A STUDY OF FACTORS RELATED TO THE REORGANIZATION OF MUNICIPAL BOUNDARIES IN SASKATCHEWAN

A Thesis Submitted

to the

Committee on Graduate Studies

in

Partial Fulfillment of the Requirements

for the

Degree of Master of Science

in the

Department of Farm Management

University of Saskatchewan

by

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Saskatoon, Saskatchewan
May, 1945.

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ACKNOWLEDGEMENTS

This thesis was written under the supervision of Professor Hadley Van Vliet and Mr. B. H. Kristjanson of the Department of Farm Management, University of Saskatchewan. The helpful suggestions and valuable assistance given by both Professor Van Vliet and Mr. Kristjanson are gratefully acknowledged. The assistance of members of the various Departments of the Provincial Government in the collection of data necessary for this study is also gratefully acknowledged.

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INTRODUCTION

The problems of municipal government in Saskatchewan have been varied in nature and often unwieldy in their scope. The roots of these problems have likewise originated, not in one particular spot, but rather in a number of conditions characteristic of the economy and the times in which the people have striven for sound government.

Even the earliest settlers required an organization for government. Local roads, schools and other services had to be provided and the financing of such endeavors meant that the local government had to have the powers whereby it could levy taxes, borrow money and pass by-laws for the general welfare of the community. Thus we find municipal governments functioning even while the population was particularly sparse.

Adjustments have been made in the organization of local government in Saskatchewan as time has progressed and as the changing requirements of these bodies have experienced the need for adjustment. It is felt by some at the present time that further changes in organization are required if the most effective government is to be provided. At the present time a proposal is being seriously considered which, if carried through, would bring about an enlargement of the areas contained in each rural municipality. In other words, a greater or lesser degree of agitation has developed for increasing the size of the unit served by each municipal council.

It is the purpose of this investigation to enquire into the factors related to the reorganization of the municipalities into larger units. It is hoped that this may indicate some of the problems involved and serve in some measure to clarify the issues contained in the actions proposed.

DEVELOPMENT OF MUNICIPAL GOVERNMENT IN SASKATCHEWAN

As early as 1884 the people of the North-West Territories were combining their efforts for the purpose of mutual assistance in securing needed local improvements. These efforts resulted in the passing of an Ordinance of the North-West Territories in 1884 under which provision was made for the establishment of municipalities planned on principles similar to those of the older provinces.

Of the municipalities established under the ordinance only a limited number found practical existence. They functioned under serious difficulties for a number of years and the system proved generally unpopular under prevailing conditions as evidenced by the fact that legislation was passed in 1896 dis-organizing all but two of the existing organizations. The main reason for the downfall of the early municipalities was that their management proved too costly. The pioneers could not afford to pay for elaborate executive machinery,

The failure of the first attempt at organization did not dissuade the pioneers. They kept looking about for some suitable, mutual system of self-government. In an effort to comply with the desire of the people the Legislature of the Territories

in 1897 passed a Statute Labour Ordinance, followed by the Local Improvement Ordinance of the next year which was the law observed in administration of the primitive institutions created by it until 1904. The local improvement districts thus created had an average area of one township and were looked after by an overseer elected by popular vote. The overseer's work consisted mainly of road improvement, generally on a small scale.

To improve further the prevailing system a new Local Improvement Bill was passed in 1903. This bill dis-organized all the one-township districts and abolished the provision for statute labour, providing instead for small local improvement districts of four townships, with each township constituting a division. Each division elected a councillor annually, and the four thus secured formed the council board.

The four-township Improvement Districts did not give the people the desired independence and measure of local self-government, so in 1904 financial provision was made for the appointment of a municipal commission to inquire into the general problem of municipal organizations for the purpose of determining a safe, economical system of self-government. Delays were caused by the breaking up of the Territories in 1905 into the present provinces of Alberta and Saskatchewan, but in 1906 the Saskatchewan government appointed a commission to undertake an investigation.

Using, as a basis, the evidence and opinions collected by the commission, Rural Municipality and amended Local Improvement Acts were passed in the years 1908 and 1909. To prepare for the prospective reorganization, the small Local Improvement Districts were disorganized on December 13, 1909. The Province was then divided into "territorial units" of nine townships each, except where natural boundaries made it necessary to modify the general plan. The ratepayers were given the option of deciding by vote as to whether these units were to continue as local improvement districts, administered under the Local Improvement Act, or to become rural municipalities with larger powers and responsibilities. Seventy-four new rural municipalities were organized by the end of the first year. During the next four years, by the end of 1913, the number of rural municipalities in the province had increased to 290, after which date organization has been less rapid, 303 municipalities being in existence at the present date.

THE EVOLUTION OF PROBLEMS IN MUNICIPAL GOVERNMENT

To a certain degree municipal government in Saskatchewan has undergone changes in order to serve what has been a rapidly growing economy. The success with which local government has met and is meeting its problems is open to question. It will be readily agreed however that it has been no easy task to provide the best government for such a dynamic economy.

Actually it is difficult to determine how long it will be before Saskatchewan reaches any considerable stability — perhaps it will remain in a state of flux for a long time to come. But partly as a result of this instability, and partly in spite of it, the organization of the people in the Province has progressed very materially within a comparatively short space of time. The individual has sought to improve his position through the group. There has been a continual and progressive growth in the number of economic services performed by and paid for by the group as distinguished from those provided and paid for by the individual. The more important aspects of these changes, from the standpoint of municipal government, will be dealt with next.

Changes in Population

The beginning of the twentieth century marked an era of tremendous expansion in the population of Saskatchewan. In one generation there has been an increase from less than a hundred thousand to nearly a million people, more than half of the increase occurring from 1901 to 1914. Since 1914, (Table 1) population growth has been less rapid with a loss in total population occurring during and just prior to the current war years.

The wide variations in the regional characteristics of the Province of Saskatchewan has resulted in large variations in population density. In many areas in the southern part of the Province, where climate and soil have determined a low

Table 1 Population of Saskatchewan and Distribution of Urban and Rural Population, 1901-1941. ✱

Year	Total	Rural	Urban	Rural, Percent of Total
1901	91,279	77,013	14,266	84.37
1906	257,763	209,301	48,462	81.20
1911	492,432	361,037	131,395	73.32
1916	647,835	471,538	176,297	72.79
1921	757,510	538,552	218,958	71.10
1926	820,738	578,206	242,532	70.45
1931	921,785	630,880	290,905	68.44
1936	931,547	651,274	280,273	69.91
1941	895,992	600,846	295,146	67.06

✱ Census of Saskatchewan, 1936, p. 359, and preliminary census, 1941.

productivity, the small farm unit failed to make returns that would maintain the farm family. Some settlers moved out, while others increased the size of their farms in an effort to obtain an economically-sized farm unit. Movements of population of this kind were greatly accentuated during the depression period and have resulted in large adjustments of the population density to the economic capacity of these areas.

In areas of favourable soil and climate, on the other hand, population has in general increased as settlement has become more intensive and as more land has been brought under cultivation. Particularly in the Park belt it has resulted in a comparatively high density of population based on relatively close settlement on moderate-sized units.

In relation to a municipal organisation, developed, perhaps, on the expectation of moderate and reasonably uniform population densities, shifts in population and the development of extreme variations of population density have given rise to various problems in municipal finance. Differences in the incidence of cost of services for areas of varying population density have resulted in differences in the adequacy of the services which could be maintained and in the relative burden of services on the tax paying population. Serious shifts in population, in turn have in many cases aggravated difficulties of finance in relation to the types of services which were undertaken.

Changes in Transportation

Before the turn of the present century only a relatively few farming communities existed and these centered around the towns and villages that had sprung up along the newly constructed railroads. The mileage of steam railways in Saskatchewan (Table 11) expanded greatly from 1900 to 1916, with less rapid development from that date to the present. At the present time, except for a few limited areas, railroad facilities are reasonably adequate for the population and the types of farming represented. As indicated by Britnell:

> "Nearly all the land suited to agricultural production in Saskatchewan is within 10 miles of a railway. Of all farms reporting in the 1931 census, 80 percent were less than 10 miles from a railway station and 5.6 percent more than 15 miles distant. In the large block

of agricultural territory between Saskatoon and Regina, 43 percent of the farms were within five miles of a railway shipping point and 1.5 percent more than 15 miles away. On the pioneer fringe which stretches across the northern part of the province and in the sparsely settled ranch country of the extreme south-west, a much larger proportion of all farms are more than 15 miles from a railway shipping point. Seventy-six percent of Saskatchewan farmers were within 10 miles of a market town or village and 7.5 percent more than 15 miles distant." 1.

Table 11 Steam Railway Mileage in Saskatchewan 1900-36 ✱

Year	Mileage	Year	Mileage
1900	962	1921	6,296
1906	1,951	1926	7,267
1911	3,121	1931	8,268
1916	5,378	1936	8,624

✱ The Wheat Economy, G. E. Britnell, Political Economy Series, No. 4., University of Toronto Press and The Canadian Institute of International Affairs, 1939, p. 12.

In addition to the development of railroad facilities transportation has been revolutionized by the emergence of the motor car and truck. Relatively few cars and trucks were in

1. The Wheat Economy, G. E. Britnell, Political Economy Series, No. 4., University of Toronto Press and The Canadian Institute of International Affairs, 1939, pp. 12-3.

evidence in Saskatchewan before 1915, since which date there has been a great increase in their number. The number of motor vehicles registered in Saskatchewan amounted to 126,970 in 1940 compared with 10,225 in 1915. (Table 111). But of

Table 111 Number of Motor Vehicles[1] Registered in Saskatchewan, 1905-1940. ✱

Year	Number	Year	Number
1905	0	1925	77,940
1910	531	1930	127,193
1915	10,225	1935	94,792
1920	60,325	1940	126,970

1. Includes passenger cars, commercial cars and trucks, motorbuses and motorcycles.
✱ Canada Year Book, 1942, and preceding Year Books.

more direct interest here are the numbers of cars and trucks on farms in the Province. Cars and trucks on Saskatchewan farms in 1921 numbered 36,098 while in 1941 this had increased to a total of 78,480 (Table 1V). For the year 1941, about 41 farms out of every 100 had a car and about 15 out of every 100 had a truck (Table 1V). Inasmuch as a number of farmers possess both types of vehicles the proportion having either a car or a truck in 1941 would probably have been about 50 percent of the total number.

Table IV Numbers of Automobiles and Trucks on Farms in Saskatchewan, 1921-1941. ♯

Year	No. of Farms	Automobiles on Farms	Trucks on Farms	Percent of Farms with Autos	Percent of Farms with Trucks	Percent of Farms with Autos or Trucks
1921	119,451	36,098(1)	(2)	30.2(1)	(2)	30.2
1926	117,781	52,177	3,267	44.3	2.8	47.1
1931	136,472	65,094	10,938	47.7	8.0	55.7
1936	142,391	54,464	10,338	38.2	7.3	45.5
1941	138,703	57,058	21,422	41.1	15.4	56.5

♯ Compiled from preliminary returns of Census of Saskatchewan, 1941, and preceding censuses.
(1) Includes trucks
(2) Included in enumeration of automobiles.

Table V Distribution of Automobiles and Trucks on Saskatchewan Farms, by Census Divisions, 1936. ♯

Division No.	No. of Farms	Farms Reporting Automobiles	Percent of Farms Reporting Automobiles	Farms Reporting Trucks	Percent of Farms Reporting Trucks	Percent of Farms Reporting Autos and Trucks
1	6,651	2,705	40.7	346	5.2	45.9
2	6,897	3,137	45.5	584	8.5	54.0
3	8,101	3,779	46.6	859	10.6	57.2
4	5,538	2,463	44.5	621	11.2	55.7
5	8,295	3,092	37.3	176	2.1	39.4
6	8,885	4,296	48.4	838	9.4	57.8
7	7,747	3,482	44.9	822	10.6	55.5
8	8,608	4,096	47.6	1,445	16.8	64.4
9	9,970	2,260	22.7	156	1.6	24.3
10	8,017	2,467	30.8	271	3.4	34.2
11	7,073	3,031	42.8	635	9.0	51.8
12	7,294	3,220	44.1	700	9.6	53.7
13	7,522	3,424	45.5	580	7.7	53.2
14	11,176	2,741	24.5	423	3.8	28.3
15	13,283	3,834	28.9	750	5.6	34.5
16	10,024	2,606	26.0	407	4.1	30.1
17	6,896	2,090	30.3	318	4.6	34.9
18	414	38	9.2	17	4.1	13.3
Total	142,391	52,761	37.1	9,948	7.0	44.1

♯ Compiled from Census of Saskatchewan, 1936, p. 726.

Based upon the distribution of cars and trucks by census division the proportion having these vehicles was larger in the Plains areas than in the Park belt (Table V). This variation is due partly at least to the differences in need for such transportation over the Province as a whole. However throughout most of the Province the large increases in both railway mileage and the numbers of cars and trucks have greatly facilitated travel. Distances travelled to get to the municipal centre, which took the greater part of a whole day when the present municipalities were organized, may now require less than an hour.

Needless to say the broad changes in communication which have been indicated here have brought with them a greater centralization of both marketing and social facilities. Some points in the Province have lost much of their former significance to the rural population in these respects as transportation has improved while other points have become the centres serving considerably larger areas. This has meant in turn that some towns and villages in which the municipal offices are located are visited by the taxpayers only when absolutely necessary. Furthermore these trips may have to be made for the sole purpose of visiting the office whereas formerly such municipal business could be transacted more or less incidentally to required visits to these centres. It has been suggested also that where the municipal office is no longer located in the

centres possessing the marketing and social facilities it has been difficult to obtain the fullest measure of co-operation from the taxpayers in the administration of the affairs of their own municipality. These indicate the nature of some of the problems which have arisen with the advent of improved methods of transportation.

The Scope of the Activities of the Municipal Councils

Two aspects of the activities of the municipal councils are worth noting — first the wide range of activities in which they are engaged and, second, the shifts from time to time in the emphasis placed on the varying activities. These shifts in emphasis will be dealt with only incidentally to the discussion of the scope of the activities themselves since that is the more important aspect.

From the standpoint of monies expended, the most important work carried on by the rural municipalities has been the construction and maintenance of local roads. They are, however, not responsible for the provincial highways, for ferries or for bridges which exceed 16 feet in length. The municipalities have received in addition some grants from the Province for the construction of main market roads.

Prior to 1921 all efforts of both the provincial and local governments in road building were confined to the provision of the elementary road services required by the pioneer communities.

Following this stage the beginnings of the present highway system appeared in the construction of nearly 3,000 miles of well-built earth road, less than 100 miles of which was gravel-surfaced from 1921 to 1929. Then, with increased demands for roads, an expensive programme of new construction and gravel surfacing, during the years 1928 to 1931 was undertaken, doubling the graded earth mileage and adding 2,000 miles of gravel-surfaced roads to the provincial highway system.[2.]

Increasing amounts had meanwhile been spent by the rural municipalities on improvement of market and local roads. Between 1922 and 1928 capital expenditures chargeable to revenue, and consisting largely of expenditures on road construction trebled, amounting to almost $2,750,000 in 1928 and again in 1929. Maintenance expenditures also showed an upward trend rising to nearly $2,500,000 annually for these years.[3.] Due to the large mileage of municipal roads required during this period only medium or poor standard earth roads were constructed. In the southern portion of the province some road work was done as a relief measure in areas striken by the drought of the years 1929 to 1931.

The period from 1921 to 1931 was the most active period of road building by the provincial government and rural muni-

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2. G. E. Britnell, op. cit., p. 130.
3. Ibid.

cipalities up to the present time. But at the end of this period, in 1931, less than three percent of the farms in the wheat belt were situated on gravelled roads, 67 percent were on improved dirt roads, and a full 30 percent were on those classified by the census as unimproved dirt roads. Road construction was brought to a halt as the drought and depression descended on the prairies except insofar as direct relief obligations of $1,200,000 were discharged through road work. [4]. Actually no road construction was reported in 1932. Relatively little construction of roads has been undertaken since that date, due in the earlier years of the period to the depression, and during the present war to the inability to procure adequate help to utilize the existing machinery, or the inability, under wartime regulations, to procure machinery, to replace worn out and antiquated equipment. Expenditures on maintenance were also greatly reduced during the depression years, and with the present inability to obtain adequate machinery for maintenance it can be assumed that the roads at present have deteriorated to a poorer state than they were in the early thirties.

A survey conducted by means of a mailed questionnaire indicated that in order to bring municipal roads up to a fair standard, based on the municipal secretaries' estimates, the market and local road mileage would have to be doubled by new construction, while a large number of the present roads needed repair and continued maintenance. Thus it is apparent that at the present time the construction of new roads, together with their maintenance is one of the main problems confronting the

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4. G. E. Britnell, op. cit., pp. 131-4

local governments.

Another important function has been the provision of medical and health services. The significance of this item has been increasing gradually although it began to receive attention as early as 1916. During the earlier period of settlement it was particularly difficult to obtain the desired level of these services and the rural areas were even less fortunate in this regard than were the urban centres.

In an attempt to rectify this situation legislation was passed in 1916 permitting municipalities to make grants to doctors and nurses to induce them to reside and practise in the rural areas. It provided also for the establishment of union municipal hospitals. Several municipalities adopted the practise of paying grants to doctors up to the statutary maximum of $1,500 a year and in 1919 new legislation gave municipalities power to engage a full-time municipal doctor at a salary not exceeding $5,000 a year. Until the late twenties very few full-time appointments were made, but during the depression period in the thirties the number increased quite rapidly as it was becoming very difficult to retain medical men in the rural areas even with the monthly allowances extended to doctors by the provincial government.[5] There are still many municipalities, lacking attraction for the private practitioner, which have not the economic base to provide adequate medical and health facilities. One fairly large Health Unit, which included eight rural municipalities, was organized in 1929 in the southern part of the

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5. These monthly allowance consisted of payments made directly to doctors through the Saskatchewan Relief Commission. See Britnell, op. cit., pp. 140-1.

province. One-half of the expense was borne by the province and the other half by the participating municipalities. However its activities were suspended after a three year term because the co-operating municipalities, due to the depression, could not continue to carry their part of the expenses. Only the more prosperous rural communities have so far been able to work out satisfactory methods of supporting a local doctor and of providing hospitalization.

There are several other services which have been performed by the rural municipalities that, from the standpoint of expenditures, are of minor importance. The municipalities have the power to make grants to charitable institutions and can also assist any organizations undertaking recreation schemes. Care of the aged and poor was left largely to the rural and urban municipalities until 1928. Since that time a system of old age pensions has been sponsored by the Dominion and Provincial governments.

Another type of service, and one which assumed immense proportions during the depression years, was the administration of "relief" advances. The municipalities were called on to do most of the administrative work. Most relief advances during the period were made as loans, the Dominion and Provincial governments assuming the bulk of the responsibility. The municipalities, due to financial conditions, could advance very little of the assistance necessary. By the autumn of 1937, 290 of the 302 rural municipalities of the province had to go to a

higher government for assistance. A great deal of the administration work for the Wheat Acreage Reduction and Prairie Farm Assistance schemes, during the years that they have been operating, was also assumed by the rural municipalities. Service of this type has made it necessary to have close contact between the farmers and secretaries in the municipalities.

It is thus apparent that many changes in the scope and nature of municipal functions have taken place since the organization of the present form of local government. To obtain an adequate mileage of satisfactory municipal roads, for example, will entail the expenditure of substantial sums of money. Medical and health service have in only a few localities been expanded sufficiently. It is not surprising therefore that the structure of municipal government itself is being examined to ascertain whether or not it is so organized that it has been able to meet these changes which have occurred since it assumed its present form in 1909.

THE FUNCTIONS OF MUNICIPAL GOVERNMENT IN SASKATCHEWAN

Since the rural municipality is the principal agency of local self-government it has important functions both as a tax levying and as an administrative body. Some indication of the importance of its functions is given by the fact that it levies and collects all of the property taxes that the rural population has to pay.

As mentioned earlier the Rural Municipality Act provided for units having an area of nine, or as nearly as possible nine, townships. In some instances municipal boundary lines have had to conform with the shore lines of major rivers and lakes in the province. This factor, together with the corrections of survey lines used in the Dominion land survey made it impossible to apply the uniform size to all municipalities, giving rise to variations in size from a little less than six to approximately fourteen townships.

The administrative body of the rural municipality is the council, consisting of six councillors and a reeve. The nine-township unit is divided into six divisions, in each of which a councillor is chosen by popular vote. The councillors are elected for two year terms, three being elected annually, together with the reeve or chairman of the board, who is elected by the municipality at large. This system results in continuity of municipal administration and also assures democratic control of the council by the electorate.

The Collection of Taxes and Other Levies

The rural municipalities are closely supervised and restricted in their sphere of action by the provincial government. But the council has the power to make and enforce by-laws as long as they do not conflict with Provincial or Dominion law. They are responsible for levying and collecting taxes against all taxable property within the municipality. They construct

and maintain roads and public works. They have the power to borrow money up to a $2,000 limit by resolution, larger loans requiring approval by a majority vote of the ratepayers. The total of loans in any calendar year can not exceed 60 percent of the total taxes levied by the municipality for the preceeding year. Outstanding debenture debt shall at no time be a greater sum than 13 cents per acre of the land assessed in the municipality. The Local Government Board of the Provincial government must approve all proposed debenture loans before they may be issued. The maximum mill rate that may be levied for municipal purposes shall not exceed 15 mills on the dollar of assessed value of rateable property, according to the Rural Municipality Act.[6] The council appoint their secretary-treasurer and auditor, and until recently, when assessment duties were centralized under the assessment commission, they appointed an assessor. The Secretary-Treasurer of each municipality must keep books and records in the form prescribed by the Department of Municipal Affairs. These books and records must be submitted to the provincial Department of Municipal Affairs for periodical inspection.

In Saskatchewan, use is made of the municipal tax-collecting machinery by the Provincial Government, the local school districts, municipal hospital districts, telephone companies, and the Saskatchewan Municipal Hail Insurance Association. Less than one-third of the total taxes collected by the municipality are actually municipal taxes. The municipalities

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6. Rural Municipality Act, 1920, sec. 295.

levy and collect the Provincial Public Revenue tax of two mills on the dollar of assessed valuation of all rateable property, and formerly collected the Wild Lands tax of one percent of assessed value of all lands remaining uncultivated under certain conditions. A commission of five percent of collections is received from the Provincial Government for this service. The municipality is not responsible for arrears of the public revenue tax as it merely acts as the agent of the province in its collection.

In the case of schools the trustees of each school district notify the Secretary-Treasurer of the municipality as to the sum of money required for the next year's operations. A mill rate to cover the required sum is declared by the municipality for each school district. The municipality is responsible for the collection of the monies and payments are made periodically to school districts. If rural telephone companies in the municipality have been financed by debenture issues not yet retired, the directors of each company may levy, and the municipality must collect, telephone taxes upon all quarter sections of land adjacent to telephone lines to provide for debenture payments falling due for the current year. If a municipality has, by popular vote of the ratepayers, decided to enter the Saskatchewan Municipal Hail Insurance Association, a fixed tax of four cents per acre on all lands except those exempted under specified conditions, and any additional tax per acre as the directors of the association fix annually according to hail losses that

have occurred, must be collected by the municipality. Also if a municipality belongs to a Union Hospital District it may have to collect taxes to repay debentures issued for hospital construction and purchase of equipment. This rate is limited by the Union Hospital Act to two mills on the dollar of assessed valuation. Lastly, if the Department of Highways constructs drainage works upon the petition of landowners in an area, the Minister of Highways annually declares the taxes to be levied against the lands benefitted and the municipality in which the lands are situated is obligated to collect the taxes and remit them to the Department of Highways. The municipalities are obligated to collect the above mentioned taxes and are held responsible for them.

Table VI Average Total Property Tax Levies of Rural Municipalities for the two 7-year periods, 1922 to 1929, 1932 to 1939 and the year 1942-43. ✱

	1922 to 1929		1932 to 1939		1942-43	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
General Municipal Levy	5,831	32.0	4,370	36.3	5,404	40.4
Drainage Tax Levy	16	0.1	16	0.2	21	0.1
Telephone Tax Levy	1,888	10.3	819	6.8	393	3.0
Hail Tax Levy	1,326	7.3	988	8.2	1,182	8.9
School Tax Levy	7,022	38.5	4,028	33.5	4,984	37.2
Wild Land Tax Levy	509	2.8	54	0.4	--	--
Public Revenue Tax Levy	1,640	9.0	1,759	14.6	1,402	10.4
Total	18,246	100.0	12,041	100.0	13,386	100.0

✱ From Annual Reports of Department of Municipal Affairs, Regina, Saskatchewan.

Table VI indicates the various tax levies made by the rural municipalities under widely different economic conditions. It is interesting to compare the effect of the drought and depressed conditions of the period 1932 to 1939 with the period 1922 to 1929. This comparison may be made from Table VI. For the seven year period from 1922 to 1929 the average total tax levy per year was approximately $18,250,000 compared with $12,040,000 per year for the seven year period from 1932 to 1939. Also, the specific reductions made in the latter period are of interest. One-half of the decrease shown in tax levies for the latter period was attributable to a decrease in school tax levy, mainly associated with reductions in teachers' salaries, while the remaining portion of the decrease was divided fairly evenly between the telephone and the general municipal tax levies. There was also a small reduction in the Wild Lands tax levy.

The Disbursement of the Municipal Tax

In addition to functioning on an important scale as a tax collecting agency the rural municipality undertakes the disbursement of large sums on its own account. It has been indicated that the largest proportion of expenditures in the past has been made on roads for their construction and maintenance. The Rural Municipality Act provides that at least one-half of the money estimated available for public works be apportioned among the divisions of a municipality, for road work.[7.]

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7. Rural Municipality Act, Revised Statutes of Saskatchewan, 1931, Ch. 106, sec. 192 and 193.

The municipality has the power also to engage a full-time doctor at a salary not exceeding $5,000 a year. If the municipality is included in a union hospital district it can arrange to give free or partially free hospitalization, covering all or only a part of the costs by taxation. Even though free hospitalization is not provided for, the municipalities co-operating in a hospital district must in all cases make up all deficits. Other expenditures are incurred for: protection of property (pound-keepers' compensation, destruction of weeds, rodents and insects, livestock testing, purebred sire area administration etc.); protection of person (relief and aid to destitute residents), and grants to charitable organizations (recreation and charities).

A classification of the expenditures made by the rural municipalities is shown in Table VII for the two seven-year periods 1922 to 1929 and 1932 to 1939 and for the year 1942-43. In its interpretation it should be pointed out that the increases shown in expenditures for administration since the period 1922 to 1929 have been due in large measure to the inclusion of additional items under that caption.[8]

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8. Mr. L. Jacobs, Director, Municipal Auditing and Accounting, Department of Municipal Affairs, Regina, Saskatchewan, offered the following explanation: 'The main reason for this increase is that in 1928 discounts were not included in administration expenses as in such good times as this Province was experiencing at that time discounts were a very small matter and were usually taken care of through reserve accounts and as a deduction from tax levies. In the year 1942 discounts entered in administration expense would amount to close to half a million dollars. Other

Table V11 Average Expenditures of all Rural Municipalities, for two 7-year periods, 1922 to 1929, 1932 to 1939 and the year 1942-43. ✱

	1922 to 1929		1932 to 1939		1942-43	
	Amount ($000's)	Percent of Total	Amount ($000's)	Percent of Total	Amount ($000's)	Percent of Total
	$		$		$	
Administration	1,392	22.5	1,919	36.5	2,231	35.4
Protection Person and Property	260	4.2	196	3.8	94	1.4
Maintenance Public Works	2,028	32.8	1,063	20.2	1,507	24.0
Health and Sanitation	46	0.8	22	0.4	21	0.2
Medical Services, Recreation and Charities	472	7.6	1,059	20.1	1,282	20.4
Debenture Charges	152	2.5	37	0.7	51	0.8
Capital Expenditures	1,731	28.0	210	4.0	268	4.5
Reserves	99	1.6	750	14.3	838	13.3
Total	6,180	100.0	5,257	100.0	6,293	100.0

✱ From Annual Reports of Department of Municipal Affairs, Regina, Saskatchewan.

Dealing with the other items in the order of size the main outlays involve road costs. Capital expenditures were made mainly in connection with road construction and the amounts indicated for the maintenance of public works have also been made largely in connection with roads. These expenditures decreased from a combined total of $3,759,000 per year in the period 1922 to 1929 to $1,273,000 per year in the period 1932 to 1939. This had increased only slightly by the year 1942-43 when it amounted to a total of $1,775,000.

The expenditures indicated for medical services, recreation and charities have been made, in the main, for medical services. During the seven years from 1922 to 1929 the annual expenditure in this regard amounted to $472,000. In the seven-year period, 1932 to 1939, the annual expenditure for these purposes increased to an average of over one million dollars and, in the year 1942-43 amounted to $1,282,000.

Such have been the main aspects of the functions of municipal government. The next chapter will deal with an analysis of the main variables in municipal finance in Saskatchewan.

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small items which show increases in 1942 over 1928 are: Increase in secretary-treasurers' salaries; increase in secretary-treasurers' assistants; assessment costs for the re-assessment of the Province of which approximately sixty were done in 1942 at an average cost of $800,00 each; tax collection costs and other similar items all show large increases in the past few years and no doubt these items will make up the difference of $1,000,000.'

ANALYSIS OF MUNICIPAL FINANCE IN SASKATCHEWAN

The indication of factors associated with the emergence of problems in municipal government is suggestive of the general character of the problems which have developed. Similarly, it is indicative, in a general way, of the differing intensity of problems associated with different general areas of the Province. A formulation of the considerations involved in the reorganisation of municipal units, however, requires a concrete indication of the sources of individual phases of municipal problems and the extent to which they may be traceable to deficiencies in existing municipal organisation. At the same time it requires a statement of the relationships of factors with differences in the extent of problems, so as to allow an interpretation of the probable effect of a particular scope of reorganisation in overcoming the problems concerned. This appears to be possible only on the basis of a study of the characteristics of municipal finance in terms of the individual administrative unit.

In relation to this purpose, an analysis was made of the characteristics of finance of rural municipalities of the Province on the basis of the information on financial operations available for the year 1941. The municipalities included in the study comprised the 286 municipalities of the Province for which reassessment had been completed at the end of 1943.

These 286 units represented about 95 percent of the total of 303 organised municipal units in the Province.

The data for the study were obtained from the records of the Department of Municipal Affairs, supplemented by information on population and farm numbers from the Census. Information from the Department included a summary of tax levies of individual municipalities for various purposes, information on the financial status of municipalities, and a classification of the expenditures of municipalities for municipal administrative purposes. The data on financial operations and financial status applied to the year 1941. In so far as the assessments applying to future operations of municipalities are likely to be related closely to those established on the new basis of assessment, the information on financial operations for 1941 was combined with the information on the new assessments in preference to the old assessments which applied to some of the units in 1941. Thus, the calculation of total mill rates for municipalities as shown in the analysis was based on the mill rate which would have been required in terms of the new assessments to raise the levies which obtained for 1941.

Variables in the Existing Rural Tax Structure

Rural municipalities as at present constituted exhibit an extreme diversity of character in terms of differences in population and farm numbers, differences in financial capacity and differences in organisation of finances. Such differences

seem to point to significant variations in the character of services rendered by municipalities and in the incidences of the costs of such services upon the individual tax payers.

Rural Population

The rural population of municipal units in 1941 varied from a low of 418 persons to a high of 4,696 persons. (Table VIII). Of the total of 286 municipalities, 41 or 14 percent had a rural population of 999 persons or less, while 22 or 8 percent had populations of 3,000 persons or over. A relatively large proportion of the units (102 or 36 percent) had populations of from 1,000 to 1,499 persons.

Differences in the populations of units were associated with wide differences in the total tax levies for various purposes and in levies per person. The aggregate levies for municipal purposes, school purposes and all purposes each increased with increases in the populations of units. However, there was a distinct decrease in the average levy per person for each of the types of levy. The municipal levy decreased from an average of $16.40 per person for the units with the smallest populations to $6.40 per person for units with the largest populations. Comparable figures for school tax levies were $15.50 and $6.00, and for the total levies, $41.70 and $14.80 respectively. These differences pointed to the probable influence of variations in costs of providing services as well as to a probable variation in the type of services provided.

Table VIII Tax Levies of Rural Municipalities in Saskatchewan, 1941, According to Population of Municipality.

No. of persons	No. of Municipalities	Avge. Population	Avge. Municipal Tax Levy	Municipal Tax Levy Per Person	Avge. School Tax Levy	School Tax Levy Per Person	Avge. Total Tax Levy	Total Tax Levy Per Person
			$	$	$	$	$	$
999 and less	41	781	12,827	16.40	12,129	15.50	32,546	41.70
1,000 - 1,499	102	1,251	17,075	13.60	16,542	13.20	46,578	37.20
1,500 - 1,999	54	1,724	19,285	11.20	17,937	10.40	49,031	28.40
2,000 - 2,499	37	2,249	18,743	8.30	16,843	7.50	46,395	20.60
2,500 - 2,999	30	2,733	19,463	7.10	17,387	6.40	42,937	15.70
3,000 and over	22	3,492	22,391	6.40	21,005	6.00	51,764	14.80
All Municipalities	286	1,730	17,758	10.30	16,644	9.60	45,023	26.00

Table IX Tax Levies of Rural Municipalities in Saskatchewan, 1941, According to Number of Resident Farmers per Municipality.

Resident Farmers	No. of Municipalities	Avge. Resident Farmers	Avge. Resident Farmers Per Township	Avge. Municipal Tax Levy	Municipal Tax Levy Per Resident Farmer	Avge. School Tax Levy	School Tax Levy Per Resident Farmer	Avge. Total Tax Levy	Total Tax Levy Per Resident Farmer
199 and less	8	163	22	$10,450	$64.10	$10,562	$64.80	$27,200	$166.90
200 - 299	48	262	33	13,244	50.60	12,538	47.80	33,583	128.20
300 - 399	94	352	40	16,919	48.10	16,311	46.30	45,831	130.20
400 - 499	65	451	50	20,148	44.70	18,792	41.70	51,582	114.40
500 - 599	44	555	62	19,741	35.60	17,391	31.30	46,748	84.20
600 and over	27	677	71	21,889	32.30	20,515	30.30	49,230	72.70
All Municipalities	286	416	48	$17,758	$42.70	$16,644	$40.00	$45,023	$108.20

Variations in population in terms of the number of resident farmers varied from 130 at one extreme to 835 at the other (Table IX). Eight municipalities had 199 resident farmers or less while 27 municipalities had at least 600. These differences again were associated with wide variations in the total tax levy. In the group having the smallest number of resident farmers the total tax levy was, on an average, $166.90 compared with $72.70 for those in the group containing 600 resident farmers or more. The differences in the total levy were somewhat less in terms of the number of resident farmers than in terms of the total rural population. This reflects the influence of variations in the size of farm units.

Aggregate Assessments

When the rural municipalities were grouped according to their assessments a considerable range in net assessment was evident.

Table X Frequency Distribution of the Total Assessment of Rural Municipalities in Saskatchewan, 1943.

Assessment	No. of Municipalities	Avge. Assessment	Avge. No. of Townships	Avge. Assessment Per Township
		$		$
0.99 million and less	20	806,300	8.0	100,788
1 -1.49 million	56	1,256,559	8.1	155,131
1.5-1.99 "	92	1,756,819	8.6	204,281
2.0-2.49 "	56	2,254,619	9.0	250,513
2.5-2.99 "	25	2,784,328	9.1	305,970
3.0-3.49 "	19	3,197,052	9.8	326,230
3.5 million and over	18	4,785,995	10.2	469,215
All Municipalities	286	2,066,043	8.8	234,778

Table X indicates that 20 rural municipalities had an average assessment of less than a million dollars, while 18 of them had an average assessment of almost five million dollars. The total range for the entire group was from a low of $505,545 to a high of $7,741,561. By far the greatest majority of the rural municipalities fell in the assessment range of from one million to three million, with the average for the 286 municipalities being $2,066,043.

The foregoing variations in total assessment relate to the rural municipalities. Actually some of the variations noted were a result of variations in size of the areas included in the municipal unit. But even when the assessment is considered on the average amount per township (thus holding the area constant) large variations in average assessment occur. On the township basis this varied from an average of $100,788 for the 20 municipalities having a total assessment of less than one million dollars to $469,215 for the group having a total assessment of $3.5 million or more (Table X).

Total Mill Rates

A grouping of the rural municipalities according to the total mill rate showed a variation of 20 mills between the average mill rate of the group with a mill rate of 17 or less, consisting of 46 municipalities, and the highest group, 33 mills and over, consisting of 17 municipalities. The average total mill rate for all of the municipalities tended to be nearer to the lower total mill rate group as evidenced by the average of 23.3 mills.

The large variation in the total mill rate per rural municipality has been noted. A large variation was evident also in the average mill rate levied in each of the municipalities. In this case the lowest mill rate amounted to 10 mills while the highest amounted to 39 mills. The dispersion,

Table XI Frequency Distribution of the Total Mill Rate of Rural Municipalities in Saskatchewan, 1941.

Mill Rate	No. of Municipalities	Avge. Total Mill Rate	Avge. No. of Townships
17 and less	46	15.0	8.8
18 - 20	46	19.3	8.7
21 - 23	57	22.1	8.5
24 - 26	57	25.0	8.8
27 - 29	42	27.9	8.8
30 - 32	21	30.8	9.2
33 and over	17	35.0	8.7
All Municipalities	286	23.3	8.8

as may be seen from Table XI, shows that there is no central tendency in the total mill rate.

Tax Levies

In the breakdown of rural municipalities according to the total tax levy a wide range in the amount of money levied for the various functions and services performed was evident. Table XII indicates that 44 rural municipalities had an average total tax levy of $24,534 while 42 had an average total tax levy almost three times as high, being $70,593. Thus the spread between the low and high groups, being $46,059, was greater than

the average total tax levy for all of the municipalities, which was $45,023.

Table XII Frequency Distribution of the Total Tax Levy by Rural Municipalities in Saskatchewan, 1941.

Total Tax Levy	No. of Municipalities	Avge. Total Levy	Avge. No. of Townships	Avge. Total Levy Per Township
		$		$
29,999 and less	44	24,534	7.8	3,145
30,000 - 39,999	72	35,828	8.2	4,369
40,000 - 49,999	73	44,642	8.7	5,131
50,000 - 59,999	55	54,431	9.2	5,916
60,000 and over	42	70,593	10.2	6,921
All Municipalities	286	45,023	8.8	5,116

The above comparison does not express the extreme variation existing. The lowest total tax levy for one municipality amounted to $11,591 while the highest was $112,073 or almost ten times as large. This variation in total tax levy occurred with the difference in the total mill rates being opposite to the size of the levy, the low one having had a rate of 20 mills while the high levy municipality had a rate of 17 mills. In agreement with Table XI showing the frequency distribution according to mill rate Table XII shows very little central tendency in the dispersion.

School Levy

Table XIII Frequency Distribution of the School Tax Levy by Rural Municipalities in Saskatchewan, 1941.

School Levy	No. of Municipalities	Avge. School Tax Levy	Avge. No. of Townships	Avge. School Tax Levy Per Township
		$		$
9,999 and less	18	8,261	7.4	1,116
10,000 - 14,999	96	12,699	8.3	1,530
15,000 - 19,999	103	17,352	8.8	1,972
20,000 - 24,999	50	22,224	9.4	2,364
25,000 and over	18	27,433	10.8	2,540
No information	1	---	8.0	---
All Municipalities	286	16,644	8.8	1,891

From a grouping of rural municipalities according to school tax levy (Table XIII) it is seen that considerable variation exists. Eighteen of the municipalities had an average school tax levy of $8,261 while another 18 had a levy of $27,433, almost four times as high. The average for all municipalities, $16,644, tended to be nearer to the lower group, while the majority of the levies varied within a comparatively narrow range.

While the foregoing variations in school tax levy relate to the rural municipalities some of the variations noted have been associated with variations in the area of the municipal units. Even when the area was held constant and the school levy was considered on the township basis, significant variation occurred. For the 18 municipalities having a school levy of less than $9,999 the average levy per township was

$1,116 compared with the average levy of $2,540 for municipalities with a school levy of $25,000 and over.

Municipal Levy

Table XlV Frequency Distribution of the General Municipal Levy by Rural Municipalities in Saskatchewan, 1941.

General Municipal Levy	No. of Municipalities	Avge. Municipal Levy	Avge. No. of Townships	Avge. Municipal Levy Per Township
		$		$
9,999 and less	18	8,328	7.7	1,082
10,000 - 14,999	81	12,773	8.2	1,558
15,000 - 19,999	102	17,464	8.8	1,984
20,000 - 24,999	50	21,930	9.2	2,384
25,000 - 29,999	25	26,788	9.5	2,820
30,000 and over	10	34,690	10.5	3,304
All Municipalities	286	17,758	8.8	2,018

When distributing the rural municipalities according to their general municipal levy there was a group of 18 with a levy of $8,328 as compared with 10 that had a levy of $34,690, slightly more than four times as high. Table XlV indicates that the rural municipalities had a significant central tendency in the distribution according to municipal levy, 233 of them falling in the levy range from $10,000 to $25,000.

The above variations in municipal levy relate to the rural municipalities, and do not allow for variation in size of the unit. When the area was held constant and the levy considered on the township basis Table XlV indicates that the levy per

township was $1,082 for the 18 rural municipalities with a municipal levy of $9,999 or less, and $3,304, or slightly more than three times as large, for the 10 municipalities in the $30,000 and over group.

The foregoing variations are for groups of municipalities and do not show the extreme range in municipal levy between the individual units. The total range for the group was from a low of $5,221 to a high of $56,744.

Factors Related to the Provision of Services

The wide variations among municipal units in respect of populations serviced, financial capacities, tax levies and mill rates are indicative of possibilities of wide differences in capacity for providing acceptable services to the taxing group concerned. At the same time they are suggestive of probable differences in the levels of services achieved by different units and in the comparative equity of taxation between various groups of taxpayers.

The extent to which the tax structure of municipal units contributes to a general inadequacy of desired services and to a severe variation in the incidence of cost of services upon individual taxpayers can be considered to constitute the problem area of existing municipal finance and administration. Comparably, the extent to which such inadequacies of service and inequities of taxation will permit correction through re-organisation constitutes the area within which the various considerations with respect to reorganisation will apply.

The ability of municipal units to provide a desirable level of services would appear to be affected by a number of factors. It would seem on the one hand to be related to the costs at which various services can be provided in terms of the various conditions determining such costs. On the other hand, it would be related to the comparative financial capacity of the municipal unit in terms of its tax-producing capacity. Again, it would have a relation to the acceptability of a particular tax burden to the taxing population as determined by the tax levy which they would be willing to provide for a particular level of service. Further than this it would have a relation to the way in which the financial capacity of the unit is organised to provide the levies required for the various services, and to the efficiency of expenditure which is achieved in obtaining the maximum of services for the funds disbursed. The latter in particular would be a direct function of the administrative efficiency which is achieved in the administration of the individual unit.

One of the basic difficulties underlying the present study was the absence of quantitative measures of the services provided by municipal units. This made it impossible to assign concrete differences in adequacy of service to the various municipalities and gave a difficult basis for analysing the relationships of the types of services achieved with the financial characteristics of the unit.

On the other hand, based on the comparative expenditures for various services, the data permitted some inferences with respect to the comparative adequacy of service which was probably achieved by various groups of municipal units. In so far as differences in the volume of expenditure for particular services do not imply differences in the efficiency with which such expenditures were made, increases in expenditure would be associated with a greater quantity or higher quality of the service concerned. Also, to the extent that expenditures made by individual municipalities can be considered to have been made with reasonable regard for the value of the service being received, differences in expenditures between municipal units would tend to reflect differences in the measure of service obtained.

The chief factor which seemed likely to result in differences in the efficiency of expenditures appeared to be that of differences in the absolute costs at which various services could be made available. A requirement of higher costs for providing a service for a municipal unit would entail higher expenditures without an accompanying increase in the measure of service obtained. Thus differences in expenditures would reflect differences in service only to the extent that they exceeded the differences in the comparative costs of providing the service.

Costs of Services

In relation to the costs of services, the major soil climatic regions of the Province seem to reflect considerable

of the variations in conditions which would be likely to influence the costs of providing the principal types of municipal services. On the one hand they represent wide variations in population density which might be related to the comparative cost of providing school and health services. On the other hand they represent general variations in farm organisation and land cover which would seem to bear a relation to both the requirements for and the costs of providing road services.

With the exception of the northern Gray Wooded Zone, in which municipal services can be considered to be relatively underdeveloped, the general level of municipal services provided can probably be considered to be reasonably comparable between the major soil-climatic regions. There would seem to be relatively little indication that there is a large difference in the general character of the municipal services provided between the Plains region and the Park belt, or even perhaps between the two zones of the Plains region. It is probable that the general level of services in the Light Brown Prairie Zone may be somewhat lower than that of the Dark Brown Zone by virtue of the greater difficulties of providing service in relation to a sparser population and by virtue of a somewhat lower general financial capacity. It is also probable that the level of services in the general prairie region suffered more severely under the impact of drought and depression in comparison with that in the Park region. On the other hand

such difference may have been compensated for to a considerable extent by the comparatively higher development of services in the Prairie areas prior to the depression.

From general evidence it might be inferred that the principal municipal services are being provided with a reasonably comparable degree of adequacy or inadequacy in each of the three soil-climatic regions. All of the zones indicate a fair development of both school and road services. Similarly, all regions indicate some development of hospital and medical services and a fairly general participation in miscellaneous types of services. Inadequacies of service which can be pointed to can be recognised to apply in some degree to all of the zones; they are not ascribable exclusively to any one zone.

This would permit the suggestion that differences between the major soil-climatic regions in the level of municipal services provided are probably relatively small. At the least, it can be suggested that such differences in service are probably much smaller than the differences between the areas in the characteristics likely to be associated with variations in the costs of providing services.

On this basis, differences in the expenditures for services between soil-climatic regions might be considered to reflect mainly the differences in the necessary cost of providing services under the varying cost conditions associated with the zones. To the extent that average expenditures for services in each of the zones fully reflect the requirements of expend-

itures for maintaining the prevailing services, and except in so far as they may be related to differences in the actual level of services, differences in the volume of expenditure between zones would be likely to indicate the differences in the necessary cost of providing the services concerned under the conditions obtaining.

A summary of comparative expenditures for various purposes, based on the tax levies raised, for the several soil-climatic regions is provided in Table XV. These expenditures, relating to the fiscal year 1941-42, may not reflect completely the requirements of expenditure which might be necessary for the full maintenance of the services represented in each of the zones. On the one hand, the only partial recovery of municipal expenditures from the low point of the depression period might suggest that certain types of expenditures have continued to be deferred and that there is some deficiency of expenditure in comparison with the amount which might be required to fully carry the prevailing services. Such deficiencies would apply in a comparable manner to all zones and would not change the general relationship between the zones. In so far as a large reduction of expenditures has occurred in connection with maintenance and construction of roads it might be indicated that the expenditures shown by the Park belt may show a greater deficiency relative to normally required expenditures than those for the prairie zones.

Table XV Average Tax Levies in Relation to Soil Climatic Zones, Saskatchewan, 1941.

Soil Zone	No. of Municipalities	Avge. Population	Avge. Size in Township	Avge. Total Levy	Total Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Assessment (000's)
				$	$	$	$	$	$	$
Light Brown	92	1,252	9.2	48,838	5,308	17,593	1,912	17,367	1,888	1,985
Dark Brown	94	1,534	8.8	47,667	5,417	17,855	2,029	17,207	1,955	2,362
Black	89	2,311	8.2	39,352	4,799	17,506	2,135	15,470	1,886	1,898
Wooded	11	2,699	8.8	36,409	4,137	17,345	1,971	15,273	1,736	1,568
All Municipalities	286	1,730	8.8	45,023	5,116	17,758	2,018	16,644	1,891	2,066

On this basis the figures of Table XV would indicate what would appear to be a remarkable uniformity in the necessary cost of providing a particular level of services under the widely varying conditions which prevail between the several soil-climatic regions. The relative uniformity of expenditures between zones for each type of service and for all services, in terms on the assumption that they probably relate to reasonably comparable levels of service, suggests that the cost of providing particular services within municipal units represents a relatively fixed amount regardless of the general characteristics of the unit in terms of population density and character of land area.

This general relationship of cost bears out the inferences which might be made with respect to the probable variations in costs of service under various cost conditions. In general it could be inferred that such costs as necessary administrative costs for present municipal units would be likely to constitute a relatively fixed amount in view of the relatively fixed requirements for salaries, facilities and general administrative expenditures. Similarly, it might be inferred that the provision of school and medical services would require relatively fixed requirements of facilities and of teachers' and doctors' salaries. The most significant variations in cost would presumably be associated with road maintenance and construction which would imply variable costs in relation to different requirements of road facilities and different direct costs in building and maintenance.

The relative uniformity of the apparent costs of services between the various zones may indicate the influence of some compensation of cost factors. Thus, in the case of school services, higher requirements of school facilities in the Park belt in relation to the larger populations, might be offset by lower levels of other costs allowed by more efficient use of facilities. Similarly, some aspects of higher costs of roads in the plains regions might be partially offset by higher costs of road construction in the general area of the Park belt. Again, lower costs of some items of administration in the Plains area would conceivably be offset by the higher costs of other items in the Park belt.

In these respects the apparent uniformity of costs of services shown for soil-climatic zones can not be used to support the contention that the costs of maintaining a particular level of services would likely be highly uniform between individual municipal units. It is recognised that the costs of maintaining a particular level of service would show some variations for individual municipal units within soil zones and for units between soil zones. In particular there would be a variation in the cost of maintaining road services, both in terms of differing requirements of services and differing direct costs of road operations. A varied group of other factors would also determine individual differences in costs of service between individual units. In addition there would be variations between the immediate costs associated with particular levels

of service by reason of varying financial management in respect to deferments of costs and different incidences of fixed as against variable costs.

However, the indication of a comparative uniformity in the apparent costs of services for a relatively wide range of cost conditions does probably lend considerable support to the contention that variations in the absolute costs of providing particular services would operate within a relatively limited range for individual municipal units. Thus, smaller ranges of variation in the expenditures made available for various services might be attributable to differences in costs associated with particular cost conditions. Large variations in expenitures for various services, on the other hand, would seem to be indicative of a general difference in the measure of service achieved. This would seem to be true particularly as between groups of municipal units for which differences in the influences of cost conditions and of disparities between immediate expenditures and normal cost of service would tend to be minimized.

While constituting a difficult basis of analysis this general framework of assumption with respect to costs of providing services permits a general indication of the probable variations in the level of service achieved under existing municipal administration. At the same time it allows a general appraisal of the importance of various factors in determining the levels of service attained.

Population Density

The distribution of municipal units by soil-climatic regions showed a wide variation in population density between zones. To indicate directly the association between population density and the probable level of municipal services being maintained, the information in Table XVI was prepared.

Except perhaps for the municipal units with the smallest populations, there was little evidence of a direct relationship of the level of municipal services with the population of the municipal unit. It might be presumed that there would likely be some increase in the absolute costs of services for municipalities with higher populations. This is borne out in the case of the municipal levy where the higher municipal levy reflects the higher costs of road maintenance in the Park belt which is represented mainly in the high population areas. Such moderate increases in costs may be reflected in the moderate general increase in levies which appear to occur in relation to increases in population. The moderate variations in levies between population groups are associated mainly with the differences in financial capacity of the groups of municipalities as indicated by average assessments.

On this basis it would be indicated that there were no significant differences in the level of service maintained in accordance with differences in the tax-supporting population of municipal units. This suggests that the services undertaken by

Table XVl Average Tax Levies Per Municipality and Per Township According to Population of Municipal Unit.

No. of Persons	No. of Municipalities	Avge. Population	Avge. No. of Townships	Avge. Total Levy	Total Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. Assessment (000's)	Avge. Mill Rate
				$	$	$	$	$	$	$	
999 and less	41	781	8.2	32,546	3,969	12,129	1,479	12,827	1,564	1,292	26.0
1,000 - 1,499	102	1,251	8.7	46,578	5,354	16,542	1,901	17,075	1,963	2,132	23.4
1,500 - 1,999	54	1,724	9.1	49,031	5,388	17,937	1,971	19,285	2,119	2,369	22.3
2,000 - 2,499	37	2,249	8.7	46,395	5,333	16,843	1,936	18,743	2,154	2,010	23.6
2,500 - 2,999	30	2,733	8.8	42,937	4,879	17,387	1,976	19,403	2,205	1,988	22.6
3,000 and over	22	3,492	9.1	51,764	5,688	21,005	2,308	22,391	2,460	2,659	20.8
All Municipalities	286	1,730	8.8	45,023	5,116	16,644	1,891	17,758	2,018	2,066	23.3

municipalities have been decided upon more particularly in accordance with the desire for services and the relative capacity to provide such services in terms of a moderate rate of tax levy. The fact that the provision of services on the basis of large differences in population density may have involved considerable variation in the relative burden of taxation, as later indicated, does not appear to have affected significantly the levels of service which have been attempted.

For the group of municipalities with the smallest population the probably lower level of service associated with the significantly lower expenditure is related to a lower financial capacity of such units measured in terms of average assessment. The comparatively higher rate of taxation maintained by this group indicates some attempt at offseting the limitations of lower financial capacity in order to maintain a desired level of service. To the extent that this rate of taxation approached the limit of the possible burden for the tax-paying population represented, this might suggest some influence of population density in determining the level of service which can be achieved.

Size of Municipal Unit

The sizes of municipal units in the Province indicated a variation from a little less than six, to a little more than 14 townships. The relation of varying size of unit with the probable level of service achieved is summarised in Table XVll.

Table XVll Average Tax Levies Per Municipality and Per Township According to Size of Municipal Unit.

No. of Townships	No. of Municipalities	Avge. Population	Avge. No. of Townships	Avge. Total Levy	Total Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. Assessment (000's)	Assessment Per Township (000's)	Avge. Total Mill Rate
6 and under	23	1,211	5.9	$29,522	$5,004	$11,639	$1,973	$12,009	$2,035	$1,382	235.4	22.7
7 - 8	61	1,767	7.6	38,285	5,038	14,402	1,895	16,007	2,106	1,846	241.6	22.5
9	166	1,762	9.1	46,877	5,209	17,227	1,914	18,372	2,041	2,096	232.9	23.8
10 - 11	22	1,835	10.4	50,154	4,822	18,223	1,752	18,823	1,810	2,293	220.3	23.4
12 and over	14	1,869	12.8	69,800	5,453	25,164	1,966	25,893	2,023	3,433	268.5	21.9
Total	286	1,730	8.8	$45,023	$5,116	$16,644	$1,891	$17,758	$ 2,018	$ 2,066	236.1	23.3

Variations in expenditures for various sizes of unit were associated with variations in the average financial capacities for the various size groups. Taking into account the influences of financial capacity it was difficult to conclude that any significant relationship existed between the probable level of services maintained by municipal units and the size of unit. There was a general uniformity in the average expenditure per township for municipal and school services and for the total of all services. Thus, except as differences in expenditures between the various sizes of units may have been associated with a significant difference in the efficiency of expenditure, it would appear that the levels of services maintained by municipal units remained reasonably comparable throughout the range of variation in size of unit.

Financial Capacity

The foregoing relationships were shown to involve a strong interrelationship of financial capacity in determining the level of services achieved by municipal units. The relation of financial capacity is summarised in Table XVlll which shows the average tax levies per municipality and per township in accordance with the aggregate assessment of the municipal unit.

Financial capacity indicated a highly significant relationship with the apparent level of services attained by municipalities. There was a general increase in expenditures for municipal and school services and for all services as the aggregate assessment increased. The average tax levy for all purposes amounted to only $2,755 per township for municipalities with assessments of 0.99 million dollars or less, compared with $5,605 for those

Table XVlll Average Tax Levies Per Municipality and Per Township According to Aggregate Assessment of Municipal Unit.

Assessment	No. of Municipalities	Avge. No. of Townships	Avge. Population	Avge. Total Levy	Total Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Assessment (000's)	Assessment Per Township	Avge. Total Mill Rate
				$	$	$	$	$	$	$		
0.99 million and less	20	8.0	1,194	22,040	2,755	9,715	1,214	9,265	1,158	806	100.8	27.5
1.0-1.49 "	56	8.1	1,413	34,464	4,255	14,645	1,808	13,011	1,606	1,257	155.1	27.4
1.5-1.99 "	92	8.6	1,812	42,376	4,927	17,393	2,022	15,863	1,845	1,757	204.3	23.9
2.0-2.49 "	56	9.0	1,826	50,443	5,605	18,686	2,076	19,007	2,112	2,255	250.5	22.3
2.5-2.99 "	25	9.1	2,077	55,852	6,138	21,460	2,358	20,236	2,224	2,784	306.0	20.0
3.0-3.49 "	19	9.8	1,997	60,516	6,175	21,784	2,223	21,700	2,214	3,197	326.2	18.9
3.5 million and over	18	10.2	1,828	68,683	6,734	25,972	2,546	22,456	2,202	4,786	469.2	15.2
Total	286	8.8	1,703	45,023	5,116	17,758	2,018	16,644	1,891	2,066	234.8	23.3

with assessments of 2.00 to 2.49 million dollars, and $6,734 per township for municipalities with assessments of 3.5 million dollars and over. While a proportion of the increase in expenditures may have resulted from the probable increase in absolute costs associated with the larger populations of the higher assessment groups, the large difference in expenditures is indicative of a wide variation in the levels of service provided.

Some increase in expenditure and apparent level of service was common to all purposes. Expenditures for schools increased throughout the lower assessment groups and then remained relatively stationary, perhaps indicating a comparative saturation in respect of available school services. Expenditures for municipal purposes continued to increase throughout the range of assessments, indicating the probability of more liberal expenditures in administration and continued improvement in the level of road services. A significant increase in expenditure occurred in relation to increases in assessment in connection with other services probably, principally in relation to increased hospital and medical facilities. Taking into account the difference in Public Revenue Tax between municipalities of 1.5 to 1.99 million dollar assessments and those of over 3.5 million dollar assessments, the difference in the average levy for all services per township amounted to about $1,300. Of this amount, about $900 was accounted for by the combined differences in school and

municipal expenditure, the remainder representing an increase in expenditures for other services.

By far the most serious deficiency in apparent level of service occurred in connection with the group of 20 municipal units with extremely low assessments of 0.99 million dollars or less. The ability of these units to function at a reasonable level of service appeared to be almost completely obviated by their inadequate financial capacity. To a less serious degree this absolute limitation of financial capacity applied also to the group of 56 municipalities with the next lowest assessments of 1.0 million to 1.49 million dollars.

In addition to permitting a higher level of service, greater financial capacity was associated with a significant decrease in the rate of tax levy. The average total mill rate decreased steadily from 27.5 to 15.2 mills throughout the range from low to high assessments. The modest mill rates associated with units of high assessment probably suggests that a considerable proportion of the municipal units were utilising their financial capacities to a considerably lesser extent than might be possible in comparison with areas of generally lower financial capacity. On the other hand, the comparably high mill rates for the two groups of municipalities with the lowest assessments suggest that these municipalities were functioning relatively close to the general upper limit of the tax burden which the tax paying populations could be called upon to support. While mill rates as high as 39 mills obtained for individual municipalities, it would appear that these two groups of units were approaching the limit of possibilities for

sustaining their respective services.

Rate of Tax Levy

In view of the seeming importance of the rate of tax levy in offsetting limitations of financial capacity a distribution of municipal units in accordance with the total mill rate was prepared as shown in Table XlX. The wide disparity in the mill rates at which various groups of units were functioning appeared to be significant both in relation to the comparative effort for maintaining services which appeared to exist and in relation to the question of the comparative equality of tax burdens.

The Table indicated a virtually complete offsetting of financial capacity by rate of tax levy, with higher mill rates compensating for lower assessments to provide a generally comparable level of expenditures throughout the range of mill rates. The extremes of an average of 35 mills for 17 municipalities with the highest mill rates, and the average of 15 mills for the 46 municipalities with the lowest mill rates, indicate the wide variation in the comparative extent to which various units seem to be using their financial capacity in providing services. While a considerable number of municipal units functioning on lower mill rates are probably supplying very acceptable services it is questionable whether the large group of units within the range of moderate mill rates are providing services which could be considered adequate in terms of standards conforming to those attained in the best municipalities. In this respect there is a suggestion that

Table XlX Average Tax Levy Per Municipality and Per Township According to Total Mill Rate of Municipal Unit.

Total Mill Rate	No. of Municipalities	Avge. No. of Townships	Avge. Population	Avge. Total Levy	Total Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Assessment (000's)	Assessment Per Township (000's)	Avge. Total Mill Rate
				$	$	$	$	$	$	$		
17 and less	46	8.8	1,818	49,709	5,649	18,387	2,089	17,446	1,983	3,324	377.7	15.0
18 - 20	46	8.7	1,867	43,000	4,943	17,422	2,003	16,370	1,882	2,206	253.6	19.3
21 - 23	57	8.5	1,906	41,981	4,939	16,504	1,942	16,260	1,913	1,902	223.8	22.1
24 - 26	57	8.8	1,700	45,209	5,137	18,486	2,101	16,612	1,888	1,818	206.6	25.0
27 - 29	42	8.8	1,608	45,645	5,187	17,888	2,033	16,905	1,921	1,643	186.7	27.9
30 - 32	21	9.2	1,505	47,581	5,172	18,995	2,065	16,452	1,788	1,545	168.0	30.8
33 and over	17	8.7	1,212	47,406	5,449	16,888	1,941	16,141	1,855	1,352	155.4	35.0
Total	286	8.8	1,730	45,023	5,116	17,758	2,018	16,644	1,891	2,066	234.8	23.3

Table XX Average Tax Levies Per Municipality and Per Township According to Aggregate Assessment and Total Mill Rate of Municipal Unit.

Assessment Millions	Total Mill Rate	No. of Municipalities	Avge. No. of Townships	Avge. Total Levy	Total Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Assessment (000's)	Assessment Per Township (000's)	Avge. Total Mill Rate
				$	$	$	$	$	$	$		
Up to 1.5	Up to 20	10	7.5	25,100	3,347	10,130	1,351	10,420	1,389	1,326	176.8	19.0
	21 - 25	33	7.8	29,073	3,727	13,064	1,675	11,421	1,464	1,256	161.0	23.2
	26 and over	51	8.4	35,824	4,265	14,620	1,740	13,325	1,586	1,171	139.5	30.5
1.6 - 2.0	Up to 20	18	8.3	35,711	4,303	15,189	1,830	14,139	1,703	1,845	222.3	18.4
	21 - 25	31	8.5	41,974	4,938	17,074	2,009	16,158	1,901	1,839	216.3	22.8
	26 and over	33	9.0	50,612	5,624	20,509	2,279	18,221	2,025	1,813	201.4	27.9
2.1 and over	Up to 20	64	9.1	51,419	5,650	19,883	2,185	18,716	2,057	3,249	357.0	16.5
	21 - 25	31	9.6	59,990	6,249	21,490	2,239	21,752	2,266	2,611	272.0	23.0
	26 and over	15	9.9	71,633	7,236	25,513	2,577	24,707	2,496	2,503	252.9	28.6

levels of service for a considerable proportion of municipal units may be deficient by reason of an under-utilisation of financial capacity in comparison with the extent of utilisation of capacity which obtains for some units.

A further distribution of municipal units in accordance with both assessment and rate of tax levy is provided in Table XX. This indicated a degree of disparity in rates of tax levy within varying levels of financial capacity largely comparable to the degree of disparity shown for all units. Of the total of 94 municipal units with assessments of less than 1.5 million dollars, 10 functioned at an average mill rate of 19.0 mills, while 51 functioned at an average rate of 30.5 mills. Similarly, of the total of 120 municipal units with assessments of over 2.1 million dollars, 64 functioned at an average mill rate of 16.5 mills, while 15 functioned at an average rate of 28.6 mills.

The limited extent to which variations in the rate of tax levy can operate to offset limitations of financial capacity was shown clearly by the table. Total tax levies for the municipalities with the highest mill rates in the lowest assessment group still represented only about three quarters of those for the group of municipalities with the lowest mill rates in the highest assessment group. On the other hand, the total levy for municipalities with the highest mill rates in the highest assessment group were practically double those of municipalities with the highest rates in the lowest assessment group. In this respect it was indicated that the financial

capacity of the unit remains far more significant than the rate of tax levy in determining the level of service which can be made possible. Aside from the considerations with respect to equality of taxation which might be involved, a high rate of tax levy, within the practical limits which appear to obtain, offers only limited compensation for low financial capacity.

Efficiency of Administrative Expenditure

The services associated with municipal units include on the one hand the services of administration essential to the maintenance of municipal organisation. On the other hand they include the greater or lesser measure of direct services in the forms of educational services, road services etc. made available to the tax-paying population.

The expenditures for the essential maintenance of administrative services represent a fixed item of expenditure for the municipal unit. In this respect it might be presumed that differences in relative requirements of administrative expenditure and differences in the efficiency of expenditure permitted might bear a relation to the general measure of services provided by the municipality.

The relation of expenditures for administrative services to the financial capacity of municipal units is shown in Table XXl. For all municipalities administrative expenditures represented 19.6 percent of all municipal expenditures and 7.7 percent of the expenditures for all services. On this basis administrative expenditures would appear to occupy a place of relatively limited

Table XXl Administrative Expenditures of Municipalities in Accordance with Assessment of Municipal Unit.

Assessment	No. of Municipalities	Avge. No. of Townships	Avge. Administration Costs	Administration Costs Per Township	Administration Costs as Percent of Municipal Levy	Administration Costs as Percent of Total Levy
			$	$		
Up to 1 million	20	8.0	2,695	336.90	27.8	12.2
1.0 - 1.49 "	56	8.1	3,109	383.80	21.2	9.0
1.5 - 1.99 "	92	8.6	3,437	399.60	19.8	8.1
2.0 - 2.49 "	56	9.0	3,682	409.10	19.7	7.3
2.5 - 2.99 "	25	9.1	3,904	429.00	18.2	7.0
3.0 - 3.49 "	19	9.8	3,710	378.60	17.0	6.1
3.5 million and over	18	10.2	4,311	422.60	16.6	6.3
Total	286	8.8	3,483	395.80	19.6	7.7

importance in the general field of services.

In relation to the financial capacity of municipal units, there was a gradual increase in administrative expenditures as financial capacity increased. On the other hand, administrative expenditures represented a decreasing proportion of municipal expenditures and of the expenditures for all services with increases in financial capacity. Comparable relationships for administrative expenditures were also shown for increases in size of municipal unit, (Table XXl), for increases in the population density of units, and for increases in the total expenditures of units.

The significance of the relationships for administrative expenditure are difficult to interpret in view of the intangibles involved. In so far as administrative expenditures appear to represent a comparatively fixed charge for all municipal units, there would be a difference in the efficiency of expenditure allowed in relation to such factors as the size and population densities of individual units. The somewhat higher incidence of administrative costs for units of small size and sparse population would represent a reduction in the relative amount of expenditure which can be made available for other services. To the extent that an equivalent level of municipal expenditure would serve the needs of a larger unit or a larger population, the increased efficiency of municipal expenditure would add to the amount of other services which could be provided. However,

in relation to the measure of all services provided under municipal administration, the effect of the savings in administrative expenditure associated with factors permitting greater efficiency of expenditure appear to be relatively limited. Total administrative costs constituted only 10 percent of expenditures for all services under conditions allowing relatively inefficient expenditure. On the other hand they represented about 5 percent of all expenditures for situations of at least moderately efficient expenditure. Thus, even with a further possible saving of expenditure, the additional expenditures made available to other services would be equivalent to only a little more than 5 percent of all expenditures. The effect of efficiency of administrative expenditures would appear to be reasonably significant only where they represent a relatively excessive expenditure by virtue of a very low efficiency.

On the other hand it is indicated that there was a general increase in the total expenditures for administrative services in association with the same factors, particularly financial capacity, which were related to an apparent increase in efficiency of administrative expenditure. This might reflect on the one hand a somewhat higher cost of maintaining administrative services in relation to these factors. On the other hand it might also reflect higher expenditures associated with improved administrative services in the form of more adequate or more efficient personnel and more adequate and effective administrative facilities.

Table XXll Administrative Expenditures of Municipalities in Accordance with Size of Unit.

Townships	No. of Municipalities	Avge. No. of Townships	Avge. Administration Costs	Administration Costs Per Township	Administration Costs as Percent of Municipal Levy	Administration Costs as Percent of Total Levy
			$	$		
6 and less	23	5.9	2,800	474.60	23.3	9.5
7 - 8	61	7.6	3,495	459.90	21.8	9.1
9	166	9.0	3,512	390.20	19.1	7.5
10 - 11	22	10.4	3,677	353.60	19.5	7.3
12 and over	14	12.8	3,900	304.70	15.1	5.6
Total	286	8.8	3,483	395.80	19.6	7.7

To the extent that the higher levels of administrative expenditure might be associated with more efficient administrative service, such factor would likely bear a highly significant relationship with the measure of general service provided by various municipal units. In so far as differences in character of administration may determine large differences in the character of services provided and in the general proficiency of expenditure for all services, the general relationship of administrative expenditure would assume far greater significance than can be assumed in respect to the mere possibilities of making savings in expenditures. At the same time, adequate financial capacity which permits a satisfactory level of administrative expenditure to assure efficient administration would assume a high additional significance in relation to the service status of municipal units.

Efficiency in Other Expenditures

Some of the relationships evident with respect to the efficiency of administrative expenditures would appear to be applicable as well to other aspects of municipal expenditure. To the extent that the importance of such other expenditures greatly outweighs the importance of administrative expenditure, the possibility of variations in efficiency of expenditure would suggest significant relationships with the levels of service made available by various municipal units.

The data available for the study did not permit any analysis of probable variations in the efficiency of municipal expenditure

or of factors associated with such differences. However, it is recognised that important variations may have existed or may continue to exist which bear a significant relation to differences in the service status of individual units. It can be suggested that road expenditures by individual municipal units have probably been accompanied by wide variations in the amount and quality of road service provided for the particular expenditure. Differences in efficiency of expenditure in such case may have been related on the one hand to a differing efficiency of administration, in terms of obtaining the best relation of service to expenditure for the method of expenditure involved. On the other hand they may reflect large differences in economy of expenditure through the use of different methods of construction or maintenance or the use of different types of equipment allowing different costs of construction or maintenance. It can also be suggested that there have also probably been large differences in efficiency of expenditure in relation to school services. Relatively significant differences in measure of service may have resulted in relation to varying efficiency of expenditure in terms of original economy of facilities and economy of capital expenditures. In addition, variations in current administration may continue to have a significant influence on the services received for the expenditures maintained.

The extent to which factors inherent in efficiency of expenditure might have affected the levels of service obtaining for various municipal units was not subject to appraisal for the present study.

On the other hand, it was recognised that such factors may be of considerable importance relative to the other factors analysed. At the same time it was recognised that the influences of such factors may account for a considerable range of discrepancy between the levels of service actually obtaining for particular municipal units and the levels which would be imputed to those units in terms of comparative expenditure. In this respect the factor of efficiency of expenditure assumes considerable significance in relation to the possible interpretation allowed by the data on expenditures.

It is probable that comparative efficiency of expenditure may have achieved a relatively distinctive relation to level of service in terms of road services. To the extent that expenditures for road services constitute a large portion of the total of direct expenditures made by municipalities, the economy with respect to road services would be likely to have a significant influence on the whole aspect of municipal services. There would appear to be large differences in the economy with which road services may be provided, particularly in relation to the use made of larger-scale power equipment. In so far as such differences of economy obtain, the extent to which the possibilities of greater economy have been utilised, and the factors such as financial capacity which may have affected the attainment of economy, may have been significant factors in determining the service characteristics of various municipal units.

Table XXlll Average Tax Levies Per Municipality and Per Township According to Total Tax Levy of Municipal Unit.

Total Tax Levy	No. of Municipalities	Avge. Population	Avge. No. of Townships	Avge. Total Levy	Total Levy Per Township	Avge. School Levy	School Levy Per Township	Avge. Municipal Levy	Municipal Levy Per Township	Avge. Assessment (000's)	Assessment Per Township (000's)	Avge. Total Mill Rate
				$	$	$	$	$	$	$		
Less than 30,000	44	1,339	7.8	24,534	3,145	10,109	1,296	10,711	1,373	1,070	137.1	24.1
30,000 - 39,999	72	1,613	8.2	35,828	4,369	13,924	1,698	14,778	1,802	1,665	203.1	22.6
40,000 - 49,999	73	1,929	8.7	44,642	5,131	16,890	1,941	18,158	2,087	1,978	227.3	23.4
50,000 - 59,999	55	1,792	9.2	54,431	5,916	19,600	2,130	20,680	2,248	2,492	270.9	23.5
60,000 and over	42	1,910	10.2	70,593	6,921	23,852	2,338	25,731	2,523	3,392	332.5	23.1
Total	286	1,730	8.8	45,023	5,116	16,644	1,891	17,758	2,018	2,066	234.8	23.3

General Administration

While the character and measure of the services provided by various municipalities seem to show a general relationship with a number of specific factors, the large accompanying variations probably reflect a considerable incidence of differences in the general character of administration to which various units have been subject. The nature of these differences in character of general administration, and their direction and extent of influence in determining the level of service achieved by various municipalities, would hardly permit concrete analysis in terms of the most favourable basis of appraisal which might be made available. Thus they hardly even permit statement in relation to the almost complete absence of information which pertained for this study. However, there would be likely to be important relationships of general characteristics of municipal administration with variations in a large number of aspects of municipal services varying from differences in the general adequacy of service and efficiency of expenditure maintained, to differences in the comparative distribution of services, and down to specific variations in the quantity and quality of individual services.

Similarly, it would at best be difficult to identify the specific factors which might underly differences in characteristics of administration of individual units. General indications would point to a number of more specific influences such as the differing capacities of administrative personnel, differences in initiative, abilities and efforts of municipal councils,

differences in the character of municipal communities in terms of desires for and efforts made to achieve services, and differing attitudes towards effective co-operation between ratepayers and administrators. Such factors in turn probably point to a complex association of additional factors, some representing more or less absolute limitations to the attainment of most effective administration, and others representing factors which might undergo varying degrees of modification.

Table XXlll, which shows the distribution of municipal units according to their total tax levies is indicative of only a part of the extreme variation in the apparent measure of services provided by various municipal units. To the extent that the average shown for all municipalities represents an attainable objective of reasonably adequate service there is indication of a relatively large deficiency on the part of a comparatively large number of units. To the extent that the average for the highest group may represent the objective of desired adequacy of service there is evidence of extreme deficiency with respect to a large proportion of units. In so far as inadequacies of administration are contributing to less effective organisation and utilisation of the capacity of individual units than would be otherwise possible, they are contributing to a general deficiency in provision of services and may constitute an important phase of the general municipal problem.

Relation of Factors to the Incidence of Taxation

The foregoing analysis of costs and adequacy of services indicates that there is a significant variation in the apparent adequacy of the services which have been provided by the rural municipalities. But in addition to this there would appear to be differences in the taxes paid for a given level of services from one area to the next. Indications to this effect are obtained from the data which follow.

The 286 municipalities included in this study were sorted by the major soil zones found in the Province. It may be seen that the total tax levy in the Light Brown Zone amounted to $39.00 per capita in sharp contrast to a total tax levy per capita of $13.50 in the Wooded Zone (Table XXIV). Likewise, the municipal levy varied from an average of $14.10 per capita to $6.40 per capita in the respective zones. School costs in the Light Brown Zone amounted to $13.90 per capita in contrast to $5.70 per capita in the Wooded Zone. To the extent that the contention is correct that the general level of services which obtains in each of the four zones may not vary to a significantly large degree, these data point to a considerable range in the actual taxes paid by persons for services from one zone to the next.

When the municipalities were sorted on another basis, that is, on the numbers of people residing within the municipalities the evidence pointed to a similar conclusion. People residing

Table XXlV Tax Levies of Rural Municipalities According to Soil-Climatic Zones.

Soil Zone	No. of Municipalities	Avge. Population	Avge. No. of Townships	Total Levy Per Person	Municipal Levy Per Person	School Levy Per Person
				$	$	$
Light Brown	92	1,252	9.2	39.00	14.10	13.90
Dark Brown	94	1,534	8.8	31.10	11.60	11.20
Black	89	2,311	8.2	17.00	7.60	6.70
Wooded	11	2,699	8.8	13.50	6.40	5.70
All Zones	286	1,730	8.8	26.00	10.30	9.60

Table XXV The Total Tax Levy Per Person Sorted by Numbers of People Residing in 286 Rural Municipalities.

Number of Persons	No. of Municipalities	Avge. Population Per Township	Total Levy Per Person
999 and less	41	95	41.70
1,000 - 1,499	102	144	37.20
1,500 - 1,999	54	190	28.40
2,000 - 2,499	37	258	20.60
2,500 - 2,999	30	309	15.70
3,000 and over	22	382	14.80
Total	286	198	26.00

in municipalities having a population of less than 1,000 persons paid $41.70 per capita on an average in total taxes as compared with $14.80 per capita where the population numbered 3,000 or more (Table XXV). This wide difference in taxes paid must in reality reflect a higher tax burden in some areas as compared with others in terms of a comparable level of services since the differences in taxes paid per capita would appear to be greater than the differences in services which obtain.

The precise extent of the variations in the taxes paid for a given level of services could not be determined in this study due to the lack of quantitative measures of services received. However, even if such a determination had been possible, the amount of taxes paid does not in itself necessarily reflect the onerousness of the actual tax burden.

There are obviously some areas where the costs of providing a given level of services have been high while, at the same time, the farm organization in general has been such that the individual operators could more easily sustain such a load than could farmers in other areas where the costs of services may have been lower but where the organization of farms has been such as to provide a considerably lower income. In other words, farmers operating units which yield comparatively high incomes may have been able to carry a heavier tax load with no greater sacrifices than other farmers paying lower taxes but receiving lower incomes. Obviously the tax burden is a function of both the actual levy of taxes and the income out of which such a levy must be met. This general observation however, that some people appear to be paying more than others for a given level of services, leaves unsolved the general question of the equity of this condition. To what extent is this variation in the taxes paid justifiable? Do these differences in taxes paid per capita conform to an equitable system of taxation? It is in this connection that the extent of the equity should be considered in terms of both the individual and also in terms of the population of the Province as a whole.

With regard to the individual, the concept of an equitable tax burden would be related to both aspects of "ability to pay" and to "benefits received". That is to say that while an equitable tax system could be related generally to ability to pay it

should also permit an emergence of differences in services provided where the individuals concerned desire to pay for such increments in services. But the benefits accruing from some types of expenditures, such as those made for education, health and perhaps to a lesser extent, roads, are felt over areas far greater than those sustaining the costs of these expenditures. It is therefore reasonable to hold that the tax burden borne by the population as a whole for such expenditures should be equalized to some extent at least. Such an equalization should in turn be related to comparative "ability to pay".

The taxes levied by the rural municipalities of Saskatchewan are determined by the mill rates employed and the assessed value of the land. Therefore in reaching one objective of sound taxation, that of levying taxes in accordance with ability to pay, the need for an assessment reflecting closely the income producing capacity of lands in the Province becomes apparent. Significant progress in this direction has already been taken through continuous improvements in techniques and standards employed in the assessment of lands.

Up to 1914 there were many municipalities that had no assessment valuations of their lands. All lands in the municipalities were taxed on a flat rate per quarter section, both good and poor land bearing the same tax regardless of their productivity. During 1914 the municipalities were ordered to make an assessment of all lands by inspection, based on fair and actual value. This was interpreted to mean sale value at a sale

which was not forced on the part of either the buyer or the seller. This was the first step taken to relate assessment to productivity. The relative scales of assessment valuations used as between rural municipalities, while each municipality made its own assessment, were of no vital import prior to the imposition of property taxes by the provincial government in 1916. With the patriotic revenue tax imposed at a uniform rate (eventually set at 2 mills) to apply on all property, based upon assessment valuation, the matter of relative assessments of municipalities became of real importance. Again with the imposition, by the provincial government, of the wild lands tax, (to replace the sur-tax) on a mill-rate basis, in 1917, it became increasingly important to equalize assessments of land as between the different municipalities.

The work of equalization of assessments was put under the supervision of a Wild Lands Tax Commissioner in 1917 but could not be properly performed under the provisions made. Following this, on the recommendations of a commission appointed to inquire into the problem of equalization of assessments in 1921, the Saskatchewan Assessment Commission was set up. Upon the recommendations of the board of inquiry the commission made a completely new assessment in 1922 with the objective in view that the basis should be uniform over the Province as a whole. The new assessment was based on what assessors thought were fair and just values derived from sale value. New assessments

were to be made every three years in an attempt to keep abreast of changing values. However it became apparent before long that assessment valuations preferably should not fluctuate as widely as sales values since relative stability in assessments is essential to confidence in the credit of municipalities.

Now that the inadequacy of assessment valuations based on market values had become apparent it was thought that the basis of assessment could be further improved. After considerable investigation and study the assessment commission concluded that assessment values need bear no consistent relationship to market values.[9] In an attempt to get valuations that were reasonable, plausible and equitable for tax collection purposes, the Saskatchewan Assessment Commission began a completely new assessment in 1939, based on the "Freeman System". Under this system assessment values are based on the long-time (20 years) productivity and the long-time earning power of the land. The value of the best Regina Plains land was based upon a figure obtained by capitalizing the net income of a section of this land using its long-time normal earning power. This value was then used as a standard in determining the assessment values of all lands in the province of Saskatchewan. All other lands have been assessed in relation to the standard of value by employing an index rating. Thus an indication of the comparative normal earning power of each quarter section of land assessed is being achieved.

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9. Report on Rural Land Assessment in the Province of Saskatchewan, T. H. Freeman, p. 5.

Insofar as the present assessment is related to long-time earning capacity it would appear that the Province has obtained a basis for reducing some of the inequities in the distribution of the tax burden. But it has been shown that taxes levied for education are more than twice as great on a per capita basis in the Light Brown soil zone as in the Wooded zone (Table XXlV, page 72). Similarly, the municipal tax levied per capita in these two zones showed about the same relationship.

The degree of variation shown in the per-capita tax levy would not in all cases indicate a comparable degree of variation in the burden of taxation on the individual taxpayer. In so far as a higher per-capita levy is associated with generally larger sizes of farm units, the burden associated with the high levy would be offset to a greater or lesser extent by the higher income-capacity of the larger size of farm, except in so far as larger size of farm is further offset by low productivity of the land area. This indicates the general complexity of the interrelationships underlying an appraisal of the probable incidence of taxation. It would also be recognised in respect of the above that the practical burden of a particular levy would vary between individual farms by reason of varying income characteristics associated with varying size, soil type, type of farming etc.. This aspect of the incidence of taxation represents a relatively distinctive aspect of the general problem of equality in taxation and was disregarded in the present study.

It was also shown that the mill rate varied from a low of 10 mills to a high of 39 mills. These differences in mill rate are particularly significant in view of the large extent to which the present assessment of lands is based upon their income-producing capacity. Such discrepancies as these indicate the necessity of exploring at least two aspects of municipal affairs — (1) the possibilities of obtaining greater efficiency in the provision of services and thus lower per unit costs and contributing to a greater adequacy and, (2) the possibilities of redistributing the tax burden somewhat to ensure that some municipalities are not paying more than their just share of expenditures, the benefits of which accrue to the population at large.

CONSIDERATIONS RELATING TO REORGANIZATION OF MUNICIPAL UNITS

The proposal for the reorganisation of municipal units, particularly in so far as a general enlargement of the administrative unit may be concerned, can perhaps be examined in terms of the preceding analysis. Such an examination will be concerned on the one hand with the possibilities for extending the adequacy of municipal services over wider areas of the Province through the mediums of a greater efficiency of expenditures and improvement in the financial capacities of units. On the other hand it will be related to the possibilities of overcoming some of the wider inequities of taxation which seem

to exist in association with the present municipal structure.

The higher efficiency obtained in expenditures for administration by the municipalities having the larger tax revenues suggests that the efficiency in this regard of some of the smaller and less efficient units might be increased through an amalgamation of two or more such units into one. Such items as rent of buildings, heat and light would then be greater for the enlarged unit but, due to the larger populations served, the per capita costs would be reduced. Efficiency of administration of the various local offices might also be improved by virtue of a larger scale of operations — records would be more centralized and personnel of better qualifications could be employed. If such a reorganization in terms of size is not carried beyond the practical limits imposed by the physical aspects of communication between the offices and the ratepayers there would appear to be possibilities of obtaining some increase in general administrative efficiency through such reorganization.

Over a period of years the costs of administration, while significant, nevertheless form a much smaller percentage of total municipal expenditures than do road costs. The data presented earlier in this study (Table VII, page 25) indicated that the two items ascribable mainly to roads, namely, Maintenance of Public Works and Capital Expenditures Chargeable to Revenue accounted for 60.8 percent of all municipal expenditures for the period 1922 to 1929. Administration costs accounted

for only 22.5 percent for the same period.[10] Thus the more significant item concerned in the possibilities for reducing costs is the matter of the construction and maintenance of roads.

Data on costs of building and maintaining roads in Saskatchewan are difficult to obtain. However, estimates provided by manufactures of road equipment in the United States furnish a reasonably sound basis for exploring the potential savings to be effected through the use of the larger as compared to the smaller units of road equipment. [11]

In Table XXVll costs of operating Caterpillar tractors and blade graders are given on the basis of cost per hour. Data were not available on the amount of earth moved per hour under similar conditions, thus the figures presented here have not been related to the amount of work performed. While such data would have been helpful it is possible nevertheless to obtain a reasonably good indication from the information available of the savings which can be effected through the use of the larger units of equipment.

It may be seen that as the size of the machinery unit was reduced the total costs decreased. However this decrease in costs was proportionately less than the decrease which could be expected in the amount of work which would be performed by

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10. Data relating to the subsequent years are not representative of the long term picture since the Province, during those years, was preoccupied with problems peculiar to a depression economy. This was followed by wartime shortages of labour and materials.
11. See a publication by the Caterpillar Tractor Company entitled, "Roads, Canals and Embankments with Caterpillar Equipment", Copyright, 1938.

Table XXVI The Effect of Size of Unit on the Costs of Operating Caterpillar Tractors and Blade Grader.[1]

Tractor			Blade Grader			
Size	Horse-power	Cost of Operation Per Hour	Type	Size of Blade	Cost of Operation Per Hour	Total Cost of Operation of Unit Per Hour
		$			$	$
D8	113	3.36	No. 66	12'	1.62	4.98
D7	80	2.86	No. 66	12'	1.62	4.48
D6	55	2.51	No. 44	10'	1.49	4.00
D4	44	1.98	No. 44	10'	1.49	3.47
D2	22	1.74	No. 44	10'	1.49	3.23

1. Detailed costs are provided in Appendix B.

the smaller unit. The total cost per hour of a D8 Caterpillar tractor pulling a No. 66, 12-foot blade Caterpillar grader, under fair working conditions, was $4.98. On the other hand the total cost per hour of a D6 Caterpillar tractor pulling a No. 44, 10-foot blade Caterpillar grader, under similar conditions, was $4.00. Thus with the tractor power more than doubled and an increase in the size of blade used, there was an increase in the total cost per hour of less than 20 percent. In other words, through the use of the larger unit of equipment the capacity was increased at a rate much greater than the attending increase in total cost per hour of operation. Similarly when comparing the largest unit with the smallest the tractor power was increased five times with only a 35 percent increase in total costs per hour.

In some instances municipalities have attempted to get

sufficient power to handle a grader by combining several smaller tractors. The effect of this practise, on costs of operation per hour, becomes obvious from Table XXVl . By using two D2 Caterpillars on a No. 44, 10-foot blade Caterpillar grader the costs of operation were increased to about the same figure as the costs indicated for the D8 tractor and No. 66 grader while at the same time achieving considerably less than half the effective horse-power.

During recent years the elevating grader has become one of the most efficient pieces of road equipment. It has been used for side-casting earth directly into an embankment or fill, and for loading earth into wagons or trucks for transportation to the fill. When operating under favourable conditions, it develops a high rate of output. Furthermore because of its low operating costs, it often proves to be the most economical way of handling earth, even when operating under conditions that reduce the output to less than normal.

The effect of size of unit on the costs of operating Caterpillar tractors and elevating graders is given in Table XXVll. Reliable opinion here is that in order to get the maximum output, the grader must be pulled by a tractor of ample horse-power, such as the Diesel D8.[12] The elevating grader was thus considered only in combination with the larger power units.

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12. Ibid; p. 58.

Table XXVll The Effect of Size of Unit on the Costs of Operating Caterpillar Tractors and Elevating Graders.

Tractor			Elevating Grader				
Size	Horse-power	Cost of Operation Per Hour	Type	Cost of Operation Per Hour 1/	Total Cost of Operation of Unit Per Hour	Cu. Yds. of Earth Moved Per Hour 2/	Cost of Moving Earth Per Cu. Yd.
		$		$	$		Cts.
D8	113	3.36	No. 48 3/	2.76	6.12	406	1.51
D7	80	2.86	No. 42 4/	2.35	5.12	287	1.78

1/Detailed costs are given in Appendix B
2/Estimates based on Table No. 10, p. 19, Caterpillar Performance Handbook
3/48-inch belt with 25-foot carrier
4/42-inch belt with 19-foot carrier

Data on the amount of earth moved per hour was indicated for the two units, under fair working conditions, so that a comparison could be made of the cost per cubic yard of moving earth.

Table XXVll indicates that as the size of unit was reduced the costs decreased but that this decrease in costs was associated with a more than proportionate decrease in the amount of work performed by the smaller unit. The total cost of moving a cubic yard of earth with a Caterpillar D8 and No. 48 grader was 1.51 cents, while for a D7 and No. 42 grader it was 1.78 cents. This implies a saving of 15 percent in total costs through the use of the larger unit.

Table XXVIII The Effect of Size of Unit on the Costs of Operating Caterpillar Tractors and LaPlant-Choate Scrapers

Tractor			Scrapers					
Size	Horsepower	Cost of Operation Per Hour	Type	Size Cu. Yds	Cost of Operation Per Hour 1/	Total Cost of Operation of Unit Per Hour	Hauling a Distance of 400 ft. Cu. Yds. Per Hour 2/	Cost of Moving Earth Per Cu. Yd.
		$			$	$		Cts.
D8	113	3.36	C-86	15.3	1.67	5.03	131	3.84
D7	80	2.86	C-74	9.9	1.20	4006	98	4.14
D6	55	2.51	C-71	6.5	0.87	3.38	60	5.63
D4	44	1.98	C-61	4	0.68	2.66	42	6.33

1/ Details of costs are given in the Appendix B
2/ Estimates based on Table No. 1, p. 6, Caterpillar Performance Handbook.

The same tendency toward reduction in costs of work done may be observed in connection with the use of scrapers. These are used for reducing knolls, filling in dips and sloughs, in preparing "dug-outs" for watering livestock and in construction work connected with small irrigation projects.

The actual use which is made of scrapers in road building and maintenance is relatively far less significant than the use made of other equipment. But even if the proportion of the work performed with scrapers was estimated to be as low as five percent of the total the effectiveness of its use in this work may be fairly significant.

The data in Table XXVlll apply to work performed by scrapers of varying capacity under similar conditions. It may be observed that the larger units again appear to be the more economical from the standpoint of costs per unit of work accomplished. The total cost per hour of operating a Caterpillar D8 tractor and a LaPlant-Choate C-86 scraper was $5.03. The output for this unit, while moving the earth 400 feet, was 131 cubic yards, giving a cost of 3.84 cents per cubic yard of earth moved. On the other hand the total cost per hour of operating a Caterpillar D4 and a LaPlant-Choate C-61 scraper was $2.66. The output for this unit, moving the earth the same distance, was 42 cubic yards per hour, resulting in a cost of 6.33 cents per cubic yard. A saving of 39.4 percent in the cost of moving a cubic yard of earth was effected through the use of the larger unit.

The foregoing data relating to costs of road building and

maintenance are indicative of some of the possibilities of reducing costs and perhaps of providing more and better roads where the municipal unit is able to employ the larger types of equipment. No attempt has been made to compare the efficiency of expenditure in road service on the basis of power equipment with that based on the horse and scraper methods which are still relatively common in present municipal administration. However, there appears to be a general recognition that there is virtually no comparison between the relative quality and economy of road construction and maintainance, using modern power equipment, and using the older methods of horse-power and horse equipment. It might be considered that the latter is virtually obsolete as a practical present-day basis of providing efficient road services.

In view of the significance of road services in municipal administration and, in view also of the seemingly large reductions in costs which seem to be possible with the larger units of equipment, it would seem highly desirable to provide a practical basis whereby efficient equipment in road construction could be made generally available in municipal administration. To the extent that the use of such equipment involves initial outlays beyond the financial and risk capacities of a relatively large number of present municipal units there would be a relation to possible reorganisation which might provide a more adequate financial capacity for such purpose. In so far as the use of such equipment also implies an effective work load to realise efficient expenditure through low cost of services there would

be a more direct relationship with possible reorganisation in terms of the actual size of the unit of administration.

In addition to administration and road services, the provision of educational and medical services has represented an important aspect of municipal administration, and may be assuming increasing importance as municipal functions. The problem of providing necessary education is currently being studied and a general movement towards the establishment of larger school units is in progress. The larger units of school administration have been deemed essential in order to achieve a more effective tax base, to realise economies of expenditure and to allow more effective service through improved techniques of administration. School units, as they stood, found it impossible in many cases to obtain sufficient levies and to use such levies efficiently to build and maintain necessary facilities and to pay the necessary salaries for competent teaching personnel. Through the pooling of the resources of a larger area it is hoped that this situation can be improved materially.

Basically the same problem of limitations of funds confronts the municipalities when trying to provide adequate health services. It requires rather substantial outlays, for example, to obtain the services of a doctor for municipal work and to maintain municipal hospitals. It would appear from the data provided in this study that the ability of various municipalities to carry such costs varies greatly. It will be recalled that 20 municipalities had a total net assessment of less than one million dollars while, at the other extreme, 18 municipalities had an

assessment of 3.5 million or more. Considering these two groups of municipalities in relation to their ability to carry, for example, an expenditure of $5,000 per year for health services it is seen that it would require a mill rate of almost 7 mills for the former group as compared with about one mill for the latter group. Admittedly the higher assessments are associated with larger populations, but the fact remains that the provision of medical facilities could be obtained more easily with a larger tax base. Thus in relation to the opportunities offered by reorganisation, the possibilities of extending the general level of services would appear to relate more particularly to the influence of such reorganisation in altering the relative financial capacity of the unit. Except to the extent that a mere extension of the total tax base on the basis of an enlargement of area could be assumed to result in a greater efficiency of expenditure, the influence of reorganisation in relation to financial capacity would remain significantly greater than its influence in relation to size.

The above considerations in respect of the financial capacity of municipal units relate to the one aspect of financial capacity involving the average net revenue which the unit may be able to make available for its operations. There is a further aspect of financial capacity which also appears to hold considerable significance, namely that of the maintenance of an adequate flow of revenue. This relates more particularly to the ability to accumulate reserves for contingencies and to offset risks to income so as to assure a reasonably sustained financial capacity at a desirable level.

Saskatchewan conditions, implying drastic variations in both the physical and economic aspects of production, would appear to offer a generally severe handicap to municipalities with respect to their ability to maintain a desirable flow of revenue throughout major changes in revenue conditions. It was shown that the revenues of a considerable number of municipalities, by reason of their low tax base, have probably been extremely and consistently small. Such municipalities have most likely had to operate consistently near the margin with little or no opportunities of setting aside reserves for contingencies. This has meant that they have probably been forced to refrain from extending services into forms involving large outlays such as doctor and other medical services, not only because of generally limited finances, but also because of the high risk of not being able to maintain such finances. Again, due to the extreme fluctuations in income, road-maintenance programmes have probably had to be delayed unduly from time to time causing higher costs in the long-run. Similarly, there is a likelihood that such municipalities, and perhaps others with considerably greater financial strength, have not realised greater efficiencies in road services which might have been possible with more efficient equipment by virtue of the high financial risk involved in the provision of larger equipment.

The suggestion that an enlargement of the municipal unit would aid in the maintenance of revenue does not appear to have the same validity for all areas. In some areas of the Province where the tax capacity is uniformly low and where revenues are

highly variable little could seem to be accomplished in the direction of gaining more adequate reserves except as it would be made possible by the reduction in costs or the greater efficiency of expenditure which might accompany a larger scale of operation. The combination of a number of rural municipalities having comparatively low incomes of considerable variability would accomplish little in overcoming the inherent weaknesses in their financial position.

At the other extreme may be considered those areas which are able to rely on comparatively higher incomes subject to less variation. These find it much easier to set aside reserves for years of low income due partly to the lesser degree of variation in production but more particularly because of the greater strength inherent in the larger revenue base. In so far as areas of this type will continue to face a considerable variation in revenues, despite their higher relative stability, there would be some merit in trying to develop a better maintenance of revenues, but possibilities of significant improvement may be relatively limited. The merging of such units would have an influence mainly in relation to the savings or efficiency which might be effected in the provision of services.

Falling between these two extremes are areas in which both situations described above exist in a more heterogeneous pattern. Here the combining of existing units could give the effect of providing a greater financial strength over a larger area in so far as it was based on a merging of areas of weaker strength

with those of greater strength. The ultimate financial strength in such instances and the possibilities of improvement of the situation of revenue maintenance will be closely limited by the sum total of the strengths of the individual areas comprising the group. This fact is important not only from the standpoint of the limitations which it places upon the possibilities of improving municipal finance through the reorganization of the units but also from the standpoint of the way in which it might affect the existing distribution of the tax burden.

The combination of different municipal areas into a single unit would be accompanied by some degree of leveling of any differences existing in the respective tax rates of the individual areas. In other words, residents governed by a mill rate lower than the average of the individual areas would likely be required to accept a moderately higher mill rate unless the effect of the combination of areas, on costs of providing services, would be so favourable as to result in a significant lowering of the over-all rate. This introduces the question of the extent to which there should necessarily be an equalizing of the tax burden between one area and another. It should perhaps be presumed that the unit of administration should be large enough to achieve a reasonable financial capacity coupled with a scale of operations which results in costs of services which are not excessive. A desirable objective in this regard is perhaps that of the provision of a maximum of services at a minimum cost.

But in order to organize a unit which could operate at even moderate costs there would of necessity be included in such a unit parcels of land of varying capacities to produce income. Thus, even if the size of the municipality were to be kept to a minimum and except where there is a complete uniformity of the land area throughout the unit, the better land would be carrying a larger proportionate share of the costs than the land of poorer quality.

The second aspect of the question of the extent to which the better areas should assist those of a lower capacity involves a consideration of the nature of municipal expenditures. At the present time the bulk of the taxes paid in each rural municipality are used to meet costs of road building and maintenance, education and public health. Since it is generally conceded that the benefits of these expenditures are felt by areas much greater in extent than the municipalities concerned with these activities there would appear to be some merit in the opinion that holds that such costs should be borne to some extent by the public generally.

It is evident that this element of subsidy exists within units at the present time and must exist where the canon of "ability to pay" is observed. It would appear to be possible, through reorganization, to establish units, containing both good and poor land, whose income producing capacities would have a narrower range than the municipalities have at present.

Due to the fact that there are large areas of poor land in some sections of the Province the possibility of equalizing the income producing capacity of the units is limited to some extent. To overcome the limitation in the possibility of equalizing the income producing capacity of various units, some over-all subsidy to assist the units with the lower financial capacity would seem justifiable in view of the wide diffusion of the benefits accruing from municipal expenditures.

The foregoing analysis, while it indicates the probable direction of the effect of enlarging the municipal units on the various considerations involved, does not indicate the specific organization which would be considered most desirable. Rather, the study has been undertaken with a view to uncovering the factors involved and the probable direction of the effect on these factors if the units were to be enlarged. While the evidence points to the conclusion that certain benefits would accrue from such reorganization the actual policy must of necessity be framed in terms of the practical considerations involved.

In the first place the actual extent of the probable benefits would have to be appraised quantitatively. This appraisal would conceivably reveal differences from one area to the next. In the second place there would be natural, economic and human factors which would place limits upon the possible net benefits associated with enlarging the municipal units. Finally, policy would depend upon the views of the people concerned as to the probable benefits received and any offsetting disadvantages which might result.

SUMMARY

At the present time the organization and functions of rural municipal government in Saskatchewan are being studied and widely discussed throughout the Province. The interest derives from a point of view which has come to the fore maintaining that rural municipal government could possibly be improved through the reorganization of the existing units of local government. This school of thought contends that the municipal units, as presently constituted, do not meet the standards desired. It is argued that fundamental changes, such as those which have occurred in transportation, farm organization and in the services required of the local governments, have occurred since the present units were established in 1909 and, that, these changes necessitate a reorganization of municipalities into units which recognize and meet more adequately the needs occasioned by such fundamental changes in the rural social and economic structure. It is recognized however that the social process is complex and that any changes made should be effected only in the light of all the available evidence which can reasonably be summoned to expose the implications of any action which may be contemplated.

This study was undertaken with a view to obtaining some insight into the more important factors involved in any reorganization of the municipal units as presently constituted. The analysis was confined to the 286 municipalities which had been re-assessed by the Saskatchewan Assessment Commission. Data provided by the Saskatchewan Assessment Commission and by

the Department of Municipal Affairs at Regina, Saskatchewan were drawn upon extensively.

A historical review of the earlier periods in the settlement of Saskatchewan showed a definite trend toward improved rural municipal organization. For instance, several changes in the physical size and financial organization of local government had taken place before the present nine-township units were established in 1909. However after the organization of the present units took place changes in total populations, in population densities, in communication facilities and other factors have occurred in many cases. These changes have altered the scope of the activities of the individual municipalities creating rather formidable problems for many of these units. Among other things, the extreme diversity of character of the present rural municipalities (in terms of differences in population, differences in financial character and differences in the organization of finances) point to probable variations in the character of services rendered by the different units and in the incidence of the costs of such services upon the individual taxpayers.

Up to the present the rural municipality, as the principal agency of local self-government, has performed the function of collector of all property taxes and levies that the rural population has had to pay. In addition, it has spent substantial sums of money — money collected for the purpose of providing municipal services. Apart from the outlays for education the

largest part of these expenditures in the past has been made for the construction and maintenance of roads. A considerably smaller expenditure has been made for the purpose of providing the necessary municipal administration. Among the numerous other smaller expenditures have been those arising out of the provision of public health services.

During the difficult years of the 'thirties, funds were extremely limited and this resulted in severe reductions in expenditures for schools, roads and for telephone services. Following these years capital replacements and expansion have been negligible due to the limitations imposed by a war economy. This means that the activities of municipal governments will, in the near future, be concerned mainly with the restoration of educational facilities and teachers' salaries and with the construction and repair of public works. In addition, the heretofore relatively insignificant expenditures made for public health and recreation will likely be increased considerably.

Looking to the future therefore, two aspects of municipal government should be considered. First the nature and causes of any existing shortcomings should be ascertained. In the second place the factors involved should be related to probable future changes in municipal functions.

The wide variations among the municipal units in respect of populations serviced, financial capacities, tax levies and mill rates are indicative of possibilities of wide differences

in capacity for providing acceptable services to the taxing group concerned. At the same time they are suggestive of probable differences in the levels of services achieved by different units and in the comparative equity of taxation between various groups of taxpayers.

Of the 286 rural municipalities included in this study 20 had an average assessment of less than one million dollars while 18 of them had an average assessment of almost five million dollars. The total range for the entire group was from a low of $505,545 to a high of $7,741,561. By far the greatest majority of the rural municipalities fell in the assessment range of from one million to three million dollars, with the average for the 286 municipalities being $2,066,043.

Large variations in the levies provided are in evidence under the present system of organization. Forty-four rural municipalities had an average total tax levy of $24,534 while 42 had an average total tax levy almost three times as high, being $70,593. The lowest total tax levy for one municipality amounted to $11,591 while the highest was $112,073, or almost ten times as large.

In view of the significance of road services in municipal administration and, in view also of the seemingly large reductions in costs which seem to be possible with the larger units of equipment, it would seem highly desirable to provide a practical basis whereby efficient equipment in road construction could be made generally available in municipal administration.

To the extent that the use of such equipment involves initial outlays beyond the financial and risk capacities of a relatively large number of present municipal units there would be a relation to possible reorganization which might provide a more adequate financial capacity for such purpose.

The ability of municipal units to provide a desirable level of services would appear to be affected by a number of factors. It would seem on the one hand to be related to the costs at which various services can be provided in terms of the various conditions determining such costs. On the other hand, it would be related to the comparative financial capacity of the municipal unit in terms of its tax-producing capacity. Again, it would have a relation to the acceptability of a particular tax burden to the taxing population as determined by the tax levy which they would be willing to provide for a particular level of service. Further than this it would have a relation to the way in which the financial capacity of the unit is organized to provide the levies required for the various services, and to the efficiency of expenditure which is achieved in obtaining the maximum of services for the funds disbursed. The latter in particular would be a direct function of the administrative efficiency which is achieved in the administration of the individual unit.

Of the factors related to the provision of services, financial capacity (in terms of aggregate assessment) appeared to

be the most significant. This would suggest that if reorganization is attempted it should be related more particularly to obtaining the desired financial capacity for each unit proposed rather than to any standards in terms of area.

APPENDIX "A".

Table 1 Tax Levies and Tax Collections for all Rural Municipalities, 1922-1942 ♯

Year	Total Tax Levies (thousands of dollars)	Taxes Collected	Collections as Percent of Levy.
1922	18,497	19,317	104.4
1923	18,506	18,090	97.8
1924	17,959	18,246	101.6
1925	17,784	19,359	108.9
1926	18,019	18,151	100.7
1927	17,918	18,114	101.1
1928	19,036	18,795	98.7
1929	19,113	17,947	93.9
1930	19,559	12,511	64.0
1931	16,394	10,271	62.6
1932	14,566	10,030	68.8
1933	11,870	8,751	73.9
1934	11,672	9,408	80.6
1935	11,956	9,289	77.7
1936	11,154	9,057	81.2
1937	11,096	4,318	38.9
1938	12,002	7,117	59.3
1939	11,776	12,388	104.8
1940	12,920	11,888	92.0
1941	12,877	11,965	92.9
1942	13,386	14,009	104.6

♯ From Annual Reports of Department of Municipal Affairs, Regina, Saskatchewan.

Table 11 Expenditures of all Rural Municipalities, 1922-42 #

	1922-23		1923-24		1924-25	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
Administration	1,599	29.5	1,555	27.8	1,445	25.7
Protection Person and Property	376	7.0	291	5.2	213	3.8
Maintenance Public Works	1,948	36.0	1,956	34.9	1,827	32.4
Health and Sanitation	36	0.7	43	0.8	49	0.9
Medical Services, Recreation, and Charities	355	6.6	374	6.7	400	7.1
Debenture Charges	170	3.2	167	3.0	159	2.9
Capital Expenditure	925	17.0	1,213	21.6	1,530	27.2
Reserves	--	--	--	--	--	--
Total Expenditure	5,410	100.0	5,600	100.0	5,625	100.0

	1925-26		1926-27		1927-28	
	1,347	23.0	1,262	20.0	1,254	18.3
	212	3.6	228	3.7	241	3.5
	1,861	31.7	1,897	30.1	2,253	32.9
	43	0.7	54	0.9	51	0.8
	470	8.0	517	8.2	600	8.8
	157	2.6	145	2.3	140	2.0
	1,561	26.5	1,998	31.8	2,154	31.4
	225	3.9	190	3.0	161	2.3
	5,875	100.0	6,291	100.0	6,854	100.0

From Annual Reports of Department of Municipal Affairs

Table 11 Cont'd Expenditures of all Rural Municipalities, 1928-42.

	1928-29		1929-30		1930-31	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
Administration	1,279	17.	1,358	16.7	2,615	17.6
Protection Person and Property	257	3.	316	3.9	1,731	11.7
Maintenance Public Works	2,452	32.	2,455	30.1	3,085	20.8
Health and Sanitation	50	1.	72	0.9	674	4.5
Medical Services, Recreation, and Charities	592	8.	905	11.1	2,002	13.5
Debenture Charges	126	2.	114	1.4	1,865	12.5
Capital Expenditure	2,733	36.	2,758	33.9	2,556	17.1
Reserves	117	2.	158	2.0	344	2.3
Total Expenditure	7,606	100.	8,135	100.0	14,872	100.0

1931-32		1932-33		1933-34	
1,834	25.3	1,881	37.6	1,778	36.
259	3.6	218	4.3	277	6.
1,879	26.0	872	17.4	971	20.
51	0.8	25	0.5	23	0.5
914	12.7	890	17.9	908	18.
103	1.4	90	1.9	62	1.5
1,598	22.0	247	5.0	232	5.
600	8.2	771	15.4	688	14.
7,238	100.0	4,997	100.0	4,938	100.0

Table 11 Cont'd - Expenditures of all Rural Municipalities, 1922-42

	1934-35		1935-36		1936-37	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
Administration	1,882	36.2	1,968	36.4	1,979	35.5
Protection Person and Property	359	6.9	150	2.8	123	2.1
Maintenance Public Works	1,096	21.0	1,152	21.3	1,319	23.7
Health and Sanitation	22	0.4	28	0.5	28	0.5
Medical Services, Recreation and Charities	954	18.3	1,073	19.8	1,085	19.4
Debenture Charges	32	0.7	26	0.5	21	0.3
Capital Expenditure	227	4.4	195	3.7	262	4.8
Reserves	631	12.1	808	15.0	760	13.7
Total Expenditure	5,204	100.0	5,399	100.0	5,576	100.0

	1937-38		1938-39		1939-40	
	1,682	34.	2,262	39.9	2,519	41.7
	111	2.	137	2.4	158	2.6
	1,017	20.	1,015	17.9	1,427	23.6
	17	0.5	12	0.2	16	0.3
	1,215	24.	1,286	22.5	1,176	19.4
	16	0.5	13	0.2	13	0.2
	172	4.	135	2.3	167	2.8
	773	15.	823	14.5	569	9.4
	5,003	100.0	5,682	100.0	6,045	100.0

Table 11 Cont'd - Expenditures of all Rural Municipalities, 1922-42

	1940-41		1941-42		1942-43		1922-29		1932-39	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total				
Administration	2,451	38.9	2,255	35.	2,231	35.4	9,741	22.5	13,432	36.5
Protection Person and Property	80	1.2	72	1.	94	1.4	1,819	4.2	1,375	3.8
Maintenance Public Works	1,700	27.0	1,687	26.	1,507	24.0	14,195	32.8	7,441	20.2
Health and Sanitation	19	0.2	16	0.5	21	0.2	325	0.8	155	0.4
Medical Services, Recreation and Charities	1,210	19.2	1,294	20.	1,282	20.4	3,308	7.6	7,411	20.1
Debenture Charges	13	0.2	20	0.5	51	0.8	1,065	2.5	260	0.7
Capital Expenditure	235	3.7	322	5.	268	4.5	12,115	28.0	1,470	4.0
Reserves	604	9.6	729	12.	838	13.3	693	1.6	5,253	14.3
Total Expenditure	6,311	100.0	6,394	100.0	6,293	100.0	43,261	100.0	36,800	100.0

Table 111 Total Property Tax Levies of Rural Municipalities ♯

	1922-23		1923-24		1924-25	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
General Municipal Levy	6,024	32.6	5,924	32.0	5,713	31.8
Drainage Tax Levy	9	0.1	14	0.1	15	0.1
Telephone Tax Levy	1,872	10.1	1,875	10.1	1,875	10.4
Hail Tax Levy	1,096	5.9	1,386	7.5	994	5.5
School Tax Levy	7,092	38.3	6,884	37.2	6,944	38.7
Wild Land Tax Levy	658	3.6	668	3.7	636	3.5
Public Revenue Tax Levy	1,742	9.4	1,749	9.4	1,779	10.0
Total	18,497	100.0	18,506	100.0	17,959	100.0

1925-26		1926-27		1927-28	
5,637	31.7	5,586	31.0	5,795	32.3
16	0.1	17	0.1	21	0.1
1,876	10.6	1,877	10.4	1,897	10.6
1,127	6.3	1,380	7.6	1,430	8.0
6,813	38.3	6,942	38.5	7,092	39.6
542	3.0	443	2.4	350	2.0
1,769	10.0	1,771	10.0	1,330	7.4
17,783	100.0	18,019	100.0	17,918	100.0

♯ From Annual Reports of Department of Municipal Affairs, Regina, Saskatchewan.

Table 111 Cont'd - Total Property Tax Levies of Rural Municipalities

	1928-29		1929-30		1930-31	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
General Municipal Levy	6,132	32.3	6,542	34.2	6,554	33.5
Drainage Tax Levy	21	0.1	21	0.2	24	0.1
Telephone Tax Levy	1,937	10.3	1,958	10.2	1,904	9.8
Hail Tax Levy	1,864	9.9	1,421	7.5	2,025	10.3
School Tax Levy	7,380	38.9	7,597	39.8	7,513	38.4
Wild Land Tax Levy	264	1.5	213	1.1	176	0.9
Public Revenue Tax Levy	1,335	7.0	1,356	7.0	1,359	7.0
Total	19,036	100.0	19,112	100.0	19,558	100.0

1931-32		1932-33		1933-34	
5,735	35.0	4,817	33.0	3,914	33.1
22	0.1	21	0.1	21	0.2
1,736	10.7	1,494	10.3	1,193	10.1
1,135	7.0	1,398	9.7	873	7.4
6,248	33.6	4,889	33.6	3,930	33.2
157	0.9	139	0.9	115	0.9
1,358	8.2	1,804	12.4	1,790	15.1
16,394	100.0	14,565	100.0	11,839	100.0

Table 111 Cont'd - Total Property Tax Levies of Rural Municipalities

	1934-35		1935-36		1936-37	
	Amount ($000's)	Percent of Total	Amount ($000's)	Percent of Total	Amount ($000's)	Percent of Total
	$		$		$	
General Municipal Levy	3,994	34.2	4,215	35.3	4,612	38.6
Drainage Tax Levy	21	0.1	22	0.1	20	0.1
Telephone Tax Levy	1,013	8.7	725	6.0	503	4.6
Hail Tax Levy	1,063	9.1	1,357	11.4	695	6.2
School Tax Levy	3,731	32.0	3,820	32.0	3,877	34.7
Wild Land Tax Levy	71	0.7	47	0.3	--	--
Public Revenue Tax Levy	1,775	15.2	1,766	14.9	1,753	15.8
Total	11.671	100.0	11.955	100.0	11,154	100.0

	1937-38		1938-39		1939-40	
	4,612	41.6	4,734	39.4	4,814	40.9
	22	0.2	20	0.1	20	0.1
	400	3.6	403	3.4	363	3.1
	335	3.0	1,189	9.9	992	8.4
	4,000	36.0	3,949	33.0	3,882	33.0
	4	0.1	--	--	--	--
	1,720	15.5	1,703	14.2	1,702	14.5
	11.096	100.0	12,002	100.0	11,776	100.0

Table 111 Cont'd -Total Property Tax Levies of Rural Municipalities

	1940-41		1941-42		1942-43	
	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total	Amount (000's) $	Percent of Total
General Municipal Levy	5,218	40.4	5,307	41.2	5,404	40.4
Drainage Tax Levy	21	0.1	20	0.2	20	0.1
Telephone Tax Levy	373	3.0	372	2.9	392	3.0
Hail Tax Levy	1,153	9.0	954	7.4	1,182	8.9
School Tax Levy	4,567	35.3	4,767	37.0	4,983	37.2
Wild Land Tax Levy	--	--	--	--	--	--
Public Revenue Tax Levy	1,586	12.2	1,452	11.3	1,402	10.4
Total	12,919	100.0	12,876	100.0	13,386	100.0

1922-29		1932-39	
40,814	32.0	30,587	36.3
115	0.1	115	0.2
13,213	10.3	5,735	6.8
9,279	7.3	6,913	8.2
49,151	38.5	28,198	33.5
3,564	2.8	378	0.4
11.478	9.0	12,314	14.6
127,720	100.0	84,285	100.0

Table 1V Administrative Expenditures of Municipalities in Accordance with Number of Persons Per Municipality.

No. of Persons	No. of Municipalities	Avge. No. of Townships	Avge. Administration Costs	Administration Costs Per Township	Administration Costs as Percent of Municipal Levy	Administration Costs as Percent of Total Levy
Up to 999	41	8.2	2,871	350.10	22.3	8.8
1,000 - 1,499	102	8.7	3,371	387.50	19.7	7.2
1,500 - 1,999	54	9.1	3,578	393.20	18.6	7.3
2,000 - 2,499	37	8.7	3,700	425.30	19.7	8.0
2,500 - 2,999	30	8.8	3,763	427.60	19.3	8.8
3,000 and over	22	9.1	4,164	457.60	18.6	8.0
All Municipalities	286	8.8	3,483	395.80	19.6	7.7

Table V Administrative Expenditures of Municipalities in Accordance with Total Tax Levy of Municipal Unit.

Total Tax Levy	No. of Municipalities	Avge. No. of Townships	Avge. Administration Costs	Administration Costs	Administration Costs Per Township	Administration Costs as Percent of Municipal Levy
Up to 29,999	44	7.8	2,795	358.30	26.1	11.4
30,000 - 39,999	72	8.2	3,244	395.60	22.0	9.1
40,000 - 49,999	73	8.7	3,692	424.40	20.3	8.3
50,000 - 59,999	55	9.2	3,751	407.70	18.1	6.9
60,000 and over	42	10.2	3,898	382.20	15.1	5.5
All Municipalities	286	8.8	3,483	395.80	19.6	7.7

Table V1 Administrative Expenditures of Municipalities in Accordance with Assessment of Municipal Unit.

Assessment	No. of Municipalities	Avge. Council Indemnity	Avge. Maintenance Public Works	Avge. Salaries	Avge. Collector Expense	Avge. Auditors Fees	Avge Stationery Costs	Avge. Rent Costs	Total Administration Costs
Less than 1 million	20	477.00	220.60	1,267.00	147.00	192.60	309.20	86.00	2,699.40
1 - 1.49	56	528.90	286.60	1,513.90	139.90	188.60	370.60	84.40	3,112.90
1.5 - 1.99	92	558.80	352.20	1,689.60	131.80	197.60	378.10	115.30	3,423.40
2.0 - 2.49	56	560.40	350.60	1,837.00	131.80	210.70	436.90	143.10	3,670.50
2.5 - 2.99	25	565.20	440.00	1,966.80	178.60	211.20	391.80	145.40	3,899.00
3.0 - 3.49	19	579.10	425.50	1,906.80	52.80	188.40	463.30	106.30	3,722.20
3.5 and over	18	609.60	469.30	2,207.20	234.40	229.70	433.80	138.80	4,322.80
All Municipalities	286	552.60	349.80	1,725.70	139.90	200.70	393.70	116.20	3,478.60

Table V11 Individual Administrative Expenditures of Municipalities as Percent of Total Administrative Expenditures in Accordance with Assessment of Municipal Unit.

Assessment	No. of Municipalities	Council Indemnity as Percent of Costs	Maintenance Public Works as Percent of Costs	Salaries as Percent of Costs	Collector Expense as Percent of Costs	Auditors Fees as Percent of Costs	Stationery Costs as Percent of Costs	Rent Costs as Percent of Costs	Total Percent of all Costs
Less than 1 million	20	17.7	8.2	46.9	5.4	7.1	11.5	3.2	100.0
1 - 1.49	56	17.0	9.2	48.6	4.5	6.1	11.9	2.7	100.0
1.5 - 1.99	92	16.3	10.3	49.4	3.8	5.8	11.0	3.4	100.0
2.0 - 2.49	56	15.3	9.6	50.0	3.6	5.7	11.9	3.9	100.0
2.5 - 2.99	25	14.5	11.3	50.4	4.6	5.4	10.0	3.7	100.0
3.0 - 3.49	19	15.6	11.4	51.2	1.4	5.1	12.4	2.8	100.0
3.5 and over	18	14.1	10.5	51.1	5.4	5.3	10.0	3.2	100.0
All Municipalities	286	15.9	10.0	49.6	4.0	5.8	11.3	3.3	100.0

APPENDIX "B"

Table 1 Estimated Hourly Cost of Owning and Operating "Caterpillar" Blade Graders. 1/

Model	No. 66	No. 44 Power Controlled
Working Conditions	Fair	Fair
Cost of Supplies Per Hour:	$	$
Grease @ 12¢ per lb.	.014	.012
Gasoline @ 15¢ per gal.	.067	.060
Lubricating oil @ 60¢ per gal.	.010	.010
Cutting edges	.046	.033
Total	.137	.115
Fixed Cost Per Hour:		
Interest, Taxes, Insurance, etc. (10% of Avge. Inv. per year)	.098	.079
Depreciation, complete writeoff	.246	.199
Repairs	.139	.097
Total	.483	.375
Operator Cost Per Hour:	1.00	1.00
Estimated hourly cost of owning and operating	1.62	1.49

1/ Caterpillar Performance Handbook, p. 48.

Table 11 Estimated Hourly Cost of Owning and Operating "Caterpillar" Elevating Graders 1/

Model	No. 48 Elevating Grader (Diesel) 25' Carrier	No. 42 Elevating Grader (Diesel) 19' Carrier
Working Conditions	Fair	Fair
Cost of Supplies per Hour:	$	$
Diesel Fuel @ 8¢ per gal.	.168	.128
Gasoline @ 15¢ per gal.	.021	.018
Lubricating oil @ 65¢ per gal.	.052	.048
Grease @ 12¢ per lb.	.066	.060
Belts and disks	.533	.400
Total	.840	.654
Fixed Cost per Hour:		
Interest, Taxes, Insurance, etc. (10% of Avge. Inv. per year)	.131	.127
Depreciation, complete writeoff	.528	.402
Repairs, including labor	.261	.167
Total	.920	.696
Operator Cost per Hour:	1.00	1.00
Estimated hourly cost of owning and operating	2.76	2.35

1/ Caterpillar Performance Handbook, p.50.

Table 111 Estimated Hourly Cost of Owning and Operating "Caterpillar" Track-Type Tractors on Construction Work. 1/

	D8	D7	D6	D4	D2
Working Conditions	Fair	Fair	Fair	Fair	Fair
Cost of Supplies Per Hour:	$	$	$	$	$
Diesel Fuel @ 8¢ per gal.	.408	.300	.248	.148	.112
Gasoline @ 15¢ per gal.	.023	.021	.020	.018	.017
Lubricating oil @ 65¢ per gal.	.109	.080	.066	.047	.038
Grease @ 12¢ per lb.	.030	.024	.018	.012	.008
Total	.570	.425	.352	.225	.175
Fixed Charges Per Hour:					
Interest, Taxes, Insurance, etc. (10% of Avge. Inv. per year)	.198	.151	.126	.074	.055
Depreciation, complete writeoff	.793	.601	.506	.294	.224
Repairs, including labor	.806	.683	.526	.387	.286
Total	1.797	1.435	1.158	.755	.565
Operator Cost Per Hour:	1.00	1.00	1.00	1.00	1.00
Estimated hourly cost of owning and operating.	3.36	2.86	2.51	1.98	1.74

1/ Caterpillar Performance Handbook, p. 45.

Table 1V Estimated Hourly Cost of Owning and Operating Tractor Drawn Scraper LaPlant-Choate. (Including Power Control) 1/

Model	C-86	C-74	C-71	C-61
Rated Capacity: Heap Measure-Cu. Yd.	19	12	8.2	5.5
Struck Measure-Cu. Yd.	15.3	9.0	6.5	4.1
Working Conditions	Fair	Fair	Fair	Fair
Cost of Supplies Per Hour:	$	$	$	$
Grease @ 12¢ per lb.	.096	.084	.084	.084
Hyd. Cyl. oil @ 60¢ per gal.	--	-	.060	.060
Consumed parts (Cutting edges, cable, etc).	.390	.270	.170	.116
Total	.486	.354	.314	.260
Fixed Charges Per Hour:				
Interest, Taxes, Insurance, etc. (10% of Avge. Invest. per year)	.178	.128	.084	.063
Depreciation, complete writeoff	.597	.438	.273	.212
Repairs, including labor - tires	.409	.280	.199	.144
Total	1.184	.846	.566	.420
Estimated Hourly Cost of Owning and Operating	1.67	1.20	.87	.68

1/ Caterpillar Performance Handbook, p. 51.

Table V An Array of Estimates Made by Seventeen Rural Municipal Secretaries on Road Mileage, 1945.

Miles of Road in Land Survey	Present No. of Miles of Fair Road	Miles of Road to be Constructed
754	385	75
670	173	210
592	294	130
555	200	230
523	425	60
512	150	200
504	118	142
486	120	240
486	200	180
486	135	185
474	125	240
468	185	165
468	220	150
440	209	141
430	430	-
400	138	145
320	160	80