WEST HAMILTON,
A study in urban geography.

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M.F.C.
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INTRODUCTION.
Introduction.

Much has been written about Hamilton and its immediate vicinity. Some studies are historical in nature, others are economic and several are geographical. However there have not been any complete and detailed geographical treatments on the subject. There is still much to say about the physical and the human environment and how one was modified by the other. Unfortunately the topic is so extensive that it cannot be fully and adequately treated within the limits of this work. Instead, a subdivision of Hamilton has been chosen. We took as our study area the Western districts known locally as West Hamilton and Westdale (1). This area is limited on every side except the East by the city limits. The Eastern border is formed by a railway which runs approximately North-South and which seemed quite convenient.

West Hamilton seems very interesting indeed. In some ways, it reflects man's work upon nature and, in others, the influence of the environment on man himself. In certain cases, West Hamilton appears very uniform and integrated and, in others, it seems very heterogeneous. In some places, it looks self-sufficient and, in other places, it does not. West Hamilton is a product of very intriguing forces. In that sense, it resembles most urban centres in a new country such as Canada.

(1). This terminology, being somewhat ambiguous, has been replaced by more adequate names for the purposes of this thesis. The term "West Hamilton" shall be understood to include the entire study area. "Westdale" will refer to that section which is North of Main Street West and "South-West Hamilton" to the section South of Main street West (see map #8 page ).
It is therefore our purpose to make a detailed geographical description of the result of the interplay between nature and man as seen in West Hamilton. We hope to demonstrate how and why this urban centre looks so interesting.

In chapter one, the general physical background and the setting of West Hamilton will be reviewed. Next, in chapter two, we will study the historical development. Keeping in mind the influence of the physical landforms and history, the present land use will then be described in detail along functional lines. Chapter four will attempt to point out some of the problems which affect West Hamilton. In view of these developments we will try to form a synthesis in tracing the future trends of the area. Finally, a summary will conclude this thesis.
Chapter one:

PHYSICAL GEOGRAPHY.
PHYSICAL GEOGRAPHY.

I. Setting.

One of Canada's largest urban centres is the city of Hamilton. Ranking sixth in the Canadian urban hierarchy, the city proper has a population of about 250,000 which occupy the extreme Western end of lake Ontario, some forty miles South-West of Toronto and West of Niagara Falls. (See fig. 1, page 6).

The greater part of Hamilton is found on a lowland which borders lake Ontario. This mildly rolling lake plain is bordered by a very steep escarpment, the Niagara escarpment or, as it is known locally, the "Mountain". It is found some three miles inland from the lakeshore in Hamilton but in other areas winds further away from the lake. At the very head of lake Ontario, there are two sub-parallel sand bars which enclose small bays as may be seen on fig. 1 on page 6. The smaller bay which is to the West is known as Coote's Paradise or the Dundas Marsh. The larger body of water is called the Burlington Bay, Macassa lake or even the Hamilton Harbour.

West Hamilton is found immediately to the South of the Dundas marsh. The greater part of the area is flattish except for several gullies along the marsh and a ravine which runs Eastward and then turns Northward. It is this last valley, the Chedoke valley, which forms an approximate Eastern physical limit to West Hamilton. The Western border runs along a similar, but deeper, depression. The Niagara escarpment forms the Southern limit of the study area.

II. Physiography and glacial history.

In explaining the present landforms, a short description of
the late glacial history of Southern Ontario will be necessary because the majority of the physical features of West Hamilton have resulted directly or indirectly from glaciation. The main exceptions include the Niagara escarpment and the Dundas valley which are pre-glacial features.

During the last glacial epoch, the Pleistocene, a huge glacier covered all of Southern Ontario. When the Wisconsin ice sheet as is called the last of a series of continental glaciers, started to melt, it split into two major lobes, the Ontario-Erie lobe to the South-East and the Kawartha lobe to the North-West (1). These masses of ice are responsible for many landforms which are seen to-day in Southern Ontario including kame moraines and drumlins some of which lie immediately to the North-West of West Hamilton. Other features include spillways. The Dundas valley, as was said above, is pre-glacial but it served as a spillway and was therefore somewhat modified by fluvio-glacial waters. This stream eroded parts of the upper valley but deposited sediments in a delta at its mouth. It is upon such flat lying sediments that is built West Hamilton. The glacial waters then entered lake Iroquois, the immediate predecessor of lake Ontario (fig. 3, page 9).

Lake Iroquois was different from lake Ontario in several ways. One was that its level was about 115' above the present level. Thus the lowlying till plain which borders lake Ontario was submerged. Another cause for difference is that the outlets were along the Hudson-Mohawk gap instead of the St. Lawrence valley which was still covered with ice.

As the glacier kept on melting, the St. Lawrence river was freed (1). Chapman and Putnam, Physiography of Southern Ontario (1951) p.25.
WEST HAMILTON.

CONTOUR MAP.

1" = 1524'.

CITY LIMITS.

CONTOUR INTERVAL: 25'.

M.F.C.

MAP 2.
THE EXTENT of LAKE IROQUOIS.

AFTER: PUTNAM & CHAPMAN.

M. F. C.

MAP 3.
PHYSIOGRAPHIC MAP

HAMILTON AREA.

1 INCH = 4 MILES.

SPILLWAY.

BEACH & SHORECLIFFS.

ESCARPMENT.

SANDPLAIN.

TILL PLAIN.

SWAMP.

AFTER PUTNAM & CHAPMAN

M.F.C.

MAP 4.
and the level of lake Iroquois fell considerably below the level of lake Ontario. Therefore, much of the land which had been previously under water became dry. Lake Iroquois, however, had left many depositional features such as sandy beaches and gravel bars. One of these bars is visible on fig. 4, page 10, just to the North of West Hamilton. It rises to about 100' and forms a divide between the Burlington bay and the Dundas marsh. Lake Iroquois also deposited much finer clays on the lakeshore plain which includes, for instance, that section of Hamilton below the Niagara escarpment and East of the study area. Streams coming down from the interior have considerably dissected this mildly rolling plain as well as the fluvio-glacial deltaic deposits at the mouth of the Dundas valley. West Hamilton was not affected quite as seriously as the areas to the North and West even though quite a few gullies as the Chedoke valley were eroded (Illus. 1, page 13). These features are visible on the contour map on page 8 (fig. 2). The main part of West Hamilton however is quite flat except for the lower slopes of the "Mountain" which is an erosional feature rising to about 300' above the general level of the plain.

Later on still, the continental ice mass slowly uncovered all of Canada gradually releasing the land from its immense load. As a result the land began to rise. The level of the outlet of the St. Lawrence waterway rose as well causing the level of lake Iroquois, or Ontario as it may be called now, to climb to its present stage. In rising, lake Ontario has obviously covered some of the lakeshore plain. The mounting waters invaded the lower sections of the stream eroded valleys to produce a typical submergent shore. This accounts for the presence of open waters and swamps in some of the lower sec-
tions of the gullies in West Hamilton. They are good examples of drowned river mouths.

That section of the lakeshore plain in the Western lake Ontario region is often referred to as the Iroquois plain (After Putnam and Chapman); it includes the narrow corridor upon which Hamilton was originally built. On the whole, it is rather gently rolling and may have swampy areas in the depressions in between the hummocks.

Lake Ontario, finally, has its own erosional and depositional activity which has built-up the low (it is less than 25' high on the average) but long bar at the head of lake Ontario, forming the Hamilton harbour.

To summarize therefore, West Hamilton has been built on a narrow flat corridor made of fine alluvium. The plain to the West has been eroded into gullies by streams from the interior. West Hamilton, however, was only mildly affected during this period of erosional activity after the disappearance of lake Iroquois. Later, as the general water level rose, some of the gullies became drowned giving eventually rise to marshes. There is only one stream of any importance which crosses the study area and that is the Chedoke creek.

III. Climate.

Climatic conditions often have important effects on urban centres. For example, the rigour of a climate may restrict the growth of a city. However, when one has a moderate temperate climate somewhat modified by the Great Lakes, there is little to worry about. This is the case of West Hamilton.

There have been no tornadoes, even though some came fairly close, and the few hurricanes that hit the area have lost so much intensity in moving over the land that they take on the aspect of a severe
Illus. 1. Streams have often eroded the fluvio-glacial deltaic deposits of West Hamilton into depressions such as the Chedoke valley shown here.

Illus. 2. West Hamilton was once covered with lacustrine waters which have deposited many features which include sand bars such as the one shown here. Note the neat sorting of sands and gravels and also the resistance to erosion of certain beds.
storm more than a typical hurricane. These come in from the East but the prevailing winds are from the West and the South-West.

The average temperature for the year is 46 degrees F. The coldest months are January and February (23 degrees F.) and the warmest month is July with a temperature of 71 degrees F. (see appendix A). The total precipitation per annum is 30.93" and its distribution is fairly even (see appendix B).

More important to an urban centre is the amount of snow that falls, its intensity and its distribution. Large snowfalls may paralyze communications and leave any area without food. Fortunately, this seldom happens in West Hamilton. January is the whitest month with 16" of snow on the average. This is sufficient to cause minor traffic tie-ups but no serious stoppages. On the average, there are about 13 days with measurable snow on the ground in January.

As a whole, West Hamilton has very few problems due to fog.

To summarize, the study area falls into a humid continental climatic type characterized by warm summers, relatively cold winters, as well as a moderate precipitation evenly distributed throughout the year.

IV. Vegetation.

Given such climatic conditions and considering the physiography of West Hamilton and Hamilton in general, two types of vegetative cover could have been seen before they were modified by man. In the poorly drained areas, only tall, were growing. The Chedoke valley and and other similar marshes were said to be a "heavenly rendez-vous for such animals as wolves and rattlesnakes." (1).

On higher ground, a mixed type of forest was growing. Trees such as the white pine, white and red oak, birch, elm and a variety of maples were very common. Other native species include the sweet chestnut, hickory and black walnut. At a much later date, tulip trees, sycamores, sassafrass and flowering dogwood bushes were introduced from the Carolinas in the United States of America (1).

As Hamilton expanded however, nearly all the original vegetative cover was removed and most of the marshes were either drained or filled up. However the original forest and marsh were kept in one area as a "Crown Game Preserve" and that is around the Dundas marsh. The area forms part of the Hamilton Royal Botanical Gardens. Here may be seen wildlife flourishing in its almost natural habitat. Indeed there are at least 20 types of fur bearing animals, 500 varieties of flowers as well as a wide selection of trees. The marsh itself is still a sanctuary for more than 300 sorts of birds and, until recently, hords of mosquitoes that infected Westdale!

V. Depth of drift and soil formation.

In an urban study soils are somewhat less important than the bedrock upon which they rest. Tall structures, for example, cannot be erected on sand for the danger of sinking. Massive buildings need a sound foundation on a bedrock or a parent material capable of resisting the compressive force of the building.

Drillings indicate that over most of Hamilton the bedrock is 60' to 80' below the surface. There is however a 400 foot deep trough of pre-glacial origin which runs East-North-East along the axis of lake Ontario. The Western end of the trough runs along the Dundas valley immediately to the North of West Hamilton. However, it does not differ from the rest of the bedrock, which is shale, in that it (1). The Hamilton Spectator. 14 August 1954.
is covered with glacial till which is in turn overlain with alluvial sediments.

We find that over most of West Hamilton, the soils have developed from fine brown sands of deltaic origin. Over such areas, the soils are stonefree sandy loams. The profile is relatively deep as the parent material, or C horizon, is about 25" to 35" below the surface or the zone of humus accumulation (A<sub>o</sub>). The soil is thus productive even though it tends to be sometimes slightly impermeable.

In contrast to the moderately heavy sandy loams, the Eastern limit of West Hamilton is characterized by much lighter soils which often tend to be too sandy and gravelly. Such soils have developed on the beach deposits of glacial lake Iroquois. As a result, drainage tends to be excessive. The profile is shallow and poorly defined. Thus, the soils here are poor agriculturally speaking.

In summary, the soils over the greater part of West Hamilton are able to support intensive cultivation and it is only on the sandy soils that poorer conditions are met. (Illus. 2, page 13).

VI. Summary.

West Hamilton, an integral part of the greater city of Hamilton, is an urban district located on a narrow and flat plain of deltaic origin at the Western extremity of lake Ontario. It is encircled to the South by the Niagara escarpment, to the West and East by erosional gullies and to the North by the Dundas marsh.

The physical landforms of West Hamilton are indirectly due to glaciation and directly due to fluvial sedimentation. As a result the features of the land are smooth despite some erosion during the late part of the glacial epoch. Fine sandy loams are found over most of the area even though some sandy soils have developed on
beach deposits of glacial lake Iroquois.

Endowed with an appropriate temperate climate and generally fertile surroundings, West Hamilton was originally covered with a mixed type of deciduous forest. In the poorly drained sections, only tall grasses were, and are, growing.

On the whole, the vegetation and the soil conditions which are somewhat interdependent are responsible to the rate of precipitation for their development. Fortunately, the distribution of precipitation is even throughout the year.
Chapter two:

HISTORICAL DEVELOPMENT.
HISTORICAL DEVELOPMENT.

Although West Hamilton's history as an urban area is not very extensive, it is necessary to look back through the whole period of European settlement at the head of the lake to fully appreciate its legacy from the past.

I. The Indian period and the Pioneer days.

The present site of Hamilton was used as a meeting place by Indians long before the coming of white men. It is known, for example, that the Neutrals, and later the Five Nations, had villages erected here. The head of the lake was already a focal point from which diverged several trails.

In the 1670's, the French explorer La Salle discovered Macassa lake, or as it is better known to-day the Burlington bay, but the first European settler was Robert Land who, in 1778, built a cabin here to escape from the madness of a Franco-British war on American soil (1). He was followed around 1790 by other settlers but none of them found the land too promising because of their inexperience in a frontier outpost. Some of them moved to the top of the escarpment but, by doing so, they found themselves cut off from their sources of supplies on the lakeshore to which access was difficult. Eventually, they returned to the main settlement below.

The men were in a new environment and had to adapt themselves to it. The old Indian trails which used the relatively narrow corridor along the lake became as widely travelled by the Europeans as by the natives. Some of the trails in fact became streets at a later (1). Mabel Burkholder, The Story of Hamilton. (1938).
date. Such include York street which heads for the Iroquois sand bar and King street which Eastward and Westward to the interior.

The pioneers who, at first, had been hunting for a livelihood slowly turned to agriculture. They saw that the soils were fertile if cleared and drained. More settlers were then attracted. Among them we find George Hamilton, the true father of the city named after him. The settlement, however, was not the only one here. Dundas, Ancaster and Stoney Creek were already booming villages. Dundas, located at the very head of Cootes Paradise, was the most important of the three; because of its location at the head of navigation for small boats, it played the role of a distributing centre. Ancaster, an inland settlement, owed its growth to the presence of a fresh water spring while Stoney Creek, located on a trail to the East of Hamilton, prospered thanks to a mill built on the stream of the same name. It is worth noticing at this point that West Hamilton was not used because of its location somewhat off the "beaten tracks".

By 1817, Hamilton had 130 houses and a population of 800 (1) and, when George Hamilton died in 1836, quite a sizeable tract of territory had been incorporated within the settlement (fig. 5, page 21).

A type of keen competition had developed among Dundas and Hamilton. Both were agricultural villages which acquired a certain dominance through commercial activities in the handling and distributing of such essential goods as household wares and agricultural implements. Dundas was favoured for a time. The building of a canal, the Desjardins canal, leading from Macassa lake through Cootes's (1). The Hamilton Spectator, 20 March 1954.
EVOLUTION OF THE CITY OF HAMILTON

1 INCH = 1 MILE.

SWAMP.

NIAGARA ESCARPMENT.

PRESENT SHORE LIMITS.
Paradise was to give Dundas the required edge over Hamilton. This failed however because Dundas was not located on the main overland routes which used the Iroquois sand bar and thus passed through Hamilton. In the early 1850's, a railway built precisely on the same bar caused the biggest boom yet in Hamilton. By now, because they were bypassed by the railway, Dundas and the other surrounding communities began to fall back behind Hamilton which was continually expanding despite some minor business slumps. It was for instance in 1849 that the first section of West Hamilton was annexed to overcome a rising population pressure. But it was not until the turn of the century that this area was settled in any serious way because it was cut off from the main part of the city by the Chedoke valley.

The climax of this era was perhaps reached in 1856 when the city of Hamilton, with a population of 27,000, aspired to become Canada's capital. A few years later, unfortunately, the "Big Slump" set in (1863). It was a nationwide economic recession which had resulted from inflation. Many of Hamilton's stores and workshops were closed. The population which had continually been rising sunk to a low of about 17,000.

II. The period of stagnation: 1860-1914.

There ensued a period of stagnation followed in 1875 by slow recovery. But it was not until 1891 that Hamilton began to expand territorially again (fig. 5, page 21). The ten year slump had marked the death blow to any remaining hopes for Dundas to surpass Hamilton.

The recession caused many small firms in Hamilton to close down which factor somewhat precipitated the coming of the modern metropolis in that the industrialists looked to another source of income which they found in commerce. Local competition between
two railroads, the Grand Trunk Railway and the Great Western Railway, kept the city alive. Furthermore, because of its location on the Mississippi-St. Lawrence trade routes, Hamilton, as an entrepot, trans-shipping and distributing centre, benefitted from the commerce on this lane which carried, among other things, steell goods from the American industrial heartland. The American heavy industries were obtaining their iron ore from the upper lake Superior ranges while the coal was mined in Pennsylvania. It was believed, quite rightly, in Canadian circles that a similar iron and steel industry could be set up in Southern Ontario. Hamilton seemed the ideal site. It had a land protected harbour which could be developed to accommodate large ore warriers; it had a good labour supply and was near most urban markets. Only coal had to be imported from foreign countries. By 1895, a steel mill was built in Hamilton. In turn, other light manufacturing and transformation plants were attracted. Slowly therefore, Hamilton began to expand anew.

As may be noted on fig. 5 (page 21), the city's expansion at this time was entirely Eastward. Any Westward movement was stopped short by the Chedoke valley. Most people were reluctant to develop what was to become West Hamilton because of its communication handicap, a handicap which had its roots in the very physical features of the land. The only people that inhabited West Hamilton were farmers engaged in market gardening. By 1912, Ottawa street was the Eastern limit of urban growth while, to the West, Paradise road was still the border as it had been for the past 60 years.

III. The period of development: 1914 to the present.

By 1913, about 89,000 people lived in Hamilton. By 1939, it was to be about 160,000 (fig. 6, page 24). During this relatively
GROWTH OF POPULATION.

CITY OF HAMILTON.

M.F.C.  GRAPH 6.
short period, the city of Hamilton grew very rapidly. It was also at this time that Westdale and South-West Hamilton were settled.

Plans had been made as early as 1913 to relieve the pressure of population by settling the immediate Eastern access to West Hamilton which was to be divided into a rectangular pattern of streets. Paradise road, Macklin, Carling and Adelaide streets had already been laid out. It is interesting to note that the development which was undertaken took place North of Main street West as much of the area to the South is occupied by the valley of the Chedoke creek. (See fig. 8, page 31).

Of equal importance as well was the planning of the site between, and including, McMaster university and Longwood road for parks and superior residential suburbs (fig. 8, page 31). This is how the Hamilton Royal Botanical Gardens and Westdale started. The initial plan, which was realized only recently, was impressive but development was slow because the first World War (1914-18) took up most of Hamilton's energy. Nonetheless, by 1930 when McMaster moved here from Toronto, Westdale was beginning to shape up with its radial-concentric arrangement of streets. Yet, it was as true that "it was still possible to pick wild strawberries on Whitton road! Sterling street was only a wagon track passing through long grass". (1).

While Westdale was planned as a unit, the section of land to the South-West of it was developed spontaneously for two main reasons. One is that a railway was built here causing industries to spring up alongside. Secondly, it was a demand for more modest homes than in Westdale, accompanied by population pressure, that favoured the development of the area despite some resistance from the local farmers who saw their valuable land being gradually engulfed in an (1). The Hamilton Spectator. 27 March 1951.
urban tide. It was not until the 1950's that some more extensive planned developments were undertaken by private concerns.

Stress has been placed on the fact that Westdale was planned and South-West Hamilton unplanned because the present street plans and house types reflect this situation. The land use map (fig. 7, back cover) exemplifies the case. Westdale stands out particularly well as a unit integrated by its street pattern whereas South-West Hamilton shows a more haphazard arrangement. The more recent developments can be noted, as regular rectangles, at the extreme South-Western end of the map.

In West Hamilton, there are two events, among others, which are worth mentioning. Both took place in the 1930's and both have had important results. One was the erection of McMaster university and the other, the Westdale secondary schools.

As early as 1857 the Hamilton Directory stated that "there is no university but one was expected shortly". However it took about 60 years to have this dream realized. In 1910 in Toronto, the board of governors of McMaster university, which was a Baptist sponsored college, considered moving the university from its crowded quarters on Bloor street to a more suitable site. Hamilton had been mentioned as early as 1912 in view of its available land. Finally, it was decided by the board under chancellor Whidden to move to Hamilton, the city having offered 42 acres of land formerly held by the Royal Botanical Gardens. In 1929, the cornerstone of University Hall, the main building, was laid by Viscount Wellington, Governor General of Canada (1). The first session in Hamilton and the 41st for the university saw a relatively high enrolment. The number of students (1). *Saturday Night*. 1 July 1939.
attending the university has since increased steadily except during the Second World War (1939-45). Similarly, the university has been continually expanding as new buildings have been added.

In 1957, a bill formally ended the denominational control over McMaster. Hamilton College, which had been established a few years earlier as a separate school, was joined to the university and the Divinity college was installed "as a separate but associated institution."

The Westdale secondary schools were built in 1931. The school building covers 2 acres and there are 9 more acres of playing fields. Whereas McMaster university had been "imported" to Hamilton, Westdale collegiate had been erected out of sheer necessity on a site that was believed to serve best the surrounding area. This was the "British Empire's largest composite school" (1). Such a fact gave much pride to Hamilton, so much in fact that it made Ontario's Provincial Secretary state the following anecdote on the occasion of the opening ceremony:

"Envious citizens from Toronto used to say that one could tell a citizen from Hamilton, but that one could not tell him much!" (2).

In addition to being a seat of learning offering accommodations for about 1500 students, Westdale collegiate has also a beautiful concert hall which has been recently renovated (August 1958).

Both McMaster university and the Westdale secondary schools were important in that they helped to open the area. Sterling avenue, for example, was built to reach the university from the East. Similarly, a telephone service has been extended in 1930 to include McMaster. Furthermore, many a Westdale home was bought by professors from both the college and the secondary school. Finally,

(1). The Globe and Mail. 9 May 1946.
(2). The Hamilton Spectator. 24 January 1931.
the presence of the college greatly increased the value of the adjacent properties. In other words, it was a chain reaction, one element attracting another.

During the last twenty years, West Hamilton has not been resting on its laurels as new expansion programmes have been, and are, continually undertaken. The only development scheme which does not add many assets to the area was the addition of wooden army barracks in South-West Hamilton at the close of the Second World War. At the time, these houses were quite suitable to lodge the tide of returning soldiers. But the barracks were meant to provide temporary shelter and unfortunately, some of them have been kept even until to-day. Despite this development, West Hamilton has nevertheless almost ideal residential qualities, good commercial services, some modern light industries which have been recently introduced, beautiful surroundings and dust free air. Indeed this is one of Hamilton's finest districts.

IV. Summary.

The influence of the physical site upon the development of Hamilton is vital. Thanks to the arrangement of the sand bars, the lakeshore plain and the Niagara escarpment, the city is located at the focus of transportation routes. The development of the harbour between the Ontario and Iroquois sand bars has added much impetus to the commercial and industrial traffic.

In the case of West Hamilton, it is also transportation which has at first slowed; then fostered the development of the area. Firstly, a depression in the presence of the Chedoke valley has prevented for a time the settling of the flattish lands beyond it. But once the valley had been conquered, West Hamilton formed a trans-
portation corridor between the city itself and the areas to the West. This overland pass is limited to the North by the Dundas marsh and to the South by the Niagara escarpment which, incidently, has never been conquered here by roads in contrast to other places further East.
Chapter three:

THE PRESENT LAND USE.
THE PRESENT LAND USE.

Because of the complexity of the land use in West Hamilton, the subject will be treated hereafter on a functional basis such as residential, commercial or industrial.

I. Demography.

In studying the land use pattern, it is advisable to make a remark or two about the city dweller, his personality, his ethnic origin as well as his profession.

Just as in many other Canadian urban centres, the population of West Hamilton is fairly mixed. This mixture nevertheless sees a dominance by people of British origin who were actually the first settlers of West Hamilton. Most of them are engaged to-day in administrative, commercial or industrial enterprises throughout Hamilton and across peninsular Ontario.

The rest of the population is composed of several minority groups which entered West Hamilton mostly in the period after 1930. They include many wealthy Jewish businessmen as well as a host of Polish, Russian, Italian, French, Dutch and German "new Canadians." The latter are usually labourers even though a small proportion of them are white collar workers or even industrial managers.

In other words, all classes of society are well represented in West Hamilton. There are several of Hamilton's more important business leaders as well as many industrial workers. Each group depends on the other for its livelihood and one could not go on without the other.

II. Residential districts.

In reviewing the appearance and the importance of the residen-
tial districts, frequent reference should be made to the land use map (fig. 7, back cover). Here a residential classification has been used in part on real estate value and to some extent also on the geographical location of the dwellings with regard to various physical and cultural factors. The real estate value is based upon the distance between the houses, their architecture, the age, size, layout as well as the landscaping of the property. The physical factors considered include orientation with regard to the sun, slope of the land, amount of surrounding vegetation, proximity to lakes, rivers, natural parks and so on. Among the cultural factors, such things must be included as proximity to schools, business districts, factories, public utilities and man-made parks. The results which have been obtained do not necessarily agree with official assessments. They depend mostly upon the reason and the intuition of the surveyor.

All the factors were given numerical values and thus a classification has been obtained whereby superior homes would have a combined value of more than 50,000 Canadian dollars (1958 value). First class homes ought to range between $50,000 and $25,000 whereas second class homes are priced above $10,000 but below $25,000. Below $10,000 and above $1,000 are third class homes. A slum occurs whenever the combined financial value falls below $1,000.

In the case of apartments which are of course places of residence, all the above figures have been multiplied by a coefficient of 10.

Using this classification, a complete survey of West Hamilton was made in the late Summer 1958. As a result, it was found that several distinct regions could be recognized.
a. The Longwood-Paradise road district.

The Longwood-Paradise road district is located in the North-East of West Hamilton. It is bordered to the West and to the North by the Hamilton Royal Botanical Gardens, to the East by the city dump and to the South by King street West. The main artery, which is Longwood road, runs North-South forming a good axis of symmetry to the area. Found here is an almost continuous alignment of small single family homes. Each house is set about 10 to 15 feet back from the sidewalk. Almost each has its garage and at least 90% of them are very well kept, so well indeed that here and there are several dwellings which were designated as first class. There is also a small cluster of first class homes to the extreme North-East (fig. 8, page 31). These are new houses built in 1958. Usually they are somewhat larger than the rest of the homes in this district having about 8 rooms on the average. Also, their ranch or split level style makes them look quite modernistic.

There are also a certain number of third class homes. These dwellings may not be smaller than the adjacent houses but the lots on which they are built are. The number of third class homes is comparatively small, however.

The majority of the houses are made of red bricks. Each house has only 6 to 7 rooms on the average, a number however which is adequate for the average family. The people living here are mostly small businessmen, professional men and other white collar workers. Their income varies according to their position but most people in this district are comfortably off in a financial sense. Their places of employment, which vary a great deal, are scattered throughout the city of Hamilton. A few find employment in business firms out-
side the city as far away as Toronto.

On King street West, there are a few apartment buildings lost on commercial developments. Nonetheless, the above generalizations apply to the apartment dwellers as well.

b. The North end.

The next residential district to be discussed is actually composed of two areas both of which are North of King street West, but one is separated from the other by McMaster university. Both areas are limited to the North by the Hamilton Royal Botanical Gardens.

In this region, it is the first class residences which dominate. It is here as well that are found the only "superior" mansions of West Hamilton.

The houses are all stately, made of red, yellow or greyish bricks. All are very well kept. Their larger size - about 10 rooms - makes them suitable for larger or wealthier families. Most buildings have two or more stories. However, there are a few ranch style homes with only one floor in the Mayfair crescent area as is pictured on illus. 54 (page 37). These are new homes built since the 1950's whereas the others are relatively older some of which dating as far back as the 1920's. The lots, in all cases are appreciably larger than in the Longwood-Paradise road district. Sometimes a triple garage can be seen here and there. This entire district appears very green because of the numerous trees and on the whole looks very prosperous.

University professors, wealthy businessmen and industrial managers are found living here. The superior district is occupied almost exclusively by Jewish businessmen. The ethnic stocks elsewhere
Illus. 3. Gullies have developed in many places on the fluvio-glacial plains of West Hamilton. Depressions as the one here have prevented the regular spread of residential districts but have attracted good housing.

Illus. 4. A first class apartment building. Many such newer residences have been built along the main thoroughfares.
Illus. 5. A superior dwelling. Secluded, this attractive ranch style building is one of several around Mayfair crescent.

Illus. 6. This type of single family house is typical of the areas bordering King and Main street West. Its age, size and upkeep makes it a second class residence.
are more mixed. Except for the college professors, most of these people work in downtown Hamilton.

A feature of this area, barely noticeable in the Longwood-Paradise road district, is the high number of university students who are accommodated as roomers during the academic year. Usually, they are coming from various parts of Canada and the United States. Their presence is always welcome not so much for financial reasons as because many of the houses are too large for the families living in them.

A special note must be made concerning the section of this district to the West of McMaster university. Here, it is not really the size and the upkeep of the dwellings that attracts attention but rather the more modernistic designs. Quite obviously, the entire area is a new development. Most houses were built in the post World War II period.

On the whole, the more or less homogeneous arrangement of first class homes focuses on McMaster university and the Hamilton Royal Botanical Gardens. The land adjacent to these sites is more highly priced because it is assured to have pleasant and yet secluded qualities which are ideal for residential purposes. The same also holds true for other features such as gullies as exemplified by the depression at Sterling and Forsythe avenues (fig. 3, page 36).

c. The King-Main district.

The third district is more extensive than the first two. It extends from the city limits Eastwards as far as Paradise road. It is bordered to the North by King street West and to the South by Main street West. This area is again divided into two sections by
the Hamilton Teachers' College and an extension of the Hamilton Royal Botanical Gardens.

Here are found mostly second class homes with a minority of first class dwellings. This intermingling is typical of a transitional zone between the better and the poorer districts. Whereas in the previous two regions, there is much uniformity in the value of homes, here, on the contrary, elegant manors stand side by side with clean but visibly more modest houses. Large lots are scattered among smaller ones. Yet, this heterogeneity is the unifying factor for the area.

Few valid generalizations can be made though it can be pointed out that most houses are built of brick and though the architectural styles are varied, there are also entire blocks of identical second class houses as on Thorndale street. The monotony of grey streets is often broken up by trees growing either along the avenues or on private properties. On the whole it must be admitted that the effect is rather pleasing. This is exemplified on illus. 6 (page 37).

As far as the property owners are concerned, there is somewhat less variation. There are a certain number of professional folks as well as businessmen, office employees and a minority of factory workers. Some are employed in the main part of the city, less work in West Hamilton and very few are self-employed. There is also a certain number of students roaming here. When they leave at the beginning of Summer, their rooms are rarely rented out to other people. In other words, most home owners live comfortably and do not have to sub-let one or more of their rooms.

d. The Main-Stroud road district.

The next district which stands out is located South of Main
Illus. 7. Housing in a third class district. Such homes are found mostly near railway tracks in South-West Hamilton.

Illus. 8. Identical second class houses, even in some newer developments, always look monotonous. Shown above is a portion of Garling street.
f. The lower slopes of the "Mountain".

The sixth subdivision is located South of the C.N.R.-TH.&B. railway tracks and extends from Leland to Bowman street.

The area is made homogeneous due to an invariable array of third class homes bordering the lower slopes of the Niagara escarpment. Row housing, on small lots, is quite common. A general dirty appearance is in evidence, even though there are some cleaner sections closer to the "Mountain". Very often, as on Ward avenue, several families live in one wooden building. Further South, there are mostly fairly pleasant cottages housing single families.

In some areas, there are no sidewalks and one seems to be walking in a country village and not a metropolis. The larger gardens, near the escarpment, lend some freshness to the general atmosphere, however this is not sufficient to relieve the general depressing feeling that is often conveyed.

Yet not much can be done by the local residents who are often foreign born because of their modest financial resources. Most of them are common labourers who are often hard hit by the fluctuations of the business cycle.

g. The new developments.

The last district in West Hamilton to be discussed is located at the extreme South-Western corner of the city of Hamilton. It is one of muddy streets without sidewalks, unfinished homes, small lots, trees and sloping land. Some sections have been completed and indeed look very attractive (illus. 9, page 43), however many other sections are still in the making. Because of the existing conditions at present, many a property which would otherwise have been uprated
Illus. 9. Modern split level dwellings are common in the new surveys of West Hamilton. Many of them are still unfinished indicative of rapid expansion.
was placed in the second class. Given time, some modifications should be in order and several homes could even be set aside as first class.

In September 1958, the rate of development was very rapid and indeed beautiful homes were being erected, decorated or occupied. Most were being bought by small businessmen, white collar workers as well as a few industrial workers.

Further North, near the junction of highways #8 and #2, are a few older homes which date back to the 1900's. These are slowly being demolished to be replaced by more modern homes.

**h. Summary.**

Residential developments in West Hamilton present a pleasant and varied picture. Three major zones of residential suburbs can be distinguished. One, to the North-West around McMaster university, includes the first class homes. The second zone which is transitional containing various classes of houses, whereas the third one, in the South below the "Mountain", is almost entirely third class.

This arrangement is not a matter of accident but is the result mainly of two reasons, one being purely physical in nature and the other, a corollary perhaps, being cultural.

The physical reason is rather simple. It has to do with the natural beauty of the area surrounding McMaster university and the Royal Botanical Gardens. Also the somewhat dissected landscape which would be of little use to other concerns offers much privacy to residential quarters. Furthermore, there are no smoke producing factories in the vicinity and the air is appreciably cleaner.

The cultural reasons are more diversified. One is that Westda-
Ie was a planned development and certain sections had been set aside for superior residential purposes. Also the main third class sector is comparatively older. Parts of it had already been built up by 1914. Finally, the fact that a railway crosses the area is a further detriment to the residential value despite the fact that, further North, a branch line of the same railway without adversity to the adjacent residential districts.

III. Commercial districts.

a. Wholesale.

West Hamilton has only one wholesale commercial establishment. However, the commodity which is being sold cannot be considered as an everyday necessity, far from it, as it is dew worms.

b. Retail.

Among the retail stores, two major concentration centres may be considered in addition to a series of scattered secondary, or neighbourhood, stores.

For the purposes of this thesis, all the commercial enterprises have been classified according to their real estate value. The factors which were used for criteria are similar to the ones described earlier in this chapter with regard to the residential districts with some changes. For instance, whereas a secluded district would be better for residential purposes, most commercial enterprises, on the contrary, would be better off on a busy thoroughfare. Accessibility therefore plays the main role.

Once more, mathematical means have been used to evaluate the potential value of the properties and so, two categories which correspond to the better and the poorer stores have been obtained. A
critical value of $12,000 has been used as the delimiting factor, this being the real estate value below which a store would be considered as second class.

The first of the two major commercial centres is located at the focus of several streets and it is commonly referred to as "Westdale". Its boundaries cannot be exactly defined but, for the purposes of this thesis, it shall be understood to include the amalgamation of stores on King street West from Sterling street as far as Macklin street (fig. 7, Back cover and fig. 8, page 31).

Among the more important stores must be included several groceries including two modern supermarkets, which compete against each other, as well as other smaller stores. Both supermarkets, one being operated by the Dominion co. and the other by the Loblaws co., serve their immediate surroundings. The Loblaws store seems to attract more customers from the better districts while the Dominion supermarket has a more mixed clientele. The reason has to do with the respective location of the two stores. Loblaws is located on King street across from North Oval whereas Dominion is on King street West at Paradise road (Fig. 8, page 31).

The remaining stores are more varied. One store specializes in frozen foods. Still, along the same line, Laura Secord, a famed local candy store, has a branch here as well. Other establishments include barber shops, cleaners, television and record retailers, several clothing stores, hardware stores, furniture retailers, drug stores and magazine stands. On the entertainment side there is one theatre appropriately called the "Westdale". This cinema is not very prosperous however; just like any suburban theatre it manages to survive thanks to a double bill and a lack of local competition apart from home television. Gas stations, restaurants and banks
Illus. 10. Shown here is the commercial core of Westdale. Note the variety of stores.
are well represented also. Two real estate agencies, as well as an insurance company, conduct their affairs here too. Finally, for the tourists and the collectors, two gift shops add to the above variety (illus. 10, page 47).

Therefore, Westdale has only commercial enterprises dealing in the more essential commodities. Lacking are, for example, the larger departmental stores. The common client will usually be comfortable to well off financially speaking. This partly explains the presence of the antique stores as well as the Laura Secord shop, none of which being entirely necessary. It is therefore evident that Westdale residents go to the downtown section for much of their shopping.

As far as the distribution and the nature of the Westdale stores are concerned, one or two remarks may be forwarded. The location of most stores does not need any explanation as their presence is quite obvious. Reference is made here to the banks, groceries, restaurants and so on, all of which cater mostly to local residents. A final remark has to do with the relative value of the Westdale shopping centre. As may be seen on fig. 7 (back 6over), all the stores except two or three are first class. The few second class shops are located on the margins of the main commercial area where they do not attract as many customers.

The second centre of importance is entirely different as it deals with somewhat different customers. For this reason it is not concentrated within a few walking blocks but rather over a long distance. It is a typical example of a decentralized business district. This district is seen in the long chain of stores and shops spread out along Main street West.
They have three common features in that they are all relatively new, they are all first class and finally in that they play a double purpose. They naturally serve their immediate surrounding districts but, more important, they cater to out-of-town customers as well as tourists using highways #2, #3, and #102. The best example of this feature is offered by the presence of a second Loblaws supermarket within two miles of the store in Westdale. This second supermarket is located on Main street West near the city limits (illus. 11, page 50). It serves South-West Hamilton as well as Ancaster and neighbouring sections of Dundas. Contrasting with the Westdale store, this one has much larger parking facilities. There are two reasons for this. One is that this store was built recently at a time when large parking lots were recognized a necessity. The other reason is that the shoppers here almost invariably have to come by car because they are covering larger distances than would the Westdale customers who may walk to their supermarket.

The story repeats itself over again in the case of the restaurants which look quite attractive (illus. 12, page 50). In Westdale, they are modest and do not offer parking facilities. Here, on the other hand, they display spacious parking lots.

The remaining array of stores include the usual groceries, barber shops, banks and so on. A departure from the common however may be seen in the new Westdale bowling lanes (near by the Westdale secondary schools). This commercial enterprise serves much of Hamilton in addition to West Hamilton. Lastly, mention should be made of the Westdale hotel which is located at the corner of Main street West and Longwood road, the junction point of highways #8 and #6. The hotel which is a restaurant as well is the only outlet of al-
Illus. 11. Compare this commercial development with illus. 10 on page 47. Note especially the large parking lot.

Illus. 12. A restaurant on Main street West. This one caters to tourists as well as local residents.
coholetic beverages in West Hamilton. Furthermore, the Westdale hotel offers entertainment in the form of visiting jazz groups, an enterprise which has had much success lately.

Finally, reference should be made to the third group of commercial enterprises, the neighbourhood stores. There are several of them scattered mostly in South-West Hamilton. Common distinguishing factors are their relatively small market - they serve only a few blocks -, their inherent poor appearance - because they are serving such a small area -, and the nature of the products sold. All of the stores display a wide variety of goods including groceries, cold meats, newspapers, tobaccos and cheap toys.

Because of locational limitations the stores are second rate. Very often they are converted dwellings off the busy thoroughfares. Being poorly kept, they do not present a very pleasant sight. Nevertheless, they manage to remain open from the proceeds of their meager sales of certain commodities which are essential to the customer but which sometimes run out "unexpectedly". Such include mostly cigarettes and foodstuffs.

c. Summary.

West Hamilton's commercial districts are not very extensive but are adequate to serve the local residents as well as passing tourists and commuters. On the whole the stores are well located which accounts for their comparative prosperity (except perhaps for the neighbourhood stores). The relative wealth of West Hamilton demands in general high standards of service which are usually met by the dealers. And so are found mostly first class stores except in South-West Hamilton.
IV. Industrial districts.

In the classification of industrial sites, all the industries have been subdivided into two groups depending upon the nature of the products made. If raw materials are being processed to finished or semi-finished goods, one has a heavy industry. On the other hand, if semi-finished goods are being reworked into consumer's goods ready for marketing, one has a light industry. If services in the nature of consulting engineering are sold, such firms are considered as light industries. In the cases of warehouses and storage yards, these are classified in the light of the industries with which they are associated.

a. Heavy industries.

By the nature of their operations, heavy industries require much space and cheap but efficient transportation routes in order to handle efficiently large quantities of raw material. Immediately one can see that West Hamilton is not suited for such purposes despite the fact that there are several heavy industries. Furthermore, heavy industries are not easily moved. Most of them were located before 1930 but on the other hand certain parts of West Hamilton are more recent and have occupied most of the remaining land so, on this count also, the conditions do not seem to be favourable.

Nevertheless, four firms have managed to set up their workshops in West Hamilton. None of them are very large and it is with hesitation that the title of heavy industries is given to them. They include the Canadian Porcelain co., the Stanley Crawford Concrete Block co., the Frid brick co., and the Red-D Mix co.

The Canadian Porcelain co. is located below the "Mountain" near some freight yards (fig. 7, back cover and fig. 8, page 31). The
Frid brick co., and the Stanley Crawford Concrete Block co. are located in the Chedoke valley near Tope crescent whereas the Red-D Mix co. is located on a gravel bar on Main street West close to a railway line. Therefore all the firms are hemmed in by residential or other light industrial developments. The Canadian Porcelain has the advantage of excellent railway transport but its expansion is limited by other developments. The Red-D Mix co. is in a similar position but in as far as the two firms are concerned, all the movements of goods has to be done by means of trucks. Similarly, the raw materials must be brought in from varying distances because the required clays and sands are not available on the very site of the industries. Under such conditions, one cannot expect the industries to be very large. Of the four, the Stanley Crawford Block co. and the Red-D Mix co. seem to be the more prosperous. The Canadian Porcelain co. holds rather steady while the Frid brick co. is somewhat declining. (Illus. 13 and 14 page 54).

b. Light industries.

Of greater importance to the area are the light industries. These are scattered along Main street West and the TH.&B. - C.N.R. railway lines reflecting thus the importance of transportation. By far the most important plant is the Canadian Westinghouse factory at Longwood and Aberdeen streets. Smaller but also significant are the Donald Wire Rope co. and the John Deere farming equipment co., both located near Ewan road (fig. 8, page 31 and illus. 15 page 55). In addition, a host of other industries have warehouses and branch offices located in the same general area. Finally, there are a few smaller concerns dealing in specialized services.
Illus. 13. An industrial district. The Stanley Crawford Block co., to the right, is typical of heavy industries while the smaller shops to the left are light industries.

Illus. 14. Because of local competition as well as the development of residential districts, heavy industries do not always flourish. This is the case of the Frid brick co.
Illus. 15. West Hamilton still has a little vacant industrial land. Future expansion will probably take place on this site near Ewan road.

Illus. 16. A portion of the Canadian Westinghouse (West Hamilton plant). Because of the clean appearance, the absence of fumes and little noise coming from this factory, there is a minimum reduction in value of the surrounding districts.
The Canadian Westinghouse co., ltd. operates several plants in Hamilton and the one located in West Hamilton specializes in electronics (illus. 16, page 55). The plant itself is very modern, does not produce any smoke or noise and no serious land conflicts arise between it and the adjacent residential districts. The factory ships some of its products by trucks but most of them are sent by railway cars. There are several connecting lines between the plant and the near-by freight yards from which the products are sent across Canada.

The John Deere farming equipment co. is also very well served by both road and rail connections. Here are manufactured tractors and general and general farming equipment (illus. 17, page 57). This company is not very large but its products find their way all across Southern Ontario.

Both the Westinghouse and the John Deere companies are only indirectly important to West Hamilton. Not even the labour force is entirely "West Hamiltonian"; the firms have a far reaching influence and attract employees from a wide area. However, their very presence adds to the economic viability of the area.

The other industries are scattered along both Main street West and the railway tracks. They include contractors yards (building), engineering firms, industrial warehouses for the storage of stock or equipment, aluminium window workshops, a lumber yard and so on. The major distinguishing factors of these sites is their connection with construction and their cleanliness as well as their modern styles as exemplified by illus. 18 on page 57. The buildings are low, have large windows are are gaily decorated. Often the surface area of the sites is small but it is well used.
Illus. 17. Both rail and road serve this plant, that of the John Deere co.

Illus. 18. A smaller light industry along Main street West. Many similar firms are located in West Hamilton. Most of them are very neat as may be seen above.
There is another cluster of light industries located on Frid street. The general appearance of the area is much different from the other light industries in West Hamilton. It is even somewhat depressing because the buildings are older and because little or no effort is made towards beautifying the site. The nature of the manufacturing is partly responsible for this situation. Contrasting with the Main street West light industrial firms where industrial services, precision instruments or specialized clean products were sold, the Frid street area is covered with dirty warehouses, untidy storage yards and factories handling coal and other fuels as well as building materials and moulding clay. Even the milk company (Mil-ko) which is located here has not an attractive appearance. Alexanian's, a tapestry dealer, and Kiwi, the shoe polish firm, are the only two concerns which have attempted to beautify their sites.

Another feature which is common to all these firms is their location on a ridge in between the Chedoke valley to the West and railway lines to the South and East.

The products which are manufactured in this sub-region are shipped by truck or railway. The coal is distributed to residences throughout Hamilton. With regard to the milk company, the shoe polish firm and the pottery, their products are sold throughout Canada. Alexanian's maintains a store in downtown Hamilton and most of the traffic is between these two locations. The warehouses, which are operated by the Frid Construction co. and the Pigott Construction co., are naturally used to store construction equipment and supplies. These two companies have contracts throughout Southern Ontario but their main offices are in Hamilton. Finally, also connected with
the building trade, is a stone cutting concern. Therefore, as one can see, very much traffic flows in and out of this relatively small area and this would indeed be a nuisance to residential districts. Fortunately, there are no such zones in the immediate surroundings because the land has been occupied by the industries before any other development. Furthermore, the area to the West, that is the Chedoke valley, was too swampy and sloping for settlement. It is as well also that many of the products are shipped by rail as this eliminates road traffic.

The labour force which is employed by these smaller firms comes mostly from Hamilton.

Another light industry found in West Hamilton and which needs special mention is actually a public service enterprise: the Ontario Hydro-Electric Power Commission. It operates two major modern sub-stations in West Hamilton. One is located on Frid street and the other on Main street West at Newton avenue (fig; 8, page 31). The importance of these sub-stations is self evident. On the whole, they have clean, modern, airy and gaily decorated sites. The transformation of power which is undertaken is a smokeless and quiet operation with no direct harmful effects upon the neighbouring residential districts.

c. Summary.

In summary, West Hamilton has a limited number of industries, the majority of which are classed as "light". For the most part, their modern plants and offices are a credit to themselves and to the community. Their importance does not lie in their influence on West Hamilton alone but, nevertheless, their presence attracts workers and in turn commercial developments, such as restaurants,
to serve the labour force.

There are several reasons for the introduction of industrial companies to West Hamilton. One was that the land formed a new development with much open land which attracted some factories. The situation has changed since but the companies have remained. Secondly, with the opening of West Hamilton, certain services come to be in demand; this factor has attracted other firms. Finally, highways #2, #8 and #102 and the railway line provide excellent facilities for the transport of light to moderately bulky goods. Thus even though the number and the nature of the factories is restricted, West Hamilton nevertheless plays an increasingly important role in Hamilton especially in the light of the small firms which are continually being introduced. Westdale is more static but it is on Main street West, in South-West Hamilton, that new plants are being erected. This role played by the area is not limited to industrial production but to industrial services as well.

V. Cultural institutions.

West Hamilton is very fortunate in being provided with two major seats of learning in McMaster university and the Hamilton Teachers' College, in addition to one secondary school, one private school and six primary schools. Any boy or girl residing here has the opportunity of going as far as university without having to move.

It would be useless to review here the locational factors which were involved in the settling of McMaster university as such have been studied in chapter two. It should be added however that McMaster university (illus. 19, page 61) is continually expanding. Since 1945, a nuclear reactor, an engineering building, a library, a students' union building, greenhouses, the Physical Sciences building,
Illus. 19. The entrance to McMaster university. Situated in beautiful surroundings, the college is one of the major assets of West Hamilton.

Illus. 20. The Westdale secondary schools. Built in 1931, this school was once the largest in the British Commonwealth. To-day, it still prepares students towards various walks of life.
a field house and a Physical Plant building were added or started. In addition several army barracks were put up as temporary buildings. Finally a girls' residence was obtained in near-by Dundas. These facilities are truly indicative of growth. The university offers various courses in arts and sciences. The separate school of Divinity, under Baptist administration, prepares candidates for the ministry.

Immediately South of McMaster university is a building housing the Hamilton Teachers College. Here are trained about 700 future primary school teachers. The college has been located here because the land was available and because the former college, previous to its destruction by a fire, had been too crowded. The fact that McMaster university is situated here may have had some influence as well. Nonetheless, the new site is of course much better as it tends to centralize higher education in one general area.

Both McMaster university and the Hamilton Teachers College attract students from Hamilton and the surrounding districts as well as, to a lesser extent, from across South-Western Ontario. The main competing institutions are located in Guelph, London, Windsor and Toronto.

The Westdale secondary schools (illus. 20, page 61) which are located on Main street West at Longwood road are different in that they serve a smaller area compared to the previous institutions. Most of the students are coming from West Hamilton, however many are also coming from the entire area West of the Downtown section. Past this point, Westdale competes with the other Hamilton high schools.

The one private school, Hillfield school, is located on Main street West across from Paisley avenue. This more austere looking
institution has a limited enrolment but provides academic training from grade I to grade XIII, in other words a complete education up to university entrance. There are few buildings on the school site but, on the other hand the playing and sports fields are extensive. Because of the admission fee, only a certain group of students are attracted, these being from the higher social bracket. Therefore, the school has a zone of influence which extends over the whole city of Hamilton.

The other institutions are primary schools which serve only their immediate vicinity. They are the George R. Allan school located on King street West at Bond street, Dalewood school on Main street West at Dalewood crescent (illus. 21, page 64), Princess Elizabeth school on Bowman street at Whitney road and Prince Philip school on Rifle Range road at Whitney (illus. 22, page 64). All these elementary schools are relatively new except for the George R. Allan school. Naturally, they are quite modern and have extensive playing fields. The fifth and sixth primary schools are the Canadian Martyrs school and the Basilica school. The former is on Main street West at Leland whereas the latter is on King street West near Tope crescent. Both are similar to the other primary schools except that they fall under the jurisdiction of the Hamilton Separate School Board which is Roman Catholic. Just as any specialized institution, both schools attract pupils from West Hamilton as well as West central Hamilton.

Other cultural institutions are the Public library (Westdale branch) on King street West at South Oval and the Hamilton Art Gallery on Main street West at Forsythe avenue. Both buildings were recently erected and both are already widely used. The Art Gallery is
Illus. 21. The Dalewood public school. New modern elementary schools as the one above were recently erected to serve the needs of the new residential developments.

Illus. 22. The Prince Philip school on Whitney road is another modern institution. Note its large playing fields.
the only one of its kind in Hamilton and thus attracts many visitors thanks to its varied expositions (illus. 23, page 66). It has been built here for the same reasons that attracted the Hamilton Teachers College, namely that the land was available for cultural purposes. The Public library was even more a necessity, the nearest former public library being the main city library in downtown Hamilton. The Western branch library is widely used by students at the secondary and elementary schools as well as by adult borrowers.

Churches.

Due to Canada's policy of freedom in religion, many sects or denominations are represented in West Hamilton.

The first place of worship that should be mentioned is the Cathedral of Christ the King (Roman Catholic). It is located in a wonderfully dominant position on a gravel ridge overlooking the Chedoke valley (illus. 24, page 66). Its majestic Gothic structure dominates the entrance to West Hamilton. Its date of erection corresponds to a wave of expansion in the area that saw, for instance, the opening of the Westdale secondary schools (1931). It is obvious that the church was built to serve the needs of West Hamilton as well as the rest of the city for the Cathedral is the place of residence for the bishop of the Hamilton diocese.

There are no other churches in West Hamilton that equal the structural magnitude of the Cathedral of Christ the King, but, on the other hand there is a great number of smaller churches and chapels. Of these, Westdale United church is the oldest and largest. Many other denominations are represented; they include anglican (illus. 25, page 67), Lutheran, Presbyterian, and Baptist churches.
Illus. 23. The Hamilton Art Gallery, shown here, is one of the touristic, recreational and cultural attractions of West Hamilton.

Illus. 24. The magnificent Gothic structure of the Cathedral of Christ the King dominates the urban landscape of West Hamilton.
Illus. 25. Churches are numerous in West Hamilton. This one, which is Anglican, serves the King-Cline district.

Illus. 26. Shown here is a Jewish temple in Westdale. The large Jewish population of the area is responsible for the erection of this temple.
There are as well Jewish temples and sectarian chapels (German Baptists).

In the distribution of churches the main point to notice is the relative scattering across West Hamilton except perhaps in Westdale where they are found within a block or so of the main commercial districts. No single religious group dominates anywhere even though there are points of concentration. The best example is provided by the Jewish temple on Cline near King street West. As one may remember from the first sections of this chapter, it is indeed in this same area, Westdale, that are found most Israelite people (illus. 26, page 67).

VI. Open land.

Although all the built up areas in West Hamilton have been dealt with, there remains some open land. Some of this is vacant, some is in agricultural use and there are some parks and playgrounds.

a. Vacant lots.

About 5% of the total area of West Hamilton is in vacant lots all of which are potentially useful. This includes the two parcels of land between Bowman, Baxter, Westwood and Stroud road as well as some potential industrial land on Whitney road at the Rifle Range road. The former sections have been set aside for residential purposes. Until recently, these lots were occupied by war-time houses but they have been torn down and already some second class homes are being erected. The industrial land is still empty as such developments are much slower because a larger capital outlay is needed.

There are other small sections of vacant land on Main street West, at Cline and near Paradise road, which are also being developed presently but the larger single parcel of land is by far the Chedoke
valley at the North-Eastern limit of the study area.

For some time already the Chedoke valley has been used as a dump and most of the area has thus been levelled off. To-day only the Northern extremity is used for sanitation purposes. In due course the valley could be used for recreational or residential purposes. This is how the triangle formed by King street West, Tope crescent and Main street West became a park. However, the city of Hamilton which regulates the use of the land through a zoning by-law may have different aims for the newly acquired land. It is quite probable that the valley may be used for transportational facilities.

The final section of vacant land is to be found at the South-Western limits of the city of Hamilton. Part of the area cannot be used for building because it is an Ontario Hydro-Electric Power Commission right of way, however, the rest of the land can, and is slowly being, used for residential developments. As one goes further South the land becomes sloping but this has not stopped the advance of the surveys.

In summary, therefore, all the lots which are not already in use in West Hamilton could be developed in a relatively short period of time should this be necessary.

b. Parkland and playgrounds.

West Hamilton has by far the largest amount of open land within the city of Hamilton for parks and other similar recreational purposes.

The Chedoke Civic golf course located on beach deposits and glacio-fluvial sediments from the last glacial era is one of the parks. It is found to the South of the T.H.&B.-C.N.R. freight yards.
This well landscaped golf course is the scene of many local competitions. Professionals from foreign countries are attracted as well.

To the North is located the other section of developed public parkland, the Hamilton Royal Botanical Gardens. It is quite different in that it appeals more to the nature lovers! Trails have been marked off for the convenience of the visitors. There are also several fireplaces and picnic grounds on the higher grounds overlooking the Dundas marsh. All year round, this park attracts both children and adults alike. It forms a portion of the extensive recreational lands at the Western entrance to the city of Hamilton. Parts of the park are nationally known as are the Rock Garden, which is a converted quarry, the Spring gardens and the Sunken gardens which are natural depressions which have been drained and beautified. They form typical examples of land which has been modified by human action.

Other developed public parklands include two playgrounds. Both of them are found in Westdale. One is the Churchill fields. It is located immediately West of the George R. Allan school (illus. 27, page 71). It offers baseball diamonds and other such facilities to sports minded teen agers. The other playground, the Macklin swimming pool, located on Macklin at Athol street, shows a greater financial outlay. It has a swimming pool as well as a skating rink. A note must be finally made with regard to the fact that all the primary schools offer some outdoor recreational facilities for the younger children.

Cutting across West Hamilton is the upper part of the Chedoke valley. It has not been developed as yet as it has been kept as a Crown game preserve. A small stream which runs at the bottom of it disappears at the Eastern end of the depression where it has been
Illus. 27. Playgrounds are always a necessity for children. The Churchill fields which are shown here are operated by the city of Hamilton. They offer several possibilities for the active youth.

Illus. 28. The only agricultural land in West Hamilton is found on a Hydro-Electric Com. right of way. These fields are supervised by the Canadian National Institute for the Blind.
diverted into the Hamilton Sewage Disposal system. Presently the land is in a wild state and, because of the topographic conditions, forms a barrier to industrial and residential developments.

Finally, a small private park on Lakelet drive must be mentioned. It is nothing more than a larger garden of little to no use to the general public.

In summary, West Hamilton is well provided with recreational lands. These are sometimes located in areas which would not be used otherwise for any other purpose but some of the better parks are found on good flat land. Such parks serve the greater city of Hamilton as well as West Hamilton and a few of them attract visitors from distant places.

c. Agricultural land.

The only agricultural land in West Hamilton is found on Main street West near the junction of highways #2 and #8 (illus. 28, page 71). This is the remaining section of once very large market gardens. It will probably be used for the same purpose because it is a Hydro-Electric right of way, a factor which restricts the potential functions of the land. Presently, this section is operated by the Canadian National Institute for the Blind.

VII. Urban services. Transportation.

With regard to rail transportation, West Hamilton has no passenger station and depends on downtown Hamilton for this service. On the other hand it has a freight yard which is located on Aberdeen at Longwood road. It is operated jointly by the C.N.R. and the TH.&B. railway.

The area held by the two companies is not very large and it is
Illus. 29. This fire station provides adequate protection to West Hamilton.

Illus. 30. A section of highway #102. This highway, as well as several others near-by, offer very good transportation facilities to West Hamilton.
surrounded by other urban developments which prevent expansion should this be necessary. To the North, the Chedoke valley forms a barrier to expansion as well. Therefore the site is not the best but it has been chosen in view of the fact that it is located in a natural throughway, the Chedoke creek, along which several lines run to join the main trunk lines to the North. Furthermore, some of the yards are located in a huge gravel pit connected to the main body of the Chedoke valley by a man-made depression. The pit seemed suitable indeed because it has a flat bottom. The Railway however has its advantages in that it is somewhat removed from the main residential districts and in that it is near several large industries which it serves. Just as any other freight yard, this one handles goods coming in and out of Hamilton and it is also used to refit deficient rolling stock.

Several lines diverge East and West from the yard. The tracks going Westward are the only ones to cause any inconvenience to West Hamilton because they are passing through extensive residential districts which tends to diminish the real estate value of the said districts.

Entering West Hamilton are 4 major highways. Highway #102 comes in from the North-West, #2 and #8 from the South-West. They add considerably to the traffic on Main street West but, as has been reviewed, this is essential to South-West Hamilton's life. A last highway, #6, comes in from the North-East and joins in with Longwood road.

The area is also well served by streets and avenues. On the whole the street blocks are not too large and offer some variety.
Two different street patterns are visible. One is the concentric system. It is exemplified in Westdale. It consists of a circular pattern of streets meeting other streets radiating from the core or the centre, which in this case is the commercial district. The other pattern which occurs everywhere else is a somewhat modified form of the block or rectangular pattern. Here, as a rule, the streets run perpendicularly to each other. As far as could be seen, each pattern having its advantages and disadvantages, the rectangular arrangement is better for commercial developments while the seemingly more diversified concentric pattern offers more variety and privacy to the residential districts. The value of both systems is not based entirely on aesthetics as safety and convenience are also involved. For instance, in the concentric pattern, the street crossings are not at right angle and one corner is obviously more obscured than the other. Finally, streets are a means of transportation. The quickest way to get from one point to another is in a straight line thus the rectangular pattern is better in commercial centres where most businessmen are in a hurry. Of course, the system has its drawbacks especially when one tries to cross the area diagonally, a disadvantage not found in the concentric pattern.

West Hamilton's vehicular traffic is very heavy especially on Main street West. Sometimes, because of weather disturbances, serious traffic tie-ups occur. Other problems have to do with parking especially in Westdale where the few facilities which are offered are insufficient to meet the inflow of cars. Such problems do not occur along Main street West because the stores are not as centralized and as many of them own their private parking lot.

Apart from private cars and trucks, one of the major users of
West Hamilton's thoroughfares is the Hamilton Street Railway co. which has three bus lines entering and serving the area. They are the Aberdeen bus (along Aberdeen avenue), the Main West along King street West, Cline and Main street West, and the West Hamilton which runs along King street West, Sterling avenue, University avenue, Emerson street and Whitney road. All the bus lines converge on downtown Hamilton. The main bus users include students, workers and shoppers. It is noted however that Westdale residents do not use the available buses as much as the rest of the population. This has to do very much with the social status of the Westdale people; they seem to prefer using private cars.

Among the other available services, West Hamilton obtains its water from a reservoir on the slope of the escarpment just beyond the Chedoke golf course. This water has naturally been pumped in from lake Ontario. Hydro-electric power, natural gas, telephone, and sewage systems are available. The area is protected by a police force even though there is no police station here as well as a fire department which maintains a station on Mainstreet West near the Hamilton Teachers College. (illus. 29, page 73).

In summary it may be said that West Hamilton is well served by an adequate transportation network which includes modern inter-regional highways (illus. 30, page 73), local city streets as well as a freight yard.
Chapter Four:

THE PAST, THE PRESENT AND THE FUTURE:
A SYNTHESIS.
Before embarking on a discussion about the future of West Hamilton, it is advisable to review some of the problems which affect the area. Such problems which form an integral part of the urban living process will permit a fuller and better understanding of the future of West Hamilton.

a. A few problems.

West Hamilton, as it was seen, is an important residential suburb. But the question arises whether the area adequately fulfills this purpose, whether it acts as a vacuum which attracts the entire overflow of population or whether it is somewhat segregationist in nature. The answer to these problems can be found in the interpretation of the present land use pattern.

For very obvious reasons, a residential district should be relatively quiet, away from large crowds and factories. It should be attractive, airy, spacious and safe for children to play. Furthermore, it should be well supplied with services of all sorts. Public transportation facilities ought to crisscross the area along the main thoroughfares so as to serve every district adequately. In addition, the dwellings should not be located too far from basic commercial enterprises as well as primary and secondary schools.

If West Hamilton is compared to such an idealized residential district, immediately some drawbacks appear. It is true that Westdale is secluded and corresponds best to the ideals but South-West Hamilton, on the other hand, is more discordant. The grim prospect of having railway tracks crossing the area, industries settling in, and much traffic along Main Street West completely shatters any hope
for a quiet and stable residential district.

This on the other hand does not imply that all the homes ought to be first class to have a good residential district. It is entirely possible to have third class homes, even old ones, which still look attractive. A grass frontage, a few flowers and a painted house add much life. There is no need for vast capital resources to make of a house a comfortable home. The civic government is well aware of this problem and annually organizes beautification contests. Unfortunately, it is always the same citizens who enter year after year.

On the whole, West Hamilton is well separated from city crowds and traffic but on Main street West. Some concern may be caused, however, by the various industrial enterprises. Some of them, such as the Canadian Westinghouse co. ltd., look very clean, are not too noisy and produce little or no smoke. Others, on the other hand, as on Frid street, present a ghastly sight. It would be hard, however, to improve the situation given the nature of the manufacturing which is undertaken. The firms, finally, which have opened plants and offices on Main street West do not cause quite as much concern. To a certain extent their presence is welcome; they are bringing wealth to West Hamilton. It may be worth noticing here that there are no industries in Westdale and none should come in in the near future because the land is already all built up and the pressure on it is not very high, for industrial purposes at least.

In a static picture, Westdale seems to fit quite well the description of an ideal residential district. However, both it and South-West Hamilton are dynamic bodies. Despite this fact, it is hard to imagine that, in a few years, Westdale will change so much. On the other hand, it is quite probable that South-West Hamilton
will be the site of functional mutations. This seems to be forecast to-day by several symptoms.

South-West Hamilton is not entirely dominated by the residential function. Commercial and industrial activities are quite important, so much in fact that sometimes they displace the residential role. Commerce and light industries are attracted to South-West Hamilton mainly because of its transportational facilities. Sometimes, older houses on a busy thoroughfare such as Main street West are demolished to make room for new factories. Also because of excellent communication routes, South-West Hamilton serves quite a wide area. As the population grows so do the commercial enterprises. However as there is little vacant land available for these firms, this expansion is done at the cost of the residential districts which are torn down.

Westdale however is somewhat "off the beaten tracks". It has no room, and no need, for expansion. Its population remains steady over the years and the facilities which are available are suitable to serve this population. Westdale therefore is truly a residential district and the other functions which may have come in as a result are only secondary.

Attempts have been made at controlling the functional changes. The best example is provided by the Hamilton zoning by-law which was passed on the 25th of July 1950. Amendments have followed providing a good indication that times are changing. According to the by-law, certain uses of the land are prevented or promoted as the case may be. In a negative way it may even direct the type of building that should be erected on any one site. As far as the immediate development of the area is concerned, much is left to the discre-
tion and means of private firms and individual citizens. Therefore, it came to be decided that much of the land bordering Main street West and the railway tracks may be used for commercial or industrial purposes respectively. In other words, the residences which may be present on these sites, can be torn down if the pressure on the land is high enough to be replaced by commercial or industrial firms as the case may be.

It is also thanks to the same zoning by-law that much of the land which had been set aside for recreational and cultural activities has remained as such as examplified by the Hamilton Royal Botanical Gardens. Similarly, the Chedoke valley has been "frozen". In other words, it cannot be used for any purposes without the civic government's approval.

In actual fact several projects have been presented towards the development of the valley. One of the proposals which is the more valid is to build a highway or an expressway along the bottom of the depression so as to have a second North-Western entrance to the city which entrance would relieve considerably the traffic on York street. Objections of various sorts have been raised to the project, one being that such an expressway would by no means solve the traffic problem on Main street West. This objection seems to be quite valid but it is also true that York street, as it is to-day, is too narrow and quite unsuited to play the role of a modern highway.

This problem of traffic stoppages is growing more and more serious due to a high vehicular population. One way to counteract it is in the use of public transport, however, some people, as in Westdale, do not like this method of travelling. The only other answer is not in the widening of the roads but rather in territorial expansion.
Westdale has no land upon which to expand but this means that the population ought to remain stable and whatever problems may be present will not increase in complexity. In South-West Hamilton, on the other hand the situation is quite different because there are many commuters from expanding suburbs who make use of Main street West. Therefore the functional changes which are presently occurring in this area may in turn lead to conurbation. It is thus a very complex problem that is present in South-West Hamilton.

The flow of traffic running along Main street West has attracted, and still is attracting, commercial and light industrial enterprises. These in turn displace the residential function to the outer suburbs where it may again come in conflict with neighbouring urban centres, such as Ancaster or Dundas, where the same process is also at work.

b. West Hamilton's role within the greater city of Hamilton.

From the land use map, it is quite obvious that above all West Hamilton is a residential suburb. This function becomes quite apparent when the amount of land devoted to such a use is studied. The second function played by the area is educational. McMaster university, in addition to other institutions, is the dominant factor behind this role. Thirdly, West Hamilton plays an important recreational and touristic function for both Hamilton and outside visitors, the Royal Botanical Gardens and the Chedoke Golf course being the main attractions. Finally, the industrial function cannot be minimized.

These functions are the most important in West Hamilton, however, there are also some minor roles played by the area. Three of them may be distinguished. The first one is the commercial function.
In this role, West Hamilton is only self-sufficient and has to depend on downtown Hamilton for specialized products. Secondly, the area is a minor transportation centre in that freight is shipped from the yards on Aberdeen at Longwood road. Finally, West Hamilton plays the role of a small religious centre at least as far as the Roman Catholic church is concerned.

Therefore, West Hamilton has to rely upon Hamilton for its administrative services, sanitation services, police protection, as well as all public utilities such as water, gas and electricity. While Hamilton depends on its suburb for some services, West Hamilton depends even more on the rest of the city.

If the area is considered within the larger realm of peninsular Ontario, it will be seen that its importance is only average. An attempt has been made into obtaining the theoretical zone of influence of West Hamilton.

The criteria which was used was the student enrolment at McMaster university. The reason of this choice is that the university can truly be considered a feature proper to West Hamilton alone. Of course, it has many limitations but it does provide some indication of the extent of West Hamilton's influence.

Percentages have been calculated with the number of students from various towns and cities in proportion to the total population of the same towns or cities. Thus if the ratio is 1:200 (0.5%) or above, a zone of maximum influence occurs. With a ratio of between 1:200 and 1:400 (0.5% to 0.25%), a zone of medium influence is found while below 0.25% is the zone of little to no influence.

The results of the count have been plotted on a map and three major belts have appeared as may be seen on pages 9, page 84.
The influence of competition is strongly felt in the North-Eastern and extreme Western areas which have their own colleges or universities. The main ones would include Toronto, Guelph, Waterloo, London and Windsor.

In theory, therefore, the zones are adequate however, in practice, many more criteria ought to be considered. The main result would show that the actual zones of influence of West Hamilton are much smaller than the ones shown on fig. 9. but their general shape should be similar.

In a closer study of zones of influence around Hamilton, fig. 10, page 86 ought to be used. It shows metropolitan Hamilton as a whole. West Hamilton's educational influence, to use the same criteria, is felt upon the entire area. This same map, however, has a second purpose in that it may be used to show which areas are liable to be engulfed by West Hamilton in a more or less distant future.

c. West Hamilton's future.

Should the present rate of evolution remain constant, certain probabilities are bound to develop in the next few years.

In some 20 years or more, the main differences that could be noticed would be the higher density of population of South-West Hamilton. In contrast to Westdale that ought to remain fairly constant, this area is the one where most changes will occur. It could even be the core, commercial and perhaps industrial, of a much larger West Hamilton which may include Ancaster and perhaps even Dundas which would have been annexed. The depression that separated West Hamilton from Dundas may be used for parkland or residential districts as is betrayed by some concern over it by the County of
METROPOLITAN HAMILTON.

1 INCH = 4 MILES.

1. HAMILTON PROPER.
2. ANCASTER.
3. BARTON.
4. BURLINGTON.
5. B. BEACH.
6. DUNDAS.
7. E. FLAMBROUUGH.
8. W. II.
9. NELSON.
10. SALTFLEET.
11. STONEY CREEK.
12. WATERDOWN.

The populations of the satellite communities are in proportion to the area of the large circle.
Technical advances will make man's working and living conditions somewhat more pleasant but, unless startling discoveries are made, traffic tie-ups will always be present and probably increase. The larger number of cars from the new urban developments will make it imperative to construct new expressways. One of them could even run from Dundas North-Eastwards towards Toronto along the North shore of Cootes Paradise.

Some of the factories on Frid street could be modernized and a few more should come in along Main street West or South of it in South-West Hamilton along the railway tracks.

Among other innovations would be a larger commercial centre, also in South-West Hamilton, serving the new areas; new houses will spring up on presently unoccupied land. Other things which will be modified include the university which ought to be much larger, as well as the Hamilton Teachers College and the Westdale secondary schools. Perhaps a hospital, or at least a clinic, a police station, as well as another fire department could be erected should they be necessary.

The recreational facilities of West Hamilton will be somewhat improved but they will remain. They should look like landscaped parks more than natural or wild parks because of an increasing number of visitors will deteriorate the present conditions. However, this will not minimize their importance.

These trends indicate therefore that South-West Hamilton will increase in importance and perhaps overshadow Westdale which ought to remain a residential district. The main role of West Hamilton as a residential district will not be disturbed but in parts of South-
West Hamilton. Despite possible set backs, the area as a whole has a bright future. The differences between Westdale and South-West Hamilton may grow sharper but, on the whole, West Hamilton should form a more important district within the greater city of Hamilton.
CONCLUDING SUMMARY.
CONCLUDING SUMMARY.

In this urban study of West Hamilton, the first chapter was devoted to the physical background and setting of the area. Then, chapter two dealt with the cultural influences. To help understand the state of the present land use, Hamilton's history was covered. Subsequently, chapter three dealt with the result of the interplay between the physical conditions of chapter one and the human influence of chapter two. In this more extensive section, various urban functions were studied on an areal basis. Chapter four saw the presentation of a few problems found in West Hamilton and the area's role in the city of Hamilton. Finally the chapter ended with a brief look at West Hamilton's future.

It was the purpose of this thesis to show how the environment influenced man and how man modified this natural setting.

It appears that of the two the environment was the more influential. Had it not been for the Chedoke valley, West Hamilton would have not developed the way it did. Furthermore, had it not been for the presence of the Niagara escarpment and the Dundas marsh, the area would have not become as important because of the impetus of the flow of traffic. Transportation, therefore is the main reason-to-be for West Hamilton but again transportation routes are directly influenced by natural conditions.

Once the urban settlement is established, then the environment tends to decline in importance in the face of man's remodelling of the setting. The filling of the Chedoke valley, the exploitation of depression for parks and the divergence of a stream into a sewage system are such man-made modifications. Nonetheless, environment
still plays a dominant role. Would it not be for a certain set of conditions, such as gullies, certain uses of the land might have not occurred, such as first class residential districts. Again for example, because the land elsewhere is flattish, a railway was introduced.

It is quite clear therefore that, even as far as the future of West Hamilton is concerned, a certain pattern of cultural development is almost entirely directed by the environment.

In addition to this interplay, there is a fascinating cultural difference within West Hamilton. That is of course the relative integration of Westdale and the comparative decentralization of South-West Hamilton. It can be argued that, once more, this difference is due to physical conditions which have favoured the settling of certain areas first, but it is also true that the basic difference between the two areas has its roots in human planning or lack of it.

Once a set of conditions has been introduced by man within the physical framework, the urban machinery has been set into motion, one reaction attracting or causing another. For example the opening to traffic on Main street West has attracted commerce and industry. In turn these two functions attract more people, people more commercial firms and so on. The process which, in theory at least, is a never ending one is not peculiar to West Hamilton alone but has been most important, as far as transportation is concerned at least, in the development of the area as it is known to-day.
BIBLIOGRAPHY.

Among the many reviews and books which were used in this thesis, the following were the most useful:

a. Newspapers.

b. Books.


## APPENDIX.

### Appendix A.

Monthly average of mean temperature (degrees F.).

<table>
<thead>
<tr>
<th>Month</th>
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<tr>
<td>Ja.</td>
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<tr>
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<td>23</td>
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<tr>
<td>Ma.</td>
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<tr>
<td>Ap.</td>
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<tr>
<td>Oc.</td>
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<td>De.</td>
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Yearly average: 46

Years of observation: 46.

### Appendix B.

Average monthly snowfall in inches.

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<th>Month</th>
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<td>Ma.</td>
<td>10.4-----2.74</td>
</tr>
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<td>Ap.</td>
<td>1.8-----2.21</td>
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<tr>
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<td>2.32------2.32</td>
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<td>11.8------2.48</td>
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Total yearly precipitation: 30.93

Total yearly snow: 58.2

Years of observation: 46.

Average number of days with measurable snow.

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<td>Ap.</td>
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<td>Sep.</td>
<td>//</td>
</tr>
<tr>
<td>Oc.</td>
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<tr>
<td>No.</td>
<td>4</td>
</tr>
<tr>
<td>De.</td>
<td>8</td>
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Total number of days: 47

Years of observation: 46.
Appendix C.

Method used in the classification of residences.

Distribution of the numerical values:

Real Estate value ..................... 80%

Location

  Physical .... 5%
  Cultural .... 5% .............. 10%

Upkeep .................... 8%

Location and misc. ............. 2% .......... Total 100%.

Basic values (third class):

Real Estate value .... $ 8,000.00
Location .......... $ 1,000.00
Upkeep ............... $ 800.00
Others ............... $ 200.00

Second class -- all values are multiplied by a coefficient of: 2

First class --
Superior---