basis than both Manitoba and Saskatchewan centres. In fact, the individual Albertan spends more than twice as much on building activities than his eastern neighbour living in Saskatchewan. A second observation relates to the range of per capita values. The Pas again stands out as having the largest figure while Flin Flon receives the lowest score. The reason for the former's high value is probably due to the marked increases in all building activities during the last few years in conjunction with a marginal increase in population. Flin Flon's low value on the other hand may be attributed to a faster population growth rate and a relatively low growth rate in the building industry.

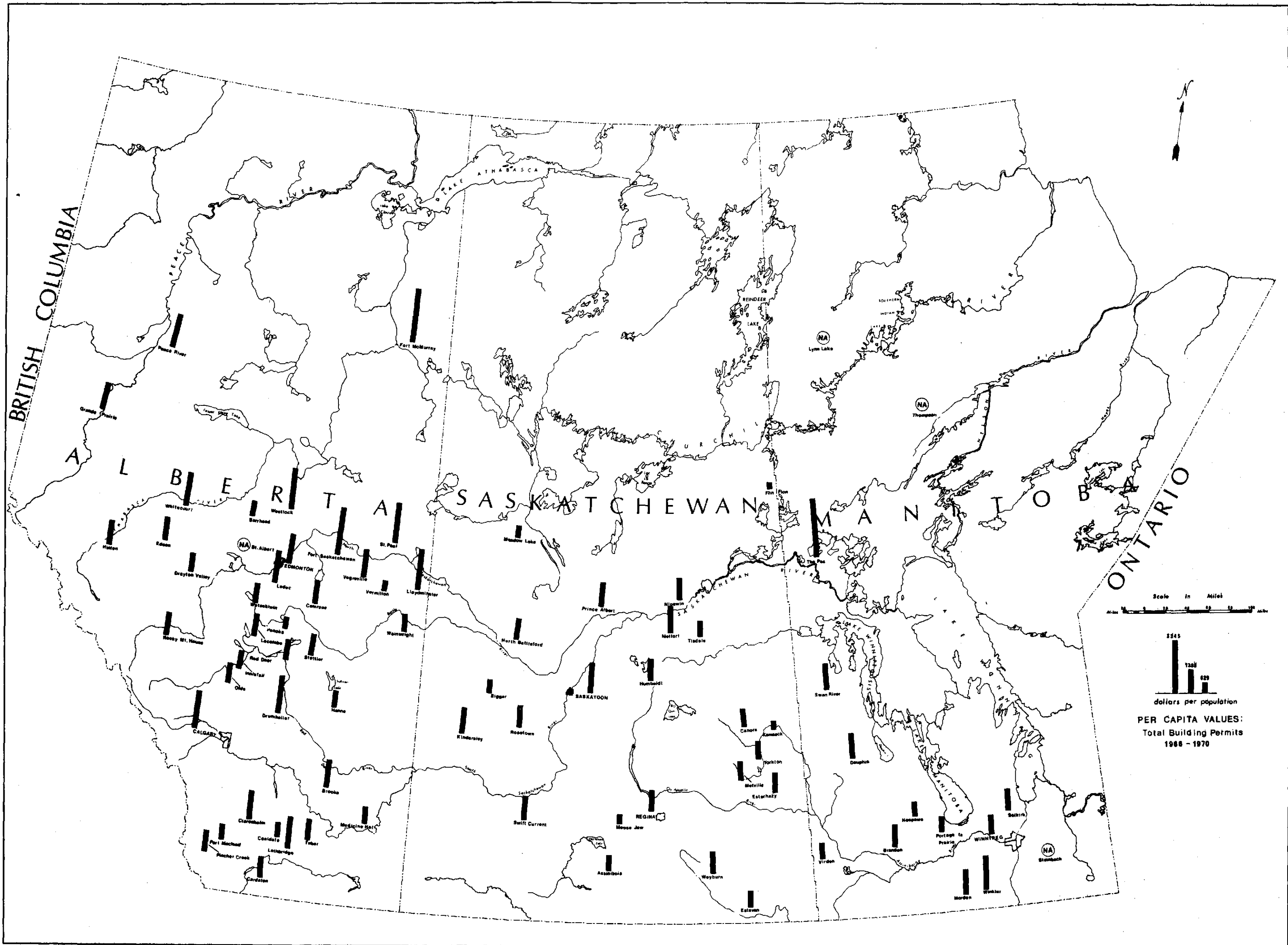
A final observation, and one which is directed specifically to the per capita values for a particular centre, concerns the exceedingly low value of Moose Jaw. Of all the selected centres in the Prairies, Moose Jaw is seen to have the third lowest per capita value. What further emphasizes this extremely low value is the fact that Moose Jaw experienced a very low population growth rate and a relatively high out-migration of people over this period. The low per capita value therefore is due in part to its population characteristics. The other factor which is responsible for the low per capita value is the dramatic decline of the overall building industry. This latter

point will be pursued further under that sector which deals with growth rates in the building industry.

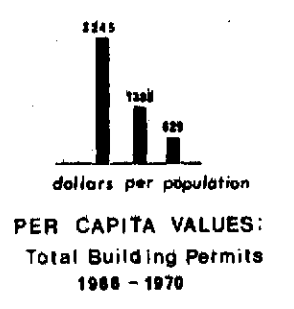
To graphically illustrate some of the above-mentioned points relating to per capita characteristics, Map VII.7 has been included. Again, the most apparent observation seen from this map is the position of Alberta settlements in relation to the remaining two provinces. For the majority of centres, those in Alberta appear higher than those in Manitoba; and those Manitoba centres in turn are seen to expend higher amounts of funds in building activities than Saskatchewan settlements.

The main contribution of Map VII.7 lies in providing a spatial distribution of per capita values. Three general trends arise. The first of these is the existence of high values along the northern extremities of the Prairies. For example, the average per capita values of Thompson, Flin Flon and The Pas, (the three northernmost centres in Manitoba), Nipawin, Prince Albert, and Meadow Lake, (the three northernmost centres in Saskatchewan), and Fort McMurray, Peace River and Grande Prairie, (the three northern settlements in Alberta), was \$2,300.00. This value was nearly three times the Prairie average. One can speculate many theories why the northernmost settlements received the greatest per capita values in the building industry. Without the results of a comprehensive questionnaire survey and detailed examinations of the economic base of these centres, any conclusions would represent a hypothetical exercise. However, the results of this section would suggest that northern settlements have experienced some form of economic and/or social growth as evidenced from the fact that their per capita values of building activities are markedly higher than the regional average. If one were to examine other economic and social characteristics (such as manufacturing, retail trade, municipal expenditures, population growth rates, etc.), one would indeed find that these centres are experiencing noticeable changes in their economic base. Mining and lumber are the two major resource industries that are becoming increasingly important in northern areas of the Prairies.

A second observation highlighted by Map VII.7 relates to the per capita values of centres located in the general Edmonton-Calgary axis. Of the



Scale in Miles
0 5 10 15 20 25 30



Map VII. 7

five centres situated in this axis, the average per capita value was \$1290.00. (The centres are Leduc, Lacombe, Red Deer, Innisfail, and Olds.) This value was slightly larger than the provincial average of \$1228.00 but considerably lower than the average for the selected centres, which was \$1881.00.¹

It would appear that one of the major reasons for low per capita values for centres in the Edmonton-Calgary axis is related to the gravitational pull of these two major centres. Because of the existence of a highly efficient transportation link between Calgary and Edmonton (one can commute between these two centres within three hours) these two centres have attracted a large number of people to them. Furthermore, both of them have experienced growths in industrial and non-industrial activities. One may note that both these cities have developed "industrial parks" and that an extremely large development scheme has been built in St. Albert - a dormitory town of Edmonton. The inhabitants therefore of the smaller centres situated between Edmonton and Calgary, who, because of the limited opportunities desire a change of living, could easily move to one of these cities. Those persons who still wished to work in their former place of residence could still move to the larger cities, commute daily, and at the same time enjoy the social and cultural benefits offered in a larger city. Declines in population growth rates as well as out-migration values have been recorded for Lacombe, Innisfail, Olds and Ponoka (see the appropriate tables contained in Chapter 2). These changes therefore emphasize that residents have indeed moved out of the centres and along with these declines, one would also expect a corresponding decline in building activities. The third and final trend observed in Map VII.7 is the presence of low per capita values in the southern portions of the Prairies. The towns Virden, Esterhazy, Melville, Estevan, Weyburn, Assiniboia and Moose Jaw together have an average per capita value of \$1004.00 which is considerably lower than those for the average of the selected centres. The reasons for these low values can again be attributed to economic and social trends. Tables and diagrams depicting demographic characteristics have already shown that

1 The value of \$1881.00 was calculated by dividing the total amount of funds spent on all building activities between 1966 and 1970 for the thirty-five Alberta centres by the average 1966 to 1970 population figures.

most of these centres have not experienced any dramatic increases in either population growths or net migration figures. In terms of manufacturing complexes, these centres appear to have average or slightly below average growth rates in value added and employment. Retail trade and service figures also do not show any signs of rapid growth. One could conclude that in general, small towns located in the "grain belt" are not experiencing the same level of "urbanization" as those same size centres whose resource base is more diversified. As a result, the building industry of these towns in the southern portion of the Prairies would also reflect a static, if not declining, situation.

3. Growth Rates

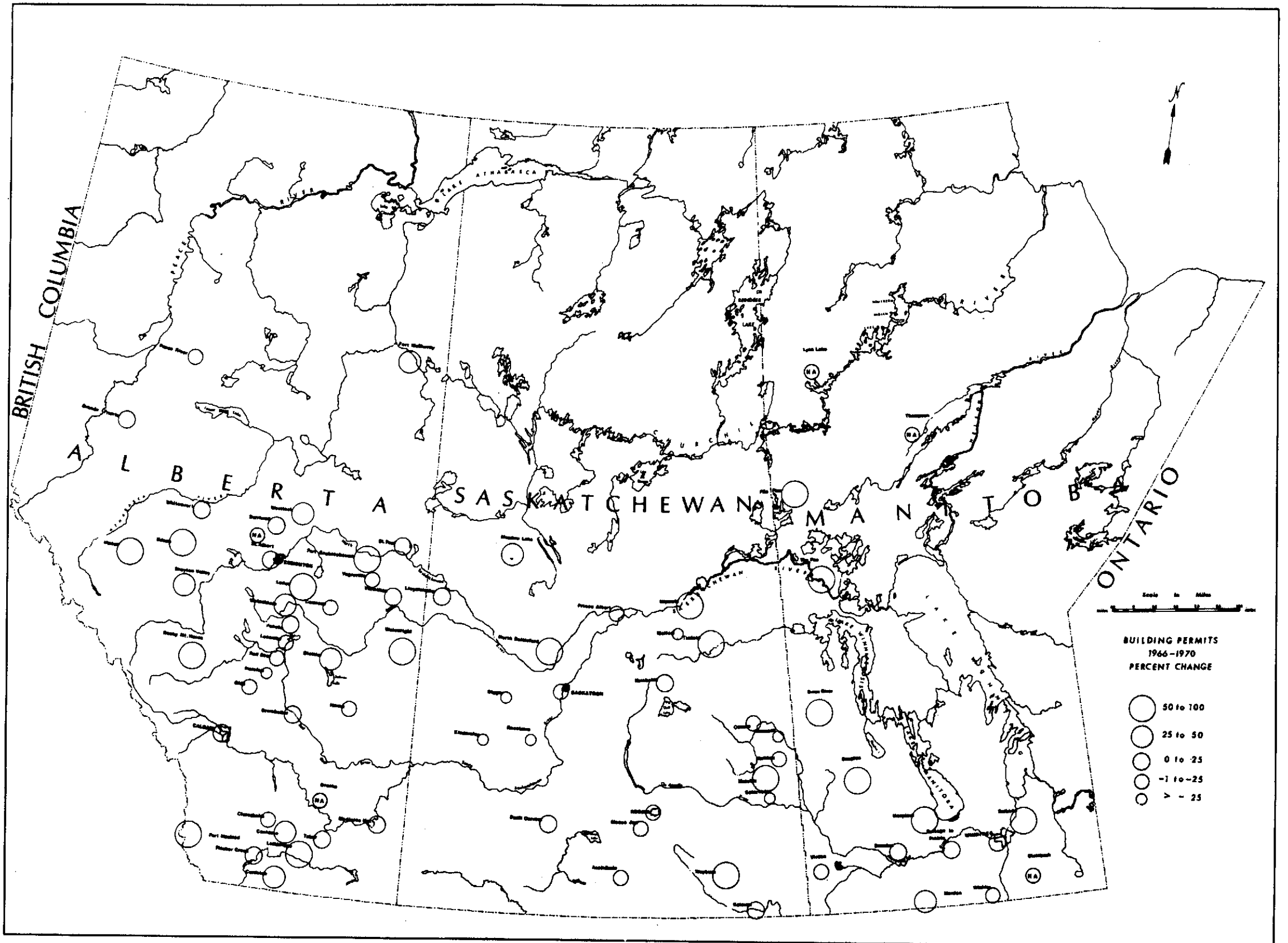
The last column of Table VII.46 outlines growth rates of total value of building permits approved for the years 1966 to 1970. A word of caution however should be mentioned at this juncture concerning the reliability of some of the growth rates that are found in this column. This caution relates specifically to the smaller centres. In many small towns, the construction of a single major institutional or industrial complex may completely overshadow other construction costs. The building of a school or hospital in a town of say, 3,000 persons, might well represent as much as 1,000% increase in total building activities from the previous year. Consequently, the average 1966-70 growth rate will also exhibit an extremely large value. In larger cities, this phenomenon is less apparent since the value of one single construction is easily absorbed in total building activities. In order to identify which centres are affected by the construction of one particular complex, a breakdown of building activities within each sector is necessary. Unfortunately, information of this nature was not available. Therefore, growth rates of some of the smaller centres may be suspect.

Keeping in mind the above-mentioned point, the following general conclusions can be drawn from Table VII.46. First, many centres have actually experienced noticeable declines in the building industries. Esterhazy, Rose-town, Melfort and Innisfail are four centres in which the value of total

building permits decreased by more than $\frac{1}{4}$ - that is, their growth rates were greater than -25%. In general, dramatic declines in the residential sector accounts for the exceedingly high negative growth rates. A second feature shown in Table VII.46 is the large range of values for those centres which experienced positive growth rates. The extremes ranged between a low of 1.91% for Pincher Creek and a high of 452.9% for Fort MacLeod. The extremely high value of the latter is due to construction in 1968 of a large complex of military units thereby completely overshadowing both previous and subsequent building totals.

A third observation relates to provincial comparisons. Of all centres which experienced negative growth rates, the majority are found in the province of Saskatchewan. 20% of all the selected centres in Manitoba had decreasing growth rates while for Alberta and Saskatchewan the percentages were 29 and 57 respectively. That is to say, nearly six out of every ten centres in Saskatchewan having populations greater than 2,500 people experienced declines in total building activities. For Alberta it was three out of ten, for Manitoba it was two out of ten.

To supplement the values contained in the last column of Table VII.46, Map VII.8 has been included. This map shows the spatial distribution of centres in the Prairies according to five classes of growth rates. Similar observations to those drawn from Map VII.7 can be highlighted in Map VII.8. First, except for Peace River, the most northern centres in the entire Prairies experienced a considerable positive increase in growth rates. Flin Flon and The Pas scored the second and third highest growth rates in Manitoba respectively, and the fourth and fifth highest in the Prairies as a whole. The two most northern settlements in Saskatchewan, Nipawin and Meadow Lake, ranked fifth and sixth respectively in that province, while the former had the highest rate of growth for the entire Prairies. The exceedingly high growth rate of Nipawin (405%) is primarily due to the construction in 1968 of a three million dollar institutional complex. The total value of all approved building permits in 1968 represented over 300% increase from the previous year. If the value of institutional building permits were excluded, Nipawin would still neverthe-



Map VII. 8

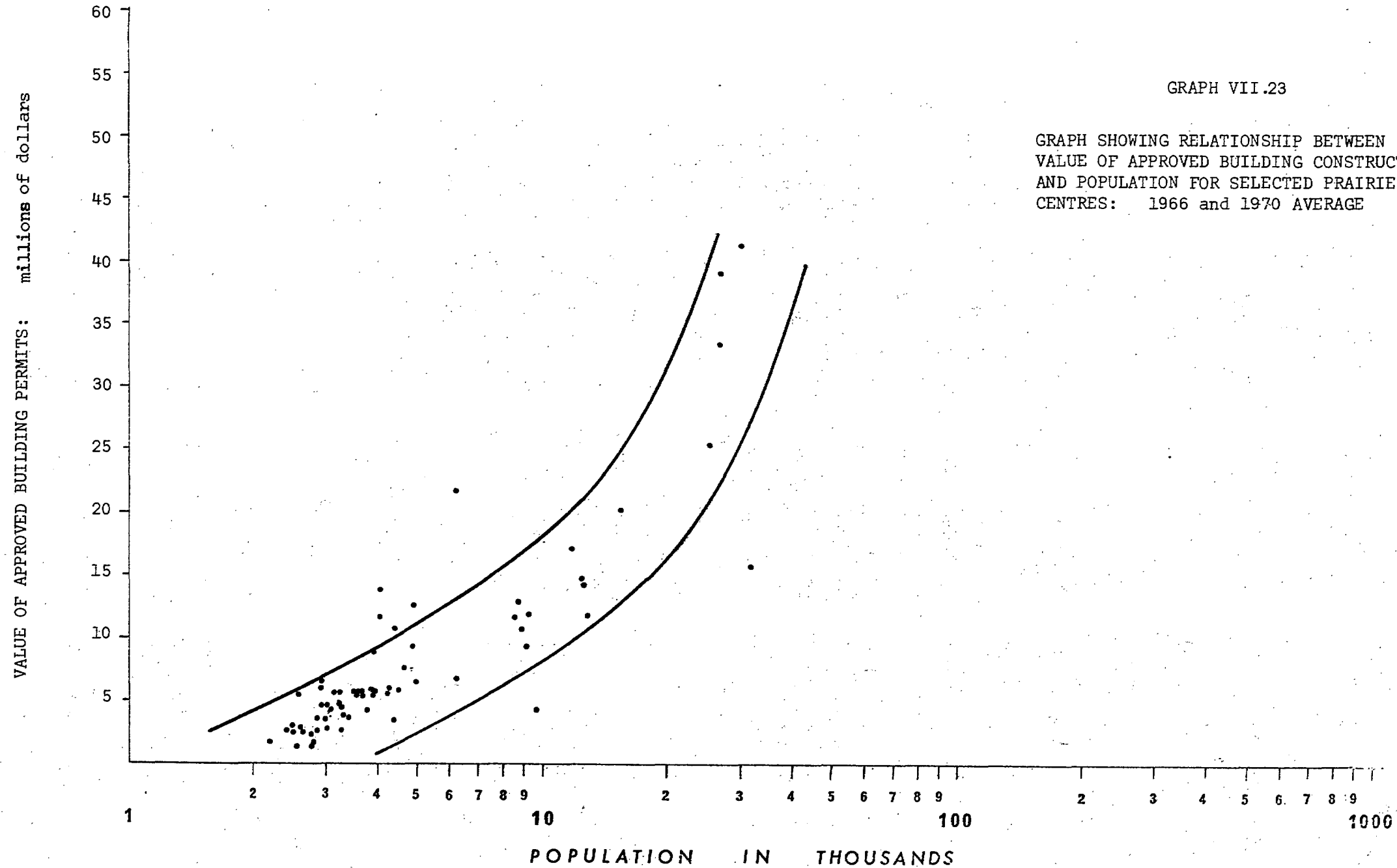
less retain a high positive growth rate. In Alberta, Fort McMurray and Grande Prairie, the two northernmost centres in this province are seen to have relatively high growth rates. The high value of the former, as explained previously, is due to increases in the construction of military units in 1968. Grande Prairie's high value on the other hand, is attributed to increases in activity of its resource base. The Alberta Government Publicity Bureau says of Grande Prairie that:

"It is literally surrounded by untold wealth in coal, sulfur, gypsum, iron ore, petroleum, and natural gas."

Although this statement is a little over zealous, the extraction and fabrication of raw materials has been a fillip to Grande Prairie's building activity.

A second feature that can be identified in Map VII.8 again relates to values of centres located in the Edmonton-Calgary axis. With the exception of Leduc and Wetaskiwin, all intervening centres have negative growth rates. The inference here would be that the expansion of economic and social activities of the two "anchor" cities has taken place partially at the expense of the smaller centres. As people and industry move out of the small settlements, building activities will also experience a gradual decline.

The noticeably low values for centres located in central and southern Saskatchewan is a third observation that can be drawn from Map VII.8. Even the larger cities in the province (Regina and Saskatoon) had experienced exceptionally low growth rates in building activities. Regina and Saskatoon, both having negative values, are in direct contrast with other metropolitan areas in the Prairies. It is interesting to note that most of the centres located in the Prairies whose major activity is wheat growing had experienced either negative or very low rates of growth in building constructions. One could postulate the reasons for this by simply stating that settlements in the Prairie Wheat Belt are currently undergoing a transition and that these transitions are manifested in the building industry. There is indeed evidence today that the Prairie farmer is moving off his land into the larger cities. There is also further confirmation, as evidenced from the results of Chapter 2, that many people have not only moved from the land but from the province



GRAPH VII.23

GRAPH SHOWING RELATIONSHIP BETWEEN
 VALUE OF APPROVED BUILDING CONSTRUCTION
 AND POPULATION FOR SELECTED PRAIRIE
 CENTRES: 1966 and 1970 AVERAGE

completely. It appears that Alberta communities have benefited at the expense of settlements in Saskatchewan and to a lesser extent to those situated in Manitoba.

In order to identify those centres which are "atypical" in terms of the level of building activities, the last part of the section examines the value of building permits issued in relation to the size of the centre. One need not argue the fact that both these variables are directly related. It stands to reason that larger centres will obviously expend a greater amount of funds on all forms of building activities than a small community. The question therefore that arises is "Are there any centres that deviate from the general rule?". Graph VII.23 can supply some of these answers. The broad band drawn on this graph can be regarded as representing the general trend between population and value of building permits. Seven points (or centres) can be identified as "atypical", five falling above the trend and the remaining two below. The Pas, Drumheller, Fort McMurray, Lloydminster, and Fort Saskatchewan are those centres which have a higher value of approved building permits than the Prairie trend, while Flin Flon and Moose Jaw are seen to have noticeably low values.

QUEBEC

A similar method of approach to that used in discussing the Prairies will also be adopted when examining building permits for centres located in Québec. Absolute values, percent distribution, per capita values, and rates of growth will be covered.

a. Percent Distribution

Tables VII.47 to VII.52 inclusive, outlining absolute values for individual years 1966 to 1970 and the summation of these years have been used to calculate the percent distribution of building permits according to the major categories. The categories are similar to those used in the Prairie analysis. In order to identify those centres in which one sector was either dominant or insignificant, several further tables have been included. Tables VII.53, VII.54 and VII.55 present information on distributional characteristics for the first and last year of the 1966 to 1970 time period as well as the average value for the entire period.

Several generalized observations can be drawn from Tables VII.53 to VII.55. First and foremost, a wide range of percentages arises between centres. In some instances, each sector is seen to play a dominant role, while in others an opposite situation occurs. In general however, residential construction represents the greatest investment of funds. Over the 1966-70 average, no centre is seen to expend less than 10% of total funds in this sector. Over the same period, the lowest value for commercial activities was only 1.9% while for institutional constructions it was zero percent. The lowest value for industrial construction was also virtually zero (0.1%).

A second observation relates to centres having a particular activity as the dominant function. Residential construction plays the most important role for forty-six out of the seventy-two selected centres. That is to say, nearly 2/3 (64%) of all centres in Québec directed a greater proportion of all building funds towards a residential construction during the 1966-70 period.

The city with the highest value was Ste-Thérèse, having a value of 86.2%. The next most important sector was institutional constructions. Twenty-four centres placed this activity as a high priority. It is interesting to note that one out of every three communities in Québec spent more money on constructing institutional and governmental buildings than any other type. The city having the highest value was Shawinigan South with a percentage of 80.5. Of the two remaining sectors, only one in each category considered this as the dominant function. In the town of Tracy, 38% of all approved building permits involved industrial complexes. Commercial activities are the dominant function for Shawinigan, in which over 35% of all building construction was undertaken in this sector. Ste-Agathe-des-Monts and Chambly were two other centres that placed commercial activities as a high priority.

A final observation that can be deduced from Tables VII.54 to VII.55 is the absence of any relationships between size of centre and the distribution of building activities. When the percent values of each sector were plotted against population size, no discernable trends arose. It would therefore be erroneous to conclude that smaller centres directed a greater proportion of funds towards residential construction for example, or that institutional constructions were the dominant role for larger centres. Size is in no way related to the percent distribution of building activities.

To emphasize regional disparities between the percent distributions, a table containing location quotients has been included (see Table VII.56). These values show a centre's position in relation to the province. Of the four activities, residential constructions seem to have the smallest range while institutional has the largest. The advantage of Table VII.56 lies in the ability of quickly identifying the relative position of particular centre in relation to its distribution of building activities. For example, a glance at this table will show that Roberval has an extremely large value for the column depicting institutional activities. The dominance of this function is confirmed in Table VII.54 which shows that over 70% of all building permits comprised the construction of institutional buildings. Similarly, the high quotient value for commercial construction in Malartic (2.21) would suggest

that this activity was an important function in relation to the role it played for centres in Québec as a whole.

b. Per Capita Values

Per capita values represent another useful yardstick that can measure the climate of the building industry. Table VII.57 outlines these values for centres in Québec. As with the calculations for per capita values for the Prairie centres, those for Québec were computed by dividing the total value of building permits issued between 1966 and 1970 by the average population of the two years 1966 and 1970. The first observation that one can draw from Table VII.57 is the extremely wide range of values. Malartic is seen to have the lowest value of \$24.00 per inhabitant while Tracy received the highest figure of \$2163.00. These two extremes represent a factor of 9:1 in favour of the latter. The average value of all centres is \$803.00.

The ranking of all centres on a per capita value basis introduces a serious limitation. The limitation is that a ranking of centres implicitly assumes that one can make valid comparisons between per capita values of two entirely different size centres. Québec City and Chicoutimi North have approximately the same per capita figures. Yet, the population of these two centres is far from the same - the former having over three times the population of the latter. To introduce an effective ranking system, size should be a dependent variable. The second contribution of Table VII.57 therefore is that it permits one to view per capita values for a given group of centres having a similar population. Using a population class interval already adopted in previous sections, the following table has been constructed containing centres having the three highest and three lowest per capita values according to population classes (see Table VII.58).

To give several of many examples that could be selected from the classification system outlined above (Table VII.58), the following demonstrations can be included. Of those centres falling in the smallest population size category, St-Georges West has the highest per capita value of building

PER CAPITA FIGURES FOR VALUE OF BUILDING PERMITS ISSUED FOR CENTRES
HAVING THE THREE HIGHEST AND LOWEST VALUES ACCORDING TO POPULATION
CATEGORIES FOR QUEBEC CENTRES: 1966-1969

Smallest Centres (5,000 - 7,500)

<u>Centres</u>	<u>Per Capita Value</u>
<u>Highest</u>	
1) St-Georges O.	1413
2) Mont-Joli	1230
3) Mont-Laurier	1091
<u>Lowest</u>	
1) Malartic	24
2) Bagotville	234
3) Windsor	348

Small Centres (7,501 - 10,000)

<u>Highest</u>	
1) Terrebonne	1505
2) Roberval	1007
3) Port-Alfred	889
<u>Lowest</u>	
1) Beauharnois	222
2) Chibougamau	301
3) Bécancour	454

Medium Size Centres (10,001 - 25,000)

<u>Highest</u>	
1) Tracy	2163
2) Cowansville	2088
3) Sept-Îles	1949
<u>Lowest</u>	
1) La Tuque	293
2) Magog	209
3) Lachute	94

Large Centres (25,001 - 50,000)

<u>Highest</u>	
1) St-Jérôme	1007
2) Chicoutimi	858
3) St-Jean	739
<u>Lowest</u>	
1) Valleyfield	511
2) Drummondville	609
3) Granby	635

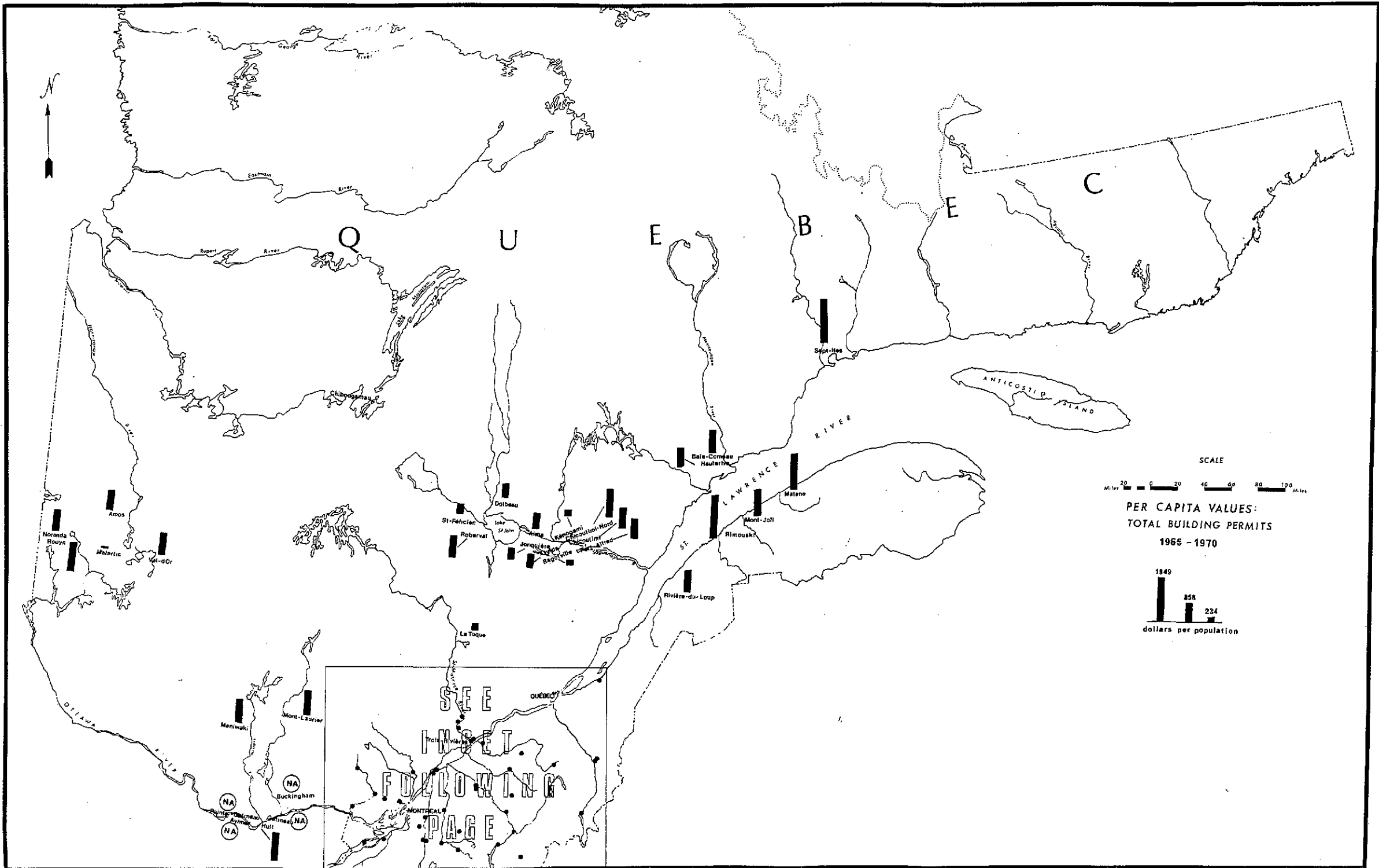
Metropolitan Areas

<u>Highest</u>	
1) Hull	1296
2) Québec	1248
<u>Lowest</u>	
1) Montréal	717
2) Sherbrooke	800
3) Trois-Rivières	803

permits. In the same category, Malartic had the lowest and its per capita value was only 1/6 that of St-Georges West. For those centres classified as "large" (25-50,000 population), Valleyfield had the lowest per capita while St-Jérôme scored the highest. The ratio between these two values was only 2:1.

A discussion of tables cannot consider the spatial distribution. Map VII.9 has therefore been included to supplement Table VII.58. Several distinct features are revealed from this map. First, when the large base map is examined "excluding the inset", two areas stand out as having high per capita values. These are the Gaspé and the Clay Belt area. In the both regions, the per capita values are considerably higher than the provincial average. (Malartic, located in the Clay Belt, is the only anomaly that has a per capita value which is 1/30 the provincial value.) Sept-Îles is the only "outlier" that has a noticeably large per capita value. Over the 1966-1969 period, this value was nearly $2\frac{1}{2}$ times as large as the provincial average.

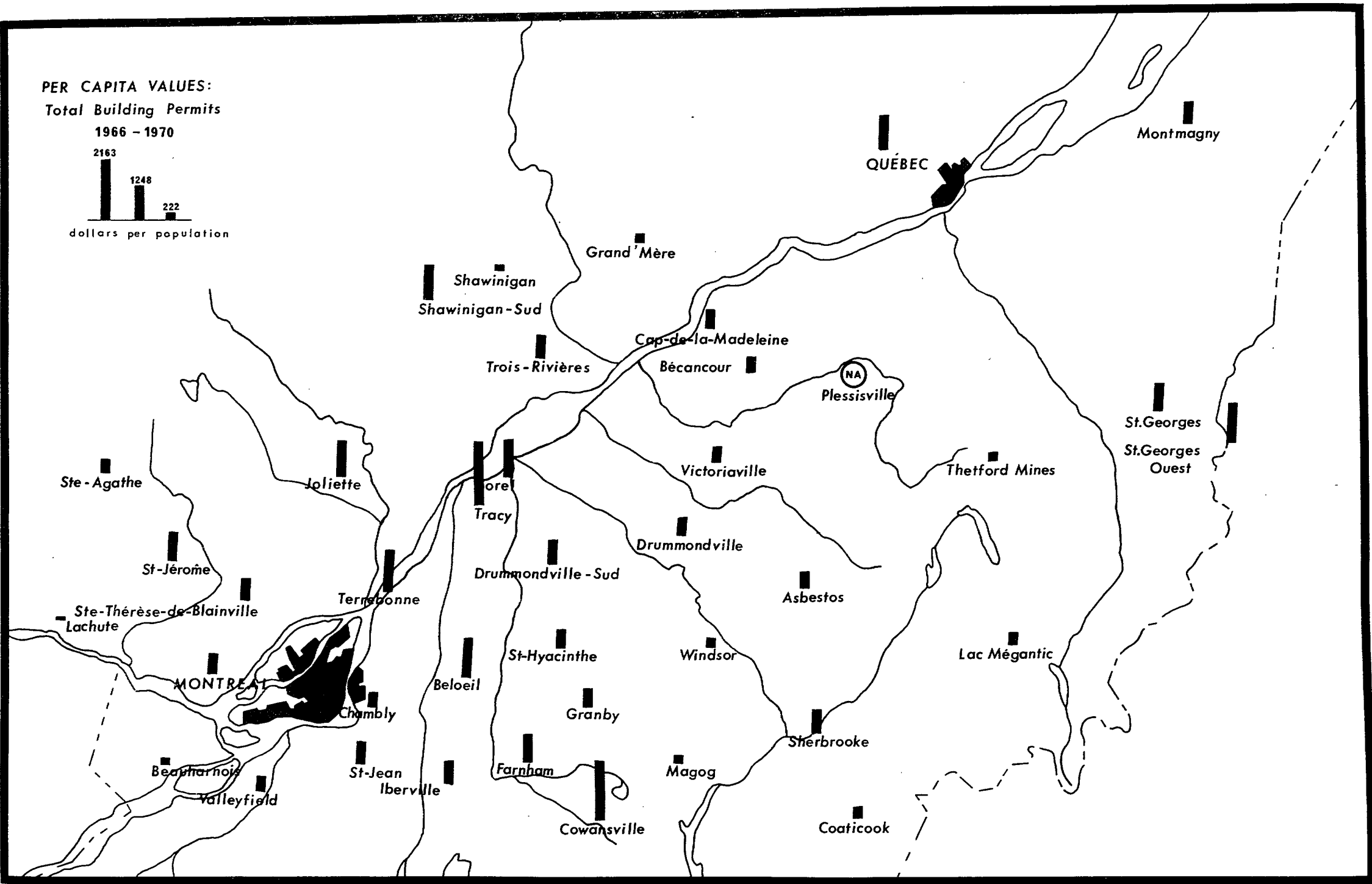
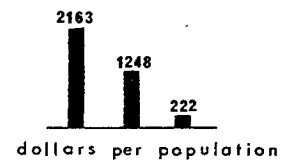
The relatively high per capita values for the Gaspé and Clay Belt regions could be due to many reasons, and to draw any valid conclusions one would have to know the actual breakdown of building permits. For example, on further analyses, one would discover that the extremely high per capita values of Rimouski is due to large investments in commercial structures. The high values of Rouyn located in the Clay Belt area, can likewise be attributed to large investments in institutional structures. In spite of the fact that such a breakdown was not included in this examination, it is nevertheless interesting to note that several of the centres having high per capita values also experienced high population shifts over the same period. Matane, Mont-Joli, Rimouski, Rivière-du-Loup, Rouyn, all experienced limited population shifts during the 1966-1970 period and negative shifts for the 1961-1966 period (see the appropriate maps contained in Chapter 2). On the assumption that dramatic increases in populations would also be accompanied by correspondingly high expansion rates in the building industry, one could suggest that the high per capita values of the levels of building permits issued for the Gaspé and Clay Belt regions were precipitated by marked increases in population.



PER CAPITA VALUES:

Total Building Permits

1966 - 1970



A second observation drawn from Map VII.9 refers to the inset. The overall trend of this map highlights two prominent features. The first is the appearance of high per capita values for the centres located in the immediate vicinity of Montréal, especially in the eastern and northeastern sectors. The second is the existence of extremely low values in the eastern portion of the St. Lawrence Lowlands. Concerning the Montréal zone, the centres Terrebonne, Beloeil, St-Jean, St-Thérèse, all have above-average per capita values. Cowansville, Tracy and to a lesser extent, Shawinigan South, are outliers that have above-average values. When the eastern part of the lowlands is examined, only two cities contained per capita values that exceed the provincial average. (St-Georges and St-Georges West both have values greater than \$803 - the average for Québec province.) Per capita values of Lac-Mégantic, Coaticook, Sherbrooke, Asbestos, Thetford Mines, Victoriaville, Bécancour, Drummondville, Drummondville South, Windsor, Magog, St-Hyacinthe, and Granby, all situated in the eastern portion of the Map VII.9, are considerably lower than the provincial average.

Referring to a point made in the previous paragraph, per capita values of building permits could be related to demographic characteristics. The two inset maps showing population shifts (see Chapter 2) also reveal low population growth rates for centres in the eastern portion of the St. Lawrence Lowlands. In fact, of the thirteen centres mentioned above, only one (Victoriaville) had a positive population shift between 1966 and 1970. This significantly high correlation between the population growth rates and per capita value building permits would unquestionably confirm that the building industry is indeed conditioned by migration patterns.

c. Growth Rates

The last column of Table VII.57 outlines growth rates for total value of building permits approved for the 1966-1970 period. In reiterating a point brought up in the discussion of Prairie centre, the inclusion of growth values in building activities contains several inherent limitations. In many small centres in Québec, the construction of a single complex, whether

institutional or commercial, may completely dominate the entire building activity for several years. When such a construction is included in annual values from which the trend analysis is calculated, the resulting growth rate would present a very biased picture. However, this phenomenon only relates to several communities in Québec, and therefore, growth rate values for the majority of centres reflect fairly accurate trends in the building industry.

The following general observations can be drawn from Table VII.57. First, only 5 out of 72 centres actually experienced declines in the building industry. These included Baie-Comeau, Chambly, Montréal, St-Félicien and Valleyfield. Of these, Valleyfield had the highest negative growth rate (-26.73%).

A second observation relates to the extremely wide variations within positive growth rates. Thetford Mines is seen to have values of 759.61% and Ste-Agathe, a close second, has a value of 640.15%. The reasons for these abnormally high rates are basically due to the phenomenon mentioned in the previous paragraph. The tables contained at the end of the section (Table VII.47 to VII.52), show that in 1968, a large proportion of building activity carried out in Ste-Agathe were in commercial structures. In fact, these constructions were of such a magnitude that for the 1966-1970 period, over 60% of all building permits approved and completed were in the commercial sector. The higher growth rate for Ste-Agathe, is very probably due to the construction of a large commercial complex. The large increase for Thetford Mines, on the other hand, is due to expansions in the residential sector. Since the population size of this town actually declined between 1966 and 1970, (see the appropriate tables seen in Chapter 2), increases in the residential sector would not involve the construction of single family units. (The assumption here is that expansion in residential construction will not be encouraged in areas of out-migration.) One could therefore assume that the high value in residential construction took place in multi-unit complexes.

Apart from the two high values of Thetford Mines and Ste-Agathe, the range for the majority of centres falls between 200% and 20%. In order to

TABLE VII.59

GROWTH RATE FIGURES FOR VALUE OF BUILDING PERMITS ISSUED FOR CENTRES
HAVING THE THREE HIGHEST AND LOWEST VALUES ACCORDING TO POPULATION
CATEGORIES FOR QUEBEC CENTRES: 1966-1969

Smallest Centres (5,000 - 7,500)

<u>Centres</u>	<u>Growth Rate -%</u>
<u>Highest</u>	
1) Ste-Agathe	640.15
2) Windsor	296.90
3) Bagotville	230.69
<u>Lowest</u>	
1) St-Félicien	-13.96
2) Lac-Mégantic	3.06
3) St-Georges	8.18

Small Centres (7,501 - 10,000)

<u>Highest</u>	
1) Port-Alfred	227.31
2) Iberville	114.55
3) Drummondville S.	113.91
<u>Lowest</u>	
1) Beauharnois	12.85
2) Bécancour	22.56
3) Terrebonne	65.30

Medium Size Centres (10,001 - 25,000)

<u>Highest</u>	
1) Thetford Mines	759.61
2) Noranda	418.82
3) Shawinigan S.	262.21
<u>Lowest</u>	
1) Chambly	-27.77
2) Baie-Comeau	-8.18
3) Shawinigan	8.72

Large Centres (25,001 - 50,000)

<u>Highest</u>	
1) St-Jean	93.61
2) Jonquièrre	56.87
3) Granby	38.82
<u>Lowest</u>	
1) Valleyfield	-26.73
2) Cap-de-la-Madeleine	22.52
3) Chicoutimi	23.32

Metropolitan Centres

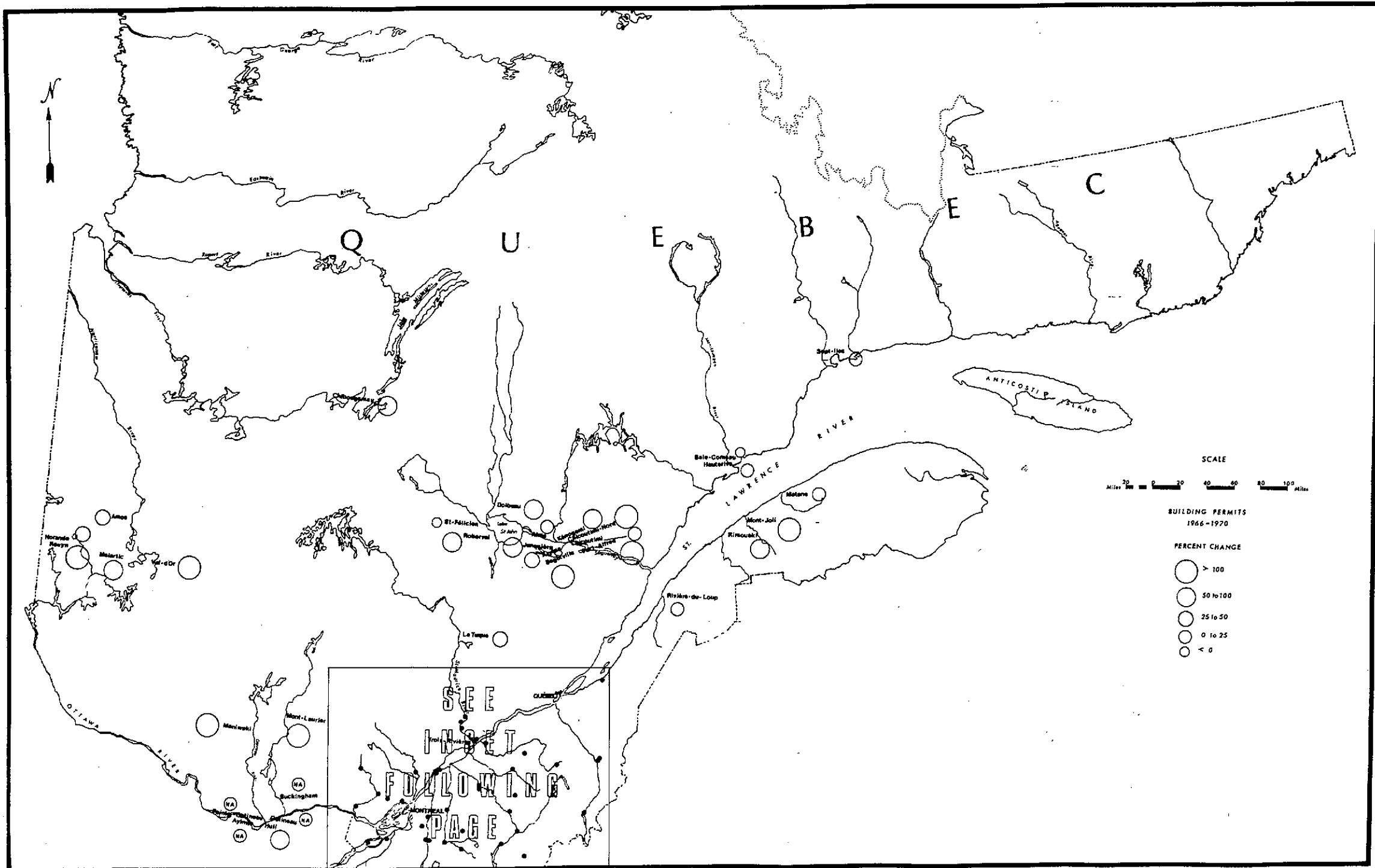
<u>Highest</u>	
1) Hull	55.85
2) Trois-Rivières	31.52
3) Québec	21.69
4) Sherbrooke	6.32
5) Montréal	-2.49

make a valid comparison between centres, it is necessary to compare centres of equal sizes. The following table outlines growth rates in the issuance of building permits according to population categories (see Table VII.59).

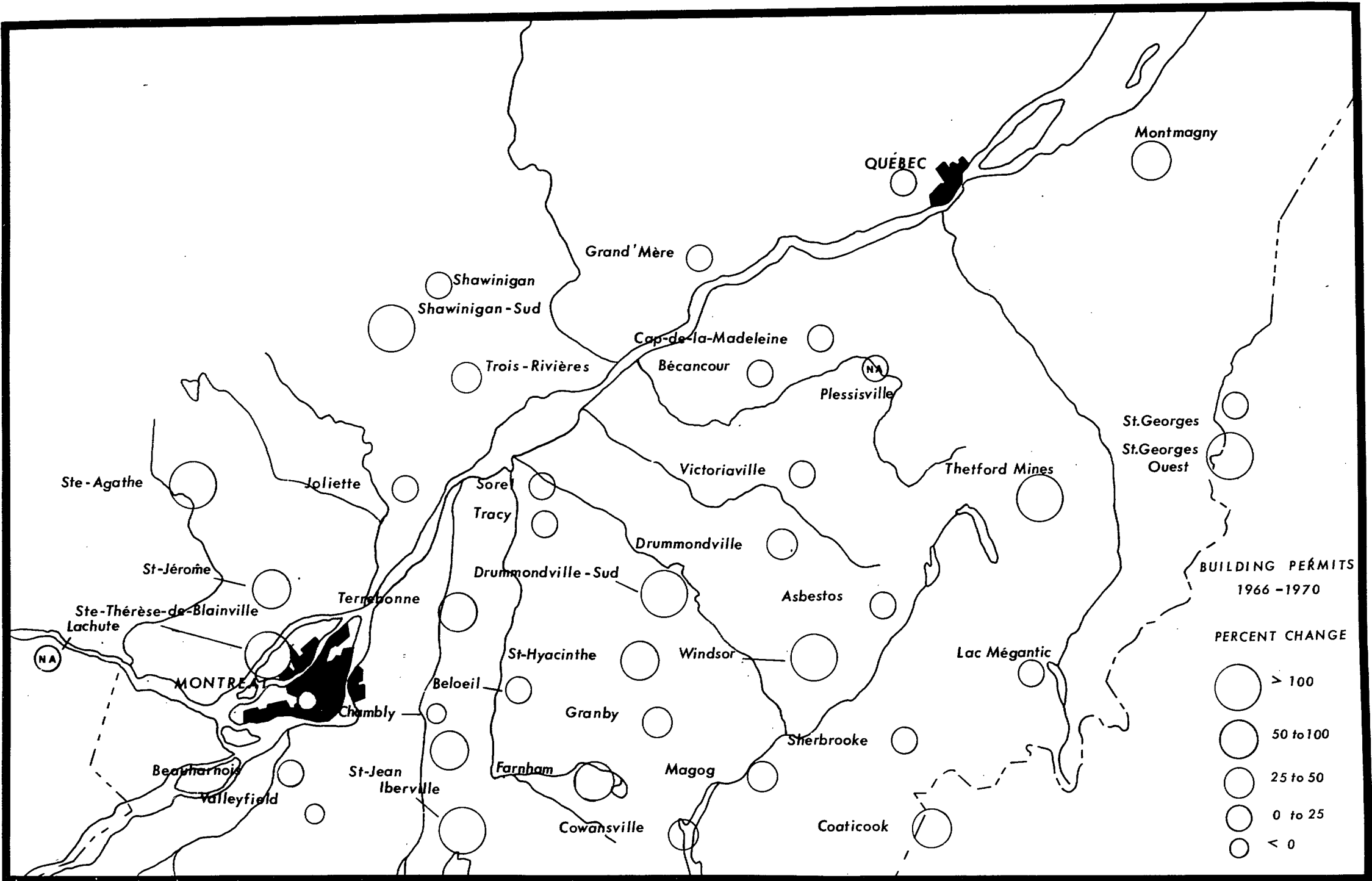
The results of Table VII.59 can be used to identify extreme values for a given size population category. The values for each category do not reveal any positive trend when size is considered. That is to say, smaller size centres do not contain either the highest or lowest growth rates. Nor for that matter, are high growth rates a unique characteristic of metropolitan areas. Obviously, some other variables, or a combination of them, condition the issuance of building permits. However, before any conclusions can be made, it is first necessary to understand the spatial distribution of centres having high or low growth rates in the building trade. Map VII.10 has been included to show growth rates for Québec centres according to five categories. In commenting upon the base map (excluding the inset), the following general statements can be made. First, the majority of centres in the Lac-St-Jean region (8 out of 11) experienced large growth rates. With the exception of St-Félicien, Alma and Chicoutimi, the average growth in building permits greatly exceeded 50%. Second, in the Clay Belt region, Rouyn and Val-d'Or stand out as the two centres having highest growth rates. And third, Gaspé region, in spite of its relatively unstable economy (that is relative in terms of the provincial average), contains two cities whose growth rates rank among the highest in the province. The rates of growth for Mont-Joli is 8th highest in Québec, while for Rimouski it is 16th.

When the spatial distribution of centres is examined in the St.Lawrence Lowlands (see inset map), no overall trend can be identified. In fact, one cannot identify any areas having concentrations of either low or high growth rates.

Referring back to a point previously made concerning the influence of other variables upon the building industry, the following and final comments can be made. Because of the time constraints, only two variables have been considered. The comments made about them are not intended to be exhausted. Rather it is hoped that further questions will be made which in



Map VII. 10



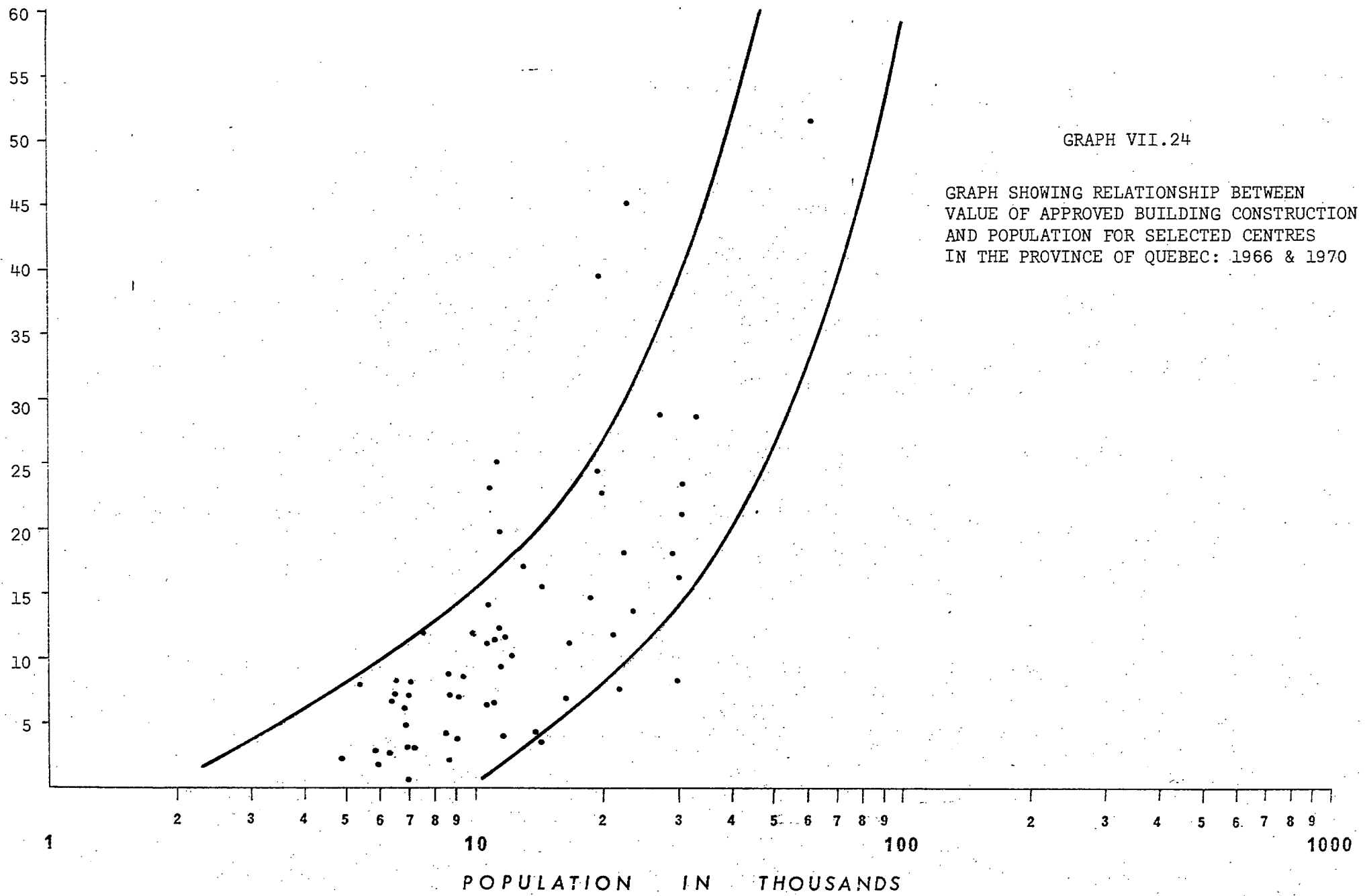
turn might prompt ongoing research in this field.

The two variables examined are size of centre, in terms of total population; and population trends, in terms of relative shift values. Concerning the former of these two, little imagination is needed to realize that larger centres will carry out more extensive building schemes than small towns. However, where attention should be directed is towards identifying those centres which fall outside the normal trend. Graph VII.24 shows the relationship between population size and total value of building permits for Québec centres. Several points can be seen to lie outside the general band encompassing the majority of points. Three are seen to fall below while five above this trend. The ones below, signifying a relatively low level of building activity, are Magog, Shawinigan and Thetford Mines. The centres having above-average values are Cowansville, Matane, Rimouski, Sept-Îles, and Tracy.

One of many reasons why these atypical centres have extreme values could possibly be due to demographic characteristics. When examining both population growth rates as well as shift values (the latter, it may be recalled is a function of the former), an interesting phenomenon arises. It can be noted for those centres having below-average building activities, that their population trends reflect a rapidly declining situation. Magog, Shawinigan, and Thetford Mines are all seen to have negative growth rates for the two periods 1961-1966 and 1966-1970. In fact, when population shifts are considered, the shift values of the latter period are markedly lower. For example, both Shawinigan and Thetford Mines were ranked in the second lowest population shift category for the 1961-1966 period, (-10.0% to -5.0%), while Magog was placed in the third lowest category (-5.0% to 1.1%). In the subsequent period, (1966-1970), the population shifts for both Shawinigan and Magog decreased further so that they were ranked in the lowest category (greater than -10%), and Thetford Mines, although not changing its category, nevertheless experienced a larger negative population shift.

For centres in which the building activities were above the provincial average (measured in terms of dollar values of approved building

VALUE OF APPROVED BUILDING PERMITS: millions of dollars



permits), similar conclusions to those made above can also be drawn. Of the five centres identified, Sept-Îles was the only one in which the population shift remained constant between the 1961-1966 and 1966-1970 periods. For the remaining centres, all are seen to move up at least one class. In other words, these four centres experienced increases in population shifts. Rimouski and Tracy both moved up one class, the former from the third lowest to the fourth, and the latter from the third highest to the second highest. Cowansville was ranked in the lowest population shift category in the 1961-1966 period while in the 1966-1970 period, it was placed in the third lowest category; and finally Matane, exhibiting the most dramatic change moved up three categories from the lowest to the fourth lowest.

Although one can identify from maps contained in Chapter 2 other centres whose population shifts moved up or down a class, their transitions are far less apparent than those mentioned above. It is fully recognized that population trends are not the only factors which affect the building industry. Retail trade, manufacturing, institutional functions, and municipal infrastructure services are other elements which are indirectly related to building activities. However, demographic characteristics are the central component around which all other activities evolve. An investigation, therefore, into population trends should comprise the first step of an analysis of building activities.

APPENDIX TO TABLES

The sources from which the following tables were constructed consisted of the following:

1. Statistics Canada, Building Permits, Catalogue No 64-001, for annual publication, 1966 to 1970 inclusive.

TOTAL VALUE OF BUILDING PERMITS IN 1966: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	2,944	951	1,476	2,784	8,155
Dauphin	678	21	483	511	1,693
Flin Flon	62	14	175	140	391
Lynn Lake	--	--	--	--	--
Morden	195	18	216	64	493
Neepawa	200	95	92	510	897
Portage la Prairie	415	75	591	908	1,989
Selkirk	537	336	192	5	1,070
Steinbach	--	--	--	--	--
Swan River	418	25	92	13	548
The Pas	519	--	30	920	1,469
Thompson	--	--	--	--	--
Virden	200	42	151	386	779
Winkler	359	217	79	1,552	2,207
Winnipeg	37,816	10,333	20,149	25,323	93,621
TOTAL	475,953	12,951	25,300	36,109	122,313
<u>Saskatchewan</u>					
Assiniboia	255	--	250	--	505
Biggar	367	15	132	134	648
Canora	472	36	66	--	574
Esterhazy	1,190	70	203	465	1,928
Estevan	956	142	481	--	1,579
Humboldt	465	142	81	2	690
Kamsack	375	32	79	20	506
Kindersley	246	4	293	1,259	1,802
Lloydminster	--	--	--	--	--
Meadow Lake	179	--	28	275	482
Melfort	407	65	742	2,224	3,498
Melville	605	34	8	108	755
Moose Jaw	1,660	511	1,034	1,660	4,865
Nipawin	303	190	171	70	734
Battleford	806	40	561	291	1,098
Prince Albert	3,509	5,148	507	1,699	10,863
Regina	13,930	2,596	17,373	5,380	39,279
Rosetown	328	179	215	464	1,186
Saskatoon	15,743	2,657	14,733	14,339	47,472
Swift Current	3,005	46	543	896	4,490
Tisdale	332	6	65	35	438
Weyburn	1,107	9	328	858	2,302
Yorkton	2,115	242	345	226	2,978
TOTAL	53,563	16,269	39,663	34,067	143,562
<u>Alberta</u>					
Barrhead	244	15	45	188	492
Brooks	558	48	287	606	1,499
Calgary	41,476	9,857	18,307	45,036	114,676
Camrose	967	844	553	891	3,255
Cardston	98	--	161	108	367
Claresholm	375	13	48	553	989
Coaldale	103	51	149	--	303
Drayton Valley	88	9	270	--	367
Drumheller	1,010	--	490	1,214	2,714

TABLE VII.36 cont'd

Alberta - (Continued)

Edmonton	45,630	6,561	17,808	70,657	140,656
Edson	118	2	421	--	541
Ft. Macleod	167	11	20	--	198
Ft. McMurray	2,258	38	109	--	2,405
Ft. Saskatchewan	596	100	44	27	767
Grande Prairie	1,331	159	644	1,055	3,189
Hanna	157	23	78	5	263
Hinton	444	8	107	404	963
Innisfail	106	35	133	936	1,210
Lacombe	132	60	23	772	987
Leduc	209	6	11	354	580
Lethbridge	1,278	433	887	1,408	4,006
Lloydminster	766	215	917	147	2,045
Medicine Hat	1,279	186	671	971	3,107
Olds	389	110	336	15	850
Peace River	1,060	438	55	647	2,200
Pincher Creek	61	75	54	853	1,043
Ponoka	337	27	144	6	514
Red Deer	1,217	478	503	5,792	7,990
Rocky Mtn. House	138	5	146	--	289
St. Albert	--	--	--	--	--
St. Paul	387	34	205	642	1,268
Stettler	186	40	106	250	582
Taber	376	413	351	652	1,792
Vegreville	554	39	75	--	668
Vermilion	184	12	19	--	215
Wainwright	191	--	91	78	360
Westlock	318	44	223	1	586
Wetaskiwin	433	112	100	293	938
Whitecourt	450	304	107	463	1,324
TOTAL	112,985	24,729	49,196	143,366	330,276

TOTAL VALUE OF BUILDING PERMITS IN 1967: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	3,991	630	2,606	3,500	10,727
Dauphin	643	31	169	69	912
Flin Flon	151	11	61	50	273
Lynn Lake	--	--	--	--	--
Morden	482	--	154	21	657
Neepawa	249	246	64	25	584
Portage la Prairie	401	325	418	171	1,315
Selkirk	443	248	226	710	1,627
Steinbach	--	--	--	--	--
Swan River	338	75	311	66	790
The Pas	407	16	122	30	575
Thompson	--	--	--	--	--
Virden	307	2	322	33	664
Winkler	564	31	218	113	926
Winnipeg	40,124	6,123	31,470	17,877	95,594
TOTAL	52,831	10,117	38,148	25,051	126,147
<u>Saskatchewan</u>					
Assiniboia	420	--	131	308	859
Biggar	377	10	14	32	433
Canora	342	6	127	900	1,375
Esterhazy	419	236	200	352	1,207
Estevan	1,375	110	430	58	1,973
Humboldt	697	44	51	750	1,542
Kamsack	281	30	51	--	362
Kindersley	366	22	546	193	1,127
Lloydminster	--	--	--	--	--
Meadow Lake	474	--	51	57	582
Melfort	1,394	178	262	--	1,834
Melville	745	56	167	403	1,371
Moose Jaw	1,589	72	557	274	2,492
Nipawin	430	42	58	35	565
Battleford	645	475	431	480	2,031
Prince Albert	3,349	6,301	1,485	5,026	16,161
Regina	16,122	2,938	9,642	9,622	38,324
Rosetown	594	9	162	62	827
Saskatoon	23,017	2,215	8,592	23,193	57,017
Swift Current	2,627	55	813	5,004	8,499
Tisdale	412	111	--	574	1,097
Weyburn	1,460	30	422	282	2,194
Yorkton	2,538	300	751	1,783	5,372
TOTAL	65,790	18,709	27,066	51,854	163,419
<u>Alberta</u>					
Barrhead	303	272	359	171	1,105
Brooks	500	156	245	1	902
Calgary	54,640	7,873	26,553	48,437	137,503
Camrose	847	216	229	31,119	4,411
Cardston	88	60	200	10	358
Claresholm	307	20	31	862	1,220
Coaldale	195	11	81	86	373
Drayton Valley	280	13	139	418	850
Drumheller	1,744	705	124	2,591	5,164

TABLE VII.37 cont'd

Alberta - (Continued)

Edmonton	67,196	10,191	24,497	46,661	148,545
Edson	204	5	23	2,243	2,475
Ft. Macleod	76	--	13	--	89
Ft. McMurray	4,692	15	251	740	5,698
Ft. Saskatchewan	854	25	10	170	1,059
Grande Prairie	1,074	62	717	330	2,183
Hanna	194	--	58	40	292
Hinton	153	381	57	1,073	1,664
Innisfail	194	79	25	129	427
Lacombe	429	6	440	16	891
Leduc	179	32	77	25	313
Lethbridge	3,427	1,520	4,996	2,833	12,776
Lloydminster	1,375	199	438	2,544	4,556
Medicine Hat	1,989	90	639	2,224	4,942
Olds	214	81	105	1,144	1,544
Peace River	871	454	466	148	1,939
Pincher Creek	93	--	168	517	779
Ponoka	351	23	147	98	619
Red Deer	1,243	787	793	2,954	5,777
Rocky Mtn. House	150	17	145	--	312
St. Albert	--	--	--	--	--
St. Paul	721	15	55	150	941
Stettler	268	--	225	173	666
Taber	245	40	76	57	418
Vegreville	450	95	89	117	751
Vermilion	42	5	64	154	265
Wainwright	286	--	96	--	382
Westlock	376	75	39	1,055	1,545
Wetaskiwin	323	63	109	233	728
Whitecourt	455	43	282	--	780
TOTAL	157,722	32,579	69,129	31,913	391,353

TOTAL VALUE OF BUILDING PERMITS IN 1968: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	3,965	129	583	1,467	6,144
Dauphin	1,254	87	643	960	2,944
Flin Flon	94	--	21	8	123
Lynn Lake	--	--	--	--	--
Morden	494	26	109	1,525	2,154
Neepawa	377	91	146	31	545
Portage la Prairie	1,004	371	218	1,275	2,868
Selkirk	425	665	417	296	1,803
Steinbach	--	--	--	--	--
Swan River	337	--	19	237	593
The Pas	732	--	157	63	952
Thompson	--	--	--	--	--
Viriden	338	80	355	22	795
Winkler	293	151	95	1	540
Winnipeg	60,731	16,616	20,453	51,061	148,861
TOTAL	74,243	20,481	25,657	60,125	180,506
<u>Saskatchewan</u>					
Assiniboia	422	8	104	19	553
Biggar	247	--	160	--	407
Canora	213	19	182	--	414
Esterhazy	9	4	144	422	579
Estevan	1,059	2	130	3,630	4,821
Humboldt	892	6	571	581	2,050
Kamsack	174	10	7	180	371
Kindersley	747	87	206	58	1,098
Lloydminster	--	--	--	--	--
Meadow Lake	144	2	42	--	188
Melfort	636	--	424	41	1,101
Melville	198	10	71	420	699
Moose Jaw	1,099	639	928	573	3,239
Nipawin	513	6	210	2,928	3,657
Battleford	1,270	470	910	5,268	7,918
Prince Albert	4,357	93	2,111	592	7,153
Regina	22,723	1,317	5,637	8,648	38,325
Rosetown	155	34	348	10	547
Saskatoon	28,535	2,034	12,870	8,737	52,176
Swift Current	2,375	82	585	269	3,311
Tisdale	242	14	159	18	433
Weyburn	747	96	276	--	1,119
Yorkton	2,003	73	1,503	573	4,152
TOTAL	73,861	6,018	29,370	34,217	143,466
<u>Alberta</u>					
Barrhead	279	54	109	--	442
Brooks	745	115	211	3	1,074
Calgary	103,099	6,099	48,993	25,773	183,964
Camrose	1,508	190	1,061	623	3,382
Cardston	188	40	304	50	582
Claresholm	363	9	61	1,505	1,938
Coaldale	263	--	4	--	267
Drayton Valley	332	28	281	50	691
Drumheller	135	12	530	438	1,115

TABLE VII.38 cont'd

Alberta - (Continued)

Edmonton	89,906	13,957	29,848	48,072	181,783
Edson	94	--	165	866	1,125
Ft. Macleod	73	113	56	1,446	1,688
Ft. McMurray	2,103	22	641	490	3,356
Ft. Saskatchewan	3,566	140	186	355	4,247
Grande Prairie	2,048	851	907	1,560	5,366
Hanna	271	1	39	--	311
Hinton	318	22	58	1	399
Innisfail	164	--	29	139	382
Lacombe	485	10	72	215	782
Leduc	959	18	52	--	1,029
Lethbridge	6,332	448	2,534	806	10,120
Lloydminster	1,030	101	326	97	1,554
Medicine Hat	3,098	847	1,308	1,183	6,436
Olds	356	69	54	--	479
Peace River	1,446	14	293	29	1,782
Pincher Creek	233	--	168	72	473
Ponoka	485	57	403	387	1,332
Red Deer	2,483	1,476	544	1,769	6,272
Rocky Mtn. House	37	1	34	29	101
St. Albert	--	--	--	--	--
St. Paul	1,174	6	621	215	2,016
Stettler	340	60	419	53	872
Taber	785	61	155	11	1,012
Vegreville	798	50	125	--	973
Vermilion	401	60	8	4	473
Wainwright	280	55	182	217	734
Westlock	735	60	234	924	1,953
Wetaskiwin	589	206	113	1,307	2,215
Whitecourt	248	14	251	--	513
TOTAL	240,268	33,298	98,898	94,415	466,879

TABLE VII.39

TOTAL VALUE OF BUILDING PERMITS IN 1969: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	1,589	187	898	2,794	5,466
Dauphin	546	--	85	--	631
Flin Flon	312	5	16	64	397
Lynn Lake	--	--	--	--	--
Morden	228	165	143	401	942
Neepawa	251	20	47	85	403
Portage la Prairie	1,213	220	95	1,911	3,439
Selkirk	737	8	70	720	1,535
Steinbach	--	--	--	--	--
Swan River	379	3	302	90	774
The Pas	1,727	70	576	120	2,493
Thompson	--	--	--	--	--
Virden	121	--	71	--	192
Winkler	737	323	84	226	1,380
Winnipeg	89,125	7,706	36,511	22,658	156,000
TOTAL	100,604	8,985	40,274	32,715	182,578
<u>Saskatchewan</u>					
Assiniboia	175	--	277	--	452
Biggar	256	--	25	--	281
Canora	166	10	141	20	327
Esterhazy	2	25	74	68	169
Estevan	341	15	163	12	531
Humboldt	489	35	84	9	617
Kamsack	42	53	6	68	169
Kindersley	105	--	483	296	884
Lloydminster	582	36	1,160	586	2,364
Meadow Lake	213	4	117	20	354
Melfort	548	--	13	61	622
Melville	231	4	28	2,852	3,115
Moose Jaw	898	126	260	505	1,789
Nipawin	19	--	27	--	46
Battleford	1,396	134	457	361	2,348
Prince Albert	1,312	21	622	401	2,356
Regina	21,457	625	5,942	2,318	30,342
Rosetown	330	5	279	--	614
Saskatoon	20,133	3,445	12,708	5,651	41,937
Swift Current	1,094	244	581	130	2,049
Tisdale	77	--	63	54	194
Weyburn	368	8	283	102	761
Yorkton	845	344	455	126	1,770
TOTAL	53,655	5,200	23,947	14,751	97,553
<u>Alberta</u>					
Barrhead	388	50	91	2	531
Brooks	602	52	70	7	731
Calgary	99,422	12,294	41,332	19,014	172,062
Camrose	1,106	51	341	43	1,541
Cardston	294	--	45	1,500	1,839
Clareholm	551	--	121	15	685
Coaldale	619	--	12	--	631
Drayton Valley	694	28	376	46	1,144
Drumheller	55	15	612	1,239	1,921

TABLE VII.39 cont'd

Alberta - (Continued)

Edmonton	99,181	28,797	36,593	31,801	196,372
Edson	250	4	315	19	588
Ft. Macleod	38	--	79	--	117
Ft. McMurray	271	--	41	670	1,002
Ft. Saskatchewan	2,043	116	768	305	3,232
Grande Prairie	1,821	9	1,314	447	3,591
Hanna	189	4	26	--	219
Hinton	1,077	82	233	--	1,392
Innisfail	139	15	199	44	397
Lacombe	908	--	433	24	1,365
Leduc	1,185	1	281	275	1,742
Lethbridge	7,218	1,073	4,461	4,888	17,640
Lloydminster	582	36	1,160	586	2,364
Medicine Hat	2,636	176	2,003	567	5,382
Olds	483	20	56	125	684
Peace River	506	80	927	434	1,947
Pincher Creek	279	138	169	92	678
Ponoka	397	--	129	27	553
Red Deer	2,641	1,032	999	2,570	7,242
Rocky Mtn. House	456	87	308	145	996
St. Albert	--	--	--	--	--
St. Paul	578	--	506	2,841	3,925
Stettler	244	32	249	1,375	1,900
Taber	266	216	821	85	1,388
Vegreville	564	--	200	537	1,301
Vermilion	266	5	60	6	337
Wainwright	419	5	400	888	1,712
Westlock	751	--	258	498	1,507
Wetaskiwin	745	100	718	543	2,106
Whitecourt	728	24	262	--	1,014
TOTAL	246,786	46,572	102,679	80,279	476,316

TABLE VII.40

TOTAL VALUE OF BUILDING PERMITS IN 1970: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	1,239	66	3,942	6,106	11,353
Dauphin	715	170	288	5,648	6,821
Flin Flon	344	--	114	2,547	3,005
Lynn Lake	--	--	--	--	--
Morden	488	20	54	1	563
Neepawa	142	5	247	1,507	1,901
Portage la Prairie	1,326	25	909	519	2,779
Selkirk	1,766	22	206	3,535	5,529
Steinbach	--	--	--	--	--
Swan River	129	5	60	2,749	2,943
The Pas	3,393	9,831	274	2,558	16,056
Thompson	--	--	--	--	--
Virden	62	--	127	--	189
Winkler	232	194	62	24	512
Winnipeg	66,425	8,346	18,826	44,670	138,267
TOTAL	79,084	19,134	26,784	74,157	199,759
<u>Saskatchewan</u>					
Assiniboia	92	--	21	89	202
Biggar	137	5	6	--	148
Canora	28	--	68	9	105
Esterhazy	5	10	5	--	20
Estevan	46	67	186	189	488
Humboldt	80	4	69	2	155
Kamsack	55	--	81	5	141
Kindersley	81	5	331	41	458
Lloydminster	--	--	--	--	--
Meadow Lake	420	30	268	6	724
Melfort	182	1	257	60	500
Melville	80	--	144	--	224
Moose Jaw	947	96	290	1,176	2,509
Nipawin	160	--	78	357	595
Battleford	684	308	372	52	1,476
Prince Albert	1,270	28	550	1,398	3,246
Regina	6,772	583	3,689	11,989	22,983
Rosetown	28	1	12	15	56
Saskatoon	3,692	898	5,699	3,428	13,717
Swift Current	199	30	535	1,787	2,551
Tisdale	191	--	55	281	527
Weyburn	67	1,551	134	2,786	4,538
Yorkton	95	234	119	117	565
TOTAL	17,146	3,940	13,588	24,841	59,515
<u>Alberta</u>					
Barrhead	208	13	105	--	326
Brooks	599	20	140	520	1,279
Calgary	88,360	9,134	29,787	45,629	172,910
Camrose	580	3	407	6	996
Cardston	284	--	82	--	366
Claresholm	204	--	76	--	280
Coaldale	583	--	54	155	792
Drayton Valley	719	45	47	71	882
Drumheller	298	8	96	71	473

TABLE VII.40 cont'd

Alberta - (Continued)

Edmonton	90,352	6,063	19,860	20,386	136,661
Edson	433	3	254	--	690
Ft. Macleod	74	3	23	208	308
Ft. McMurray	1,551	46	28	242	1,867
Ft. Saskatchewan	2,585	337	339	605	3,866
Grande Prairie	2,326	493	716	415	3,950
Hanna	152	7	18	--	177
Hinton	989	138	519	20	1,666
Innisfail	96	37	40	--	173
Lacombe	307	14	67	18	406
Leduc	1,937	--	133	286	2,356
Lethbridge	9,136	2,487	2,364	10,206	24,193
Lloydminster	845	95	393	83	1,416
Medicine Hat	1,156	368	1,045	3,519	6,088
Olds	99	9	66	--	174
Peace River	87	5	157	667	916
Pincher Creek	668	12	193	1	874
Ponoka	98	25	43	--	166
Red Deer	2,297	205	3,395	599	6,496
Rocky Mtn. House	1,308	18	322	20	1,668
St. Albert	--	--	--	--	--
St. Paul	478	16	103	--	597
Stettler	320	5	61	931	1,317
Taber	372	--	565	1	938
Vegreville	97	6	100	51	254
Vermilion	216	6	8	123	353
Wainwright	97	27	222	992	1,338
Westlock	658	--	355	439	1,452
Wetaskiwin	353	51	162	208	774
Whitecourt	991	13	261	414	1,679
TOTAL	232,149	21,915	69,562	97,171	420,797

TOTAL VALUE OF BUILDING PERMITS
1966-1970 Inclusive: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	13,728	1,963	9,503	16,651	41,845
Dauphin	3,836	309	1,668	7,188	13,001
Flin Flon	963	30	456	2,815	4,265
Lynn Lake	--	--	--	--	--
Morden	1,887	229	681	2,012	4,809
Neepawa	1,219	457	596	2,158	4,430
Portage la Prairie	4,359	1,016	1,841	4,784	12,000
Selkirk	3,908	1,279	1,761	5,266	12,214
Steinbach	--	--	--	--	--
Swan River	1,601	108	784	3,155	5,648
The Pas	6,778	9,917	1,159	3,691	21,545
Thompson	--	--	--	--	--
Viriden	1,028	124	1,026	441	2,619
Winkler	2,185	926	538	1,916	5,565
Winnipeg	294,221	49,124	127,409	161,589	632,343
TOTAL	335,713	65,482	147,422	211,566	760,284
<u>Saskatchewan</u>					
Assiniboia	1,364	8	783	416	2,571
Biggar	1,384	30	337	166	1,917
Canora	1,221	71	584	929	2,805
Esterhazy	1,625	345	626	1,307	3,903
Estevan	3,777	336	1,393	3,898	9,404
Humboldt	2,623	231	856	1,344	5,054
Kamsack	927	125	224	273	1,549
Kindersley	1,545	118	1,859	1,847	5,369
Lloydminster	--	--	--	--	--
Meadow Lake	1,430	36	506	358	2,330
Melfort	3,227	244	1,698	2,386	7,555
Melville	1,859	104	418	3,783	6,164
Moose Jaw	6,193	2,295	3,069	4,188	15,745
Nipawin	1,425	238	823	3,390	5,876
Battleford	4,801	1,487	2,731	6,190	15,209
Prince Albert	13,792	11,591	5,275	9,116	39,774
Regina	81,004	8,059	42,283	37,957	169,303
Rosetown	1,435	228	1,019	551	3,233
Saskatoon	91,120	11,249	54,602	55,348	212,319
Swift Current	9,300	457	3,057	8,086	20,900
Tisdale	1,254	131	342	962	2,689
Weyburn	3,849	1,694	1,443	4,028	11,014
Yorkton	7,596	1,193	3,223	2,825	14,837
TOTAL	242,751	40,270	127,151	149,348	559,520
<u>Alberta</u>					
Barrhead	929	414	709	361	2,413
Brooks	3,004	391	953	1,137	5,485
Calgary	386,997	45,257	164,974	183,889	781,117
Camrose	5,003	1,304	2,519	3,298	12,201
Cardston	952	100	792	1,668	3,512
Claresholm	1,800	42	337	2,935	5,114
Coaldale	1,763	62	300	241	2,366
Drayton Valley	2,113	123	1,113	585	3,934
Drumheller	3,242	740	1,852	5,553	11,387

TABLE VII.41 cont'd

Alberta - (Continued)

Edmonton	391,265	65,569	76,816	217,577	751,227
Edson	1,099	14	1,178	3,128	5,419
Ft. Macleod	428	127	191	1,654	2,400
Ft. McMurray	10,875	121	1,070	2,162	14,192
Ft. Saskatchewan	9,644	718	1,237	1,462	13,061
Grande Prairie	8,600	1,574	4,298	3,807	18,279
Hanna	963	35	219	45	1,262
Hinton	2,981	631	974	1,498	6,084
Innisfail	699	166	426	1,248	2,539
Lacombe	2,262	90	1,035	1,045	4,432
Leduc	4,469	57	554	940	6,020
Lethbridge	27,391	5,961	15,242	20,141	68,735
Lloydminster	6,598	646	3,234	3,457	11,935
Medicine Hat	10,158	1,667	5,666	8,464	25,955
Olds	1,541	289	617	1,284	3,731
Peace River	3,970	991	1,898	1,925	8,784
Pincher Creek	1,334	225	752	1,535	3,846
Ponoka	1,668	132	866	518	3,184
Red Deer	9,881	3,978	6,234	13,684	33,777
Rocky Mtn. House	2,089	128	955	194	3,366
St. Albert	--	--	--	--	--
St. Paul	3,338	71	1,490	3,868	8,747
Stettler	1,358	137	1,060	2,782	5,337
Taber	2,044	730	1,968	806	5,548
Vegreville	2,463	190	2,557	705	5,915
Vermilion	1,155	88	159	287	1,689
Wainwright	1,273	87	595	2,175	4,130
Westlock	2,838	179	1,109	2,917	7,043
Wetaskiwin	2,443	532	1,202	2,584	6,761
Whitecourt	2,872	398	1,163	877	5,310
TOTAL	921,507	133,964	308,416	502,416	1,866,303

PER CENT DISTRIBUTION OF BUILDING PERMITS
ACCORDING TO MAJOR CATEGORIES: 1966

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	36.10	11.66	18.09	34.15	100.0
Dauphin	40.04	1.24	28.52	30.20	"
Flin Flon	15.85	3.58	46.75	35.82	"
Lynn Lake	--	--	--	--	--
Morden	39.55	3.65	43.81	12.99	"
Neepawa	22.29	10.59	10.25	56.87	"
Portage la Prairie	20.86	3.77	29.72	45.65	"
Selkirk	50.20	31.40	17.94	0.46	"
Steinbach	--	--	--	--	--
Swan River	76.29	4.56	16.78	2.37	"
The Pas	35.39	0.00	2.00	62.61	"
Thompson	--	--	--	--	--
Virden	--	--	--	--	--
Winkler	16.20	9.80	3.50	70.50	"
Winnipeg	40.30	11.00	21.50	27.20	"
TOTAL	39.2	10.5	20.6	29.7	"
<u>Saskatchewan</u>					
Assiniboia	50.5	0.0	49.5	0.0	"
Biggar	56.6	2.3	20.4	20.7	"
Canora	82.2	6.3	11.5	0.0	"
Esterhazy	61.8	3.6	10.5	24.1	"
Estevan	60.6	8.9	30.5	0.0	"
Humboldt	67.4	20.6	11.8	0.2	"
Kamsack	74.2	6.3	15.6	3.9	"
Kindersley	13.6	0.2	16.3	69.9	"
Lloydminster	--	--	--	--	--
Meadow Lake	37.1	0.0	5.8	57.1	"
Melfort	13.3	1.8	21.3	63.6	"
Melville	80.2	4.5	1.0	14.3	"
Moose Jaw	34.1	10.5	21.2	34.2	"
Nipawin	41.4	25.9	23.2	9.5	"
Battleford	47.4	2.3	33.2	17.1	"
Prince Albert	32.4	47.4	4.6	15.6	"
Regina	35.5	6.6	44.3	13.6	"
Rosetown	27.6	15.1	18.1	39.2	"
Saskatoon	33.2	5.5	31.1	30.2	"
Swift Current	67.0	1.0	12.0	20.0	"
Tisdale	75.8	1.4	14.9	7.9	"
Weyburn	48.1	0.4	14.2	37.3	"
Yorkton	71.1	8.1	13.2	7.6	"
TOTAL	37.3	11.3	27.7	23.7	"
<u>Alberta</u>					
Barrhead	49.6	3.0	9.1	38.3	"
Brooks	37.3	3.2	19.1	40.4	"
Calgary	36.2	8.6	16.0	29.2	"
Camrose	29.8	25.9	16.9	27.4	"
Cardston	26.8	0.0	43.8	29.4	"
Clareholm	37.9	1.3	4.8	56.0	"
Coaldale	34.0	16.8	49.2	0.0	"
Drayton Valley	24.0	2.4	73.6	0.0	"
Drumheller	37.2	0.0	18.0	44.8	"

TABLE VII.42 cont'd

Alberta - (Continued)

Edmonton	32.5	4.6	12.6	50.3	"
Edson	21.8	0.4	77.8	0.0	"
Ft. Macleod	84.3	5.6	10.1	0.0	"
Ft. McMurray	93.8	1.6	4.6	0.0	"
Ft. Saskatchewan	77.7	13.1	5.7	3.5	"
Grande Prairie	41.8	4.9	20.2	33.1	"
Hanna	59.7	8.7	29.6	2.0	"
Hinton	46.1	0.9	11.1	41.9	"
Innisfail	8.7	2.9	11.0	77.4	"
Lacombe	13.4	6.0	2.3	78.3	"
Leduc	36.0	1.1	1.8	61.1	"
Lethbridge	31.9	10.8	22.2	35.1	"
Lloydminster	37.5	10.5	44.9	7.1	"
Medicine Hat	41.2	05.9	21.6	31.3	"
Olds	45.8	12.9	39.6	1.7	"
Peace River	48.1	19.9	2.6	29.4	"
Pincher Creek	5.9	7.2	5.2	81.7	"
Ponoka	65.6	5.2	28.1	1.1	"
Red Deer	15.3	6.0	6.3	72.4	"
Rocky Mtn. House	47.7	1.8	50.5	0.0	"
St. Albert	--	--	--	--	--
St. Paul	30.6	2.6	16.1	50.7	"
Stettler	31.8	7.0	18.2	43.0	"
Taber	21.0	23.1	19.6	36.3	"
Vegreville	82.9	5.9	11.2	0.0	"
Vermilion	85.5	5.6	8.9	0.0	"
Wainwright	53.1	0.0	25.3	21.6	"
Westlock	54.3	7.5	38.1	0.1	"
Wetaskiwin	46.2	11.9	10.7	31.2	"
Whitecourt	34.0	23.0	8.0	35.0	"
TOTAL	34.3	7.4	14.8	43.5	100.0

PER CENT DISTRIBUTION OF BUILDING PERMITS
ACCORDING TO MAJOR CATEGORIES: 1970

	Residential	Industrial	Commercial	Institutional	Total
<u>Manitoba</u>					
Brandon	10.9	0.6	34.7	53.8	100.0
Dauphin	10.5	2.5	4.2	82.8	"
Flin Flon	11.4	0.0	3.8	84.8	"
Lynn Lake	N/A				
Morden	86.7	3.5	9.6	0.2	"
Neepawa	7.5	0.3	12.9	79.3	"
Portage la Prairie	47.7	0.9	32.7	18.7	"
Selkirk	31.9	0.4	3.8	63.9	"
Steinbach	N/A				
Swan River	4.4	0.2	2.0	93.4	"
The Pas	21.1	61.3	1.7	15.9	"
Thompson	N/A				
Viriden	32.8	0.0	67.2	0.0	"
Winkler	45.3	37.9	12.1	4.7	"
Winnipeg	48.1	6.0	13.6	32.3	"
TOTAL	39.9	9.6	13.4	37.1	"
<u>Saskatchewan</u>					
Assiniboia	45.5	0.0	10.4	44.1	100.0
Biggar	92.6	3.4	4.0	0.0	"
Canora	26.7	0.0	64.7	8.6	"
Esterhazy	25.0	50.0	25.0	0.0	"
Estevan	9.4	13.8	38.1	38.7	"
Humboldt	51.6	2.6	44.5	1.3	"
Kamsack	39.0	0.0	57.4	3.6	"
Kindersley	17.7	1.1	72.3	8.9	"
Lloydminster	N/A				
Meadow Lake	58.1	4.1	37.0	0.8	"
Melfort	36.4	0.2	51.4	12.0	"
Melville	35.7	0.0	64.3	0.0	"
Moose Jaw	37.7	3.8	11.6	46.9	"
Nipawin	26.9	0.0	13.1	60.0	"
Battleford	46.3	24.9	25.3	3.5	"
Prince Albert	39.1	0.9	16.9	43.1	"
Regina	29.5	2.5	16.0	52.0	"
Rosetown	50.0	1.8	21.4	26.8	"
Saskatoon	26.9	6.6	41.5	25.0	"
Swift Current	7.8	1.2	21.0	70.0	"
Tisdale	36.2	0.0	10.4	53.4	"
Weyburn	1.5	34.2	2.9	61.4	"
Yorkton	16.8	41.4	21.1	20.7	"
TOTAL	28.8	6.6	22.8	41.8	"
<u>Alberta</u>					
Barrhead	63.8	4.0	32.2	0.0	100.0
Brooks	46.8	1.6	10.9	40.7	"
Calgary	51.1	5.3	17.2	26.4	"
Camrose	58.2	0.3	40.9	0.6	"
Cardston	77.6	0.0	22.4	0.0	"
Claresholm	72.9	0.0	27.1	0.0	"
Coaldale	73.6	0.0	6.8	19.6	"
Drayton Valley	81.5	5.1	5.3	8.1	"
Drumheller	63.0	1.7	20.3	15.0	"

TABLE VII.43 cont'd

<u>Alberta</u> - (Continued)	Residential	Industrial	Commercial	Institutional	Total
Edmonton	66.2	4.4	14.5	14.9	100.0
Edson	62.8	0.4	36.8	0.0	"
Ft. Macleod	24.0	1.0	7.5	67.5	"
Ft. McMurray	83.0	2.5	1.5	13.0	"
Ft. Saskatchewan	66.9	8.7	8.8	15.6	"
Grande Prairie	58.9	12.5	18.1	10.5	"
Hanna	85.9	3.9	10.2	0.0	"
Hinton	59.4	8.3	31.1	1.2	"
Innisfail	55.5	21.4	23.1	0.0	"
Lacombe	75.7	3.4	16.5	4.4	"
Leduc	82.3	0.0	5.6	12.1	"
Lethbridge	37.7	10.3	9.8	42.2	"
Lloydminster	59.7	6.7	27.7	5.9	"
Medicine Hat	19.0	6.0	17.2	57.8	"
Olds	56.9	5.2	37.9	0.0	"
Peace River	9.5	0.6	17.1	72.8	"
Pincher Creek	76.4	1.4	22.1	0.1	"
Ponoka	59.0	15.1	25.9	0.0	"
Red Deer	35.4	3.1	52.3	9.2	"
Rocky Mtn. House	78.4	1.1	19.3	1.2	"
St. Albert	N/A				"
St. Paul	80.1	2.7	17.2	0.0	"
Stettler	24.3	0.4	4.6	70.7	"
Taber	39.7	0.0	60.2	0.1	"
Vegreville	38.2	2.4	39.3	20.1	"
Vermilion	61.2	1.7	2.3	34.8	"
Wainwright	7.2	2.0	16.6	74.2	"
Westlock	45.4	0.0	24.4	30.2	"
Wetaskiwin	45.6	6.6	20.9	26.9	"
Whitecourt	59.1	0.8	15.5	24.6	"
TOTAL	55.2	5.2	16.5	23.1	"

PER CENT DISTRIBUTION OF BUILDING PERMITS
 ACCORDING TO MAJOR CATEGORIES: 1966-1970 INCLUSIVE

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	32.8	4.7	22.7	39.8	100.0
Dauphin	29.5	12.4	12.8	55.3	"
Flin Flon	22.6	0.7	10.7	66.0	"
Lynn Lake	--	--	--	--	--
Morden	39.2	4.8	14.2	41.8	"
Neepawa	27.5	10.3	13.5	48.7	"
Portage la Prairie	36.3	8.5	15.3	39.9	"
Selkirk	32.0	10.5	14.4	43.1	"
Steinbach	--	--	--	--	--
Swan River	28.3	1.9	13.9	55.9	"
The Pas	31.5	46.0	5.4	17.1	"
Thompson	--	--	--	--	--
Virден	39.3	4.7	39.2	16.8	"
Winkler	39.3	16.6	9.7	34.4	"
Winnipeg	46.5	7.8	20.1	25.6	"
TOTAL	44.2	8.5	19.4	27.9	"
<u>Saskatchewan</u>					
Assiniboia	53.0	0.3	30.5	16.2	"
Biggar	72.2	1.6	17.6	8.6	"
Canora	43.5	2.5	20.8	33.2	"
Esterhazy	41.6	8.8	16.1	33.5	"
Estevan	40.2	3.6	14.8	41.4	"
Humboldt	51.9	4.6	16.9	26.6	"
Kamsack	59.8	8.1	14.5	17.6	"
Kindersley	28.8	2.2	34.6	34.4	"
Lloydminster	--	--	--	--	--
Meadow Lake	61.4	1.5	21.7	15.4	"
Melfort	42.7	3.2	22.5	31.6	"
Melville	30.2	1.7	6.8	61.4	"
Moose Jaw	39.3	14.6	19.5	26.6	"
Nipawin	24.3	4.1	14.0	57.7	"
Battleford	31.5	9.8	18.0	40.7	"
Prince Albert	34.7	29.1	13.3	22.9	"
Regina	47.8	4.8	25.0	22.4	"
Rosetown	44.4	7.1	31.5	17.0	"
Saskatoon	42.9	5.3	25.7	26.1	"
Swift Current	44.5	2.2	14.6	38.7	"
Tisdale	46.6	4.9	12.7	35.8	"
Weyburn	34.9	15.4	13.1	36.6	"
Yorkton	51.2	8.0	21.7	19.1	"
TOTAL	43.4	7.2	22.7	26.7	"
<u>Alberta</u>					
Barrhead	38.5	17.2	29.4	15.0	"
Brooks	54.8	7.1	17.4	20.7	"
Calgary	49.5	5.8	21.1	23.6	"
Camrose	41.0	10.7	21.2	27.1	"
Cardston	27.1	2.8	22.6	47.5	"
Claresholm	35.2	0.8	6.6	57.4	"
Coaldale	74.5	2.6	12.7	10.2	"
Drayton Valley	53.7	3.1	28.3	14.9	"
Drumheller	28.5	6.5	16.3	48.8	"

TABLE VII.44 cont'd

Alberta - (Continued)

Edmonton	52.1	8.7	10.2	29.0	"
Edson	20.3	0.3	21.7	57.7	"
Ft. Macleod	17.8	5.3	8.0	68.9	"
Ft. McMurray	76.6	0.9	7.5	15.2	"
Ft. Saskatchewan	73.8	5.5	9.5	11.2	"
Grande Prairie	47.1	8.6	23.5	20.8	"
Hanna	76.3	2.8	17.6	3.5	"
Hinton	49.0	10.4	16.0	24.6	"
Innisfail	27.5	6.5	17.8	50.2	"
Lacombe	51.0	2.0	23.4	23.6	"
Leduc	74.2	1.0	9.2	15.6	"
Lethbridge	39.9	8.6	22.2	29.3	"
Lloydminster	38.5	5.4	27.1	29.0	"
Medicine Hat	39.1	6.4	21.8	36.7	"
Olds	41.3	7.8	16.5	34.4	"
Peace River	45.2	11.3	21.6	21.9	"
Pincher Creek	34.7	5.9	19.5	39.9	"
Ponoka	52.4	4.2	27.2	16.2	"
Red Deer	29.3	11.8	18.4	40.5	"
Rocky Mtn. House	62.0	3.8	28.4	5.8	"
St. Albert	--	--	--	--	--
St. Paul	38.2	0.8	17.0	44.0	"
Stettler	25.5	2.5	19.9	52.1	"
Taber	36.8	13.2	35.5	14.5	"
Vegreville	41.6	3.3	43.2	11.9	"
Vermilion	68.4	5.2	9.4	17.0	"
Wainwright	30.8	2.1	14.4	52.7	"
Westlock	40.3	2.5	15.8	41.4	"
Wetaskiwin	36.1	7.9	17.8	38.2	"
Whitecourt	54.1	7.5	21.9	16.5	"
TOTAL	49.4	7.2	16.5	26.9	100.0

TABLE VII.45

LOCATION QUOTIENTS FOR PERCENT DISTRIBUTION ACCORDING TO TOTAL
VALUE OF BUILDING PERMITS ISSUED: 1966-1970, PRAIRIE CENTRES

	Residential	Industrial	Commercial	Institution	Total
<u>Manitoba</u>					
Brandon	0.74	0.55	1.17	1.43	1.00
Dauphin	0.67	0.28	0.65	1.98	"
Flin Flon	0.51	0.08	0.55	2.37	"
Lynn Lake	--	--	--	--	--
Morden	0.89	0.57	0.73	1.50	"
Neepawa	0.62	1.21	0.70	1.75	"
Portage la Prairie	0.82	1.00	0.79	1.43	"
Selkirk	0.72	1.23	0.74	1.55	"
Steinbach	--	--	--	--	--
Swan River	0.63	0.22	0.71	2.00	"
The Pas	0.71	5.41	0.27	0.61	"
Thompson	--	--	--	--	--
Virden	0.89	0.55	2.02	0.60	"
Winkler	0.89	1.95	0.50	1.23	"
Winnipeg	1.05	0.92	1.04	0.92	"
TOTAL	1.00	1.00	1.00	1.00	"
<u>Saskatchewan</u>					
Assiniboia	1.22	0.04	1.34	0.61	"
Biggar	1.66	0.22	0.78	0.32	"
Canora	1.00	0.35	0.92	1.24	"
Esterhazy	0.96	1.22	0.71	1.26	"
Estevan	0.93	0.50	0.65	1.55	"
Humboldt	1.20	0.64	0.74	1.00	"
Kamsack	1.38	1.13	0.64	0.66	"
Kindersley	0.66	0.31	1.52	1.29	"
Lloydminster	--	--	--	--	--
Meadow Lake	1.42	0.21	0.96	0.58	"
Melfort	0.98	0.44	0.99	1.18	"
Melville	0.70	0.24	0.30	2.30	"
Moose Jaw	0.91	2.03	0.86	1.00	"
Nipawin	0.56	0.57	0.62	2.16	"
Battleford	0.73	1.36	0.79	1.52	"
Prince Albert	0.80	4.04	0.59	0.86	"
Regina	1.10	0.67	1.10	0.84	"
Rosetown	1.02	0.99	1.34	0.64	"
Saskatoon	0.99	0.74	1.13	0.98	"
Swift Current	1.03	0.31	0.64	1.45	"
Tisdale	1.07	0.68	0.56	1.34	"
Weyburn	0.80	2.14	0.58	1.38	"
Yorkton	1.18	1.11	0.96	0.72	"
TOTAL	1.00	1.00	1.00	1.00	"
<u>Alberta</u>					
Barrhead	0.78	2.39	1.78	0.56	"
Brooks	1.11	0.98	1.06	0.77	"
Calgary	1.00	0.81	1.28	0.88	"
Camrose	0.83	1.49	1.29	1.01	"
Cardston	0.55	0.39	1.37	1.77	"
Claresholm	0.71	0.11	0.40	2.13	"
Coaldale	1.51	0.36	0.77	0.38	"
Drayton Valley	1.09	0.43	1.72	0.55	"
Drumheller	0.58	0.90	0.99	1.81	"

TABLE VII.45 cont'd

Alberta - (Continued)

Edmonton	1.06	1.21	0.62	1.08	"
Edson	0.41	0.04	1.32	2.15	"
Ft. Macleod	0.36	0.74	0.49	2.56	"
Ft. McMurray	1.55	0.13	0.46	0.57	"
Ft. Saskatchewan	1.49	0.76	0.58	0.42	"
Grande Prairie	0.95	1.19	1.42	0.77	"
Hanna	1.55	0.39	1.06	0.13	"
Hinton	0.99	1.44	0.97	0.91	"
Innisfail	0.56	0.90	1.08	1.87	"
Lacombe	1.03	0.28	1.42	0.88	"
Leduc	1.50	0.14	0.56	0.58	"
Lethbridge	0.81	1.19	1.35	1.09	"
Lloydminster	0.78	0.75	1.64	1.08	"
Medicine Hat	0.79	0.89	1.32	1.22	"
Olds	0.84	1.08	1.00	1.29	"
Peace River	0.92	1.57	1.31	0.81	"
Pincher Creek	0.70	0.82	1.18	1.48	"
Ponoka	1.06	0.58	1.65	0.60	"
Red Deer	0.59	1.64	1.12	1.51	"
Rocky Mtn. House	1.26	0.53	1.72	0.22	"
St. Albert	--	--	--	--	--
St. Paul	0.77	0.11	1.03	1.64	"
Stettler	0.52	0.34	1.21	1.94	"
Taber	0.75	1.83	2.15	0.54	"
Vegreville	0.84	0.46	2.62	0.44	"
Vermilion	1.39	0.72	0.57	0.63	"
Wainwright	0.62	0.29	0.87	1.96	"
Westlock	0.82	0.35	0.96	1.54	"
Wetaskiwin	0.73	1.10	1.08	1.42	"
Whitecourt	1.10	1.04	1.33	0.61	"
TOTAL	1.00	1.00	1.00	1.00	1.00

BUILDING PERMITS: PER CAPITA VALUES
AND RATES OF GROWTH - 1966 TO 1970

	Av. Pop. 1966 and 1970	Bldg. Permits/ Per Capita \$	% Change Total Bldg. Permits 1966 - 1970 incl.
<u>Manitoba</u>			
Brandon	30,779	1,360	21.37
Dauphin	8,876	1,465	269.77
Flin Flon	9,796	435	198.64
Lynn Lake	2,727	N/A	N/A
Morden	3,189	1,508	41.15
Neepawa	3,251	1,363	76.03
Portage la Prairie	12,886	931	21.23
Selkirk	9,228	1,324	77.39
Steinbach	4,769	N/A	N/A
Swan River	3,541	1,595	82.50
The Pas	6,140	3,509	177.65
Thompson	13,880	5,800	N/A
Viriden	2,930	894	-18.11
Winkler	2,814	1,978	- 1.77
Winnipeg	524,568	1,205	12.81
TOTAL	981,568	775	14.19
<u>Saskatchewan</u>			
Assiniboia	2,738	939	- 4.16
Biggar	2,250	852	-27.58
Canora	2,583	1,086	- 4.81
Esterhazy	3,246	1,202	-62.10
Estevan	9,155	1,028	18.06
Humboldt	3,954	1,278	2.91
Kamsack	2,839	546	-24.24
Kindersley	3,365	1,596	-26.92
Lloydminster	3,581	N/A	N/A
Meadow Lake	3,392	687	36.46
Melfort	4,645	1,626	-37.66
Melville	5,033	1,225	71.35
Moose Jaw	32,734	481	- 5.83
Nipawin	4,071	1,443	404.74
Battleford	12,471	1,220	66.84
Prince Albert	26,878	1,480	- 9.06
Regina	136,074	1,244	-11.88
Rosetown	2,576	1,255	-35.28
Saskatoon	120,745	1,758	-18.83
Swift Current	14,887	1,404	3.66
Tisdale	2,821	953	51.60
Weyburn	8,763	1,257	102.66
Yorkton	13,043	1,138	-16.94
TOTAL	951,857	588	-17.34
<u>Alberta</u>			
Barrhead	2,655	909	11.53
Brooks	3,549	1,546	N/A
Calgary	358,006	2,182	11.93
Camrose	8,627	1,414	-19.40
Cardston	2,721	1,291	49.00
Claresholm	2,960	1,728	-10.40
Coaldale	2,514	941	39.13
Drayton Valley	3,412	1,153	38.89
Drumheller	4,407	2,584	2.20

TABLE VII.46 cont'd

	Av. Pop. 1966 and 1970	Bldg. Permits/ Per Capita \$	% Change Total Bldg. Permits 1966 - 1970 incl.
<u>Alberta - (Continued)</u>			
Edmonton	411,859	1,824	1.40
Edson	3,830	1,415	68.14
Ft. Macleod	2,675	897	452.94
Ft. McMurray	4,373	3,245	27.79
Ft. Saskatchewan	4,727	2,763	83.71
Grande Prairie	11,763	1,554	22.80
Hanna	2,586	488	- 7.81
Hinton	4,384	1,388	66.33
Innisfail	2,441	1,040	-30.95
Lacombe	3,132	1,415	- 4.41
Leduc	3,318	1,814	71.81
Lethbridge	38,369	1,791	77.40
Lloydminster	4,043	2,952	17.23
Medicine Hat	25,644	1,012	21.51
Olds	3,202	1,165	- 4.78
Peace River	4,736	1,855	- 2.81
Pincher Creek	3,053	1,260	1.91
Ponoka	4,488	709	1.79
Red Deer	26,539	1,273	- 3.49
Rocky Mtn. House	2,624	1,283	223.48
St. Albert	10,133	N/A	N/A
St. Paul	3,797	2,304	24.59
Stettler	4,185	1,275	33.14
Taber	4,638	1,196	17.54
Vegreville	3,687	1,604	- 2.02
Vermilion	2,685	629	19.43
Wainwright	3,801	1,087	52.41
Westlock	2,894	2,434	40.90
Wetaskiwin	6,232	1,085	28.43
Whitecourt	2,587	2,053	21.98
TOTAL	1,519,876	1,228	7.04

TABLE VII.47

TOTAL VALUE OF BUILDING PERMITS IN 1966: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	1,160	2,148	449	115	3,872
Amos	380	45	151	550	1,126
Arvida	943	205	73	36	1,257
Asbestos	537	14	440	--	991
Aylmer	--	--	--	--	--
Bagotville	12	--	--	--	12
Baie-Comeau	1,602	396	354	2,275	4,627
Beauharnois	182	--	152	--	334
Bécancour	--	--	--	--	--
Beloeil	2,225	--	122	626	2,973
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	1,973	217	472	740	3,402
Chambly	1,059	430	1,835	290	3,614
Chibougamau	522	8	344	520	1,394
Chicoutimi	1,362	342	1,165	262	3,131
Chicoutimi N.	454	38	21	63	576
Coaticook	150	31	5	--	186
Cowansville	1,669	255	1,314	1,653	4,891
Dolbeau	173	22	283	--	478
Drummondville	1,802	530	1,105	30	3,467
Drummondville S.	440	210	38	205	893
Farnham	297	580	46	164	1,087
Gatineau	--	--	--	--	--
Granby	2,251	459	1,038	--	3,748
Grand'Mère	478	813	30	--	1,321
Hauterive	1,462	--	115	125	1,702
Hull	6,991	629	2,266	1,375	11,261
Iberville	361	1	38	--	400
Joliette	1,863	35	184	1,339	3,421
Jonquièrre	938	--	1,046	--	1,984
Kénogami	239	--	104	2	345
Lachute	--	--	--	--	--
Laç-Mégantic	374	41	60	--	475
La Tuque	220	51	69	--	340
Magog	243	17	90	16	366
Malartic	9	--	42	--	51
Maniwaki	172	14	193	109	488
Matane	1,099	1,980	106	--	3,185
Mont-Joli	86	8	74	--	168
Mont-Laurier	375	--	71	242	688
Montmagny	353	107	427	509	1,396
Montréal	259,400	52,294	111,397	63,580	486,671
Noranda	168	565	40	2	775
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	337	299	23	--	659
Québec	40,994	2,035	14,029	6,873	63,931
Rimouski	1,295	197	433	70	1,995
Rivière-du-Loup	707	145	180	907	1,939

TABLE VII.47 cont'd

Québec - (Continued)

Roberval	311	28	5	545	889
Rouyn	382	163	94	206	845
Ste-Agathe	157	--	50	--	207
St-Félicien	289	71	57	--	417
St-Georges	505	40	670	40	1,255
St-Georges O.	256	--	20	304	580
St-Hyacinthe	980	523	1,103	1,541	4,147
St-Jean	1,171	472	519	118	2,280
St-Jérôme	1,430	248	493	1,199	3,370
Ste-Thérèse	274	28	41	15	358
Sept-Îles	2,242	68	7,325	668	10,303
Shawinigan	372	117	997	225	1,711
Shawinigan S.	140	12	67	22	241
Sherbrooke	5,655	1,726	2,159	1,167	10,707
Sorel	1,522	1,723	721	1,293	5,259
Terrebonne	519	304	75	59	957
Thetford Mines	113	--	14	--	127
Tracy	1,925	630	1,377	1,500	5,432
Trois-Rivières	1,793	1,068	1,688	3,211	7,760
Val-d'Or	220	218	21	627	1,086
Valleyfield	2,625	1,550	224	458	4,857
Victoriaville	1,512	25	262	15	1,814
Windsor	--	--	--	--	--
TOTAL	379,308	80,286	176,893	105,395	741,882

TABLE VII.48

TOTAL VALUE OF BUILDING PERMITS IN 1967: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	1,350	191	324	352	2,217
Amos	461	--	153	--	614
Arvida	1,131	310	76	39	1,556
Asbestos	814	6	46	679	1,545
Aylmer	--	--	--	--	--
Bagotville	49	--	30	--	79
Baie-Comeau	945	44	1,810	60	2,859
Beauharnois	308	368	63	--	739
Bécancour	425	123	64	1	613
Beloeil	2,035	11	34	218	2,298
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	2,086	8	201	835	3,130
Chambly	291	6	181	135	613
Chibougamau	426	2	256	--	684
Chicoutimi	1,877	862	1,613	366	4,718
Chicoutimi N.	1,005	--	7	96	1,108
Coaticook	320	6	68	472	866
Cowansville	1,435	627	60	627	2,749
Dolbeau	542	3	71	--	616
Drummondville	2,088	1,253	370	81	3,792
Drummondville S.	403	9	18	49	479
Farnham	328	265	4	8	605
Gatineau	--	--	--	--	--
Granby	1,922	409	531	127	2,989
Grand'Mère	390	101	150	652	1,293
Hauterive	1,894	12	37	150	2,093
Hull	8,576	7,081	789	1,562	18,008
Iberville	311	49	28	90	478
Joliette	1,824	1,151	681	592	4,284
Jonquièrre	653	113	328	35	1,129
Kénogami	213	2	98	--	313
Lachute	--	--	--	--	--
Laç-Mégantic	256	47	32	115	450
La Tuque	475	40	17	223	755
Magog	439	39	77	8	563
Malartic	8	--	--	--	8
Maniwaki	369	50	186	--	605
Matane	2,188	549	137	6	2,880
Mont-Joli	144	225	32	236	637
Mont-Laurier	474	8	72	17	571
Montmagny	496	33	92	4	625
Montréal	268,348	58,419	86,673	87,281	500,721
Noranda	152	1	223	--	376
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	294	923	33	--	1,250
Québec	44,332	2,326	12,785	24,130	83,573
Rimouski	3,003	1,868	1,503	1,744	8,118
Rivière-du-Loup	636	--	665	2,151	3,452

TABLE VII.48 cont'd

Québec - (Continued)

Roberval	289	8	140	1,247	1,684
Rouyn	695	1	519	411	1,626
Ste-Agathe	195	--	15	--	210
St-Félicien	301	--	69	150	520
St-Georges	691	77	366	382	1,516
St-Georges O.	466	--	40	410	916
St-Hyacinthe	1,009	483	629	980	3,101
St-Jean	1,442	2,216	394	438	4,490
St-Jérôme	1,150	429	651	908	3,138
Ste-Thérèse	2,324	--	2	--	2,326
Sept-Îles	2,359	735	286	1,150	4,530
Shawinigan	354	436	785	675	2,250
Shawinigan S.	277	40	70	--	387
Sherbrooke	6,076	2,243	2,897	3,442	14,658
Sorel	2,128	12	1,375	229	3,744
Terrebonne	1,518	121	145	--	1,784
Thetford Mines	2,011	178	338	6	2,533
Tracy	2,179	92	2,840	--	5,111
Trois-Rivières	1,974	1,095	2,035	1,472	6,576
Val-d'Or	96	24	61	100	281
Valleyfield	1,750	780	332	100	2,962
Victoriaville	2,011	178	338	6	2,533
Windsor	--	--	--	--	--
TOTAL	411,534	88,896	128,794	166,912	774,145

TOTAL VALUE OF BUILDING PERMITS IN 1968: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	1,284	52	467	860	2,563
Amos	527	45	118	--	590
Arvida	991	1,633	219	27	2,870
Asbestos	908	--	176	--	1,084
Aylmer	--	--	--	--	--
Bagotville	270	2	--	2	274
Baie-Comeau	--	--	--	--	--
Beauharnois	229	4	62	1	296
Bécancour	350	119	410	--	879
Beloeil	1,613	--	106	2,860	4,579
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	2,515	165	590	4,839	8,109
Chambly	363	170	195	--	728
Chibougamau	83	--	108	--	191
Chicoutimi	3,112	2	3,356	955	7,425
Chicoutimi N.	1,520	6	89	4,125	5,740
Coaticook	244	--	308	--	552
Cowansville	625	1,232	134	9,546	11,537
Dolbeau	490	96	45	--	631
Drummondville	1,631	990	762	138	3,521
Drummondville S.	817	25	71	--	913
Farnham	244	235	73	2,300	2,852
Gatineau	--	--	--	--	--
Granby	1,164	1,480	165	2,553	5,362
Grand'Mère	565	44	81	268	958
Hauterive	1,607	4	260	--	1,871
Hull	12,625	1,306	2,691	5,910	22,532
Iberville	549	53	34	205	841
Joliette	1,264	660	473	6,169	8,566
Jonquière	988	1	433	270	1,692
Kénogami	453	--	163	586	1,202
Lachute	--	--	--	--	--
Laç-Mégantic	378	--	36	385	799
La Tuque	564	--	222	411	1,197
Magog	326	15	68	15	424
Malartic	17	--	13	--	30
Maniwaki	557	--	160	3,000	3,717
Matane	1,438	235	473	5,559	7,705
Mont-Joli	465	28	184	4,041	4,718
Mont-Laurier	788	--	283	516	1,587
Montmagny	897	103	454	140	1,594
Montréal	--	--	--	--	559,134
Noranda	102	83	305	--	490
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	117	180	12	--	309
Québec	57,065	4,605	12,777	33,099	107,546
Rimouski	3,756	862	3,191	6,825	14,536
Rivière-du-Loup	1,467	46	331	--	1,844

TABLE VII.49 cont'd

Québec - (Continued)

Roberval	314	7	134	511	966
Rouyn	569	9	386	18	982
Ste-Agathe	214	75	42	159	490
St-Félicien	179	--	34	326	539
St-Georges	508	6	738	432	1,684
St-Georges O.	607	--	31	400	1,038
St-Hyacinthe	898	691	646	454	2,689
St-Jean	1,242	366	323	461	2,392
St-Jérôme	1,764	2,756	584	4,089	9,193
Ste-Thérèse	1,649	--	93	230	1,972
Sept-Îles	1,604	4,099	1,012	85	6,800
Shawinigan	316	355	155	28	854
Shawinigan S.	410	--	25	3,962	4,397
Sherbrooke	8,810	644	888	1,342	11,584
Sorel	2,164	106	474	10,700	13,444
Terrebonne	2,321	70	322	2,700	5,413
Thetford Mines	215	--	61	--	276
Tracy	1,576	8,553	141	--	10,270
Trois-Rivières	4,324	16	939	1,020	6,299
Val-d'Or	364	351	1,593	6	2,314
Valleyfield	1,614	2,198	576	842	5,230
Victoriaville	1,187	135	292	396	2,010
Windsor	62	3	10	17	92
TOTAL	466,866	214,042	121,038	266,585	1,066,531

TOTAL VALUE OF BUILDING PERMITS IN 1969: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	1,380	64	265	3,468	5,177
Amos	500	102	66	1,365	2,033
Arvida	1,250	1,272	176	12	2,710
Asbestos	610	9	611	--	1,230
Aylmer	--	--	--	--	--
Bagotville	402	--	--	--	402
Baie-Comeau	508	425	171	1,950	3,054
Beauharnois	284	7	26	40	357
Bécancour	818	97	161	--	1,076
Beloëil	1,021	--	503	--	1,524
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	3,523	318	401	2,243	6,485
Chambly	425	28	97	529	1,097
Chibougamau	--	--	--	--	--
Chicoutimi	3,822	41	961	484	5,308
Chicoutimi N.	2,231	--	64	550	2,845
Coaticook	208	34	82	385	709
Cowansville	1,312	375	47	350	2,084
Dolbeau	414	155	4	--	573
Drummondville	1,136	214	605	228	2,183
Drummondville S.	647	14	76	--	737
Farnham	173	360	215	--	748
Gatineau	--	--	--	--	--
Granby	1,239	615	560	406	2,870
Grand'Mère	359	174	234	19	786
Hauterive	1,189	--	491	1,202	2,882
Hull	22,869	215	4,362	1,422	28,868
Iberville	434	505	58	8	1,005
Joliette	1,032	1,500	745	267	3,544
Jonquièrre	1,958	40	167	1,854	4,025
Kénogami	574	69	130	--	773
Lachute	334	--	101	--	435
Laç-Mégantic	465	36	183	8	692
La Tuque	760	--	146	--	906
Magog	184	264	48	50	546
Malartic	38	--	--	--	38
Maniwaki	300	20	51	1,260	1,631
Matane	1,620	315	588	440	2,963
Mont-Joli	1,277	152	171	401	2,001
Mont-Laurier	575	12	277	26	890
Montmagny	462	49	224	2,300	3,035
Montréal	215,700	98,643	77,002	89,154	480,499
Noranda	217	391	67	8,575	9,250
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	332	247	52	--	631
Québec	76,907	7,262	33,456	52,710	170,335
Rimouski	4,574	57	4,045	3,205	11,881
Rivière-du-Loup	1,554	8	167	123	1,852

TABLE VII.50 cont'd

Québec - (Continued)

Roberval	725	--	137	3,591	4,453
Rouyn	594	51	1,042	931	2,618
Ste-Agathe	54	--	--	--	54
St-Félicien	229	58	128	150	565
St-Georges	692	88	140	39	959
St-Georges O.	652	--	25	--	677
St-Hyacinthe	1,014	1,407	483	11,099	14,003
St-Jean	1,830	648	308	9,295	12,081
St-Jérôme	2,166	1,342	1,084	262	4,854
Ste-Thérèse	3,505	523	317	--	4,345
Sept-Îles	2,793	1,999	1,083	156	6,031
Shawinigan	499	56	137	45	737
Shawinigan S.	430	84	61	5,233	5,808
Sherbrooke	10,907	195	2,397	1,433	14,932
Sorel	1,163	72	228	1,337	2,800
Terrebonne	1,186	58	238	--	1,482
Thetford Mines	237	32	38	--	307
Tracy	1,168	19	187	400	1,774
Trois-Rivières	6,792	357	4,572	1,108	12,829
Val-d'Or	749	2	1,078	--	1,829
Valleyfield	1,007	579	266	41	1,893
Victoriaville	1,225	677	961	139	3,002
Windsor	82	10	59	12	163
TOTAL	422,584	128,598	148,084	221,560	920,826

TOTAL VALUE OF BUILDING PERMITS IN 1970: (\$'000)

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	1,840	--	546	1,459	3,845
Amos	710	30	88	837	1,665
Arvida	1,035	716	814	40	2,605
Asbestos	702	78	45	448	1,273
Aylmer	--	--	--	--	--
Bagotville	108	--	1	578	687
Baie-Comeau	637	2,025	357	--	3,019
Beauharnois	144	2	59	43	248
Bécancour	1,101	69	169	--	1,339
Beloeil	1,929	15	713	--	2,657
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	3,488	34	290	15	3,827
Chambly	208	5	34	--	247
Chibougamau	725	35	238	50	1,048
Chicoutimi	2,904	--	1,434	1,699	6,037
Chicoutimi N.	2,294	--	88	4,485	6,867
Coaticook	208	--	124	324	656
Cowansville	1,568	15	113	272	1,968
Dolbeau	296	76	217	1,595	2,184
Drummondville	1,619	2,760	644	280	5,303
Drummondville S.	703	145	63	3,000	3,911
Farnham	234	899	39	--	1,172
Gatineau	--	--	--	--	--
Granby	2,450	3,032	672	809	6,963
Grand'Mère	653	370	490	--	1,513
Hauterive	1,310	--	212	1,384	2,906
Hull	130	3	33	--	166
Iberville	606	151	52	3,646	4,455
Joliette	2,052	414	675	83	3,224
Jonquièrre	2,628	4	353	4,374	7,359
Kénogami	924	--	158	--	1,082
Lachute	169	452	--	--	621
Laç-Mégantic	291	--	38	40	369
La Tuque	734	--	46	--	780
Magog	228	450	200	85	963
Malartic	26	15	6	--	47
Maniwaki	622	--	19	--	641
Matane	2,070	4	334	348	2,756
Mont-Joli	319	25	254	8	606
Mont-Laurier	589	--	156	3,580	4,325
Montmagny	1,601	113	468	1,500	3,682
Montréal	230,627	45,974	68,653	85,046	430,300
Noranda	733	3	66	--	802
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	729	1,265	37	3,589	5,620
Québec	73,495	1,468	18,592	23,891	117,446
Rimouski	4,354	204	954	3,317	8,892
Rivière-du-Loup	1,898	40	378	552	2,868

TABLE VII.51 cont'd

Québec - (Continued)

Roberval	371	1	166	244	787
Rouyn	1,845	121	304 ⁹	6,245	8,520
Ste-Agathe	475	28	905	4	1,412
St-Félicien	24	5	35	--	62
St-Georges	738	66	516	60	1,380
St-Georges O.	1,049	--	64	3,500	4,613
St-Hyacinthe	38	35	16	--	89
St-Jean	1,891	80	152	195	2,318
St-Jérôme	1,199	318	1,915	4,470	7,902
Ste-Thérèse	113	--	13	--	126
Sept-Îles	6,877	387	932	3,638	11,834
Shawinigan	506	435	349	30	1,320
Shawinigan S.	685	34	8	433	1,160
Sherbrooke	10,312	229	1,171	297	12,009
Sorel	79	--	--	--	79
Terrebonne	1,759	--	375	--	2,134
Thetford Mines	2,572	146	615	725	4,058
Tracy	1,946	225	201	40	2,412
Trois-Rivières	6,230	609	6,704	4,658	18,201
Val-d'Or	1,856	50	585	7,587	10,084
Valleyfield	332	--	34	--	366
Victoriaville	1,694	249	131	120	2,194
Windsor	693	--	32	1,248	1,973
TOTAL	468,043	113,111	128,656	218,144	928,954

TABLE VII.52

TOTAL VALUE OF BUILDING PERMITS
IN 1966 - 1970 INCLUSIVE: (\$'000)

Québec	Residential	Industrial	Commercial	Institutional	Total
Alma	7,014	2,455	2,051	6,254	17,774
Amos	2,578	222	576	2,752	6,128
Arvida	5,350	4,136	1,358	154	10,998
Asbestos	3,571	107	1,318	1,127	6,123
Aylmer	--	--	--	--	--
Bagotville	821	2	31	580	1,434
Baie-Comeau	3,692	2,890	2,692	4,285	13,559
Beauharnois	1,147	381	362	84	1,974
Bécancour	2,694	408	804	1	3,907
Beloeil	8,823	26	1,478	3,704	14,031
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	13,585	742	1,952	4,423	20,702
Chambly	2,345	639	2,339	954	6,277
Chibougamau	1,756	45	946	570	3,317
Chicoutimi	13,077	1,247	8,529	6,167	29,020
Chicoutimi N.	7,504	44	269	9,319	17,136
Coaticook	1,130	71	587	1,181	2,969
Cowansville	6,609	2,504	11,668	12,448	23,229
Dolbeau	1,915	352	450	1,595	4,482
Drummondville	8,276	5,747	3,486	757	18,266
Drummondville S.	3,010	403	266	3,254	6,933
Farnham	1,276	2,339	377	2,472	6,464
Gatineau	--	--	--	--	--
Granby	9,026	6,045	2,966	3,895	21,932
Grand'Mère	2,445	1,502	985	939	5,871
Hauterive	7,462	16	1,115	2,861	11,454
Hull	51,191	8,674	10,141	10,269	80,275
Iberville	2,261	759	210	3,949	7,179
Joliette	8,035	3,760	2,758	8,450	23,003
Jonquière	7,165	158	2,327	6,533	16,183
Kénogami	2,403	71	653	588	3,715
Lachute	503	452	101	0	1,056
Laç-Mégantic	1,764	124	349	548	2,785
La Tuque	2,753	91	500	634	3,978
Magog	1,420	785	683	174	2,862
Malartic	98	15	61	0	174
Maniwaki	2,020	84	609	4,369	7,082
Matane	8,415	3,083	1,638	6,353	19,489
Mont-Joli	2,291	438	715	4,686	8,130
Mont-Laurier	2,801	20	859	4,381	8,061
Montmagny	3,809	405	1,665	4,453	10,332
Montréal	974,075	255,330	343,725	325,061	1,898,191
Noranda	1,372	1,043	701	8,577	11,693
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	1,809	2,914	157	3,589	8,469
Québec	292,793	17,696	91,639	14,703	542,831
Rimouski	16,982	3,188	10,126	15,161	45,457
Rivière-du-Loup	6,262	239	1,721	3,733	11,955

TABLE VII.52 cont'd

Québec - (Continued)

Roberval	2,010	44	582	6,138	8,774
Rouyn	4,085	345	2,350	7,811	14,591
Ste-Agathe	1,095	103	1,012	163	2,373
St-Félicien	1,022	134	321	626	2,103
St-Georges	3,134	277	2,430	953	6,794
St-Georges O.	3,030	0	180	4,614	7,824
St-Hyacinthe	3,939	2,699	2,877	6,084	13,599
St-Jean	7,570	3,802	1,096	10,507	23,581
St-Jérôme	7,709	5,093	4,728	10,928	28,458
Ste-Thérèse	7,865	551	466	245	9,127
Sept-Îles	15,874	7,288	10,638	5,697	39,497
Shawinigan	2,047	1,399	2,423	1,003	6,872
Shawinigan S.	1,942	170	231	9,650	11,993
Sherbrooke	41,760	5,037	9,512	6,681	62,990
Sorel	7,056	1,913	2,790	13,559	25,318
Terrebonne	7,303	553	1,155	2,759	11,770
Thetford Mines	5,168	356	1,066	731	7,301
Tracy	8,794	9,519	6,746	1,940	24,999
Trois-Rivières	21,113	3,145	15,938	11,469	51,665
Val-d'Or	3,285	645	3,338	8,320	15,588
Valleyfield	7,328	5,107	1,432	1,441	15,308
Victoriaville	7,629	1,264	2,084	676	11,653
Windsor	837	13	101	1,277	2,228
TOTAL	2,148,335	624,933	704,465	950,596	4,434,329

PER CENT DISTRIBUTION OF BUILDING PERMITS
ACCORDING TO MAJOR CATEGORIES: 1966

	Residential	Industrial	Commercial	Institution	Total
<u>Québec</u>					
Alma	29.9	55.5	11.6	3.0	100.0
Amos	34.1	3.8	13.4	48.7	"
Arvida	75.1	16.3	5.8	2.8	"
Asbestos	54.2	1.4	44.4	0.0	"
Aylmer	--	--	--	--	--
Bagotville	100	0.0	0.0	0.0	"
Baie-Comeau	34.7	8.5	7.6	49.2	"
Beauharnois	54.5	0.0	45.5	0.0	"
Bécancour	--	--	--	--	--
Beloeil	74.8	0.0	4.2	21.0	"
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	58.0	6.4	13.9	21.7	"
Chambly	29.3	11.9	50.8	8.0	"
Chibougamau	37.4	0.6	24.7	37.3	"
Chicoutimi	43.5	10.9	37.2	8.4	"
Chicoutimi N.	78.8	6.6	3.7	10.9	"
Coaticook	80.7	16.7	2.6	0.0	"
Cowansville	34.2	5.2	26.8	33.8	"
Dolbeau	36.1	4.6	59.3	0.0	"
Drummondville	52.0	15.3	31.9	0.8	"
Drummondville S.	49.3	23.5	4.2	23.0	"
Farnham	27.3	53.4	4.3	15.0	"
Gatineau	--	--	--	--	--
Granby	60.0	12.3	27.7	0.0	"
Grand'Mère	36.1	61.6	2.3	0.0	"
Hauterive	85.8	0.0	6.8	7.4	"
Hull	62.1	5.6	20.1	12.2	"
Iberville	90.2	0.3	9.5	0.0	"
Joliette	54.4	1.1	5.4	39.1	"
Jonquièrre	47.2	0.0	52.8	0.0	"
Kénogami	69.2	0.0	30.2	0.6	"
Lachute	--	--	--	--	--
Laç-Mégantic	78.7	8.6	12.7	0.0	"
La Tuque	64.7	15.0	20.3	0.0	"
Magog	66.4	4.7	24.5	4.4	"
Malartic	17.6	0.0	82.4	0.0	"
Maniwaki	35.2	2.9	39.5	22.4	"
Matane	34.5	62.1	3.4	0.0	"
Mont-Joli	51.1	4.8	44.1	0.0	"
Mont-Laurier	54.5	0.0	10.4	35.1	"
Montmagny	25.2	7.7	30.6	30.5	"
Montréal	53.3	10.7	22.8	13.2	"
Noranda	21.6	72.9	5.2	0.3	"
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	51.1	45.4	3.5	0.0	"
Québec	64.1	3.2	21.9	10.8	"
Rimouski	64.9	9.8	21.7	3.6	"
Rivière-du-Loup	36.5	7.4	9.3	46.8	"

TABLE VII.53 cont'd

Québec - (Continued)

Roberval	34.9	3.2	0.6	61.3	"
Rouyn	45.2	19.3	11.2	24.3	"
Ste-Agathe	75.8	0.0	24.2	0.0	"
St-Félicien	69.3	17.1	13.6	0.0	"
St-Georges	40.3	3.2	53.3	3.1	"
St-Georges O.	44.2	0.0	3.4	52.4	"
St-Hyacinthe	23.6	12.7	26.6	37.1	"
St-Jean	51.3	20.8	22.7	5.2	"
St-Jérôme	42.4	7.4	14.7	35.5	"
Ste-Thérèse	70.5	7.9	11.5	4.1	"
Sept-Îles	21.8	0.7	71.0	6.5	"
Shawinigan	21.7	6.9	58.2	13.2	"
Shawinigan S.	58.0	5.0	27.8	9.2	"
Sherbrooke	52.8	16.2	20.1	10.9	"
Sorel	28.9	32.8	13.8	24.5	"
Terrebonne	54.2	31.8	7.8	6.2	"
Thetford Mines	88.9	0.0	11.1	0.0	"
Tracy	35.4	11.6	25.4	27.6	"
Trois-Rivières	23.1	13.8	21.8	41.3	"
Val-d'Or	20.2	20.1	2.0	57.7	"
Valleyfield	54.0	31.9	4.7	9.4	"
Victoriaville	83.3	1.4	14.4	00.9	"
Windsor	51.1	10.8	23.9	14.2	"
TOTAL	51.1	10.8	23.9	14.2	100.0

PER CENT DISTRIBUTION OF BUILDING PERMITS
ACCORDING TO MAJOR CATEGORIES: 1970

Québec	Residential	Industrial	Commercial	Institutional	Total
Alma	47.9	0.0	14.1	38.0	100.0
Amos	42.6	1.8	5.3	50.3	"
Arvida	39.7	27.5	31.3	1.5	"
Asbestos	55.2	6.1	3.5	35.2	"
Aylmer	--	--	--	--	--
Bagotville	15.7	0.0	0.0	84.3	"
Baie-Comeau	21.1	67.1	11.8	0.0	"
Beauharnois	58.1	0.8	23.8	17.3	"
Bécancour	82.2	5.2	12.6	0.0	"
Beloeil	72.6	0.6	26.8	0.0	"
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	91.1	0.9	7.6	0.4	"
Chambly	84.2	2.0	13.8	0.0	"
Chibougamau	69.2	3.3	22.7	4.8	"
Chicoutimi	48.1	0.0	23.8	28.1	"
Chicoutimi N.	33.4	0.0	1.3	65.3	"
Coaticook	31.7	0.0	18.9	49.4	"
Cowansville	79.7	0.8	5.7	13.8	"
Dolbeau	13.6	3.5	9.4	73.0	"
Drummondville	30.5	52.1	12.1	5.3	"
Drummondville S.	18.0	3.7	1.6	76.7	"
Farnham	20.0	76.7	3.3	0.0	"
Gatineau	--	--	--	--	--
Granby	35.2	43.5	9.7	11.6	"
Grand'Mère	43.2	24.5	32.3	0.0	"
Hauterive	45.1	0.0	7.3	47.6	"
Hull	78.3	1.8	19.9	0.0	"
Iberville	13.6	3.4	1.2	81.8	"
Joliette	63.7	12.8	20.9	2.6	"
Jonquièrre	35.7	0.1	4.8	59.4	"
Kénogami	85.4	0.0	14.6	0.0	"
Lachute	27.2	72.8	0.0	0.0	"
Laç-Mégantic	78.9	0.0	10.3	10.8	"
La Tuque	94.1	0.0	5.9	0.0	"
Magog	23.7	46.7	20.8	8.8	"
Malartic	55.3	31.9	12.8	0.0	"
Maniwaki	97.0	0.0	3.0	0.0	"
Matane	75.1	0.2	12.1	12.6	"
Mont-Joli	52.6	4.1	41.9	1.4	"
Mont-Laurier	13.6	0.0	3.6	82.8	"
Montmagny	43.5	3.1	12.7	40.7	"
Montréal	53.6	10.7	16.0	19.7	"
Noranda	91.4	0.4	8.2	0.0	"
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	13.0	22.5	0.7	63.8	"
Québec	62.6	1.3	15.8	20.3	"
Rimouski	49.0	2.3	10.7	37.3	"
Rivière-du-Loup	66.2	1.4	13.2	19.2	"

TABLE VII.54 cont'd

	Residential	Industrial	Commercial	Institutional	Total
<u>Québec</u> - (Continued)					
Roberval	47.4	0.1	21.2	31.3	100.0
Rouyn	21.7	1.4	3.6	73.3	"
Ste-Agathe	33.6	2.0	64.1	0.3	"
St-Félicien	38.7	8.1	53.2	0.0	"
St-Georges	53.5	4.8	37.4	4.3	"
St-Georges O.	22.7	0.0	1.4	75.9	"
St-Hyacinthe	42.7	39.3	18.0	0.0	"
St-Jean	81.6	3.5	6.6	8.3	"
St-Jérôme	15.2	4.0	24.2	56.6	"
Ste-Thérèse	89.7	0.0	10.3	0.0	"
Sept-Îles	58.1	3.3	7.9	30.7	"
Shawinigan	38.3	33.0	26.4	2.3	"
Shawinigan S.	59.1	2.4	0.7	37.3	"
Sherbrooke	85.4	1.9	9.8	2.4	"
Sorel	100.0	0.0	0.0	0.0	"
Terrebonne	82.4	0.0	17.6	0.0	"
Thetford Mines	63.4	3.6	15.2	17.8	"
Tracy	80.7	9.3	8.3	1.7	"
Trois-Rivières	34.2	3.3	36.8	25.7	"
Val-d'Or	18.4	0.6	5.8	75.2	"
Valleyfield	90.7	0.0	9.3	0.0	"
Victoriaville	77.2	11.3	6.0	5.5	"
Windsor	35.1	0.0	1.6	63.3	"
TOTAL	50.4	12.2	14.0	23.4	"

TABLE VII.55

PER CENT DISTRIBUTION OF BUILDING PERMITS
 ACCORDING TO MAJOR CATEGORIES:
 1966 - 1970 INCLUSIVE

	Residential	Industrial	Commercial	Institutional	Total
<u>Québec</u>					
Alma	39.5	13.8	11.5	35.2	100.0
Amos	42.1	3.6	9.4	44.9	"
Arvida	48.7	37.6	12.3	1.4	"
Asbestos	58.3	1.8	21.5	18.4	"
Aylmer	--	--	--	--	--
Bagotville	57.3	0.1	2.2	40.4	"
Baie-Comeau	27.2	21.3	19.9	31.6	"
Beauharnois	58.1	19.3	18.3	6.3	"
Bécancour	69.0	10.4	20.6	.0	"
Beloeil	62.9	.2	10.5	26.4	"
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	65.6	3.6	9.4	21.6	"
Chambly	37.4	10.1	37.3	15.2	"
Chibougamau	52.9	1.4	28.5	17.2	"
Chicoutimi	45.1	4.3	29.4	21.3	"
Chicoutimi N.	43.8	.2	1.6	54.4	"
Coaticook	38.1	2.4	19.8	39.7	"
Cowansville	28.4	10.8	7.2	53.6	"
Dolbeau	42.7	7.9	13.8	35.6	"
Drummondville	45.3	31.5	19.1	4.1	"
Drummondville S.	43.5	5.7	3.8	47.0	"
Farnham	19.7	36.2	5.8	38.3	"
Gatineau	--	--	--	--	--
Granby	41.2	27.6	13.5	17.7	"
Grand'Mère	41.6	25.6	16.8	16.0	"
Hauterive	65.1	.2	9.7	25.0	"
Hull	63.8	10.8	12.6	12.8	"
Iberville	31.5	10.6	2.9	55.0	"
Joliette	34.9	16.4	12.0	36.7	"
Jonquièrre	44.3	1.0	14.4	40.3	"
Kénogami	64.7	1.9	17.6	15.8	"
Lachute	47.6	42.8	9.6	0	"
Laç-Mégantic	63.3	4.5	12.5	19.7	"
La Tuque	69.2	2.3	12.6	15.9	"
Magog	69.6	27.4	16.9	6.1	"
Malartic	50.3	8.6	35.1	0	"
Maniwaki	28.5	1.2	8.6	61.7	"
Matane	43.2	15.8	8.4	32.6	"
Mont-Joli	28.2	5.4	8.8	57.6	"
Mont-Laurier	34.7	0.3	10.7	56.3	"
Montmagny	36.9	3.9	16.1	43.1	"
Montréal	51.3	13.6	18.0	17.1	"
Noranda	11.7	8.9	6.0	73.4	"
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	21.4	34.4	1.9	42.3	"
Québec	53.9	3.3	16.9	25.9	"
Rimouski	37.4	7.0	22.3	33.3	"
Rivière-du-Loup	52.4	2.0	14.4	31.2	"

TABLE VII.55 cont'd

Québec - (Continued)

Roberval	22.9	0.5	6.6	70.0	"
Rouyn	28.0	2.4	16.1	53.5	"
Ste-Agathe	46.1	4.3	42.7	6.9	"
St-Félicien	48.6	6.4	15.2	29.8	"
St-Georges	46.1	4.1	35.8	14.0	"
St-Georges O.	38.7	0.0	2.3	59.0	"
St-Hyacinthe	29.0	19.8	21.2	30.0	"
St-Jean	32.1	16.1	7.2	44.6	"
St-Jérôme	27.1	17.9	16.6	38.4	"
Ste-Thérèse	86.2	6.0	5.1	2.7	"
Sept-Îles	40.2	18.5	26.9	14.4	"
Shawinigan	29.7	20.4	35.3	14.6	"
Shawinigan S.	16.2	1.4	1.9	80.5	"
Sherbrooke	66.3	8.0	15.1	10.6	"
Sorel	27.4	7.6	11.0	53.5	"
Terrebonne	62.0	4.7	9.8	23.5	"
Thetford Mines	70.5	4.9	14.6	10.0	"
Tracy	35.2	38.1	19.1	7.6	"
Trois-Rivières	40.9	6.1	30.8	22.2	"
Val-d'Or	21.1	4.1	21.4	53.4	"
Valleyfield	47.8	33.4	9.4	9.4	"
Victoriaville	65.4	10.9	17.9	5.8	"
Windsor	37.6	0.6	4.5	57.3	"
TOTAL	48.4	14.1	15.9	21.6	100.0

TABLE VII.56

LOCATION QUOTIENTS FOR TOTAL VALUE OF BUILDING PERMITS ISSUED
FOR CENTRES LOCATED IN QUEBEC: 1966-1970 inclusive

<u>Québec</u>	Residential	Industrial	Commercial	Institutional	Total
Alma	0.82	0.98	0.72	1.63	1.00
Amos	0.87	0.26	0.59	2.08	"
Arvida	1.01	2.67	0.77	0.07	"
Asbestos	1.21	0.13	1.35	0.85	"
Aylmer	--	--	--	--	--
Bagotville	1.18	0.01	0.14	1.87	"
Baie-Comeau	0.56	1.51	1.25	1.46	"
Beauharnois	1.20	1.37	1.15	0.20	"
Bécancour	1.43	0.74	1.30	0.00	"
Beloeil	1.30	0.01	0.66	1.22	"
Buckingham	--	--	--	--	--
Cap-de-la-Madeleine	1.36	0.26	0.59	0.99	"
Chambly	0.77	0.72	2.38	0.70	"
Chibougamau	1.09	0.10	1.79	0.80	"
Chicoutimi	0.93	0.31	1.85	0.97	"
Chicoutimi N.	0.91	0.01	0.10	2.52	"
Coaticook	0.79	0.17	1.25	1.84	"
Cowansville	0.59	0.77	0.45	2.48	"
Dolbeau	0.88	0.56	0.88	1.65	"
Drummondville	0.96	2.23	1.20	0.19	"
Drummondville S.	0.90	0.40	0.24	2.18	"
Farnham	0.41	2.57	0.37	1.77	"
Gatineau	--	--	--	--	--
Granby	0.85	1.90	0.85	0.82	"
Grand'Mère	0.86	1.82	1.06	0.74	"
Hauterive	1.35	0.01	0.61	1.16	"
Hull	1.32	0.77	0.79	0.59	"
Iberville	0.65	0.75	0.18	2.55	"
Joliette	0.72	1.16	0.76	1.68	"
Jonquière	0.92	0.07	0.91	1.87	"
Kénogami	1.34	0.13	1.11	0.73	"
Lachute	0.98	3.04	0.60	0.00	"
Laç-Mégantic	1.31	0.32	0.79	0.91	"
La Tuque	1.43	0.16	0.79	0.74	"
Magog	1.03	1.94	1.06	0.28	"
Malartic	1.16	0.61	2.21	0.00	"
Maniwaki	0.59	0.09	0.54	2.86	"
Matane	0.89	1.12	0.53	1.51	"
Mont-Joli	0.58	0.38	0.55	2.67	"
Mont-Laurier	0.72	0.02	0.67	2.51	"
Montmagny	0.76	0.28	1.01	2.00	"
Montréal	1.06	0.97	1.13	0.79	"
Noranda	0.24	0.63	0.38	3.40	"
Plessisville	--	--	--	--	--
Pointe-Gatineau	--	--	--	--	--
Port-Alfred	0.44	2.44	0.12	1.96	"
Québec	1.11	0.23	1.00	1.20	"
Rimouski	0.77	0.50	1.40	1.54	"
Rivière-du-Loup	1.08	0.14	0.91	1.44	"

TABLE VII.56 cont'd

Québec - (Continued)

Roberval	0.47	0.04	0.42	3.24	"
Rouyn	0.58	0.17	1.01	2.47	"
Ste-Agathe	0.95	0.31	2.69	0.32	"
St-Félicien	1.00	0.45	0.96	1.38	"
St-Georges	0.95	0.29	2.25	0.65	"
St-Georges O.	0.80	0.00	0.15	2.73	"
St-Hyacinthe	0.60	1.60	1.33	1.39	"
St-Jean	0.66	1.14	0.45	2.07	"
St-Jérôme	0.56	1.27	1.04	1.78	"
Ste-Thérèse	1.78	0.42	0.32	0.13	"
Sept-Îles	0.83	1.31	1.69	0.67	"
Shawinigan	0.61	1.45	2.22	0.68	"
Shawinigan S.	0.34	0.10	0.12	3.73	"
Sherbrooke	1.37	0.57	0.95	0.49	"
Sorel	0.58	0.54	0.69	2.48	"
Terrebonne	1.28	0.33	0.62	1.09	"
Thetford Mines	1.40	0.35	0.92	0.46	"
Tracy	0.73	2.70	1.20	0.35	"
Trois-Rivières	0.85	0.63	1.94	1.03	"
Val-d'Or	0.45	0.29	1.35	2.47	"
Valleyfield	0.94	2.37	0.59	0.44	"
Victoriaville	1.35	0.77	1.13	0.27	"
Windsor	0.78	0.04	0.28	2.65	"
TOTAL	1.00	1.00	1.00	1.00	1.00

BUILDING PERMITS: PER CAPITA VALUES
AND RATES OF GROWTH - 1966 TO 1970

<u>Québec</u>	Av. Pop. 1966 and 1970	Bldg. Permits/ Per Capita \$	% Change Total Bldg. Permits 1966 - 1970 incl.
Alma	22,816	780	12.28
Amos	6,919	886	46.28
Arvida	16,832	654	24.70
Asbestos	10,458	585	10.76
Aylmer	7,266	N/A	N/A
Bagotville	6,138	234	230.69
Baie-Comeau	1,237	1,096	- 8.18
Beauharnois	8,905	222	12.85
Bécancour	8,610	454	22.56
Beloeil	10,889	1,277	21.05
Buckingham	7,564	N/A	N/A
Cap-de-la-Madeleine	31,222	663	22.52
Chambly	11,399	501	-22.77
Chibougamau	9,201	361	81.42
Chicoutimi	33,816	858	23.32
Chicoutimi N.	13,207	1,298	150.34
Coaticook	7,542	394	87.58
Cowansville	11,126	2,088	47.10
Dolbeau	7,055	635	75.82
Drummondville	30,001	609	26.79
Drummondville S.	8,613	805	113.91
Farnham	6,582	982	77.49
Gatineau	19,854	N/A	N/A
Granby	34,525	635	38.82
Grand'Mère	16,837	349	11.63
Hauterive	12,145	943	16.81
Hull	61,948	1,296	55.85
Iberville	8,992	798	114.55
Joliette	20,014	1,150	14.38
Jonquièrre	31,332	517	56.87
Kénogami	12,017	309	69.76
Lachute	11,224	94	N/A
Laç-Mégantic	6,905	403	3.06
La Tuque	13,577	293	35.60
Magog	13,690	209	33.57
Malartic	7,203	24	60.26
Maniwaki	7,202	983	105.39
Matane	11,497	1,695	22.36
Mont-Joli	6,608	1,230	198.13
Mont-Laurier	7,391	1,091	125.74
Montmagny	12,471	829	52.88
Montréal	2,646,995	717	- 2.49
Noranda	11,341	1,031	418.82
Plessisville	7,196	N/A	N/A
Pointe-Gatineau	12,631	N/A	N/A
Port-Alfred	9,526	889	227.31
Québec	435,106	1,248	21.69
Rimouski	23,197	1,960	85.64
Rivière-du-Loup	12,319	971	21.68

TABLE VII.57 cont'd

	Av. Pop. 1966 and 1970	Bldg. Permits/ Per Capita \$	% Change Total Bldg. Permits 1966 - 1970 incl.
<u>Québec - (Continued)</u>			
Roberval	8,712	1,007	81.36
Rouyn	18,704	780	111.21
Ste-Agathe	6,055	392	640.15
St-Félicien	5,060	416	-13.96
St-Georges	6,839	994	8.18
St-Georges O.	5,537	1,413	154.46
St-Hyacinthe	24,004	567	70.72
St-Jean	31,892	739	93.61
St-Jérôme	28,256	1,007	50.42
Ste-Thérèse	12,114	753	139.44
Sept-Îles	20,268	1,949	19.75
Shawinigan	30,777	223	8.72
Shawinigan S.	10,375	1,156	262.21
Sherbrooke	78,786	800	6.32
Sorel	19,611	1,291	13.49
Terrebonne	7,817	1,505	65.30
Thetford Mines	21,767	335	759.61
Tracy	11,560	2,163	12.07
Trois-Rivières	64,370	803	31.52
Val-d'Or	15,324	1,017	269.94
Valleyfield	29,988	511	-26.73
Victoriaville	22,502	518	10.36
Windsor	6,407	348	296.90
TOTAL	5,520,028	803	7.33

RECREATIONIntroduction:

Recreation is one aspect of urban life which today is becoming the focus of attention from both private and public institutions alike. The fact that expenditures on recreation represent an ever-increasing portion of total municipal expenditures emphasises the awareness and the alacrity of municipal authorities. Today, Canadians are far more affluent than their forebearers. Not only do they earn and spend more but their working day has become progressively shorter. In fact, the average work week has decreased from approximately fifty hours during the late 1920's to less than forty hours today; and there are indications that it may well become shorter in the near future.

As working weeks become shorter, more time is made available for leisure and recreational activities. To maintain a healthy and well-balanced environment, attention will have to be directed towards assessing the increasing demands made by the public as well as to providing the necessary recreational pursuits. In the coming years, a greater portion of municipal funds will have to be allocated in providing better and more varied recreational facilities.

Recreational activities, as discussed in the following pages, are considered to include those specific activities undertaken as part of municipal recreation whether indoors or outdoors. In light of the ever-increasing demands upon recreational facilities, it is imperative that a viable recreation policy be formulated and subsequently implemented. Before such a policy can be formulated, basic inventory surveys must be conducted.

PURPOSE:

The purpose of this section was to examine the recreational facilities of each of the 148 Prairie and Québec communities in the study sample, and to devise a classification system based on facilities, that would demonstrate the relationships of these centres among themselves. Because of the large number of communities to be analysed, and the restrictions posed by an early deadline, it was impossible to undertake more than a superficial examination of each centre. Nevertheless, it is hoped that this study has managed to underline the salient points of interest that emerged.

METHOD OF ANALYSIS

Research failed to uncover any information on methods used to establish a classification system using recreation facilities and indeed it appeared that very little work has been done on this aspect of urban recreation. Because of the problems inherent in comparing totally different facilities, whose uses and relative importance vary with such diverse factors as their size and the seasons, an attempt was made at first to assign different values to different facilities based on user preferences. Information on this subject was difficult to obtain, and this task soon proved too large for the study. A similar attempt to evaluate the facilities as either high level or low level conveniences also introduced too many complications. A third attempt was made to assign weighted values to the facilities based on relative costs of upkeep, but this also proved unsuccessful.

It was decided, therefore, that the best alternative was to divide the centres into classes determined by the range of recreational facilities provided, and modified by the figures for receipts from these. In this approach all facilities were considered of equal value. The technique adopted for constructing recreation classes was based upon J. Borchert's trade centre model, as described in his paper "Trade Centres and Trade Areas of the Upper Midwest"¹.

The intended scope of this study was originally to include all 148 communities, but it was decided at an early stage to omit Edmonton, Calgary, Saskatoon, Regina, Winnipeg, Montréal and Québec City. Given the limitations

1 John R. Borchert and R.B. Adams, "Trade Centers and Trade Areas of the Upper Midwest", Urban Report No. 3, Sept. 1963.

of time, it was not possible to carry out a valid analysis of the recreational facilities of these centres. Furthermore, it was felt that by comparison with the other study communities, and despite the disparate ranges of facilities existing among themselves, these seven cities represented the full convenience end of the spectrum of recreational facilities. The classification devised consisted of ranking the cities from Class I to Class VI with the seven largest cities in the highest group. It was felt that the five remaining classes would represent a manageable number to work with, and, at the same time, would also retain sufficient distinctions for the purpose of this study.

Initial data-gathering was hampered by the fact that the term "recreational facility" had slightly different connotations in each of the four provinces involved. For example, while Manitoba and Québec both included cultural as well as physical conveniences, Alberta and Saskatchewan did not. There were also several minor differences of definition - as to what constituted a park, for instance. A further difficulty was the total lack of information for some centres.

To overcome these problems, and to obtain comparable data from all the communities involved, a simple one-page questionnaire was devised. This covered both cultural and physical facilities, and in general asked for information on buildings and park areas, rather than on groups and associations using these. (The one exception to this was the question on boating and sailing clubs. This was so worded because it was felt that information on clubs would be more useful for the study than a general question on boating, since every study community lies within easy reach of at least one body of water on which these activities can take place.)

The questionnaire listed the seventeen facilities most commonly mentioned in other sources, as well as thirteen others found in at least two communities; additions to this list by the respondent were invited. It was to be answered by checking off each convenience in the "yes" or "no" columns, and by marking the numbers of each facility in a third column, when appropriate.²

² Returns from a questionnaire have been used for classifying centres according to recreational facilities. See Appendix.

Copies were sent to all centres under 15,000 population in the Prairies, and all those under 30,000 in Québec. The remaining centres were contacted by telephone.

The results for the two regions were tabulated and analysed separately, and two different classification systems emerged. The first classification takes into consideration only the facilities themselves, while the second classification has been adjusted according to receipts received by the municipality from recreation facilities.

PRAIRIES

In July, the questionnaire with a covering letter, and a stamped return envelope was sent to fifty-nine Prairie communities. In the three weeks that followed, the remaining eleven centres were individually interviewed by telephone. In most cases the persons contacted by telephone (either the town clerks or municipal recreation directors) were able to provide the desired information at once; in less than 5% of the interviews return calls were necessary. Within a month, sixty-nine questionnaires had been completed, representing 97.2% of the total number. All of the returns were usable for the study.

Those centres which did not respond to the questionnaire after two weeks were telephoned, and asked to complete the questionnaire. This produced results from most of the communities with returns still outstanding. After a further two weeks the remaining non-respondents were contacted for the second and last time. This method brought the response from the Prairies to very close to 100%.

The number of different recreational facilities and the number of total facilities in each community were tabulated. It was found that there was no significant correlation between these, nor between either of these and community size. Next, the number of centres that responded affirmatively was counted for each facility, and the facilities were then listed in order of frequency. (At this point it was decided to count 18- and 9-hole golf courses as one type of convenience, and to consider arenas and indoor skating rinks to be synonymous.)

For every completed questionnaire, the number of affirmative responses was counted and noted. It became evident that the recreation facilities tended to group at several frequency levels. This, then, formed the basis from which the class structures were determined. From these tabulations, it emerged that six facilities - arenas, public parks and playgrounds, curling rinks, golf courses, ball parks, and public libraries occurred in every Prairie centre in the study. These six elements then, comprise Class I.

A natural division seemed to occur between those towns having little more than the minimum Class I requirements, and those having at least one facility

more in each of the second and third frequency groups. These latter centres had as well, at least one element from the fourth group. These were therefore taken as the specifications for Class II.

The definitions for Classes III, IV and V were derived from the data in a similar fashion. At each level, an increase of a minimum of one facility in each of the frequency groups defined the lower boundary of the next class. The structure of the five classes is shown in Table VII.60.¹

Table VII.61 lists all the centres by unmodified recreation class, and shows the responses of each community to the questionnaire. There is a definite trend that can be observed here: i.e., the higher the class, the greater the number of facilities. This is to be expected when one considers the criteria used to define the various classes.

The distribution of Prairie centres among these classes was such that most centres fell into Classes III and IV. Class V was relatively small, as might be expected. (See Table VII.63.)

The classes, as they were defined at this point, were based solely on the number of different recreational conveniences, with no reference to the total numbers of these. Obviously by this system a centre with the same range as another would fall into the same class, even though it might have twice as many facilities. This was unacceptable, so a second classification was devised by taking into account recreation receipts. This recreation classification, as adjusted by receipts, is indicated in Table VII.62. In contrast to Table VII.61, there does not appear to be as obvious a trend towards more facilities in the higher classes. The realignment caused by adjusting the class criteria according to receipts, is responsible for this.

These receipts figures were obtained from the 1966 census, and despite the five-year difference between this and our study, were the most recent data available. Unfortunately, these figures showed only the receipts from commercial recreation facilities, and consequently municipal facilities were not included. Since data for centres under 30,000 has not been published, most of the information was acquired directly from Statistics Canada. Because of the needs for preserving confidentiality, receipts for ten Prairie communities were not released. The limitations of this data are obvious, but since no figures including public

¹ All tables are at the end of this section.

and private sector expenditures or receipts in recreation were available, it was decided that the Statistics Canada data would be adequate for the purposes of this study.

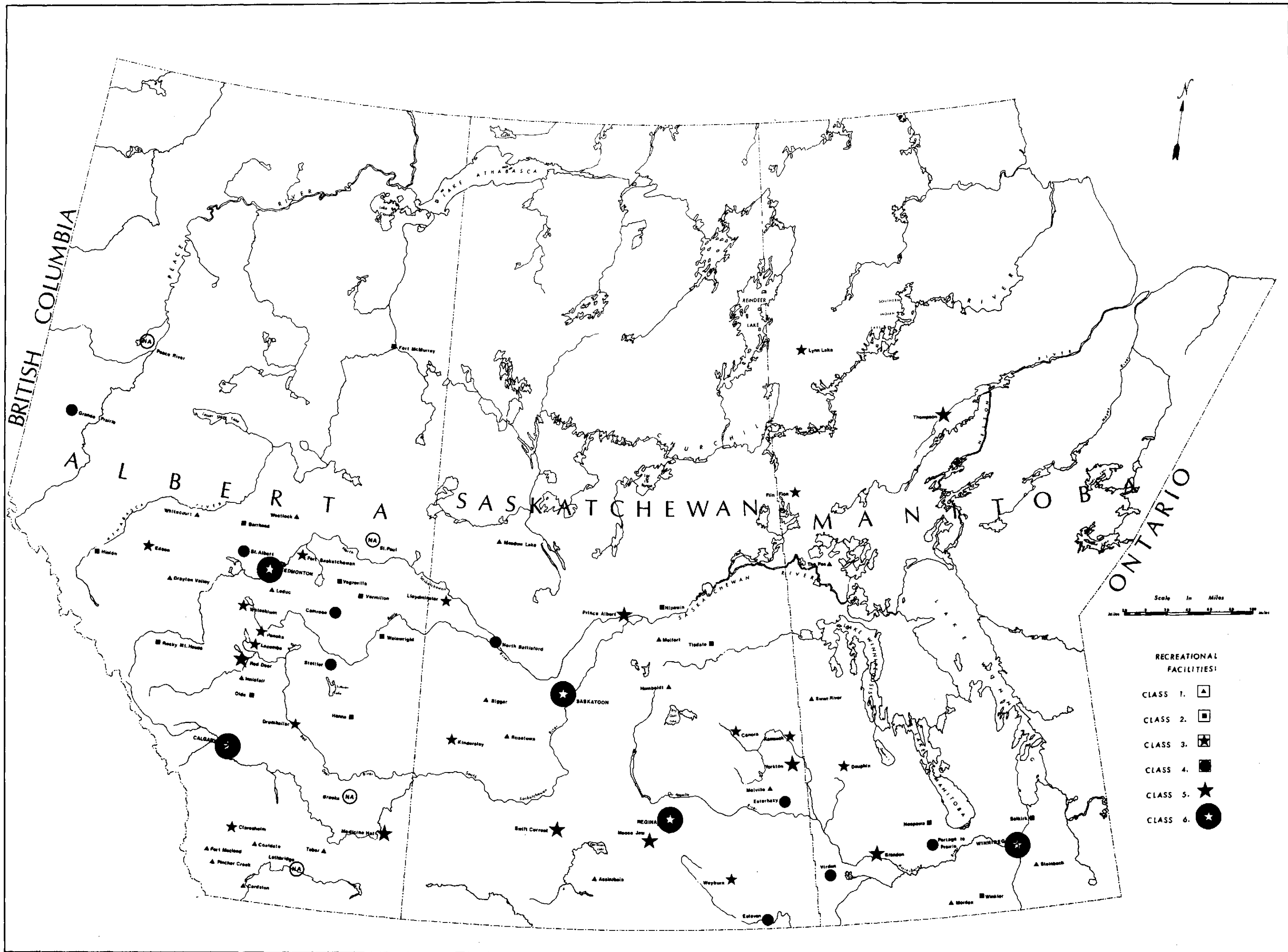
A preliminary attempt was made to adjust the classes by determining the average population for each class, and then multiplying this by the per capita receipts for the Prairies as a whole. This was then taken as a guideline for the mean in each class, and compared to the actual mean. However, the large discrepancies between these two figures in every class caused this method to be discarded. The per capita receipts determined on a regional basis were appreciably lower than the per capita receipts for the study communities.

On the basis of this, it was decided to use the actual averages to adjust the five classes. The midpoint between each two adjacent classes was derived from the class averages, and these became the upper and lower limits for each class. The centres were then redistributed according to the new specifications. After redistribution, it was found that a total of thirty-three Prairie centres had changed classes. Of these, ten moved up at least one class, and twenty-three moved down. In general, those centres whose earlier class values seemed most incongruous with their populations, had all shifted into more logical classes.

In all three Prairie provinces, Class I was the largest. For the Prairies as a whole, the smallest class was V, although in Manitoba this was the same size as Class IV. In Saskatchewan, Class II was by far the smallest. Table VII.64 shows the distribution of centres among classes by actual figures and by percent.

The centres were mapped by recreation classes and from this map a few points of interest emerged (see Map VII.11). First, the communities in the northern regions of the Prairies generally tended to have higher class values than their populations would seem to warrant. This is probably attributable both to their relative remoteness, and consequently a need for self-sufficiency, and to the fact that many of them are recent towns and often, like Thompson, industry-created towns, and therefore embody more recent concepts in town planning.

Often, though not by all means in every class, centres close to a metropolitan area had relatively depressed class values. Selkirk is a prime example



Map VII. 11

of this, with Class II facilities and a population similar to that of Class IV centres. Easy access to Winnipeg, with all its higher order facilities, has probably caused this community to be relatively underdeveloped.

In a few cases, the reverse effect was noticed. Some centres close enough to large cities to be considered at least partially dormitory towns, showed a higher degree of recreational development than would be expected. In these instances, the additional income generated by the cities was very likely a responsible factor. The growth rate of the population in each community also appeared to be related to recreation class values. Most of those centres having high positive or negative growth rates were also those with recreation class values least consistent with their populations.

Three communities in the Prairies have facilities at least two classes higher than average for their population. Each of the three (Virden, Esterhazy, and Stettler) is in a different province. Six Prairie centres have very poor facilities. Four of these, or 66.6% are situated in Manitoba, - (Dauphin, Flin Flon, Selkirk, and The Pas). The remaining two, or 33.3% are both in Saskatchewan. Note that there are no centres with depressed values in Alberta.

In general, the Alberta centres in the study appear to have the most appropriate recreational facilities. Saskatchewan's facilities are also relatively suitable for community populations, but in Manitoba many centres are poorly endowed with recreational conveniences.

QUEBEC

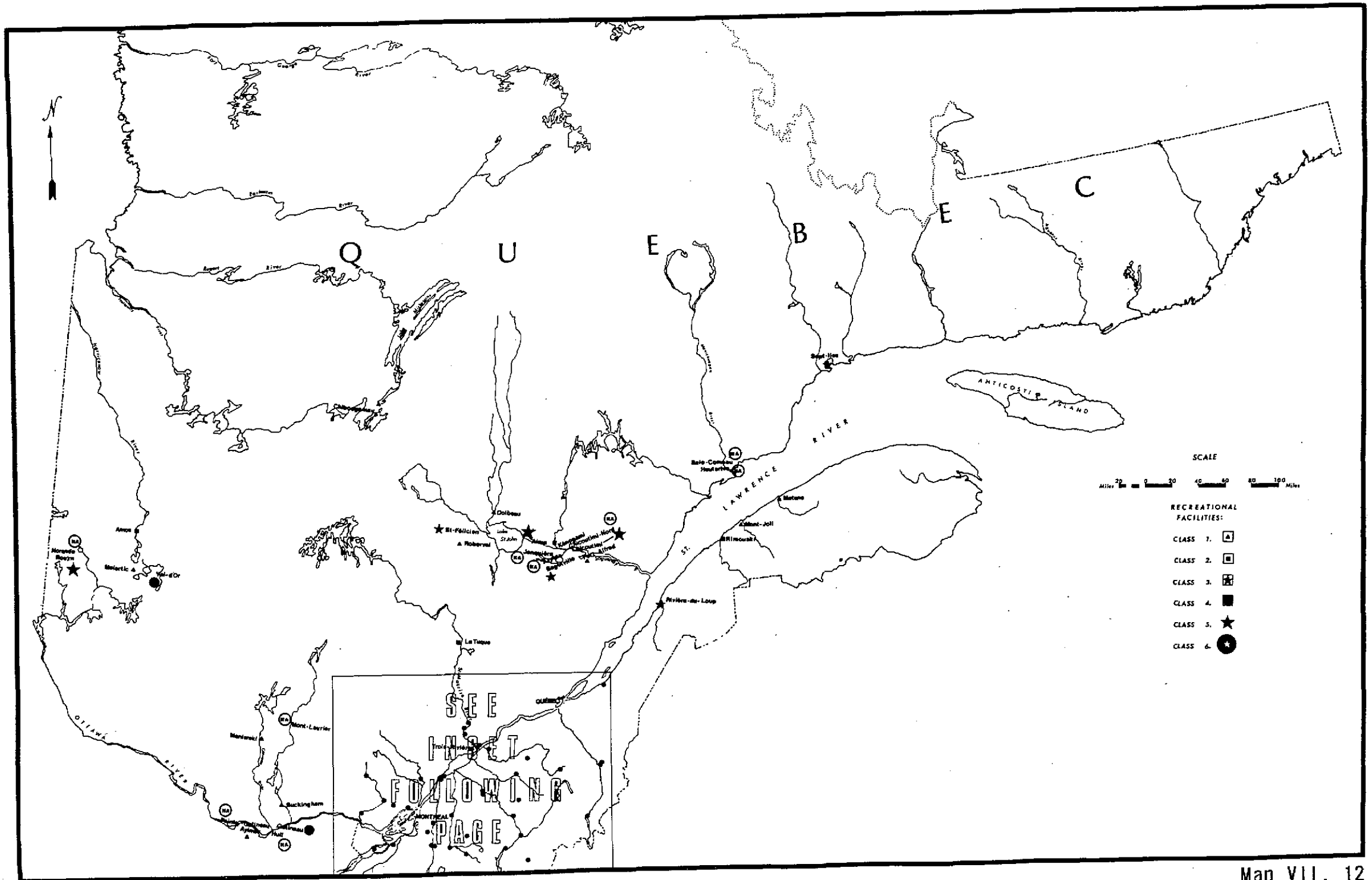
In the third week of July, a French version of the questionnaire, with covering letter and return envelope, was mailed to each of fifty-eight communities. As with the Prairies, the remaining eighteen centres were interviewed by telephone. Because of the poor response encountered in the telephone interviews, questionnaires were sent to an additional eight centres.

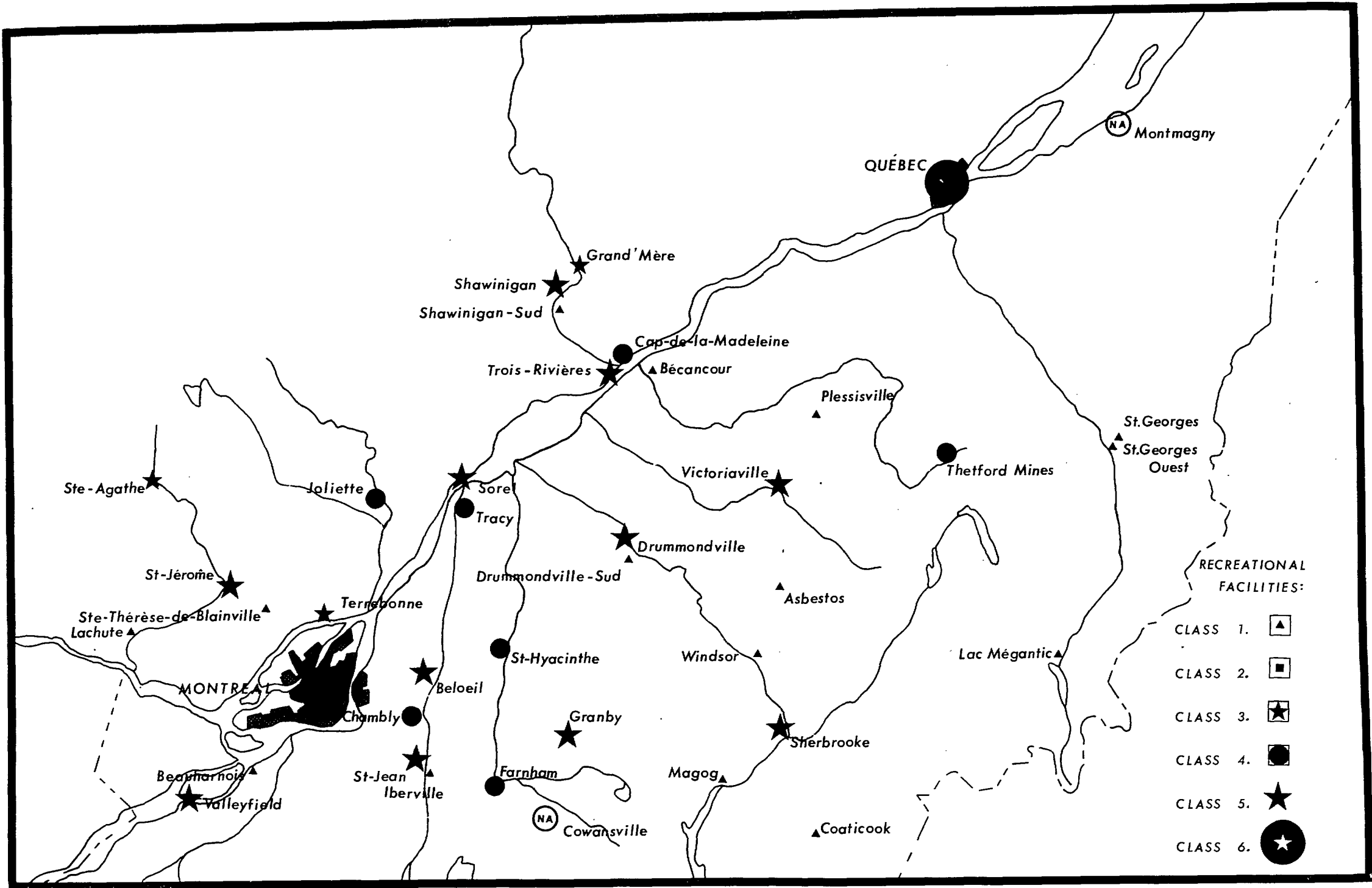
The response from Québec was somewhat slow, but by the middle of August, fifty-three questionnaires had been completed. Telephone calls made to tardy respondents brought this figure up to 61, or 85.9% of the total, by September.

The Québec figures were analysed and the recreation classes derived in precisely the same manner as in the Prairies, (see Table VII.65). In Québec, however, it was found that there were no functions that occurred in all communities. Certain facilities, too, appeared far less frequently than their Prairie counterparts, while with others, the reverse was true. Table VII.66 ranks the centres according to recreation class and by frequency of recreation facility. There appears to be a definite trend toward greater facilities in the higher classes. Given the criteria used to establish these classes, this was to be expected.

After the first classes were defined, they were modified with the Statistics Canada recreational receipts data to derive the final classes. This second set of classes is shown in Table VII.67. In contrast to Table VII.66, there does not appear to be any definite relationship between the class and the number of recreation facilities. This change was caused solely by taking into consideration the receipts. In this classification system, twenty-five centres or 42.3% fall into Class I, making it by far the largest class. The middle three classes had only twenty centres among them, while Class V was disproportionately large with fourteen. (See Table VII.68 and VII.69 for distribution figures before and after the modification of classes.)

As with the Prairies, the centres in Québec were also mapped by recreational classes. The two maps (Map VII.12 and VII.12 inset), show the clustering of higher class centres in the sphere of influence of Montréal. It is also apparent from Map VII.12, that communities in northern Québec have low class recreation





- RECREATIONAL FACILITIES:
- CLASS 1.
 - CLASS 2.
 - CLASS 3.
 - CLASS 4.
 - CLASS 5.
 - CLASS 6.

facilities, in some instances not adequate for their populations. Communities in the Gaspé Peninsula also share this characteristic. Only one centre in Québec has a much higher class of recreation facilities than its population would seem to need. This town, Beloeil, is located close to Montréal.

Five other communities have facilities at least two class levels below the average for their populations. Three of these, Cap-de-la-Madeleine, Shawinigan South and Ste-Thérèse, lie close to larger centres, while the two others, Rimouski and Magog are located in more remote parts of the province. All five have low municipal expenditures in recreation.

Most centres in Québec have recreation facilities adequate for their needs, although in some cases these are barely so. However eight communities, or 13.11% of the total analysed, were deficient in facilities by at least one class level, compared to only two, or 3.28% with more facilities than necessary for their populations.

Recreational Facilities

	Yes	No	Number
golf course - 9 hole			
18 hole			
skating rink - covered			
outdoor			
curling rink			
swimming pool - indoor			
outdoor			
public parks and playgrounds			
ball park			
arena			
community hall			
cinema			
drive-in			
bowling alley			
football field			
lawn bowling			
tennis court			
boating and sailing club			
ski-hill			
gymnasium			
billiards or pool hall			
museum			
public library			
legitimate theatre			
orchestra or band			
hunting and fishing club			
flying club			
riding stables			
car racing			
rifle-shooting range			
others (please list)			

N.B. French copies of this questionnaire were sent to all Québec centres

TABLE VII.60

THE STRUCTURE OF THE UNMODIFIED RECREATION CLASSES

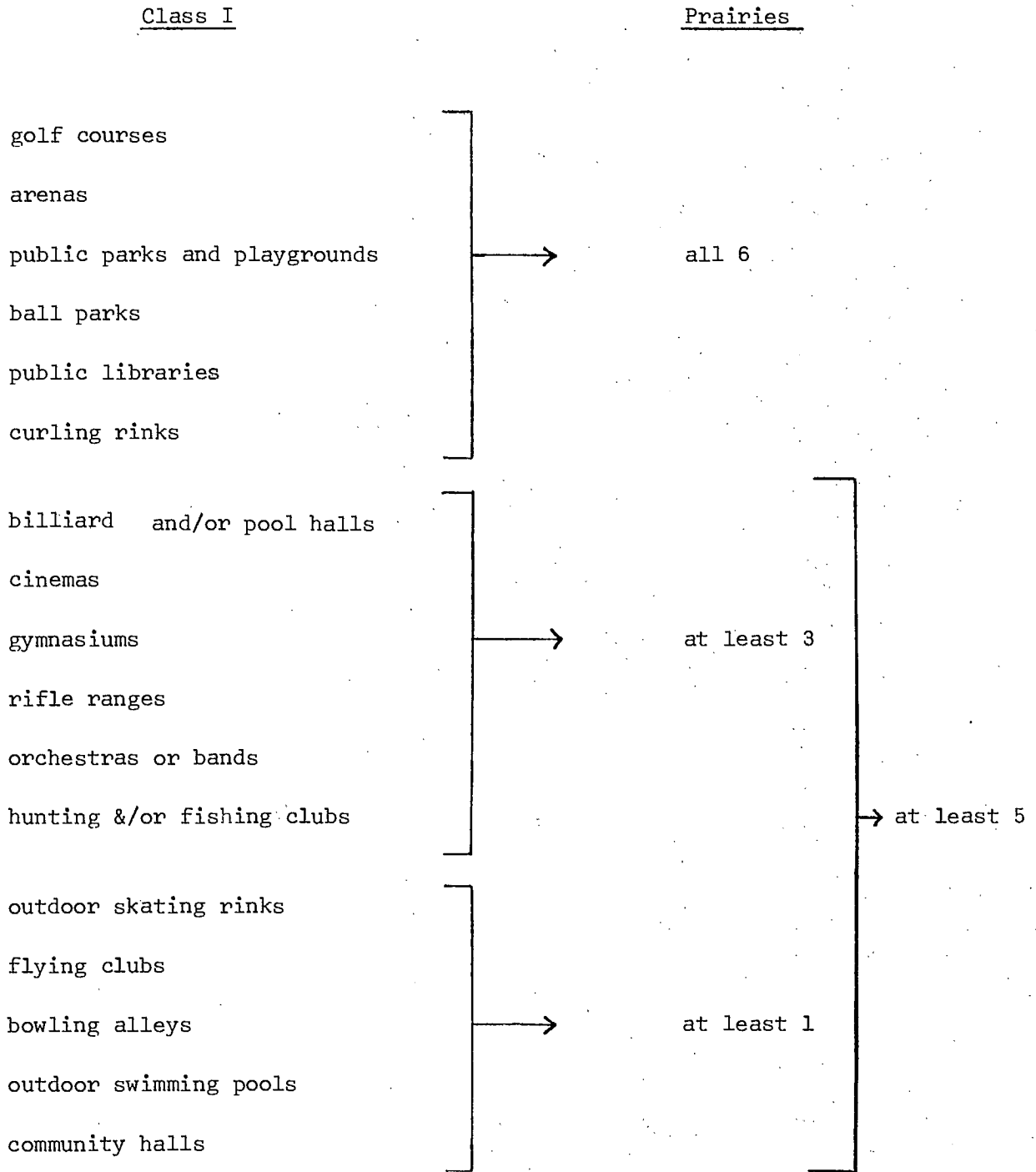


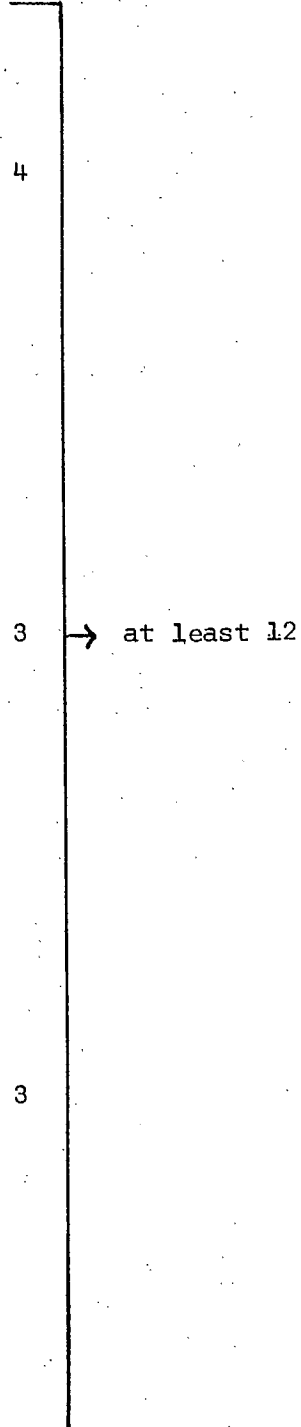
TABLE VII.60 (contd.)

<u>Class II</u>		<u>Prairies</u>
golf courses	}	all 6
arenas		
public parks and playgrounds		
ball parks		
public libraries		
curling rinks		
billiard &/or pool halls	}	at least 4
cinemas		
gymnasiums		
rifle ranges		
orchestras or bands		
hunting &/or fishing clubs		
flying clubs	}	at least 9
bowling alleys		
outdoor skating rinks		
outdoor swimming pools		
community halls		
tennis courts		
drive-in cinemas	}	at least 1
football fields		
ski hills		

Class III

Prairies

<ul style="list-style-type: none"> golf courses arenas public parks and playgrounds ball parks public libraries curling rinks 		<p>all 6</p>
<ul style="list-style-type: none"> billiard &/or pool halls cinemas gymnasiums rifle ranges orchestras or bands hunting &/or fishing clubs 		<p>at least 4</p>
<ul style="list-style-type: none"> flying clubs bowling alleys outdoor skating rinks outdoor swimming pools community halls 		<p>at least 3</p>
<ul style="list-style-type: none"> tennis courts drive-in cinemas football fields ski hills museums car racing tracks riding stables theatres 		<p>at least 3</p>



golf courses
 arenas
 public parks and playgrounds
 ball parks
 public libraries
 curling rinks
 billiard and/or pool halls
 cinemas



all 8

gymnasiums
 rifle ranges
 orchestras or bands
 hunting &/or fishing clubs



at least 2

flying clubs
 bowling alleys
 outdoor skating rinks
 outdoor swimming pools
 community halls
 tennis courts
 drive-in cinemas
 football fields
 ski hills



at least 6

museums
 car racing tracks
 riding stables
 theatres
 boating and sailing clubs
 indoor pools
 lawn bowling
 track and field tracks
 rodeo &/or fairgrounds
 craft centers
 horseshoe pits
 soccer fields



at least 2

<u>Class V</u>	<u>Prairies</u>
golf courses	all 12
arenas	
public parks and playgrounds	
ball parks	
public libraries	
curling rinks	
billiard &/or pool halls	
cinemas	
gymnasiums	
rifle ranges	
orchestras &/or bands	
hunting &/or fishing clubs	
flying clubs	at least 4
bowling alleys	
outdoor skating rinks	
outdoor swimming pools	
community halls	at least 3
tennis courts	
drive-in cinemas	
football fields	at least 2
ski hills	
museums	at least 1
car racing tracks	
riding stables	
theatres	
boating &/or sailing clubs	
indoor pools	
lawn bowling	
track and field tracks	
rodeo &/or fairgrounds	
craft centers	
horseshoe pits	
soccer fields	

TABLE VII.62

RECREATION FACILITIES-PRAIRIE PROVINCES-1971
CLASSES ADJUSTED BY RECEIPTS

	INDOOR SWIMMING POOL	INDOOR BATHING	10-PILE HOLEY	BOATING & SKIING	LEISURE FACILITIES	BOILING STOVES	CAR RACING	BUSING	SKI-HELL	PERFORMING ARTS	BASEBALL	TENNIS COURT	OUTDOOR SWIMMING POOL	COMMUNITY HALL	OUTDOOR SWIMMING POOL	HARLING ALLEY	ACTING CLUB	PUBLIC GOLF	RECREATION IN PARK	BOB & SKI CLUB	BICYCLE RANGE	GYMNASIUM	CINEMA	BILLIARDS & PUBS	OUTDOOR TENNIS	INDOOR TENNIS	PUBLIC PARKS & PLAYGROUNDS	BELL PARK	INDOOR SWIMMING POOL	(1000) 1966 RECEIPTS			
CLASS I	ASSINIBOIA																														43.9		
	BIGGAR																														54.6		
	CARDSTON																														55.2		
	COALDALE																														42.0		
	DRAYTON VALLEY																														50.6		
	FORT MACLEOD																														39.2		
	HAMBOLDT																														57.4		
	INNISFAIR																														55.5		
	LEUC																														54.0		
	MEADOW LAKE																														45.4		
	MELFORT																														58.1		
	MELVILLE																														51.1		
	MORDEN																																
	PIMICHER CREEK																														49.1		
	ROSETOWN																														35.6		
	STEINBACH																														47.4		
	SNAW RIVER																														42.9		
	TABER																																
	THE PAS																														50.2		
	WESTLOCK																														32.8		
	WHITECOURT																														41.7		
CLASS II	BARRHEAD																														65.1		
	FORT McMURRAY																																
	HANNA																																
	HINTON																															68.8	
	NEEPAWA																															73.0	
	NIPAWIN																															64.9	
	OLDS																															62.6	
	PEACE RIVER																															65.3	
	ROCKY MOUNTAIN HOUSE																															63.3	
	SELKIRK																															69.9	
	TISDALE																															63.8	
	YEGREVILLE																															58.8	
	VERMILION																																
	WAINWRIGHT																															74.9	
	WINKLER																																
CLASS III	CANORA																															82.7	
	CLARESHOLM																															78.4	
	DAUPHIN																															77.8	
	DRUMHELLER																															124.6	
	EDSON																															89.8	
	FLIN FLON																															120.3	
	FORT SASKATCHEWAN																																
	KANSACK																															81.6	
	KINDERSLEY																															102.0	
	LACROIX																															90.2	
	LLYDYMISTER																															100.3	
	LYNN LAKE																															110.0	
	PONOKA																															76.4	
	METASKIWIN																															101.7	
	MEYBURN																															114.3	
CLASS IV	CANROSE																															135.2	
	ESTERHAZY																																
	ESTEVAN																															186.4	
	GRANDE PRAIRIE																															193.1	
	NORTH BATTLEFORD																															221.2	
	PORTAGE LA PRAIRIE																															176.7	
	ST. ALBERT																															217.6	
	STETTNER																															130.2	
	YIRDEN																																
CLASS V	BRANDON																															458.0	
	LETHBRIDGE																															766.5	
	MEDICINE HAT																															361.2	
	MOOSE JAW																															446.5	
	PRINCE ALBERT																															347.9	
	RED DEER																															534.0	
	SWIFT CURRENT																															256.5	
	THOMPSON																															299.0	
	YORKTON																															239.6	
CLASS VI	CALGARY																															1185.8	
	EDMONTON																															860.5	
	REGINA																															2474.8	
	SASKATOON																															1608.8	
	WINNIPEG																															13691.4	

Source: Completed Questionnaires
D85 - Service Trades 97-642 1966 Census
JN754

TABLE VII.63

Distribution of Centres Among Unmodified

Recreation Classes - Prairies

	<u>Classes</u>					Total
	I	II	III	IV	V	
Manitoba						
number	3	4	2	2	3	14
% of total	21.43	28.57	14.29	14.29	21.43	100.0
Saskatchewan						
number	4	3	5	7	2	21
% of total	19.05	14.29	23.81	33.33	9.52	100.0
Alberta						
number	5	7	9	10	4	35
% of total	14.29	20.00	25.71	28.57	11.43	100.0
All of Prairies						
number	12	14	16	19	9	70
% of total	17.14	20.00	22.86	27.14	12.86	100.0

TABLE VII.64

Distribution of Centres in Prairies among
the 5 lowest recreation classes
 (Modified)

	<u>Classes</u>					all 5 classes
	I	II	III	IV	V	
Manitoba						
number	4	3	3	2	2	14
% of total	28.57	21.43	21.43	14.29	14.29	100.0
Sask.						
number	7	9	5	3	4	21
% of total	33.33	9.52	23.81	14.29	19.05	100.0
Alta						
number	10	9	7	4	2	32
% of total	31.25	28.13	21.88	12.50	6.25	100.0
all of Prairies						
number	21	14	15	9	8	67
% of total	31.34	20.90	22.39	13.43	11.94	100.0

TABLE VII.65

THE STRUCTURE OF UNMODIFIED RECREATION CLASSES

<u>Class I</u>		<u>Quebec</u>
ball parks	} →	at least 3
parks and playgrounds		
tennis courts		
bowling alleys		
outdoor skating rinks		
cinemas		
gymnasiums	} →	at least 6
billiard &/or pool halls		
outdoor swimming pools		
libraries		
golf courses		
hunting &/or bands		
arenas		
curling rinks		
theatres		
community centres		

TABLE VII.65 (contd.)

<u>Class II</u>	<u>Québec</u>
ball parks	
parks and playgrounds	
tennis courts	
Bowling alleys	
outdoor skating rinks	
cinemas	
} → at least 4	
gymnasiums	
billiard &/or pool halls	
outdoor swimming pools	
libraries	
golf courses	
hunting &/or fishing clubs	
} → at least 4	
orchestras or bands	
arenas	
curling rinks	
theatres	
community centres	
} → at least 11	

Class III

Quebec

ball parks	}	→	at least 5
parks and playgrounds			
tennis courts			
bowling alleys			
outdoor skating rinks			
cinemas			
gymnasiums	}	→	at least 4
billiard &/or pool halls			
outdoor swimming pools			
libraries			
golf courses			
humting &/or fishing clubs			
orchestras or bands	}	→	at least 4
arenas			
curling rinks			
theatre			
community centres			
boating clubs			
rifle ranges			
football fields			
ski hills			
lawn bowling			
indoor pool			
riding stables			
car racing tracks			
flying clubs			
museums			
drive-in cinemas			

Class IV	Québec
ball parks	at least 5
parks and playgrounds	
tennis courts	
bowling alleys	
outdoor skating rinks	
cinemas	
gymnasiums	at least 4
billiard &/or pool halls	
outdoor swimming pools	
libraries	
golf courses	
hunting &/or fishing clubs	
orchestras or bands	at least 2
arenas	
curling rinks	
theatres	at least 2
community centres	
boating &/or sailing clubs	
rifle ranges	
football fields	
ski hills	
lawn bowling	at least 1
indoor pool	
riding stables	
car racing tracks	
flying clubs	
museums	
drive-in cinemas	

at least 8

Class V	Quebec
ball parks	all 6
parks and playgrounds	
tennis courts	
bowling alleys	
outdoor skating rinks	
cinemas	
gymnasiums	at least 5
billiard &/or pool halls	
outdoor swimming pools	
libraries	
golf courses	
hunting &/or fishing clubs	
orchestras or bands	at least 2
arenas	
curling rinks	
theatres	at least 3
community centres	
boating &/or sailing clubs	
rifle ranges	
football fields	
ski hills	at least 12
lawn bowling	at least 2
indoor pool	
riding stables	
car racing tracks	
flying clubs	
museums	
drive-in cinemas	

TABLE VII.67

RECREATION FACILITIES - QUÉBEC - 1971
CLASSES ADJUSTED BY RECEIPTS

		BIOTE-IR	HUSCUM	FLYING CLUB	CAF MACHINE	RIFLE RANGE	INDIAN SPORTS	PARL.	LAWN	BOWLING	SKI-MILL	1/2 MILE HOLE	BOWLING STABLES	INDIAN SPORTS	FOOTBALL FIELD	BOATING & SAILING	COMMUNITY HALL	LEISURE THEATRE	CHESS	DISCO	PROFESSIONAL	SWIMMING POOL	BILLIARDS OR POOL	STADIUM	CINEMA	OUTDOOR SWIMMING POOL	BOWLING ALLEY	TABLE TENNIS	PUBLIC PARKS & PLAYGROUNDS	BALL PARK	(1000) RECEIPTS
CLASS I	ASBESTOS																													105.9	
	AYMER																														
	BEAUXHARNOIS																														89.3
	BÉCANOUR																														35.4
	BUCKINGHAM																														61.6
	CHIBOUGANAU																														150.6
	COATICOOK																														89.0
	DOLBEAU																														82.9
	DRUMMONVILLE S.																														
	IBERVILLE																														24.3
	LACHUTE																														133.3
	LAC-MÉGANTIC																														
	MAGDS																														112.4
	MALARTIC																														86.0
	MANIMAKI																														76.7
	HATANE																														112.6
	MONT - JOLI																														78.2
	PLESSISVILLE																														83.8
	PORT-ALFRED																														122.6
	ROBERVAL																														
	ST.-GEORGES																														109.3
	ST.-GEORGES-O.																														
	STE-THÉRÈSE																														120.3
	SHAMINGAN S.																														126.0
	WINDSOR																														38.1
CLASS II	AMOS																														164.6
	GRAND-MÈRE																														185.1
	KÉNOGAMI																														
	LA TUQUE																														157.5
	RIMOUSKI																														183.1
	STE-AGATHE-DES-MONTS																														164.0
	TERREBONNE																														
CLASS III	BAGOTVILLE																														
	RIVIÈRE-DU-LOUP																														203.8
	ST.-FÉLICIEN																														
	SEPT-ÎLES																														209.2
CLASS IV	CAP-DE-LA-MADELEINE																														234.9
	CHAMBLY																														212.2
	FARNHAM																														
	GATIÉMEAU																														253.8
	JOLIETTE																														216.1
	ST.-HYACINTHE																														257.5
	THETFORD MINES																														226.6
	TRACY																														220.1
	VAL D'OR																														229.5
CLASS V	ALMA																														317.7
	BELOEIL																														319.3
	CHICOUTIMI																														286.5
	DRUMMONVILLE																														468.1
	GRANDY																														277.7
	ROUYN																														361.5
	ST.-JEAN																														394.6
	ST.-JÉRÔME																														400.2
	SHAMINGAN																														366.3
	SHERBROOKE																														674.2
	SOREL																														383.4
	TROIS RIVIÈRES																														6,746.9
	VALLEYFIELD																														341.2
	VICTORIAVILLE																														312.1
CLASS VI	MONTREAL																														87,172.6
	QUÉBEC																														4,904.4

Source: Completed Questionnaires
Service Trades DBS-1966 Census of Canada
JN757

TABLE VII.68

Distribution of Centres Among Unmodified Recreation

Classes - Québec

	<u>Classes</u>					
	I	II	III	IV	V	Total
number	14	9	17	15	6	61
% of total	22.95	14.75	27.87	24.59	9.84	100.0

TABLE VII.69

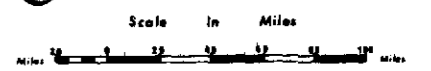
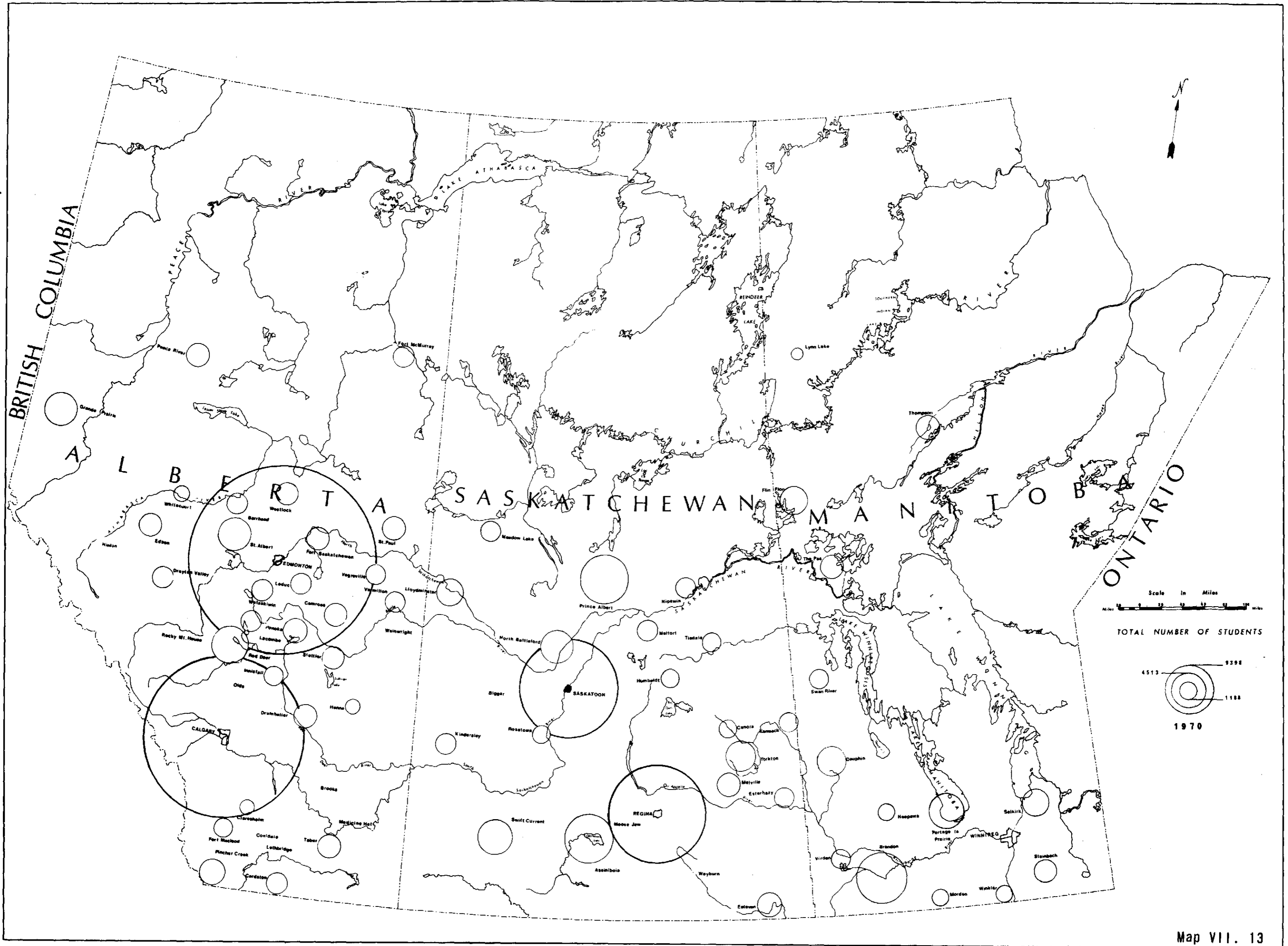
Distribution of Centres in Québec among
Modified Classes

	<u>Classes</u>					Total
	I	II	III	IV	V	
Québec						
number	25	7	4	9	14	59
% of total	42.37	11.86	6.78	15.25	23.73	100.0

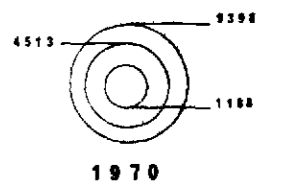
ADMINISTRATIVE FUNCTIONS

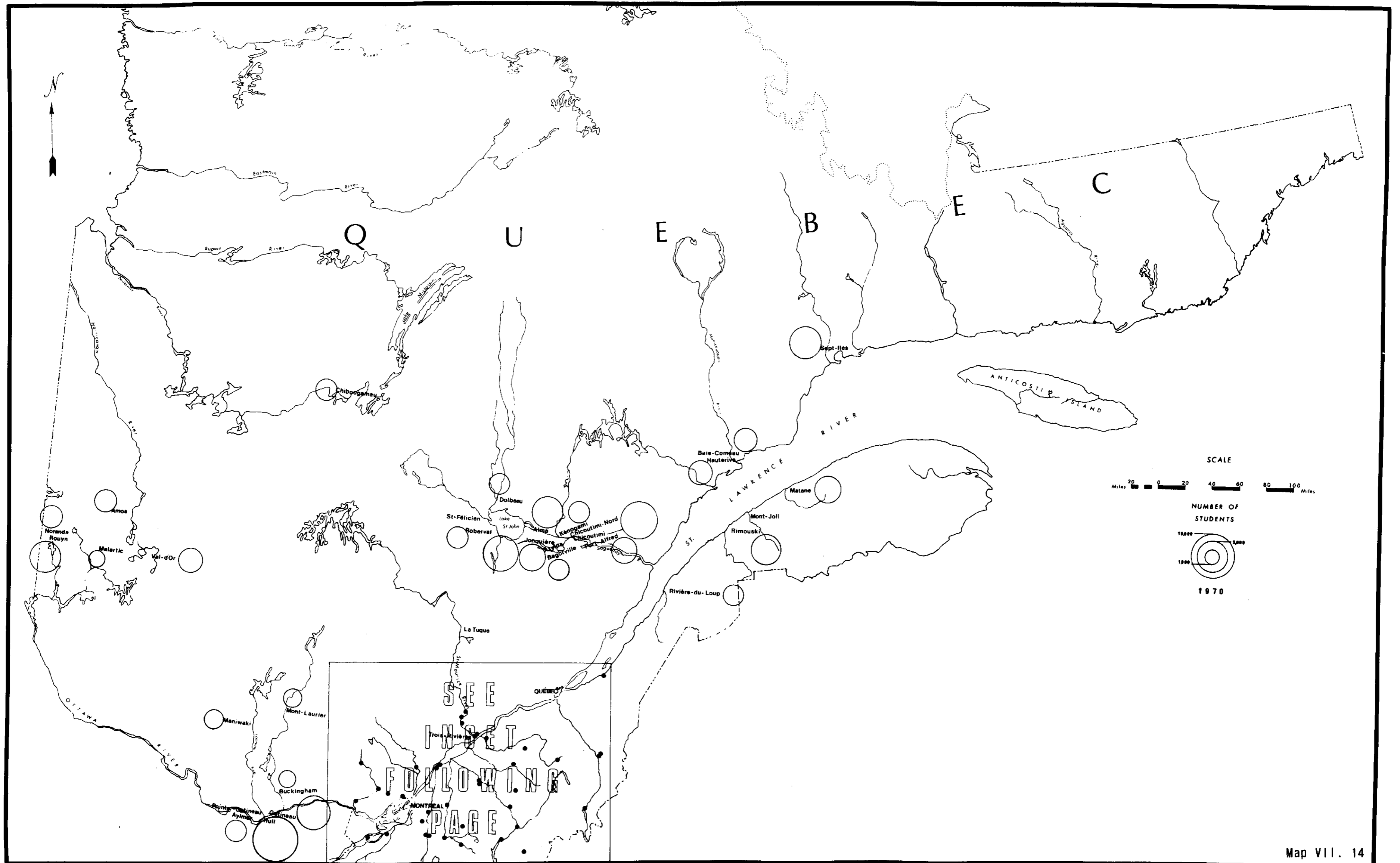
For want of a better word, administrative functions relating to the infrastructure have been used to include only two activities, namely education and health. By way of a passing comment, these two activities have been added purely as an overview. It is fully realized that it is an injustice to comment briefly upon two important aspects of the urban environment. The scapegoat for devoting a low priority to investigating education and health facilities is the time element. However, in spite of the time constraints, an effective discussion on these two elements must involve more than a cursory overview. Schools and hospitals not only meet the needs of the local inhabitants, but they also serve a large population who resides outside the official city limits. Therefore, to carry out any detailed analysis on hospitals and schools, one should also examine the social and economic characteristics of the region which is serviced by these facilities. In some cases, the nation may be considered to represent the region, such as in the cases of a school for deaf-mutes or a hospital for paraplegics. To draw any conclusions about relationships between size of school and size of centre, or for that matter, between the number of beds provided in a hospital and the number of local inhabitants would be highly pretentious. All that can be hoped for in a preliminary analysis is simply the presentation of facts. This final section does precisely this and presents two tables and six maps each relating the major regions. At this stage, no comments have been included, but it is hoped that the information provided will be useful for subsequent analyses.

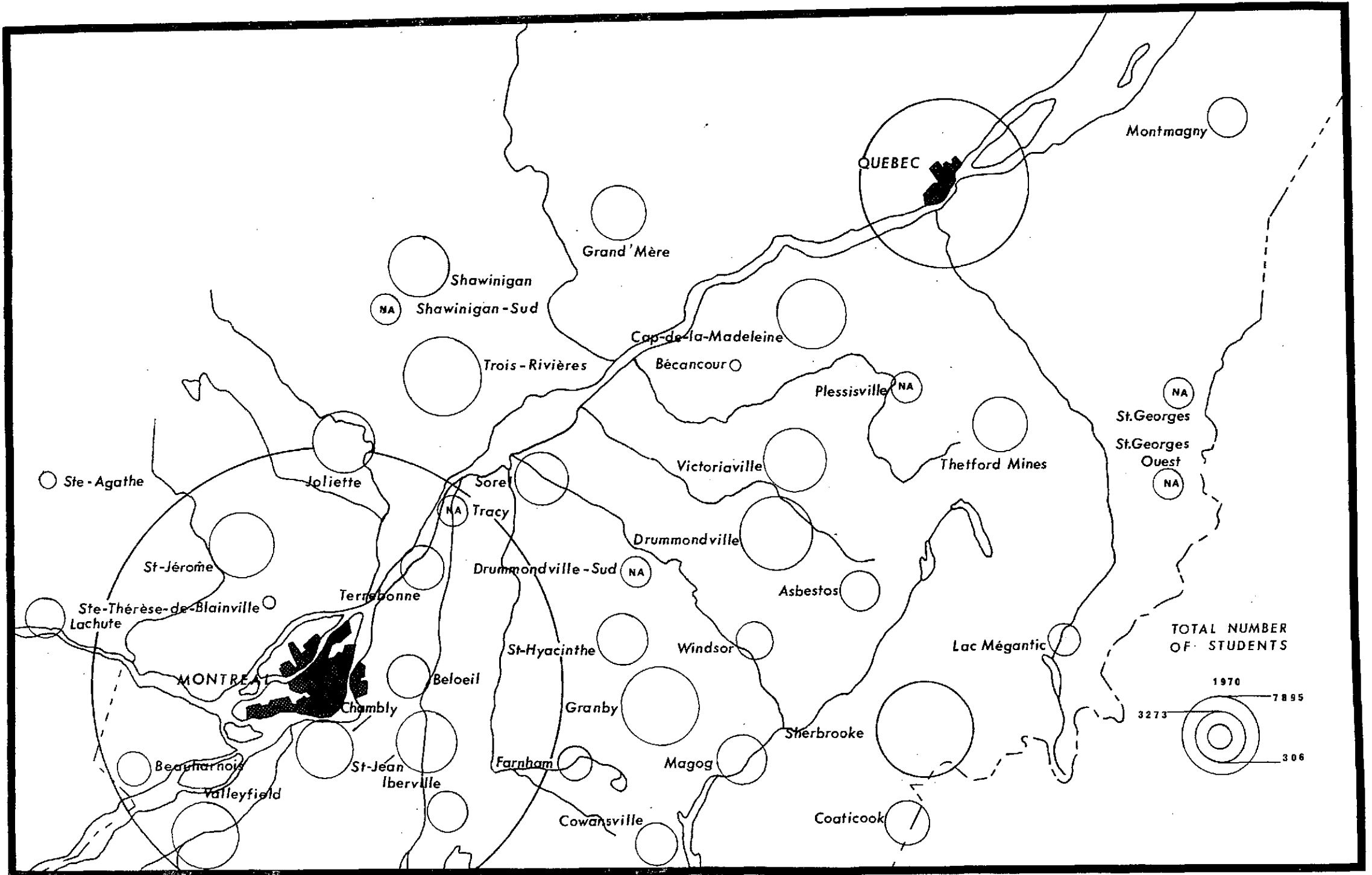
Table VII.70 and VII. 71 outline according to each centre the number of hospital and beds, and total student enrolment for the Prairies and the Province of Québec respectively. Maps VII.13 and VII.15 show the spatial distribution for absolute numbers of hospital beds and students for Prairie centres, and Maps VII.14 and VII.16 for Québec centres.

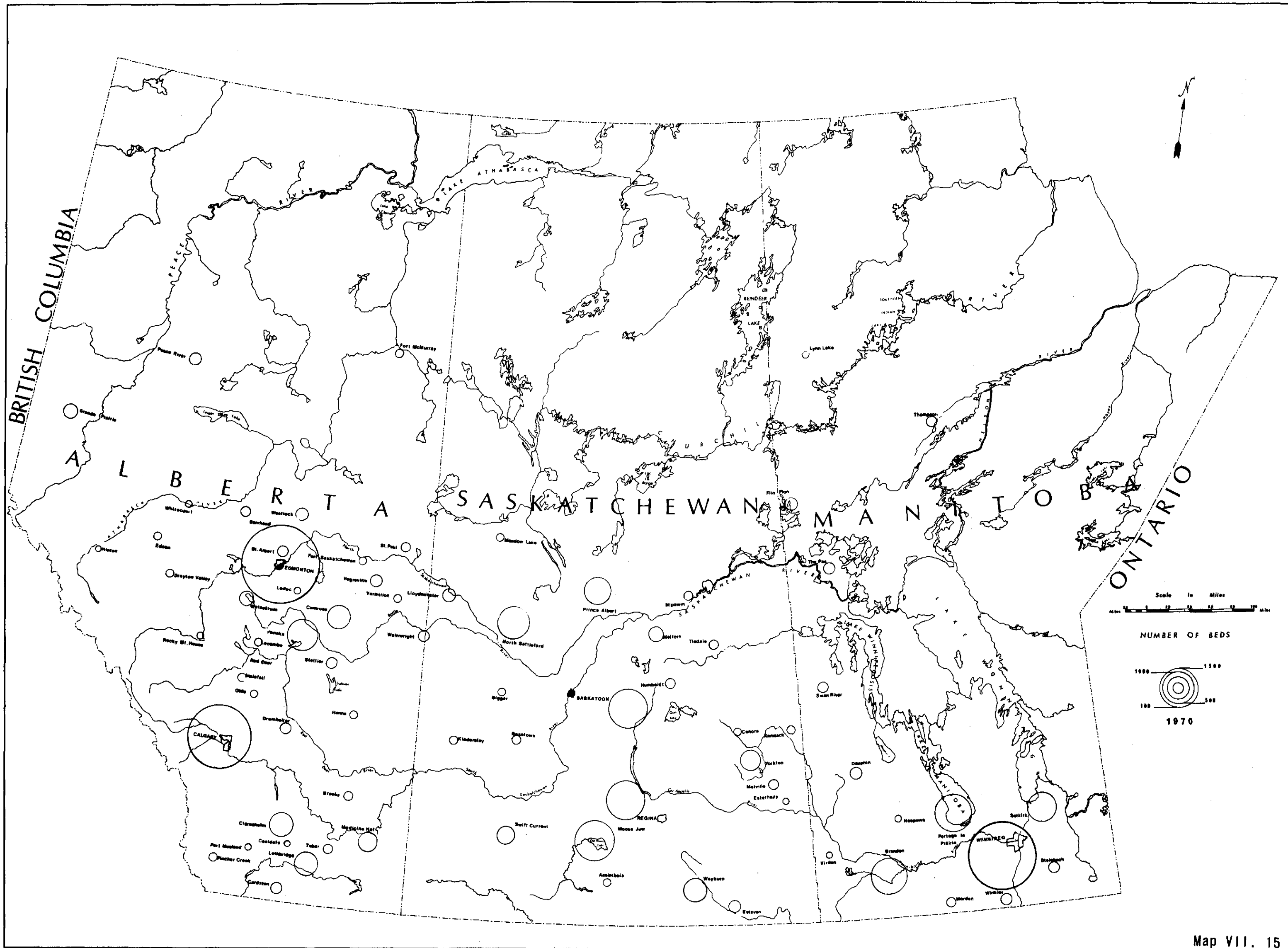


TOTAL NUMBER OF STUDENTS

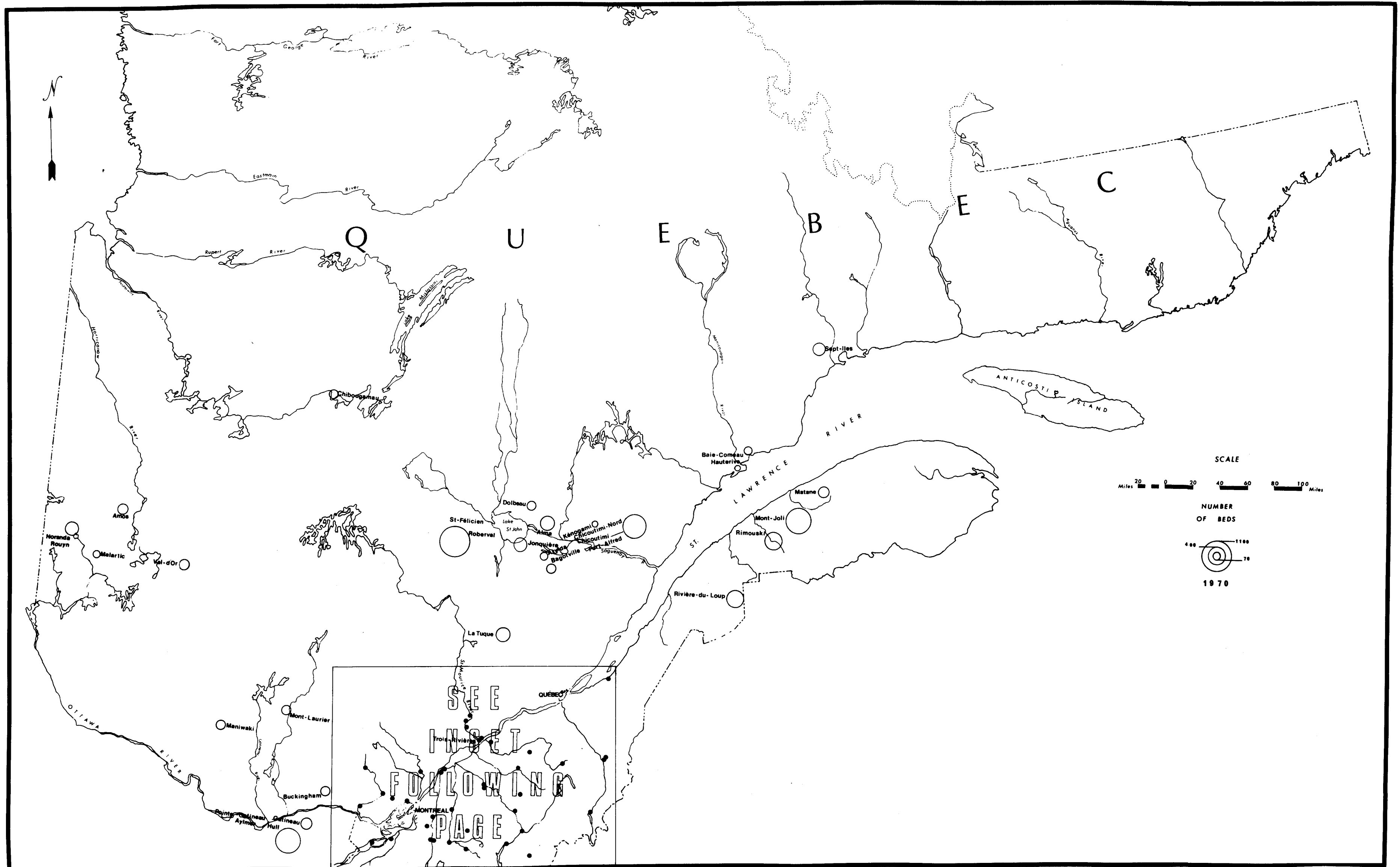


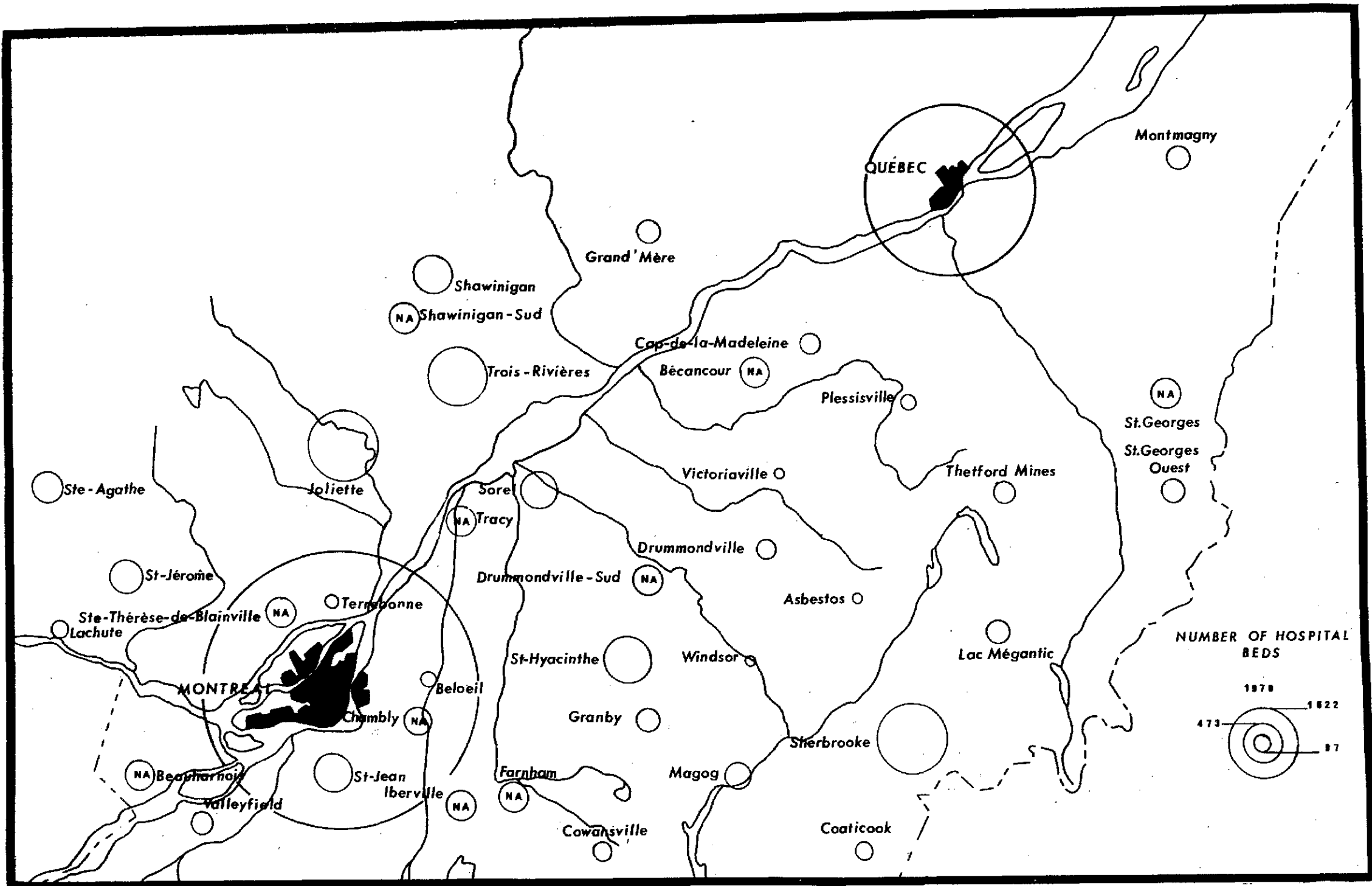






Map VII. 15





Inset Map VII. 16

APPENDIX TO TABLES

The sources from which the following tables were constructed consisted of the following:

1. Canadian Hospital Association, Canadian Hospital Directory, Queens Printers, 1971.
2. Community Reports, Data Sheets for Urban Centres in the Prairie Provinces regarding information on school enrolment, 1970
3. Province of Québec, Répertoire des Commissions Scolaires, Bureau de la Statistique du Québec, 1970.

TABLE VII.70

TABLE OUTLINING HOSPITAL CHARACTERISTICS, IN TERMS OF
TOTAL HOSPITALS AND BEDS, AND SCHOOL CHARACTERISTICS
IN TERMS OF TOTAL STUDENTS: 1970, PRAIRIE CENTRES.

<u>Manitoba</u>	Hospitals	Beds	Students
Brandon	3	1228	11201
Dauphin	1	127	3130
Flin Flon	2	135	2816
Lynn Lake	3	41	492
Morden	1	75	1039
Neepawa	1	35	1066
Portage la Prairie	2	1296	4520
Selkirk	2	784	2752
Steinbach	1	95	1956
Swan River	1	88	1411
The Pas	1	112	2056
Thompson	1	74	2112
Virden	1	33	1389
Winkler	2	107	1033
Winnipeg	15	-	-
TOTAL			
<u>Saskatchewan</u>			
Assiniboia	1	46	-
Biggar	1	41	-
Canora	1	50	1188
Esterhazy	1	30	1463
Estevan	1	116	2235
Humboldt	1	85	1201
Kamsack	1	54	1348
Kindersley	1	55	1617
Lloydminster	2	143	2784
Meadow Lake	1	48	1553
Melfort	2	202	1625
Melville	1	81	2027
Moose Jaw	3	1515	9383
Nipawin	1	62	1514
Battleford	3	875	4092
Prince Albert	3	694	9398
Regina	4	1431	39340
Rosetown	1	60	1200
Saskatoon	5	1449	44967
Swift Current	2	283	4545
Tisdale	1	68	1283
Weyburn	2	517	-
Yorkton	1	371	4513
TOTAL			
<u>Alberta</u>			
Barrhead	1	80	1579
Brooks	1	67	-
Calgary	12	3866	116260
Canrose	3	517	1998
Cardston	2	110	1650
Clareholm	3	522	800
Coaldale	1	25	-
Drayton Valley	1	47	1715
Drumheller	2	100	2000

TABLE VII.70 cont'd

<u>Alberta - (Continued)</u>	Hospitals	Beds	Students
Edmonton	15	5978	144500
Edson	1	50	1953
Ft. Macleod	1	32	1263
Ft. McMurray	1	54	1700
Ft. Saskatchewan	1	50	2000
Grande Prairie	2	180	4100
Hanna	1	50	779
Hinton	1	27	-
Innisfail	1	59	1332
Lacombe	1	50	1630
Leduc	1	35	1622
Lethbridge	3	499	-
Lloydminster	1	51	-
Medicine Hat	2	333	72966
Olds	1	43	-
Peace River	2	121	2060
Pincher Creek	1	56	2600
Ponoka	2	904	2237
Red Deer	5	2758	5250
Rocky Mtn. House	1	34	-
St. Albert	1	100	4127
St. Paul	1	75	2020
Stettler	2	101	1819
Taber	1	71	2000
Vegreville	2	120	1431
Vermilion	1	52	1500
Wainwright	2	98	-
Westlock	2	130	1815
Wetaskiwin	2	185	1687
Whitecourt	1	34	870
TOTAL			

TABLE VII.71

TABLE OUTLINING HOSPITAL CHARACTERISTICS, IN TERMS OF TOTAL HOSPITALS AND BEDS, AND SCHOOL CHARACTERISTICS IN TERMS OF TOTAL STUDENTS: 1970, QUEBEC CENTRES

	Hospitals	Beds	Students
<u>Quebec</u>			
Alma	1	234	5018
Amos	1	125	2583
Arvida	1	62	3640
Asbestos	1	11	2044
Aylmer	-	-	2302
Bagotville	1	102	2218
Baie-Comeau	1	74	2633
Beauharnois	-	-	1522
Bécancour	-	-	119
Beloeil	1	57	2443
Buckingham	1	104	1452
Cap-de-la-Madeleine	1	126	6619
Chambly	-	-	4322
Chibougamau	1	86	2300
Chicoutimi	1	687	6900
Chicoutimi N.	-	-	-
Coaticook	1	97	2618
Cowansville	2	106	2281
Dolbeau	1	87	2067
Drummondville	2	438	6920
Drummondville S.	-	-	-
Farnham	-	-	1492
Gatineau	2	138	5766
Granby	2	160	7895
Grand'Mère	2	157	3710
Hauterive	1	28	2918
Hull	3	531	10671
Iberville	-	-	2140
Joliette	2	1859	4857
Jonquière	1	221	6479
Kénogami	1	39	2307
Lachute	1	84	2011
Laç-Mégantic	2	156	1283
La Tuque	1	237	-
Magog	1	220	3036
Malartic	1	53	1338
Maniwaki	1	96	1822
Matane	1	130	3609
Mont Joli	2	775	-
Mont Laurier	1	96	1693
Montmagny	1	162	2001
Montréal	97	25710	288206
Noranda	1	208	2505
Plessisville	1	73	-
Pointe-Gatineau	-	-	-
Port-Alfred	-	-	3374
Québec	24	8497	34059
Rimouski	1	382	4699
Rivière-du-Loup	2	355	2138

TABLE VII.71 cont'd

	Hospitals	Beds	Students
<u>Quebec</u> - (Continued)			
Roberval	2	1145	2277
Rouyn	-	-	4771
Ste-Agathe	3	290	306
St-Félicien	-	-	-
St-Georges	-	-	-
St-Georges O.	1	165	-
St-Hyacinthe	2	679	3273
St-Jean	2	476	4975
St-Jérôme	2	349	4961
Ste-Thérèse	-	-	173
Sept-Îles	1	188	4909
Shawinigan	3	473	4579
Shawinigan S.	-	-	-
Sherbrooke	5	1622	15247
Sorel	3	425	3150
Terrebonne	2	47	2473
Thetford Mines	1	134	3902
Tracy	-	-	-
Trois-Rivières	4	1106	7893
Val-d'Or	1	118	2725
Valleyfield	1	156	5664
Victoriaville	1	41	5367
Windsor	1	35	1724
TOTAL			

CHAPTER VIII

CONCLUSION

In most reports conclusions come very readily. Statements of intent, methods of approach, findings, and conclusions are the logical sequence in reports. The more narrow the field the greater is the ease for making conclusions. The content of this report is all but narrow and as the foregoing pages have shown, it has covered what is tantamount to a socio-economic analysis of forty percent of all Canadians. How therefore does one attempt to conclude a study of this magnitude - a study comprising over two hundred tables, one hundred maps and diagrams, and thirty graphs? Concluding comments have been included at the end of each chapter, each highlighting the more significant findings and proposing areas of on-going research. These conclusions related to a specific field and were concerned with one particular social or economic sector. Therefore, to include brief summaries of each chapter in the final conclusion would be both repetitive and unnecessary. Some other approach has to be adopted which could effectively summarize the entire report.

Two techniques have been selected. The first involves an inter-urban analysis while the second centres upon a purely intra-urban investigation. So far in this report, the emphasis has been upon the inter- rather than the intra-urban component, and intentionally so. That is to say, the findings of the report have presented a functional classification between cities according to a given sector and not between sectors according to a given city. For example, the previous pages have demonstrated that when considering the retail trade sector in the Prairie Provinces, Steinbach was seen to be the most specialized centre. However,

the report did not mention whether the retail trade sector was the most important of all sectors for Steinbach. In short, the report did not state what "type" of town Steinbach was - whether a retail trade centre, a manufacturing centre, an administrative town, and so on. Some type of functional classification therefore must be included which distinguishes one centre from another.

For the purpose of summarizing the urban environment according to "city type", an approach had to be adopted which could effectively classify the function of a particular centre. To arrive at such a classification system, it would be highly desirable to consider all the relevant variables. For a centre to be classified as "predominantly manufacturing" one ought to base such a definition on characteristics including the following absolute values: - numbers employed, income of wage earners, value of manufactured products, and value added per employer. Furthermore, rates of change of the above-mentioned variables would also play an important role in establishing the function of a centre. A weighting system involving both absolute as well as per capita (or per employer) values should therefore be applied in an inter-urban classification system. Unfortunately, the absence of data eliminated all but one variable this being absolute employment values.

Not only did the absence of information pose a serious limitation, but the obsolescence of available data further undermined the reliability of its use. It is fully recognized that 1961 employment figures in themselves do not necessarily present either an accurate or comprehensive picture of a city's function. Appreciating the fact that little information is not always better than no information, employment figures nevertheless do provide some indicator, albeit simple, of a centre's role. An inter-urban analysis therefore of the functional structure of the selected is based solely on employment figures.

A summary involving an inter-urban analysis, on the other hand, requires a more sophisticated approach. Each variable examined in the report would have to be quantified so that the summations of these values would represent a centre's function. It was originally thought that the construction of a matrix consisting of all variables examined would serve as a useful summary. Such a method, it was assumed, would provide a comparison between centres. By assigning arbitrary values to each variable one could identify either the "best" or "worst" centres. Assiniboia for example, might have ranked on the average, in the highest of all categories while Portage la Prairie might have been classed in the lowest rank. Assiniboia therefore, could thus be defined as "better" than Portage la Prairie.

After much deliberation, a summary of this nature was rejected in part simply due to compatibility among variables. Absolute values should not be compared with

per capita growth rates. The report has emphasized time and time again that serious limitations arise when one compares absolute values with relative ones. Some common denominator has to be selected, and after discussing the advantages and disadvantages of adopting a common yardstick, it was decided to use absolute values and growth rates separately.

Very simply, an inter-urban summary will consist of presenting several tables involving absolute values and growth rates for variables in which calculations of averages can be established.

Intra-Urban Summary

1961 employment figures represent the basic source of data for constructing a classification system. A Standard Industrial Classification system was used to group employment categories. These categories included the following:

1. Primary
2. Manufacturing
3. Trade and Commerce
4. Construction
5. Transportation
6. Community services (personal and business)
7. Government administration

Two approaches were used for classifying the functional role of urban centres. The first considered the extent of the employment, while the second took into account the nature of the employment. In the former case, centres were classified as either "dominant" or "partially dominant". In the case for the latter, centres were classified as either being "unifunctional", "bi-functional", or "multifunctional".

Dominant centres are those in which more than 50 percent of the entire labour force is employed in one particular activity. Partially dominant centres on the other hand are those in which between 30 and 50 percent of the entire labour force is employed in a given activity. Unifunctional centres are ones in which only one activity can be identified as playing a significant role. To be classified as a unifunctional centre, the dominant activity (measured as a percentage of total employment) must have a value that is more than twice that of the second most important sector. Unifunctional centres therefore may be classified as "dominant" or "partially dominant".

A bi-functional centre is one in which there are two important sectors. In order for a centre to be classified as bi-functional, the number of persons employed in each of these two activities (measured as a percentage

of total employment) is such that the value of the least important one plus half its own value is greater than the value of the more important one. For example, if the percent for the more important sector is 40 percent, then to be justified as a bi-functional centre the other activity must comprise at least 28 percent (28 plus 14 is greater than 40). Bi-functional centres cannot contain two "dominant sectors" but may have one dominant and one partially dominant activity.

A multi-functional centre may contain more than two activities that are considered significant. Each activity included in such a classification contains percentage values that approximate each other. The inclusion of a particular activity is determined by the percent value of its nearest neighbour based upon the methodology outlined by bi-functional centres. As many as four employment categories may be included in multifunctional centre.

Tables VIII.1 and VIII.2 included in the appendix, outline the percentage distribution of employment according to either dominant or partially dominant functions for the Prairie Provinces and the Province of Québec respectively. The results of both the tables have been subsequently used to construct a classification system according to functions of individual centres. (See Tables VIII.3 and VIII.4).

The most outstanding observation that can be drawn from the last two mentioned tables relates to the distribution of unifunctional centres between the two major geographical regions. Over 70 percent of the total centres examined in the Province of Québec can be classed as unifunctional while only 21 percent of Prairie centres fall in the same category. Furthermore, when considering unifunctional centres, three out of every four Québec communities (74 percent) were classified as manufacturing centres. The most important sector for unifunctional Prairie centres on the other hand was community services,

and even here, less than half the total number of communities came under this category (47 percent).

A different picture emerges when one examines multi-functional centres. In this case, Prairie centres dominate. Of the Prairie centres examined, nearly 80 percent of them are classed as either bi-functional or multifunctional. The percent for Québec centres was only 19 percent - a marked contrast. Even more interesting is the fact that 66 centres out of a total of 71 for the Prairies (96 percent) contained the community service sector as being either a dominant or partially dominant activity; while for the province of Québec the value was only 34 percent.

The degree of dominance is another characteristic which varies between the two geographical regions. As the above tables show, there were over three times as many "dominant" centres in Québec than there were in the Prairie Provinces. This phenomenon, coupled with the fact that the former region contained a far higher proportion of uni-functional centres, confirms as underlying hypothesis of this report that Québec centres are more specialized than those in the Prairies.

The construction of a functional classification system which examines centres on an intra-urban basis has been included for one fundamental reason - mainly to provide a fast, yet unsophisticated, identification procedure. If a federal or provincial government policy is initiated which calls for the analysis of a particular economic sector, then it is imperative to identify those communities whose livelihood is dependent solely upon this sector. The fact that both Fort Saskatchewan and Hinton are classified as "manufacturing" centres contain more persons employed in manufacturing activities than in any other sector. However, such a classification system says nothing about the actual economic or social base of the centres in question. To make

any valid comparison between Fort Saskatchewan and Hinton, one should also know something about growth rates, per capita values, and other relevant information, not only on manufacturing activities, but also on other important sectors. An intra-urban analysis therefore must be examined concurrently with an inter-urban investigation.

Inter-Urban Summary

The first step in constructing a summary based upon an inter-sectoral comparison involves ranking the individual centre. Each of the selected centres therefore has been placed in one of five categories, the lowest of these being assigned to that centre having the smallest absolute or relative value, and the highest being allocated to centres having the greatest values. The variables selected to construct a ranking system include the following:

1. Employment
2. Retail Trade and Services
3. Trade Hinterlands
4. Manufacturing (in terms of value added)
5. Municipal Expenditures
6. Municipal Assessments
7. Building Permits (value issued)
8. Public Bus Services
9. Recreation Facilities

The ranking of centres based upon growth rates were calculated from the following variables:

1. Population
2. Employment
3. Retail Trade and Services
4. Income (in terms of per capita values)
5. Manufacturing (in terms of value added)
6. Municipal Expenditures
7. Municipal Assessments
8. Building Permits (value issued)

The reasons why the number of variables selected differed between the two ranking systems were as follows. First, absolute population figures were excluded since the results of the tables which follow will be discussed in terms of similar size population categories. Second, the only figures available on income were per capita earned income. These figures were provided for the 1966 to 1969 period, and therefore relative growth rates could be considered. Third, growth rates involving public bus services, trade hinterlands, and recreation facilities could not be included since information on them was only available for one point in time. Absolute values could only be examined.

The variables selected consisted of the following

elements: employment, retail trade, municipal expenditures and assessments, and building permits, (all involving straight-forward figures, whether in numbers of persons or value of goods, services, or investments). Absolute values of trade hinterlands comprised of area measured in square miles. Both absolute and relative values of manufacturing characteristics involved the index of magnitude. The main component of this index was value added. Absolute figures for public bus services are represented by frequency per week, while absolute recreation values relate to the extent of facility.

Before commenting upon the results of the included tables, certain qualifying statements should be made concerning the approach adopted. The purpose of constructing a matrix of absolute and relative rates is to provide a simple way of displaying all the variables at one time for the selected centres. In such a way, it will be possible to make a inter- and intra-urban analysis. For example, the relative position of each variable can be examined for one particular centre. Comparisons can also be made between the variables of one centre and another for those centres in a similar population size category. The construction of a matrix will further provide total average values which can be used to rank centres of similar populations. Maniwaki might be ranked "higher" than Bagotville, or Assiniboia "lower" than Hanna.

It is in the ranking of total averages that limitations arise. The first of these refers to the well-known expression -"a comparison between apples and oranges". It is fully appreciated that one cannot equate manufacturing growth rates with growth rates in the building industry. The tables that follow imply that equal values have been assigned to all eight (or nine) variables. But these values are only equal insofar as they compare classes and not numerical numbers. Had each variable been assigned a scoring

system (ie. the highest centre receiving a score of 100 and the lowest 50, or some other number), then the question of comparing dissimilar elements would have indeed arisen. However, since broad categories are involved and not absolute numbers, (in many cases these categories comprise more than thirty centres) one would not be comparing dissimilar components but actually similar ranking characteristics. One therefore could compare centres which fall in the lowest magnitude of manufacturing with similar size centres falling in the lowest category of building activity. If Assiniboia ranks in a lower growth rate class than Hanna, then one indeed could conclude that the former has a lower overall growth rate than the latter. Similarly, if figures show that in absolute terms Maniwaki is placed in a higher class than Bagotville, one could assert that the former reflects a higher and more prosperous state of affairs than the latter.

A second issue that arises in ranking variables relates to extremes within variables. Previous chapters have shown that several centres stand out as being "atypical". In some cases, the range between the two highest (or conversely, the two lowest) is far greater than the range for the remaining categories. By rights, these atypical centres should be assigned a higher (or lower) rank. By so doing, the resulting class distribution might be such that only one centre is placed in the highest category while all remaining centres are grouped into the two lowest. To overcome this bias, a normal histogram distribution has been applied to the ranking of all centres.

A third limitation refers to inconsistencies within the time periods examined. When growth rates are considered, the 1966-70 period is the most recent used for five variables, and the 1961-66 period for two variables. The 1951-61 period was the only time interval providing information on employment

growth rates. Extreme time ranges were less apparent for absolute values. Five out of the nine variables involved 1970 values while the remaining four comprised 1966 figures. When comparing classes of different time intervals one might be guilty of comparing "apples with oranges". Because current data were not available for some of the important variables selected, the most recent information had to be used. Unfortunately, due to this lack of current data, varying time intervals are characteristics permeating throughout the entire report, and therefore concluding comments will also reflect the same limitation.

Bearing in mind the above limitations, a system was devised for ranking each centre according to the selected variables. The first of two tables outline absolute values while the second presents growth rates. Tables VIII.5 and VIII.6 relate to the Prairies whereas Tables VIII.7 and VIII.8 contain values for Québec centres. In order to make the two tables for each region more meaningful, their total averages should be compared and grouped according to similar population categories. The final comments of this report therefore will centre upon a discussion of the ranks that each centre has in the population categories.

Table VIII.9 ranks in descending order, absolute values and growth rates for centres within a given size population class for Prairie centres. In viewing the smallest size centres, (ie. less than 3,500 persons), Table VIII.9 shows that Lacombe was placed first in terms of absolute values while Whitecourt lead the centres in growth rates. When both columns are examined for a particular centre, the same table also shows that even though Lacombe had the highest overall values for the selected variables, it ranked fifteenth out of twenty-seven centres for growth rates. Likewise, Whitecourt's high growth rate is contrasted by a low rank for absolute values. This latter centre ranked seventh in absolute terms.

TABLE VIII.9

Average Totals, based upon a ranking system, for Absolute Values and Growth Rates of major Socio-Economic Characteristics, for Prairie Centres, according to similar size Population Categories

Smallest Centres (less than 3,500)

<u>Absolute Values</u>		<u>Growth Rates</u>	
<u>Rank</u>	<u>Centre</u>	<u>Rank</u>	<u>Centre</u>
1	Lacombe	1	Whitecourt
2	Neepawa	2	Rocky Mtn. House
3	Olds	3	Barrhead
4	Canora	4	Meadow Lake
4	Viriden	5	Claresholm
6	Claresholm	5	Morden
7	Morden	5	Pincher Creek
7	Westlock	8	Lynn Lake
7	Whitecourt	9	Westlock
7	Esterhazy	9	Winkler
11	Fort McLeod	11	Coaldale
11	Innisfail	12	Neepawa
11	Tisdale	13	Viriden
11	Winkler	14	Esterhazy
15	Pincher Creek	15	Lacombe
15	Vermillion	15	Tisdale
17	Barrhead	17	Olds
17	Kamsack	17	Vermillion
17	Lynn Lake	19	Fort McLeod
17	Rosetown	20	Cardston
21	Hanna	21	Canora
22	Assiniboia	22	Assiniboia
22	Meadow Lake	23	Biggar
22	Rocky Mtn. House	23	Hanna
25	Cardston	23	Innisfail
25	Coaldale	26	Kamsack
27	Biggar	27	Rosetown

Small Centres (3,500 - 5,000)

1	Lloydminster	1	Fort Saskatchewan
2	Hinton	2	Fort McMurray
3	Taber	3	Hinton
4	Drumheller	4	Brooks
4	Fort Saskatchewan	5	Lloydminster
6	Brooks	6	Drayton Valley
7	Melfort	6	Taber
7	Ponoka	8	Drumheller
7	Stettler	8	Leduc
10	Kindersley	10	St. Paul
10	Steinbach	10	Stettler
12	Nipawin	10	Wainwright
13	Edson	13	Melfort
13	Swan River	14	Edson
13	Vegreville	14	Ponoka
16	St. Paul	14	Swan River
17	Humboldt	14	Vegreville
18	Fort McMurray	18	Nipawin
18	Leduc	19	Steinbach
20	Wainwright	20	Kindersley
21	Drayton Valley	21	Humboldt

TABLE VIII.9 (cont'd)

Medium Size Centres (5,001 - 10,000)

<u>Absolute Values</u>		<u>Growth Rates</u>	
<u>Rank</u>	<u>Centre</u>	<u>Rank</u>	<u>Centre</u>
1	Dauphin	1	St. Albert
2	Camrose	2	Peace River
3	Estevan	3	Estevan
3	Flin Flon	4	Selkirk
3	Selkirk	5	Camrose
6	Wetaskiwin	6	The Pas
6	Weyburn	7	Flin Flon
8	Peace River	7	Wetaskiwin
9	Melville	7	Weyburn
10	St. Albert	10	Dauphin
11	The Pas	11	Melville

Large Size Centres (10,001 - 40,000)

1	Lethbridge	1	Thompson
2	Moose Jaw	2	Grande Prairie
3	Medicine Hat	3	Brandon
4	Red Deer	4	Yorkton
5	Brandon	5	N. Battleford
5	Prince Albert	5	Lethbridge
7	Swift Current	5	Red Deer
7	Yorkton	8	Swift Current
9	Portage la Prairie	9	Portage la Prairie
10	Grande Prairie	10	Medicine Hat
10	Thompson	10	Prince Albert
12	N. Battleford	12	Moose Jaw

Metropolitan Areas (greater than 40,000)

1	Calgary	1	Calgary
1	Edmonton	1	Edmonton
1	Winnipeg	3	Saskatoon
4	Regina	4	Winnipeg
5	Saskatoon	5	Regina

TABLE VIII.10

Average Totals based upon a ranking system for Absolute Values and Growth Rates of major Socio-Economic Characteristics, for Québec Centres, according to similar size Population Categories

Smallest Centres (5,000 - 7,500)

<u>Absolute Values</u>		<u>Growth Rates</u>	
<u>Rank</u>	<u>Centre</u>	<u>Rank</u>	<u>Centre</u>
1	Maniwaki	1	Maniwaki
1	St.-Agathe	2	St.-Georges O.
3	Farnham	3	Mont-Joli
3	St-Georges	4	Mont-Laurier
5	Mont-Laurier	5	Amos
5	Plessisville	5	Plessisville
7	Amos	7	Malartic
8	Dolbeau	7	Windsor
8	Mont-Joli	9	Aylmer
10	Malartic	9	Ste-Agathe
11	Bagotville	11	Bagotville
11	Lac Mégantic	11	Dolbeau
13	St-Georges O.	11	Farnham
14	St-Félicien	11	St-Félicien
14	Windsor	15	Lac-Mégantic
16	Aylmer	16	St-Georges

Small Centres (7,501 - 10,000)

1	Terrebonne	1	Chibougamau
2	Beauharnois	2	Bécancour
3	Port-Alfred	3	Terrebonne
4	Roberval	4	Roberval
5	Bécancour	5	Iberville
5	Buckingham	6	Drummondville S.
5	Iberville	7	Coaticook
8	Coaticook	8	Port-Alfred
9	Drummondville South	9	Buckingham
10	Chibougamau	10	Beauharnois

Medium Size Centres (10,001 - 25,000)

1	Shawinigan	1	St-Thérèse
2	St-Hyacinthe	2	Pointe-Gatineau
3	Joliette	3	Cowansville
4	Sorel	4	Beloeil
4	Victoriaville	4	Chicoutimi N.
6	Tracy	4	Rimouski
7	Alma	7	Rivière-du-Loup
8	Gatineau	8	Gatineau
9	Rouyn	9	Lachute

TABLE VIII.10 (Cont'd)

Medium Size Centres (Cont'd)

<u>Absolute Values</u>		<u>Growth Rates</u>	
<u>Rank</u>	<u>Centre</u>	<u>Rank</u>	<u>Centre</u>
10	Rimouski	10	Montmagny
10	Thetford Mines	10	Rouyn
12	Baie-Comeau	10	Thetford Mines
12	St-Thérèse	13	Alma
12	Val-d'Or	13	Kénogami
15	Sept-Iles	15	Shawinigan S.
16	Montmagny	15	Tracy
16	Rivière-du-Loup	15	Val-d'Or
18	Arvida	18	Matane
19	Grand'Mère	19	Hauterive
20	Noranda	20	Chambly
21	Beleoil	20	Victoriaville
21	Cowansville	22	Baie-Comeau
23	Kénogami	22	Sept-Iles
24	La Tuque	24	La Tuque
25	Chambly	25	Arvida
25	Chicoutimi N.	25	Sorel
25	Hauterive	27	Asbestos
25	Matane	27	St-Hyacinthe
29	Asbestos	29	Grand'Mère
29	Lachute	29	Joliette
29	Magog	31	Magog
32	Pointe-Gatineau	31	Noranda
33	Shawinigan S.	33	Shawinigan

Large Centres (25,001 - 50,000)

1	St-Jean	1	St-Jérôme
2	Drummondville	2	Jonquièrre
2	Grandby	2	St-Jean
4	Chicoutimi	4	Granby
5	St-Jérôme	5	Cap-de-la-Madeleine
6	Valleyfield	6	Chicoutimi
7	Cap-de-la-Madeleine	6	Drummondville
8	Jonquièrre	8	Valleyfield

Metropolitan Areas

1	Montréal	1	Hull
1	Québec	2	Québec
3	Sherbrooke	3	Montréal
4	Trois-Rivières	4	Sherbrooke
5	Hull	5	Trois-Rivières

The contrasts between absolute value and growth rate ranks is also apparent in all population size categories. In several cases, centres having the lowest absolute value averages are seen to have the highest growth rate averages. Chibougamau (a "small" centre in Québec) is one such centre. In order to highlight these contrasts, some system is needed to measure changes from one rank to another. Absolute changes would of course provide a measure, but because the numbers of centres within a population category vary considerably, absolute numbers would not convey the relative component. For example, the difference between Lacombe's growth rate rank and absolute rank was fourteen (it placed first in absolute values and fifteenth in growth rates). The difference on the other hand, between ranks for Dauphin (a "medium" size centre in the Prairies) was only nine. Yet, relatively speaking, this difference was far more significant than that for Lacombe. To translate absolute values into relative ones, the numerical differences between ranks are divided by total numbers of centres falling in the particular class. A high positive value would signify a large change between a low absolute value rank and a high growth rate rank. Conversely, a large negative value would indicate a wide difference between a very high growth rate rank and a very low absolute value rank. Zero percent indicates no change between the two ranks.

The usefulness of including the relative component is that it provides a comparison between trends and size of a given centre. It needs little imagination to realize that Lethbridge, due to its sheer size, will have higher values in terms of retail trade, municipal assessments and expenditures, building activities, manufacturing outputs, and so on, than North Battleford. It may be noted that even though the population of North Battleford was less than half that of Lethbridge, they nevertheless fall in the same population size category. What one would like to know therefore,

is how these centres compare in terms of growth rates. The following two tables should provide such an answer. The first of these, Table VIII.11 relates to the Prairies. The following comments can be made.

First, when examining the smallest size centres, seven stand out. Five of these comprise centres whose growth rate ranks greatly exceeded their absolute value ranks and these are Rocky Mountain House, Meadow Lake, Barrhead, and Coaldale. At the opposite extreme, Innisfail, Olds, and Lacombe are centres whose ranks for growth rates are far lower than those for their absolute values. Second, four centres displaying extreme values can be identified in the second smallest population size category. These are Fort McMurray, Drayton Valley, Steinbach, and Kindersley. The former two represent centres in which growth rates greatly exceed absolute rates, while the latter two are centres in which growth rates are far lower than absolute values. Third, for medium size centres, four again reflect extreme values. Three of these have higher growth rates than absolute values while one reflects the opposite situation. St. Albert, Peace River, and The Pas are centres having very high positive values while Dauphin has an exceedingly high negative value. Finally, for large size centres five appear to have extreme values. Thompson, Grande Prairie, and North Battleford all contain very high positive values while Moose Jaw and Medicine Hat are two centres having noticeably high negative values. It is interesting to note that both Thompson and Grande Prairie were frequently mentioned in the preceding chapters as experiencing high growth rates in many social and economic sectors. From the results and findings of these chapters, Moose Jaw is seen to reflect abnormally low growth rates in most of the variables examined.

TABLE VIII.11

Table showing the relative difference between Ranks of Absolute values and Ranks of Growth Rates, measured as a percent, for Prairie Centres according to Population Categories.

<u>Centre</u>	<u>Relative Difference</u>	
	%	
<u>Smallest Centres (less than 3,500)</u>		
Rocky Mtn. House	74.1	
Meadow Lake	66.7	Very High
Barrhead	51.9	
Coaldale	51.9	
Pincher Creek	37.0	
Lynn Lake	33.3	
Whitecourt	22.2	
Cardston	18.5	High
Biggar	14.8	
Morden	7.4	
Winkler	7.4	Above average
Claresholm	3.4	
Assiniboia	0	No change
Hanna	-7.4	
Vermillion	-7.4	Below average
Westlock	-7.4	
Tisdale	-14.8	
Esterhazy	-25.9	
Fort McLeod	-29.6	
Virden	-29.6	Low
Kamsack	-33.3	
Neepawa	-37.0	
Rosetown	-37.0	
Innisfail	-44.4	
Lacombe	-51.9	Very low
Olds	-51.9	
<u>Small Centres (3,500 - 5,000)</u>		
Fort McMurray	76.2	Very High
Drayton Valley	71.4	
Leduc	47.6	
Wainwright	47.6	High
St. Paul	28.6	
Fort Saskatchewan	14.3	Above average
Brooks	9.5	
Edson	-4.8	
Hinton	-4.8	Below average
Swan River	-4.8	
Vegreville	-4.8	

Small Centres (3,500 - 5,000) (Cont'd)

<u>Centre</u>	<u>Relative Difference</u>	
	8	
Stettler	-14.3	
Taber	-14.3	
Drumheller	-19.1	
Humboldt	-19.1	Low
Lloydminster	-19.1	
Melfort	-28.6	
Nipawin	-28.6	
Ponoka	-33.3	
Steinbach	-42.9	Very low
Kindersley	-47.6	

Medium size Centres (5,001 - 10,000)

St. Albert	81.8	Very High
Peace River	54.5	High
The Pas	45.5	
Estevan	0	No change
Wetaskiwin	0	
Selkirk	-9.1	Below average
Weyburn	-9.1	
Melville	-18.2	
Camrose	-27.3	Low
Flin Flon	-36.4	
Dauphin	-81.8	Very Low

Large size Centres (10,001 - 40,000)

Thompson	75.0	
Grande Prairie	66.7	Very High
N. Battleford	58.3	
Yorkton	25.0	High
Brandon	16.7	
Portage la Prairie	0	No change
Red Deer	-8.3	Below average
Swift Current	-8.3	
Lethbridge	-33.3	Low
Prince Albert	-41.7	
Medicine Hat	-58.3	Very Low
Moose Jaw	-83.3	

TABLE VIII.12

Table showing the relative difference between Ranks of Absolute values and Ranks of Growth Rates, measured as a percent, for Québec Centres according to Population Categories.

<u>Centre</u>	<u>Relative Difference</u>	
	%	
<u>Smallest Centres (5,000 - 7,500)</u>		
St-Georges O.	68.8	
Aylmer	43.8	Very High
Windsor	43.8	
Mont-Joli	31.5	
Malartic	18.8	High
St-Félicien	18.8	
Amos	12.5	
Mont-Laurier	6.3	Above average
Bagotville	0	
Maniwaki	0	No change
Plessisville	0	
Dolbeau	-18.8	Low
Lac-Mégantic	-25.0	
Farnham	-50.0	
Lac-Mégantic	-50.0	Very Low
St.-Georges	-81.3	
<u>Small Centres (7,501 - 10,000)</u>		
Chibougamau	90.0	Very High
Bécancour	30.0	
Drummondville S.	30.0	High
Coaticook	10.0	Above average
Iberville	0	No change
Roberval	0	
Terrebonne	-20.0	
Buckingham	-40.0	Low
Port-Alfred	-50.0	
Beauharnois	-80.0	Very Low
<u>Medium Size Centres (10,001 - 25,000)</u>		
Pointe-Gatineau	90.9	
Chicoutimi N.	63.6	
Lachute	60.6	
Cowansville	54.6	Very High
Shawinigan S.	54.6	
Beleoil	51.5	

TABLE VIII.12 (Cont'd)

Medium Size Centres (Cont'd)

<u>Centre</u>	<u>Relative Difference</u> %	
St-Thérèse	33.3	
Kénogami	30.3	
Rivière-du-Loup	27.3	
Matane	21.1	High
Hauterive	18.2	
Montmagny	18.2	
Rimouski	18.2	
Chambly	15.2	
Asbestos	6.1	Above average
Gatineau	0	
La Tuque	0	No change
Thetford Mines	0	
Rouyn	-3.0	
Magog	-6.0	Below average
Val-d'Or	-9.1	
Alma	-18.2	
Arvida	-21.2	
Sept-Iles	-21.2	
Tracy	-27.3	
Baie-Comeau	-30.3	
Grand'Mère	-30.3	
Noranda	-33.3	
Victoriaville	-48.5	
Sorel	-63.6	
St-Hyacinthe	-75.8	
Joliette	-78.8	Very low
Shawinigan	-97.0	

Large Centres (25,001 - 50,000)

Jonquière	75.0	
St-Jérôme	50.0	Very High
Cap-de-la-Madeleine	25.0	High
St-Jean	-12.5	
Chicoutimi	-25.0	
Granby	-25.0	Low
Valleyfield	-25.0	
Drummondville	-50.0	Very Low

Values for Québec centres are outlined in Table VIII.12. Four general comments can also be made. First, St. Georges O. and St. Georges are the two centres which stand out. The former has a very large positive value signifying high growth rates and low absolute values, and the latter has an extremely large negative figure attributed to a very low growth value and high absolute ranks. Second, for "small" centres, Chibougamau and Beauharnois represent two centres having outstanding values. The former was one whose average growth rate greatly exceeded absolute values in terms of ranks. Beauharnois was a centre in which the rank depicting absolute averages was far higher than the rank for growth rates. Third, for medium-size centres, ten can be identified as reflecting extreme values. Of these, Pointe-Gatineau and Shawinigan have by far the highest and lowest values respectively. And fourth, Jonquière, St. Jérôme, and Drummondville are those centres in which growth rates greatly exceed absolute values while the latter one is a community which experienced high absolute values but relatively low growth rates for the selected variables examined.

The above eight observations highlighting the atypical centres of the Prairie Provinces and the Province of Québec represent a small fraction of the total which could have been included. Emphasis should be placed more on the technique than on the actual findings. Given the necessary time and resources, each variable could have been assigned a certain factor or weighting system thereby providing a more accurate average ranking value. Future research on the urban environment of the Prairies and the Province of Québec, or for that matter, of the remaining provinces in Canada, should consider the application of advanced system and matrix analyses.

The fact that the Prairies and the Province of Québec are socially and economically heterogeneous regions

is not a new or significant phenomenon. The tourist and native alike cannot avoid appreciating the existence of markedly different life styles between communities located in these two regions. Assiniboia is no more akin to Flin Flon than Val d'Or is to Rouyn. However, diversities of the urban environment are not the sole patents of the Prairie Provinces and the Province of Québec. The remaining Canadian provinces display equally divergent characteristics and to state that both the Prairies and the Province of Québec exhibit unique urban elements which distinguish them from other provinces would be grossly erroneous.

Given that disparities do indeed exist between the two major regions, one would then want to know the nature and extent of these disparities. The fundamental purpose of this report has been precisely to examine these disparities by providing an inventory of what are commonly considered as the more important social and economic indicators. It should be emphasized that from a purely descriptive point of view, the report was not intended to be definitive. To be so, would have necessitated a study period far in excess of the five months initially assigned to it. In addition, the size of the team would have had to be increased significantly.

The introductory chapter indicated that the present report was to form the first of a three-stage process. Analysis of the collected data was to be carried out in the second stage, and as a result, what amounts to analytical lip service only was included in the report. The study therefore was not designed to furnish an analytical treatise of the Prairie Provinces and the Province of Québec. Very simply, the report has attempted to describe the "urban environment" of selected centres in these two geographical regions. It has shown amongst other things those centres which have experienced either growth or decline within the various sectors. The particular sectors in

question have covered a wide range of activities and have examined variables such as population, employment, trade, manufacturing, transportation, recreation, municipal services, and so on. The substance of the report has focused upon the "what" and "where" of the urban environment of the major centres in the Prairies and the Province of Québec. The "how" and "why" of these phenomena are to be tackled in a subsequent project.

AVERAGE RANKING VALUES FOR SELECTED VARIABLES ACCORDING TO ABSOLUTE FIGURES - PRAIRIE CENTRES

	Employment	Retail Trade	Hinterlands	Manufact.	Expenditures	Assessments	Bldg. Permits	Transportation	Recreation	Ave. Total
<u>Manitoba</u>										
Brandon	5	5	5	4	4	4	4	5	5	4.11
Dauphin	3	3	4	3	3	3	3	5	3	3.33
Flin Flon	4	3	4	4	4	2	2	1	3	3.00
Lynn Lake	1	-	-	1	1	-	-	-	3	1.50
Morden	1	2	-	3	1	2	2	2	1	1.75
Neepawa	2	3	-	2	1	2	2	5	2	2.11
Portage la Prairie	5	4	2	4	4	3	3	5	4	3.78
Selkirk	4	3	3	4	4	3	3	1	2	3.00
Steinbach	2	3	2	3	2	2	-	2	1	2.13
Swan River	2	3	-	1	1	2	3	3	1	2.00
The Pas	3	2	4	1	2	2	4	1	1	2.22
Thompson	4	-	5	-	4	3	-	1	5	3.67
Virden	1	2	-	2	1	1	2	2	4	1.88
Winkler	1	1	-	3	1	1	2	2	2	1.63
Winnipeg	5	5	-	-	5	5	5	5	5	5.00
TOTAL										
<u>Saskatchewan</u>										
Assiniboia	1	2	-	1	1	1	2	1	1	1.25
Biggar	1	1	-	1	1	1	1	1	1	1.00
Canora	1	1	-	3	1	1	2	3	3	1.88
Esterhazy	1	1	-	1	1	2	2	1	4	1.68
Estevan	3	3	2	3	4	3	3	2	4	3.00
Humboldt	2	2	1	2	2	2	2	2	1	1.78
Kamsack	1	1	-	2	1	1	1	2	3	1.50
Kindersley	2	3	-	1	2	2	3	1	3	2.13
Lloydminster	2	3	-	4	4	3	3	2	3	3.13
Meadow Lake	1	2	-	1	1	1	1	1	1	1.25
Melfort	2	3	3	2	2	2	3	2	1	2.22
Melville	3	2	1	3	3	2	3	4	1	2.44
Moose Jaw	5	5	4	4	5	4	4	5	5	4.56
Nipawin	2	2	4	2	2	2	2	1	2	2.11
Battleford	4	4	3	3	4	3	3	2	4	3.33
Prince Albert	5	4	3	4	5	4	4	3	5	4.11
Regina	5	5	5	5	4	5	5	5	5	4.89
Rosetown	1	2	-	2	1	1	2	2	1	1.50
Saskatoon	5	5	5	5	4	5	5	5	5	4.11
Swift Current	4	4	4	3	4	4	4	4	5	4.00
Tisdale	1	2	-	2	1	1	2	2	2	1.63
Weyburn	4	3	1	3	4	3	3	2	3	2.89
Yorkton	4	4	5	4	4	4	3	3	5	4.00
TOTAL										
<u>Alberta</u>										
Barrhead	1	2	-	2	1	2	1	1	2	1.50
Brooks	2	2	-	2	2	2	3	3	-	2.29
Calgary	5	5	5	5	5	5	5	5	5	5
Camrose	3	3	1	4	4	3	3	3	4	3.11
Cardston	1	1	-	1	1	1	2	1	1	1.13
Claresholm	1	1	-	2	1	1	2	3	3	1.75
Coaldale	1	1	-	1	1	1	1	2	1	1.13
Drayton Valley	2	2	-	1	1	1	2	1	1	1.38
Drumheller	2	3	1	2	3	2	3	2	3	2.33

TABLE VIII:6

AVERAGE RANKING VALUES FOR SELECTED VARIABLES ACCORDING TO GROWTH RATES - PRAIRIE CENTRES

	Population	Employment	Retail Trade	Per. cap Income	Manufact.	Expenditures	Assessments	Bldg. Permits	Ave. Total
<u>Manitoba</u>									
Brandon	4	4	3	4	5	4	4	3	3.88
Dauphin	4	2	2	3	2	1	3	5	2.75
Flin Flon	4	1	1	3	3	2	5	5	3.00
Lynn Lake	4	-	-	4	2	-	-	-	3.33
Morden	4	4	5	3	1	2	4	4	3.38
Neepawa	4	1	3	4	3	2	2	5	3.00
Portage la Prairie	2	3	5	4	2	2	3	3	3.00
Selkirk	4	3	3	5	-	1	3	5	3.43
Steinbach	4	4	2	4	2	1	3	-	2.86
Swan River	4	3	5	3	1	1	3	5	3.13
The Pas	5	3	1	5	1	2	3	5	3.13
Thompson	5	5	-	4	5	5	-	-	4.80
Virden	2	3	4	2	3	4	4	2	3.00
Winkler	5	4	1	4	-	4	3	2	3.29
Winnipeg	4	3	1	4	-	2	4	3	3.00
TOTAL									
<u>Saskatchewan</u>									
Assiniboia	1	2	4	1	3	2	3	2	2.25
Biggar	2	1	2	2	-	1	3	1	1.71
Canora	1	2	5	1	2	3	3	2	2.38
Esterhazy	4	-	5	1	-	2	4	1	2.83
Estevan	4	4	4	2	5	3	3	3	3.50
Humboldt	2	2	4	2	-	1	3	3	2.43
Kamsack	1	2	5	1	2	1	2	1	1.88
Kindersley	1	4	5	1	-	-	3	1	2.50
Lloydminster	5	3	4	2	-	4	4	-	3.67
Meadow Lake	4	3	5	2	5	3	2	4	3.5
Melfort	5	3	5	1	-	4	3	1	3.14
Melville	1	1	2	3	1	2	2	5	2.13
Moose Jaw	2	3	1	2	1	3	2	2	2.00
Nipawin	4	2	2	2	3	1	4	5	2.88
Battleford	4	3	4	3	4	1	3	5	3.38
Prince Albert	4	3	2	4	2	3	3	2	2.88
Regina	4	3	3	3	2	2	3	2	2.75
Rosetown	1	2	1	1	-	2	3	1	1.57
Saskatoon	4	4	4	3	3	3	4	2	3.38
Swift Current	4	4	4	2	2	4	3	3	3.25
Tisdale	1	1	5	2	2	3	3	5	2.75
Weyburn	1	3	4	2	-	3	3	5	3.00
Yorkton	4	3	5	3	4	4	5	2	3.75
TOTAL									
<u>Alberta</u>									
Barrhead	4	4	2	4	-	5	4	3	3.71
Brooks	5	3	4	5	4	4	3	-	4.00
Calgary	5	4	2	4	-	4	3	3	3.57
Camrose	4	4	2	3	5	4	2	2	3.25
Cardston	3	2	1	3	5	1	1	4	2.5
Claresholm	5	3	2	4	5	4	2	2	3.38
Coaldale	3	-	1	4	4	-	3	4	3.17
Drayton Valley	4	-	5	5	-	2	1	4	3.50
Drumheller	5	1	2	3	4	5	4	3	3.38

AVERAGE RANKING VALUES FOR SELECTED VARIABLES ACCORDING TO ABSOLUTE
FIGURES - QUEBEC CENTRES

Quebec	Employment	Ret. Trade	Hinterland	Manufact.	Expendts.	Assessments	Bldg. Permits	Transportation	Recreation	Ave. Total
Alma	2	3	2	4	4	5	3	2	5	3.33
Amos	2	2	3	1	1	1	2	1	2	1.67
Arvida	2	2	-	1	4	4	3	3	-	2.71
Asbestos	2	2	1	2	2	3	2	2	1	1.89
Aylmer	2	1	-	1	1	1	-	2	1	1.29
Bagotville	1	1	1	1	1	1	1	3	3	1.44
Baie-Comeau	2	3	2	4	4	5	3	1	-	3.00
Beauharnois	2	2	1	3	1	1	1	5	1	1.89
Bécancour	1	1	-	1	1	1	1	5	1	1.50
Beloeil	2	2	1	1	2	2	3	-	5	2.25
Buckingham	2	1	2	2	1	2	-	1	1	1.50
Cap-de-la-Madeleine	3	3	-	4	4	3	3	5	4	3.63
Chambly	1	1	-	2	2	2	2	2	4	2.00
Chibougamau	1	2	-	1	1	1	1	1	1	1.13
Chicoutimi	4	4	4	2	5	5	4	3	5	4.0
Chicoutimi N.	2	2	-	1	1	2	3	3	-	2.00
Coaticook	2	2	1	3	1	1	1	1	1	1.44
Cowansville	2	2	1	4	2	2	3	2	-	2.25
Dolbeau	1	2	2	2	1	2	1	2	1	1.56
Drummondville	4	4	3	5	5	4	3	4	5	4.11
Drummondville S.	1	1	-	1	1	1	2	-	1	1.14
Farnham	2	1	1	2	1	1	2	2	4	1.78
Gatineau	2	2	-	4	4	4	-	2	4	3.14
Granby	5	3	2	5	5	4	3	5	5	4.11
Grand'Mère	2	2	-	4	4	2	2	3	2	2.63
Hauterive	1	2	-	1	4	2	3	1	-	2.00
Hull	5	4	5	4	5	5	5	5	-	4.75
Iberville	2	1	-	2	1	2	2	1	1	1.50
Joliette	3	3	3	4	4	3	3	5	4	3.56
Jonquièrre	4	3	-	2	4	3	3	3	-	3.14
Kénogami	2	2	-	3	2	2	1	3	2	2.13
Lachute	2	2	2	3	2	2	1	2	1	1.89
Laç-Mégantic	1	2	2	2	2	1	1	1	1	1.44
La Tuque	2	2	1	3	3	3	1	2	2	2.11
Magog	3	2	1	4	2	2	1	1	1	1.39
Malartic	1	1	-	1	1	1	1	5	1	1.50
Maniwaki	1	2	2	2	1	5	2	2	1	2.00
Matane	2	2	2	-	2	2	3	2	1	2.00
Mont Joli	1	2	1	2	1	1	2	3	1	1.56
Mont Laurier	1	2	3	1	1	1	2	3	-	1.75
Montmagny	2	2	2	3	2	2	3	5	4	2.78
Montréal	5	5	5	5	5	5	5	5	5	5.00
Noranda	2	1	-	2	2	2	3	4	-	2.29
Plessisville	2	1	1	3	1	2	-	3	1	1.75
Pointe-Gatineau	2	-	-	1	1	2	-	2	-	1.60
Port-Alfred	2	1	-	2	2	2	2	3	1	1.88
Québec	5	5	5	5	5	5	5	5	5	5.00
Rimouski	3	3	3	2	4	3	4	4	2	3.11
Rivière-du-Loup	2	3	3	2	3	1	3	5	3	2.78

AVERAGE RANKING VALUES FOR SELECTED VARIABLES ACCORDING TO GROWTH
RATES - QUEBEC CENTRES

Quebec	Population	Employment	Retail Trade	Per cap. Income	Manufact.	Expenditures	Assessments	Bldg. Permits	Ave. Total
Alma	4	-	5	4	5	2	2	2	3.43
Amos	4	3	4	4	2	4	3	3	3.38
Arvida	5	2	1	3	3	2	3	3	2.75
Asbestos	2	2	3	5	2	3	2	2	2.63
Aylmer	3	3	1	4	-	4	4	-	3.17
Bagotville	4	2	1	5	2	3	2	5	3.00
Baie-Comeau	4	4	4	1	3	3	5	1	3.13
Beauharnois	4	3	2	3	3	1	2	2	2.50
Bécancour	4	-	-	4	-	4	5	2	3.80
Beloeil	5	5	4	2	4	5	5	2	4.00
Buckingham	4	1	2	5	2	2	2	-	2.57
Cap-de-la-Madeleine	5	3	2	5	1	4	3	2	3.13
Chambly	5	3	4	3	5	3	2	1	3.25
Chibougamau	4	-	4	4	5	4	3	4	4.00
Chicoutimi	4	3	2	3	3	4	3	2	3.00
Chicoutimi N.	4	-	3	-	4	3	5	5	4.00
Coaticook	5	1	1	2	3	4	5	4	3.13
Cowansville	4	4	4	4	5	4	5	3	4.13
Dolbeau	5	3	3	4	1	2	2	4	3.00
Drummondville	4	4	3	4	3	1	2	3	3.00
Drummondville S.	2	-	-	-	5	2	2	5	3.20
Farnham	4	2	2	3	3	1	5	4	3.00
Gatineau	5	5	4	-	2	1	5	-	3.67
Granby	3	3	3	5	2	2	5	3	3.25
Grand'Mère	4	2	2	1	3	3	2	2	2.38
Hauterive	5	-	5	1	4	4	2	2	3.79
Hull	4	2	3	4	4	5	-	4	3.71
Iberville	5	3	1	2	5	3	3	5	3.38
Joliette	4	1	3	1	4	2	2	2	2.38
Jonquière	5	2	3	3	4	2	5	4	3.50
Kénogami	4	2	2	-	3	4	5	4	3.43
Lachute	5	2	2	3	5	3	5	5	3.57
Laç-Mégantic	2	1	4	5	4	2	3	2	2.88
La Tuque	3	2	4	4	3	2	2	3	2.88
Magog	2	1	1	5	3	1	1	3	2.13
Malartic	4	1	4	3	5	3	2	4	3.25
Maniwaki	5	4	4	5	5	4	2	5	4.25
Matane	4	3	2	4	4	4	5	2	3.50
Mont Joli	4	2	3	3	5	5	2	5	3.63
Mont Laurier	5	2	2	5	2	4	3	5	3.50
Montmagny	4	1	4	4	4	5	2	4	3.50
Montréal	5	3	3	3	-	3	3	1	3.00
Noranda	1	1	2	3	1	4	2	3	2.13
Plessisville	2	2	4	4	5	3	4	-	3.43
Pointe-Gatineau	5	5	3	5	5	4	5	-	4.57
Port-Alfred	3	5	1	1	1	4	2	5	2.75
Québec	5	3	3	4	3	3	3	2	3.25
Rimouski	5	5	4	5	3	1	5	4	4.0
Rivière-du-Loup	5	-	4	4	5	4	2	2	3.71

TABLE VIII.3

PRAIRIES

A. Unifunctional

Primary

Flin Flon
Lynn Lake
Thompson

Drayton Valley

Manufacturing

Fort Saskatchewan
Hinton

Trade

Transportation

Biggar
Fort McMurray

Community Services

Canora
N. Battleford
Weyburn
Ponoka
Camrose
Claresholm
Red Deer

DOMINANT (> 50%)

PARTIALLY DOMINANT (< 50%)

B. Bifunctional

Community Services and Trade

Com. Serv. > Trade

Brandon	Meadow Lake
Swan River	Melfort
yirden	Moose Jaw
Assiniboia	Prince Albert
Estevan	Rosetown
Humboldt	Saskatoon
Kamsack	Tisdale
Kindersley	Barrhead
Lloydminster	Brooks
Cardston	Olds
Drumheller	Peace River
Fort McLeod	St. Albert
Grande Prairie	St. Paul
Innisfail	Stettler
Lacombe	Taber
Lethbridge	Vegreville
Westlock	

Trade > Com. Serv.

Neepawa
Steinbach
Nipawin
Swift Current
Yorkton
Wetaskiwin

Community Services and Administration

Portage La Prairie
Wainwright

Community Services and Construction

Pincher Creek

Community Services and Transportation

The Pas
Melville

Community Services and Manufacturing

Selkirk

Community Services and Primary

Esterhazy

C. MultifunctionalCommunity Services, Trade and Manufacturing

Morden
Whitecourt
Medicine Hat (Community Serv., Mfg., & Trade)

Community Services, Trade and Transportation

Edson Dauphin
Hanna Leduc

Trade, Manufacturing and Community Services

Winkler

Community Services, Construction and Trade

Rocky Mountain House

Community Services, Primary, Construction, Trade

Coaldale

Trade, Manufacturing, Primary, Community Services

Whitecourt

QUEBEC

A. Unifunctional

Primary

Becancour
Malartic

Asbestos
Thetford Mines
Noranda
Rouyn

Manufacturing

Granby
Arvida
Magog
Cowansville
Tracy
Windsor
Chibougamau
Drummondville S.

Shawinigan
Sherbrooke
Trois Rivières
Cap-de-la-Madeleine
Drummondville
Gatineau
Grand'Mère
Jonquièrre
Kenogami
La Tuque
St-Hyacinthe
St-Jean
St-Jérôme
Ste-Thérèse
Shawinigan S.
Sorel
Valleyfield
Victoriaville
Baie-Comeau
Beauharnois
Buckingham
Coaticook
Farnham
Iberville
Lachute
Montmagny
Plessisville
Port Alfred
Terrebonne

DOMINANT (> 50%)

PARTIALLY DOMINANT (< 50%)

Trade

Community Services

Chicoutimi
Rimouski
Rivière-du-Loup
Amos
Mont-Laurier
Roberval
Ste-Agathe

TABLE VIII.4 (Cont'd)

B. BifunctionalPrimary and Community Services

Val d'Or

Manufacturing and TradeChicoutimi N.
DolbeauManufacturing and Community ServicesManufacturing > Com. Serv.Lac Megantic
ChamblyCom. Serv. > ManufacturingAlma
Joliette
HauteriveCommunity Services and TradeTrade > Com. ServicesSt. Félicien
St. Georges
St. Georges O.Com. Serv. > Trade

Matane

Administration and Com. ServicesAdmin. > Com. ServicesAylmer
HullTransportation and Community ServicesTrans. > Com. ServicesBagotville
Sept. IlesC. TrifunctionalCommunity Services, Manufacturing, Trade

Maniwaki

Community Services, Trade, Transportation

Mont Joli

Manufacturing, Administration, Construction

Point Gatineau

Percent Distribution of Major Employment Categories which
are defined as either Dominant or Partially Dominant and/or
Unifunctional, Bifunctional or Multifunctional:
Prairies 1961

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
<u>MANITOBA</u>							
1. Brandon			22.1		28.2		
2. Dauphin			24.5	19.1	26.3		
3. Flin Flon	Mining 54.5						
4. Lynn Lake	Mining 73.1						
5. Morden		20.7	20.5		20.9		
6. Neepawa			25.6		25.7		
7. Portage La Prairie					27.2		20.6
8. Selkirk		25.7			30.8		
9. Steinbach			25.8		23.8		
10. Swan River			25.1		25.4		
11. The Pas			26.9		29.8		
12. Thompson	Mining 54.4						
13. Virden			19.6		27.1		
14. Winkler		21.0	23.4		20.6		
15. Winnipeg							
TOTAL							
<u>SASKATCHEWAN</u>							
16. Assiniboia			26.3		29.4		
17. Biggar				33.2	23.4		
18. Canora					34.7		
19. Esterhazy	Mining 19.0				25.6		
20. Estevan			21.0		24.5		
21. Humboldt			25.6		29.1		
22. Kamsack				19.9	25.6		
23. Kindersley			24.2		26.3		
24. Lloydminster			25.6		27.5		
25. Meadow Lake			23.3		28.8		
26. Melfort			25.7		32.4		
27. Melville				28.2			

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
<u>SASKATCHEWAN (Cont'd)</u>							
28. Moose Jaw			19.2		28.7		
29. Nipawin			23.6		23.4		
30. North Battleford					37.5		
31. Prince Albert			20.2		27.7		
32. Regina							
33. Rosetown			26.9		29.9		
34. Saskatoon			22.3		29.6		
35. Swift Current			26.0		25.5		
36. Tisdale			27.4		32.9		
37. Weyburn					40.9		
38. Yorkton			27.1		26.8		
TOTAL							
<u>ALBERTA</u>							
39. Barrhead			25.2		29.5		
40. Brooks			23.8		27.3		
41. Calgary							
42. Camrose			26.0		35.3		
43. Cardston			21.0		31.5		
44. Claresholm			20.2		32.0		
45. Coaldale	16.9		16.0		22.1	16.4	
46. Drayton Valley	Mining 36.1						
47. Drumheller			22.6		29.9		
48. Edmonton							
49. Edson			18.0	17.6	26.1		
50. Fort McLeod			20.5		30.3		
51. Fort McMurray				36.4			
52. Fort Saskatchewan		42.7					
53. Grande Prairie			33.2		34.1		
54. Hanna			24.0	24.0	24.1		

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
<u>ALBERTA (Cont'd)</u>							
55. Hinton		37.4					
56. Innisfail			22.8		25.3		
57. Lacombe			23.0		28.6		
58. Leduc			19.5	17.0	21.0		
59. Lethbridge			22.2		25.2		
24. Lloydminster							
60. Medicine Hat		19.3	18.4		20.2		
61. Olds			24.3		26.6		
62. Peace River			21.8		28.1		
63. Pincher Creek					23.6	20.6	
64. Ponoka					47.5		
65. Red Deer			21.1		31.4		
66. Rocky Mountain House			18.2		20.9	20.5	
67. St. Albert			17.9		27.9		
68. St. Paul			24.0		35.2		
69. Stettler			27.1		30.1		
70. Taber			21.8		25.3		
71. Vegreville			25.7		33.8		
72. Vermillion			28.9		27.6		
73. Wainwright					24.6		31.3
74. Westlock			26.1		34.9		
75. Wetaskiwin			31.0		24.7		
76. Whitecourt	15.3	18.8	21.3		15.3		
TOTAL							

Percent Distribution of Major Employment Categories which are defined as either Dominant or Partially Dominant and/or Unifunctional, Bifunctional or Multifunctional:
Quebec 1961

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
<u>QUEBEC</u>							
Alma		25.1			26.2		
Amos					36.8		
Arvida		52.6					
Asbestos	38.7						
Aylmer					22.6		31.7
Bagotville				25.5	16.2		
Baie-Comeau		44.2					
Beauharnois		40.0					
Bécancour		79.1					
Beloeil		29.0			18.9		
Buckingham		36.6			23.0		
Cap-de-la-Madeleine		45.7					
Chambly		28.9			20.1		
Chibougamau		52.8					
Chicoutimi		22.2	17.2		30.4		
Chicoutimi N.		21.3	17.9				
Coaticook		42.0					
Cowansville		50.2					
Dolbeau		27.0	19.2		26.3		
Drummondville		28.0			17.6		
Drummondville S.		51.6					
Farnham		40.6					
Gatineau		38.8					
Granby		50.9					
Grand'Mère		45.3					
Hauterive		21.0			26.1		
Hull					20.4		23.4
Iberville		39.0					
Joliette		27.2			30.2		
Jonquière		36.6					

TABLE VIII.2 (Cont'd)

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
QUEBEC (Cont'd)							
Kénogami		46.9					
Lachute		37.5					
Lac-Mégantic		30.0			21.8		
La Tuque		42.6					
Magog		55.0					
Malartic	57.5						
Maniwaki		20.0	18.2		20.8		
Matane			19.5		24.3		
Mont-Joli			20.4	21.5	24.4		
Mont-Laurier					31.5		
Montmagny		37.3					
Montréal							
Noranda	42.5						
Plessisville		44.9					
Pointe-Gatineau		23.3				16.3	18.4
Port-Alfred		32.7					
Québec							
Rimouski					35.0		
Rivière-du-Loup					31.0		
Roberval					41.7		
Rouyn	24.6				22.5		
Ste-Agathe					39.9		
St-Félicien			23.2		19.6		
St-Georges			28.3		24.1		
St.-Georges O.			27.5		24.8		
St-Hyacinthe		36.4					
St-Jean		38.5					
St-Jérôme		39.7					
Ste-Thérèse		34.3					
Sept-Iles				21.1	16.4		

TABLE VIII.2 (Cont'd)

	Primary	Mfg.	Trade & Com.	Trans.	Pers. Serv.	Const.	Admin.
<u>QUEBEC</u>							
Shawinigan		42.7			21.3		
Shawinigan S.		42.6					
Sherbrooke		37.7			27.7		
Sorel		41.3					
Terrebonne		34.4					
Thetford Mines	39.2						
Tracy		53.1					
Trois-Rivières		33.6			19.6		
Val-d'Or	30.2				22.0		
Valleyfield		37.0					
Victoriaville		43.2					
Windsor		63.0					

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