



ROBERT A. GORDON, CITY PLANNER

Letter of Transmittal

June 10, 1962

Sterling Planning Board Town Hall Sterling, Massachusetts

Gentlemen:

The past two years have been pleasant ones for me because of the close association between the Board and myself in pursuit of the ultimate objectives of the Master Plan herewith transmitted. It has been my earnest endeavor to provide the Board, and through the Board, the Town of Sterling with a Master Plan that will serve as a guide for municipal improvement for a reasonable period of time.

In making recommendations, I have attempted to suggest only those things that the town needs in anticipation of future growth. Many of the projects that should be started now will be well beyond possibility in ten years time so prompt action in acquiring land and adopting regulations is necessary if the ultimate economy is to be achieved. Completion of a Master Plan is only the beginning. From this point forward, the Board and town must take appropriate action to see that the recommendations are properly reviewed and updated each year, in other words, that the Planning Program becomes a continuous one.

Sterling is a pleasant town with a rural character that can be preserved and enhanced by constant vigilance of its citizens in preserving that character. It is my earnest hope that this Plan will help them do so.

spectfully submitted,

ROBERT A. GORDON City Planner

72 New Bond Street Worcester 6, Massachusetts

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MASTER PLAN

TOWN OF STERLING, MASSACHUSETTS

Prepared by:

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Robert A. Gordon 72 New Bond Street Worcester, Massachusetts

For the:

Town of Sterling, Massachusetts under contract with the Department of Commerce of The Commonwealth of Massachusetts

and:

The Federal Urban Planning Assistance Program Section 701 Title VII Housing Act of 1954

June 1962

TOWN OF STERLING, MASSACHUSETTS

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INTRODUCTION

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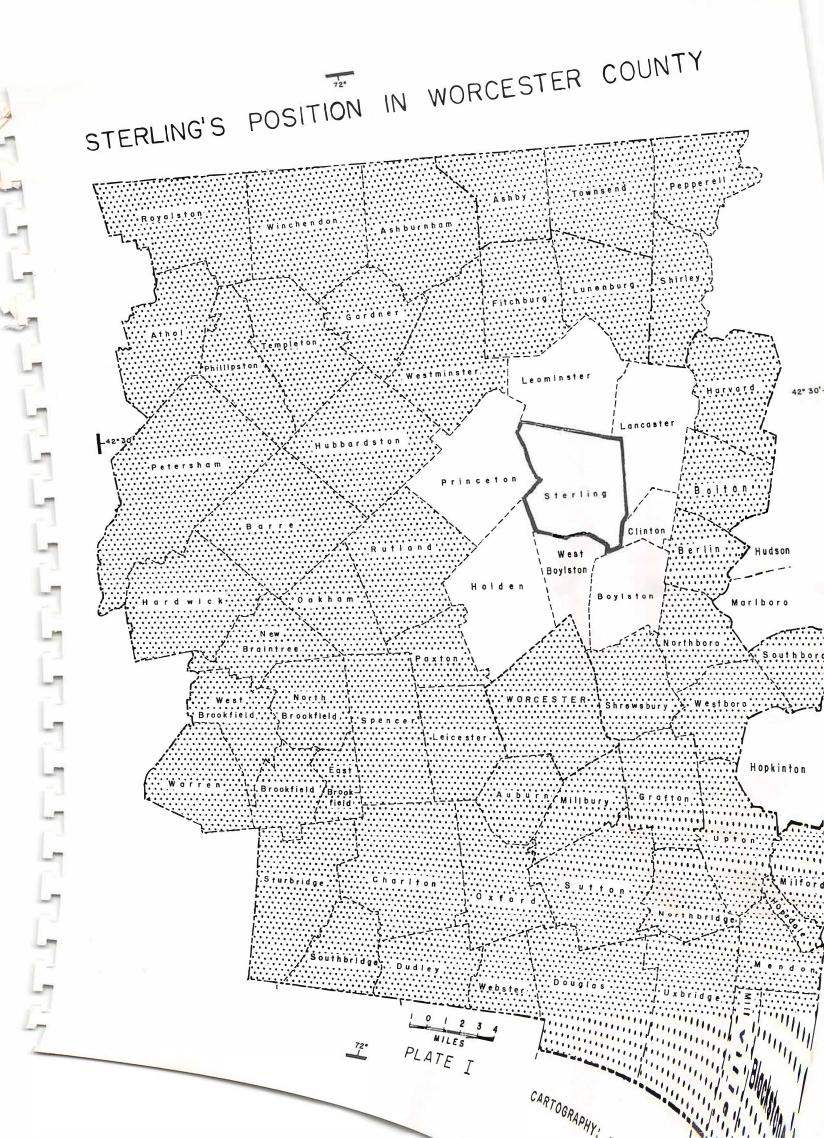
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Sterling Massachusetts is a rural-residential community located in the north central section of Worcester County, (see Plate I). It lies between two urban complexes, Worcester to the south and Leominster-Fitchburg to the north. Both of these industrialized centers exert pressure on the town of Sterling. The pressure has come in the form of expansion of residential land uses. New construction in the town has averaged 20 - 30 new residential buildings per year since 1945. The effect is a gradual reduction of open space - sometimes the loss of its valuable orchards - and an increase in the need for town services.

While there is ample room for growth in Sterling (54.7% of the land is open space subject to development) much of the vacant land will require extensive municipal service if it is to be developed as an asset to the town in the future. These areas will require increased access for example. Much of the land is wet and stony and will require new and better drainage facilities. There is ample water reserve but an extension of town water mains will insure adequate fire protection.for expanding residential areas.

Certain characteristics of the town are conducive to further residential expansion. Its proximity to the regional employment centers of Leominster-Fitchburg, Clinton and Worcester is one of these characteristics. The high hills offering pleasant vistas to homeowners in new sub-divisions is another. Accessability to employment centers is generally good if not always rapid. The town of Sterling has public and private recreation facilities along the shores of the several ponds within its borders. Large enclaves of public open space insure a rural character for parts of Sterling for some time to come. However, the need is apparent for a plan to guide growth and development in the future, and to recommend locations for public buildings and services, playgrounds and streets etc to serve the community. The Planning Board of the Town of Sterling herein attempts to estimate this need for the next two decades.



HISTORY

Sterling was first known by the Indian name of Chocksett. After its separation from Lancaster in 1720, it became incorporated under its present name in 1781. The original settlement was formed around the Unitarian Church, which was later replaced by the present Greek type structure now housing an Antique shop. Sterling is predominantly a farming community, and farming is still a major source of income for its residents. For many years the rich soil on the slopes of Sterling's hills have nurtured its apple orchards.

Lack of water resources forestalled industrial growth in Sterling. Textile and paper-making factories located elsewhere - where water for power and processing was more readily available. Still, early industries located on the Stillwater River, where its slim resources were used to saw wood and grind grain. Over the years, many small industries have located in Sterling. The manufacture of clocks, hats, shirts, pottery, cider and other home type industries are some of these. Sterling has had its inventors too. In 1863 Ebenezer Buttrick invented the standard paper pattern used in dressmaking, and another native, Silas Stewart, invented a machine for manufacture of sewing machine needles. During most of Sterling's history, the town has had some sort of Woodworking enterprise. Sawmills, chair manufacture and, even until today, the manufacture of boxes used to pack apples from its many orchards.

In the past, the many thriving enterprises in Sterling were scattered over the town, their buildings and grounds even today landmarks in the history of Sterling.

POPULATION

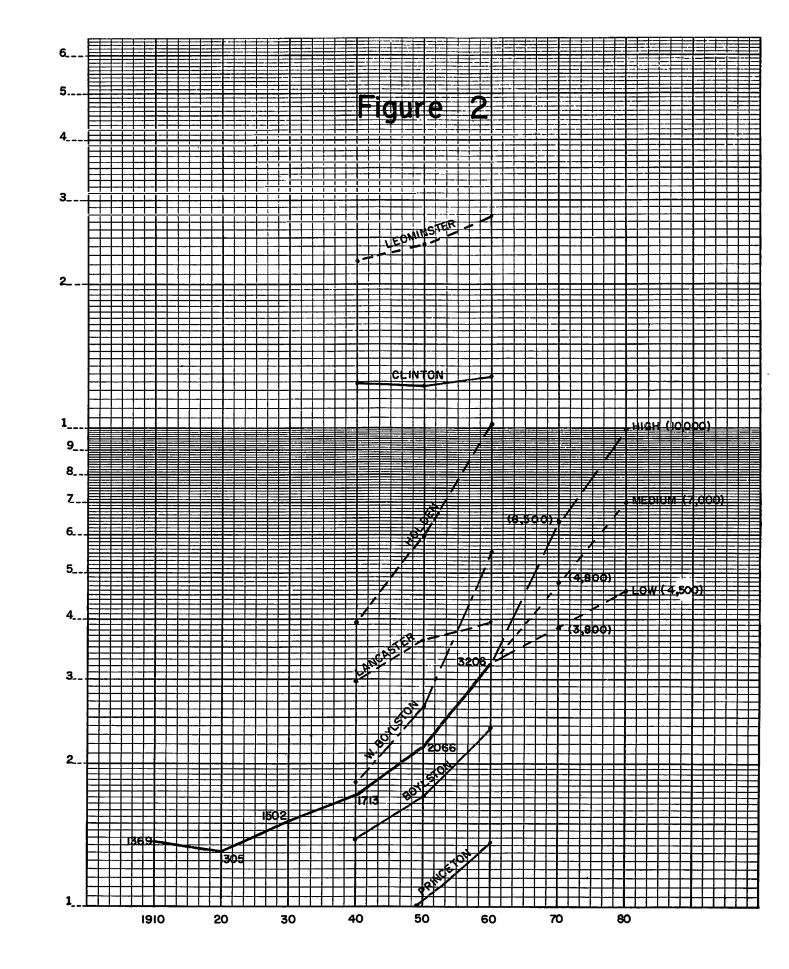
Sterling is located about equidistant between the population centers of Worcester with 186,587 and Fitchburg with 43,021 people. While it is true that both of these cities have not grown, the towns between them (figure 1) have grown by 26%. This is faster than the state average 9.8%, but not as fast as some of the other suburban areas in the state particularly those around Boston. The decade 1950-60 was one of migration from the crowded cities to the suburban and rural towns surrounding them. Fitchburg and Clinton grew only slightly while Worcester actually lost population. None of these places plus Leominster and Lancaster where able to maintain their increase and therefore lost some of their population to other towns. Sterling and the other towns in the area not only grew by natural increase, but also attracted new people to move into their towns. The towns immediately north of Worcester grew the fastest, West Boylston 115% and Holden 69.3%. Sterling, the next town removed, grew 47,4%, and added over 1,000 people to the 2,166 it had in 1950. Two-thirds of this increase can be attributed to new people moving into the town.

This growth in the town has come largely from Worcester, but can also be attributed to the other centers of Fitchburg-Leominster and Clinton.

FIGURE 1

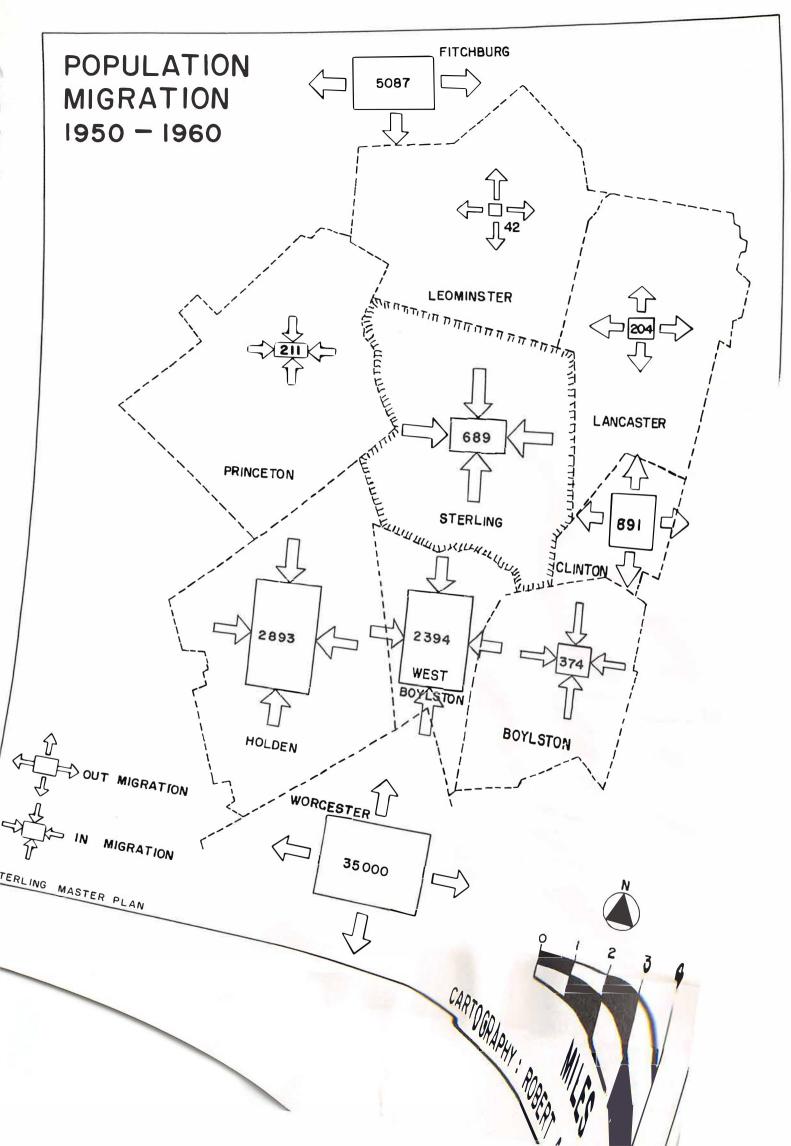
Population_Change 1940 - 1960_Sterling Area

		POPULATI	ON	NATURAL	IN	TOTAL	%
TOWN	1940	1950	1960	INCREASE	MIGRATION	INCREASE	CHANGE
Sterling	1,713	2,166	3,193	338	689	1,027	47.4
Holden	3,924	5,975	10,117	1,249	2,893	4,142	69.3
Princeton	713	1,032	1,360	117	211	328	31.8
Leominster	22,226	24,075	27,927	3,896	-42	3,854	16.0
Lancaster	2,963	3,601	3,958	561	-204	357	9.9
Clinton	12,440	12,287	12,848	1,452	-891	561	4.6
Boylston	1,388	1,700	2,367	293	374	667	39.2
West							
Boylston	1,822	2,570	5,526	562	2,394	2,956	
Worcester	193,694	203,486	186.587	-18,136	-35,035	-16,899	-8.3
Fitchburg	41,824	42,691	43,021	5,417	- 5,078	330	0.8



STERLING MASTER PLAN STUDIES 1962

ROBERT A. GORDON

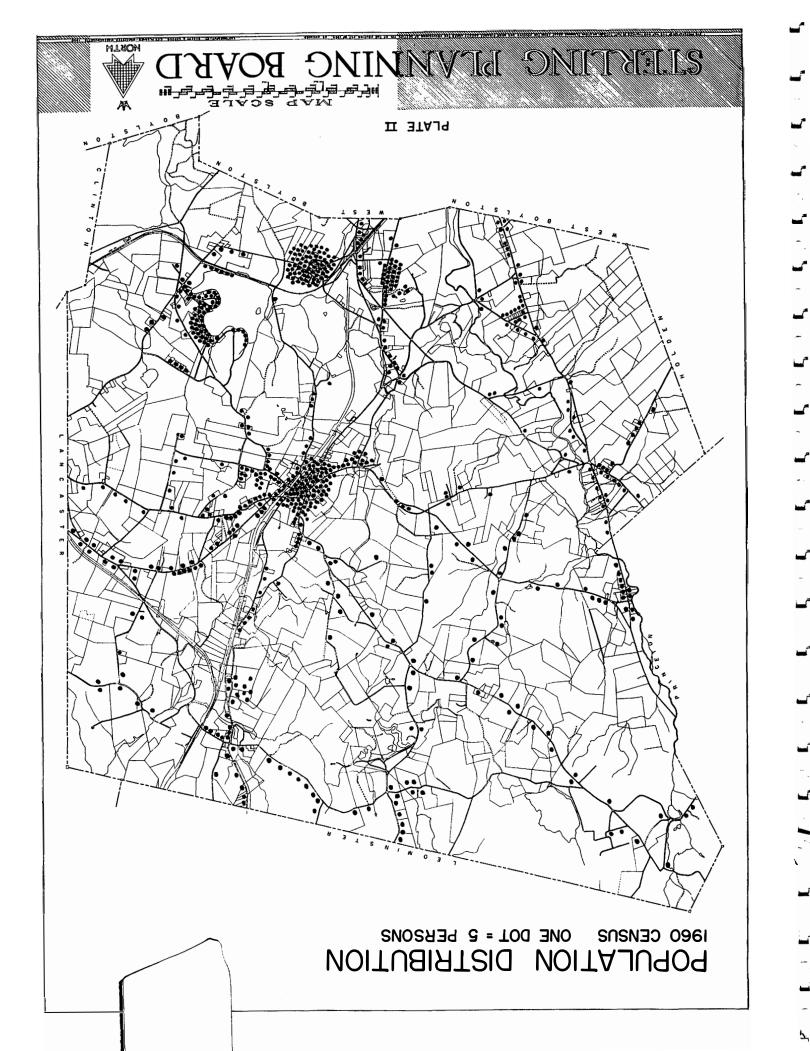


What growth can we expect in the next 20 years? Figure 3 s Sterling had a population of 1,369 in 1910. By 1940 it had to 1,713, and in the next ten years it jumped to 2,166. Th est growth, however, occurred during the last ten years giv total of 3,193 inhabitants in 1960. If Sterling should cor this same rate for the next twenty years, it would have a F 7,000 by 1980. On the other hand the next ten years could population growth occurring even further out from Worcester during the last decade. If this should happen, Sterling cc attain population totals close to 6,500 in 1970 and 10,000 the other hand, the trend to the suburbs could reverse itse as a whole might not grow as fast and Sterling might only g average rate of the last fifty years. This would give the lation of about 4,500 in 1980.

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This then gives us three projections for 1980, a high of 10 medium figure of 7,000 and a low of 4,500. All indications the town will definitely grow. How much is a matter of conbut it is a good guess that it will reach at least the media and might go to the 10,000 high figure by 1980.

The master plan will have to make provision for this expect∈ New schools, new services, added fire and police protection needed.



LAND USE

An analysis of the existing land use patterns in Sterling is included in this section of the report.

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Only 13.85 square miles of Sterling land area of 30.52 miles is in use at the present time (see figure). Most of this is in diversified agricultural use, over 65% of the agricultural land is devoted to grazing - hay and grains. Orchards, a primary source of income to Sterling farmers occupy almost 16% of all agricultural land. Livestock raising, poultry and gardening account for the remainder.

Residential development comprises 20% of the land used in 1961. Residential use strings out along the main lines of communication Route 140, Route 12, Route 62 and the interconnecting street system. Residential uses are concentrated in the town core at the junction of the North-South and East-West highways and in West Sterling. New sub-divisions are beginning to appear near Route 12 at the Sterling Leominster line.

The main business and shopping area is located in the center of town. Roadside business uses catering to automobile traffic are predominant along Route 12 and 140. Business uses range from Banking and general retail stores at the center to restaurants, inns, taverns and gas stations along principal highways. Clinton, about 5 miles to the east, is a primary shopping area for personal services and specialty goods. Sterling center is relatively undeveloped serving primarily convenience goods shopping except for banking services.

Institutional uses are for the most part concentrated in the town center, school, churches and library are on or near the common, focal point of town activities.

Industry, approximately 139 acres, is scattered about the town. Primary activity centers around the cider mill in the town center along the old railroad and the trap rock quarry on Route 12. A major power distribution center is located at Pratt's Junction in the northeastern quadrant of Sterling. Other industrial activities include scrap metal, lumber milling, sand and gravel and peat extraction.

Public land is located largely in the southeastern quadrant, where large land holdings of the Metropolitan District Commission make up part of the Wachusett Reservoir watershed.

TABLE 2

LAND USE 1961

STERLING, MASSACHUSETTS

USE	ACRES	<u>% TOTAL</u>
Residence	667.75	3.41
Business	55.10	• 30
Industry	138.84	•71
Transportation	n 221 . 40	1.20
Water Area	738.08	4.00
Public Land	_ <u>1403.39</u>	_7.16_
Sub to	otal 3269.	5 16.76%

Agriculture

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Orchards	883.28	4.62
Livestock	371.27	1.90
Poultry	134.00	.68
Gardening	525.50	2.69
Hay & Grain		18.75
Sub total	5587.05	28.64%
Vacant or Wooded Land	10,676,19	54.60%
TOTAL	19,482.80 acres	100.00%

TRANSPORTATION

The following section of the Master Plan is concerned with all elements of the transportation plan, as it relates to Sterling. While the report covers air, rail, bus and trucking facilities, major emphasis is on the circulation plan. It should be noted that the present street system in Sterling provides an excellent base for the highway system of tomorrow. It is upon this framework that such a plan was developed.

RAIL SERVICE.

Two railroads, the New York, New Haven and Hartford, and the Boston and Maine are located in Sterling. At one time the two railroads were connected by track that passed through the center of the town. On this section of the railroad, which lies between Sterling Junction and Pratts Junction, service has been discontinued. Between Sterling Junction and the town center track has been removed and the right of way abandoned.

As rail freight and passenger service declines and large sections of these rights of way are abandoned, some of the most direct and central lines of communication between urban and suburban centers are lost to the community. Decentralization, population growth and desirable location for many human activities contribute to the rapid urbanization of rural and semi rural land in Massachusetts. It is obvious that as the land becomes more intensely used, so the need for fast mass transportation service is increased. Preservation of the right of way of our railroads is one method by which space needs for access to and from central locations can be met. It is recommended in this report, that the right of way of the railroads be acquired and held for future use by the town, if and when they are to be sold by the railroad.

BUS SERVICE

Mass transportation facilities in Sterling consist of the services of one inter urban bus line, which makes at least nineteen trips daily between Worcester and Fitchburg. There is no direct bus service to Clinton. Busses stop in the center of town regularly and on call along Route 12. The service is adequate considering the number of passenger cars registered in Sterling in 1962.

TABLE	No <u></u>	3	
N			m

Destination via Sterling	Number of Daily Trips Morning afternoon						evening
Worcester to		· · · · · · · · · · · · · · · · · · ·	<u></u>				
Fitchburg	4	3	3				
Fitchburg to Worcester	3	3	3				
		Total =	: 19 trips				

The recommendation of this report related to these facilities is that the present level of service be maintained in the future.

TRUCKING.

There are no trucking terminals in Sterling. Route 12 is a major highway in the central New England area, and as such carries large volume of overland freight. The bulk of this truck traffic would be removed from the center of town by construction of a new section of highway bypassing it. Removal of this traffic will improve highway safety in Sterling, (see circulation plan).

AIR SERVICE.

Sterling Airport, privately operated on leased land, is a vital part of the community. The physical plant at the airport is adequate for the type of service the town receives. The field operates under private management with 2,800 feet of grassed runway. There are no lighting facilities, so operations are confined to daylight hours. Minor repairs and service for private planes is available weekdays from 4p.m. until darkness and during daylight hours on weekends.

It serves three elements of the general plan at present:

1. <u>Economic Base</u>. A primary function of the airport to Sterling and to towns in the region is that of a base from which crop and orchard dusting and spraying is done. Use of aircraft for this purpose is more effective, quicker and more economic than by other mechanized methods (farming and fruit growing are of major importance in the town's economy).

- 2. <u>Private Aircraft</u>. The airport serves as a base for private flying as a means of quick and efficient inter regional communication.
- 3. <u>Recreation.</u> Organization of a glider club, sport parachuting, and sightseeing air trips point to the recreational function of the airport. Lack of these facilities in other towns near by is indicative of the regional character of this service.

RECOMMENDATION.

Sterling's Airport is a necessary element of the Master Plan. Endorsement of this position is necessary by the town at a time when air service could remain, or close down in favor of some other land use on the site of the airport. An improved service developed over the next few years for Sterling and the region, a possibility that must be explored by all concerned.

Airport improvement means the following construction program:

- a. lengthen and pave the runways.
- b. lighting facilities for night operation.
- c. improved taxiways.
- d. major maintenance facilities.
- e. improved terminal facilities, including snackbar.

The improvement program, which will cost an estimated \$200,000 can be undertaken publicly or privately.

Public ownership implies Federal and State aid in developing an airfield that can offer an excellent flying service for private aircraft, a recreational program, air taxi service, feeder line service to major airports student instruction, charter work and air freight service for an industrial potential oriented to such service.

Such a program can also be financed under private ownership. Amortization of private investment would take time and development would be slower. However, private capital is willing if land can be purchased at a reasonable cost, or if long term leasing is possible.

It is apparent that such an investment of private capital would not be forthcoming unless an acceptable leasing arrangement can be made. As much needed air service is available to Sterling now, the Board recommends that the Town encourage the continuation of this service, and that the Board of Selectmen appoint a committee including one member of the Planning Board to investigate and recommend the proper action for continued service.

CIRCULATION.

Sterling has approximately 115 miles of streets and highways in all classifications. Primary roads are Route 12, Route 140, Route 162 and Route 110.

TABLE No. 4

Summary of Road Mileage

Primary Roads	(sta t e highways)	20.30
Arterial streets	(major streets)	24.60
collector streets	(serving residential areas)	34.60
residential streets	(including those unpaved)	

Total 115 miles

Primary roads provide access to the entire region that comprises central Massachusetts and central New England.

<u>Route 12</u> is the major north-south highway in this region connecting Connecticut and New Hampshire highways. Route 12 passes through the center of Sterling and in so doing creates a serious problem for local traffic. Much of the 6,000 car daily traffic passes the town center between 7a.m. and 7p.m. (3,600 cars). The larger portion of this volume is through traffic. The trucks, busses and passenger vehicles that comprise this traffic is constantly in conflict with local pedestrian and vehicular traffic. While local police regulate the traffic well, and no serious accidents have occurred recently, removal of the through traffic from the town center would enhance the town center and carry through traffic directly to urbanized areas with little interference and maximum safety. Route 12 is characterized by many roadside businesses catering to automobile traffic.

<u>Route 62</u> is the main east west highway in the Sterling region. It connects towns in eastern Massachusetts with the Mount Wachusett Recreation area (6 miles west of Sterling Center). Route 62 serves Sterling Center's function as a shopping area and town government seat. Route 62 is vital to the town economy.

<u>Route 140</u> is a major highway to Cape Cod. It passes through the western section of Sterling and serves as access to many farms and residences.

During the summer season tourist traffic makes up a large part of the 2,000 cars per day using Route 140.

<u>Route 110</u> passes through Sterling for a short distance along the northern shore of the Wachusett reservoir (1.41 miles). It is a bypass for traffic from the Metropolitan Worcester area that has destinations in the northeastern part of Massachusetts. Route 110 serves to carry only a small amount of local traffic in Sterling.

Recommendations:

Long range forcasts for highway needs are necessary to the Master Plan for they provide the circulation system necessary for the functioning of the future land use plan. At present, there is adequate highway access in Sterling because every section of the town is served by means of a paved road. These roads are maintained by the town summer and winter. Deficiencies in present system exist in the form of inadequate width, poor shoulder treatment, poor alignment and grade.

The following recommendations are made to bring the town road system to a degree of efficiency necessary to meet the predicted changes in the land use patterns in the next twenty years.

- 1. <u>North-South Thruway</u>. Plans are being formulated and surveys are being made to determine the exact location of a major New England thruway to connect the Connecticut Turnpike with the White Mountain Region in New Hampshire. This highway is proposed to pass through the industrial region of Central Massachusetts. As the thruway is vital to the economy of this region, the location of this facility is to follow more intense study by the State Department of Public Works, and it is the recommendation of the Board that Town Officers appoint a committee composed of three members, one of which is a member of the Planning Board, to sit with the New England Thruway Committee and keep abreast of the progress made by the Agency planning the highway particularly as it applies to Sterling.
- 2. <u>Route 12</u> is a three lane highway. While there are no R.R. Grade crossings on Route 12, all intersections and other streets are unimproved grade intersections. The present volume of through traffic constitutes a hazzard and a nuisance to local pedestrians and to center oriented vehicular traffic. This report recommends the construction of a bypass some 3,500 feet long from a point opposite the Sterling Inn to the intersection of Route 12 and 62

north of the center of town. Along with the bypass, Route 12 should be reconstructed as a divided highway, and intersections with state highways and local arterial streets should be channalized and signalized. Until such time as Route 12 is relocated or rebuilt in the town of Sterling a new and safer black top finish should be applied to the present surface.

- 3. Route 140. Presently Route 140 is carrying approximately 2,000 cars each 24 hour period. It is narrow (2 lanes) and has little safety margin or storage space for disabled cars particularly that section south of Route 62. The road surface is generally poor. Because of the large enclaves of empty land (woods and farms) on either side of route 140 at the present time it is possible to maintain an even rate of speed throughout most of its length in Sterling. However, there are scattered settlements and roadside commercial land uses along the highway. At these points, there is little margin for safety when there is parking on the roadway. Recommendations are that a widening and resurfacing be carried out from the West Boylston line to Route 62 - a distance of 2.5 miles. Clearing trees and removal of hummocks will improve the sight distances and consequently the safety of highway users. The provision of adequate stable shoulders for emergency parking should be provided where necessary.
- 4. <u>Route 62</u> 6.5 miles of Route 62 lie in Sterling. At present it is carrying approximately 2,900 cars every 24 hours. The bulk of this travel takes place between the Lancaster line and the town center. Route 62 carries over 1,900 cars per 12 hour day (7a.m.-7p.m.) through the center of town adding to an already overburdened Route 12 in this same area. The difference to Sterling is economic in that the Route 62 traffic is local traffic and it is to these highway users that Sterling center caters.

In 1962, the State Highway Department will rebuild the eastern half of Route 62 - replacing the bridge over the railroad and widening the roadway to the Lancaster line.

To the west of the town center, Route 62 has adequate width and a good surface. Wide shoulders give added safety to this section of the highway.

Recommendations are to limit business frontage and keep new road openings onto this section of highway at a minimum.

TABLE NO. 5

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DESIGN ELEMENT	PRIMARY ROADS	LOCAL ARTERIAL STREETS	COLLECTOR STREETS	RESIDENTIAL STREETS
Number of traffic lanes	4	2	2	2
Width of traffic lanes	12	12	12	10
Width of shoulders	10	10	10	7
Median strip width	20	-	_	-
Width of side- walk area	16	11	8	8
Width of Right of Way	: 120	60	60	50

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5. <u>Route 110</u> A short stretch of Route 110 lies in Sterling. This highway serves as a connection to Clinton bypassing Sterling Center. Much of the land either side of this road is M.D.C. Reservation and there is little marginal interference with this traffic as a result. The surface is poor, although the road is adequate in width to handle present traffic volumes. Recommendations are to resurface and widen the highway for future traffic volumes.

6. Further Recommendations.

- a) <u>A northern artery</u> between Route 12 and Route 62. It is recommended that Justice Hill Cutoff, Justice Hill Road, Upper North Row, North Row Road and Pratts' Junction Road be considered a northern artery, and a program be undertaken to construct the entire length of this proposed artery according to standards for local arterial streets.
- b) <u>A West Central Artery</u> from Route 12 to North Row Road. It is recommended that Boutell Road, Greenland Road, a new connection to Wilder Road, South Nelson Road, a new connection to Heywood Road and Heywood Road be considered a West central artery designed to standards for local arterial streets as recommended in this plan. This artery would require 3,000 feet of new construction on Greenland Road and 3,600 feet of new construction between South Nelson Road and Heywood Road. It would also require approximately 3,600 feet of realignment on South Nelson Road.
- c) <u>A Southern Arterial connection</u>. It is recommended that a southern arterial connection be constructed from Boutell Road to Camp Ground Road and Spring Hill Road with a new connection totalling 3,500 feet and that the entire connection be built according to arterial standards for local streets recommended in this report.
- d) <u>An Eastern Arterial connection</u> from Route 110 to Route 62. Included are Spring Hill Road, Fitch Pond Road and Chase Hill Road. The arterial connection to be built according to arterial standards for local streets as recommended in this report.
- 7. It is further recommended that a clarification and simplification of street names be adopted and included in the arterial plan. The recommendations are as follows:
 - a) Streets Boutelle Road Greenland Road named: Boutelle Road entire length

b) Streets Wilder Road - South Nelson Road Wilder Road - entire length named: c) Streets Meeting House Hill Road, Rowley Hill Road Justice Hill Road named: Rowley Hill Road - entire length d) Streets North Row Road, Upper North Row, Justice Hill Road, and Justice Hill Cutoff North Row Road - entire length named: e) Streets Kendall Hill Road, Swett Hill Road, Spring Hill Road Kendall Hill Road named: f) Streets Fitch Pond Road and Hawkins Lane named: Hawkins Lane - entire length

COLLECTOR STREETS.

The collector street serves internal traffic movement within certain segments of the community such as a major subdivision area. Subdivision development in Sterling will occur in areas just off many of the town's paved roads. These paved roads will become collector streets in the future. It is recommended that those streets so indicated on the circulation plan be improved in accordance with standards for collector streets outlined in this report.

RESIDENTIAL STREETS.

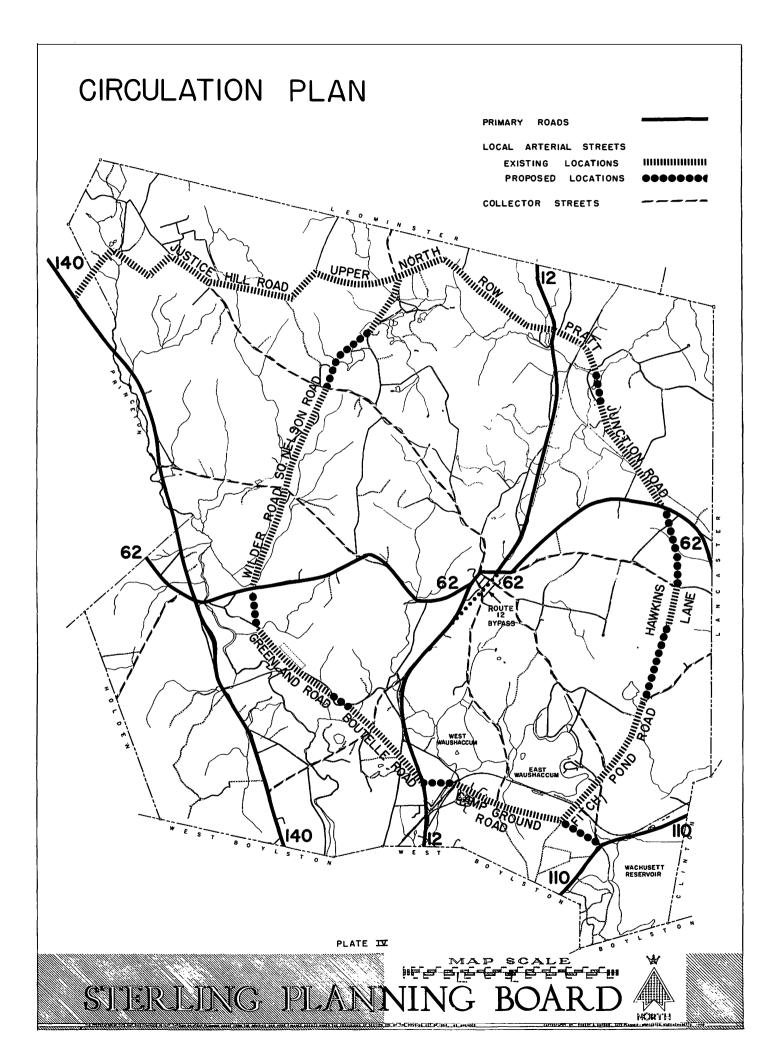
The function of the residential street is to provide access to residential property. Residential streets should not carry through traffic nor high speed traffic. Residential streets must be built in accordance with subdivision regulations now in force.

RESERVATION OF RIGHT-OF-WAY.

A major problem faced by most communities is one of reserving needs highway right-of-way while trying to meet current fiscal obligations. If required land is not immediately acquired by direct purchase and building occurs, acquisition damage in the future may be substantial. It is therefore recommended that the town consider application of Chapter 41, Section 81-J of the General Laws to establish or alter the exterior lines of public ways. Damages may be recovered by persons injured by the establishment of the exterior lines, but no recompense for damages sustained to structures built within the exterior lines after their establishment is possible. Reservation of land under the above law is a means of preventing future hardship since ample notice of intended action is assured in the process of obtaining a favorable vote of the Town Meeting; following which a recording in the local Registry of Deeds is required.

OFFICIAL MAP

Adoption of an Official Map under GL Chapter 41 Section 81E, showing all public ways and parks and all private ways then existing and used in common by more than two abuttors, is recommended in this report. Also, such a map should show all public lands, public buildings, railroads, water bodies and streams. It is necessary that an Official Map be adopted by favorable vote of Town Meeting. Upon adoption, new or widened public ways may be shown as well as enlarged or proposed new parks. Land takings made for highway improvement under Chapter 41 section 81-J would be placed on an Official Map adopted under Section 81E as a public record of such action.



ECONOMIC BASE

The economic base of any community may be stated to be the means by which the town derives its livelihood. Some towns are entirely self-sufficient and might even provide work for the labor force outside its boundaries. Such a town would have a large basic employment.

<u>Basic</u> or primary employment is that which is generated by supplying needs of people beyond the town borders. <u>Non-Basic</u> or service employment is generated by meeting the needs of people within the town.

Other towns may have almost no basic or primary employment and few nonbasic jobs. These towns are usually part of a much larger region and are dependent on a town or city in the area for the livelihood of its residents.

This is true of Sterling. Sterling is unique in that it is part of three separate areas for its industrial jobs. Of all the people in Sterling that work in manufacturing jobs, 47.3% work in Worcester, 43.6% in Clinton and 9.1% in the Leominster-Fitchburg area.

Therefore, Sterling's future growth will be dependent on, not only its own economy, but that of the three industrial areas on its borders.

Sterling had a labor force of approximately 1,062 persons in 1960, but had jobs in the town itself for only 280. That meant that 75% of the working people in the town had to go elsewhere for employment.

If the town grows in the future, as the population forcast indicates that it will, then its economy must grow for it must increase the number of jobs available locally if it is to continue to supply work for at least one quarter of its labor force.

As the town grows, it should be fairly easy to supply jobs for even more than 25% of the labor force, for example, certain services not now available locally can be initiated and supported when the population warrants it.

Therefore, it is determined that as the town grows the percent of local employment will increase until it provides for 30% to 35% of Sterling's labor force.

If the forgoing assumption is true, then the town must provide for 80 to 360 new jobs by 1970, and 700 to 1160 new jobs by 1980. This forcast is based on the medium and high population forcasts for those years.

What types of jobs will these be? Some of this will undoubtedly by industrial employment particularly if Sterling is successful in establishing a small industrial base in the town. The largest percentage of these will be in the retail and service trades however. If Sterling grows to between 7,000 and 10,000 persons by 1980, as the Master Plan anticipates, many more services and retail specialty shops will be needed. We can expect one, or possibly two supermarkets to supply food needs. The town could then support a small local shopping center with many convenience stores. Within a 12 mile radius of Sterling, there is a population of over 350,000 people, so it is conceivable that with an improved highway network, Sterling could even support a regional shopping center.

TABLE NO. 6.

LABOR FORCE COMPARED TO LOCAL EMPLOYMENT

Population Forcasts

		Medium		High	<u>1</u>
	1960	1970	1980	1970	1980
Population	3,193	4,300	7,000	6,400	10,000
Labor force	1,062	1,433	2,333	2,133	3,333
% of Labor fo locally emplo		25%	30%	30%	35%
Number of loc jobs	al 280	360	700	6 4 0	1,160
Number of new jobs to meet employment fo	local	80	420	360	880

At the same time, however, the town will be dependent on the larger regional centers for certain types of service and retail trade and most of its basic industrial jobs.

Worcester will continue to supply specialized medical and professional services, retail and cultural activities, and most of the jobs for

-18-

Sterling's labor force.

1

Clinton will continue as a major retail center with respect to Sterling as well as the location of a large number of industrial jobs.

If the northern part of Worcester County flourishes, Leominster and Fitchburg will become more important as a source of employment than they are at present. Even if employment in the town itself grows, as projected in this report 65% to 70% of the labor force will have to look to the region for employment. If Sterling is to grow, then the region as a whole must prosper.

SCHOOLS

The following report comprises an important part of Sterling's Master Plan. Commensurate with growth, particularly growth in terms of young families emigrating from urban centers, there is always the need for a town like Sterling to face community responsibility in educating its young people.

Population studies show that Sterling will continue to grow and that a large part of this growth is coming through migration. In order to accommodate the young people that are part of this population change, this section of the Master Plan attempts to forecast the physical needs of Sterling's Public School system in 1970 and 1980.

Part 1 deals with the system

- Part II summarizes the present school plant
- Part III including graphs represents an estimate of enrollment and classroom needs for each five year period up to 1980 with emphasis on 1970 and 1980.

<u>Part I - System</u>

Sterling's present school system is an 8-grade elementary, 4-year senior high school system with no kindergarten facilities. At present, the entire town is one school district. The eight elementary grades are housed in two buildings (Buttrick and Houghton) located (Buttrick) in the town center on the Common, and (Houghton) in West Sterling on the south-east corner of a 50 acre tract of land. All pupils in grades I, II, and III, and one grade V are housed in the Buttrick School. The Houghton school houses grades IV, V, VI, VII, and VIII. School bus service to both schools is provided by the town. Sterling is a member of the Wachusett Regional High School District and grades IX - XII (233 pupils) attend that district school, located in the town of Holden.

Part II - Present School Plant

Present school needs are served by two elementary school buildings. The Buttrick school, built in 1932, has 9 classrooms housing 245 students. Two of these, which are in the basement, are substandard. It has no cafeteriaschool lunches are prepared at Houghton and transported to the Town Hall (across route 12 from the Buttrick School) to which the Buttrick children move daily at lunch time. The building is a substantial attractive and well maintained two story brick building, typical of school plants designed in the late twenties and the thirties. The available recreation area of approximately two acres is small for an elementary school of Buttrick's size.

The Houghton school is a new single-story, completely modern structure built in 1957. Houghton has 12 classrooms, a cafeteria and an auditorium that serves also as a lunchroom and physical education room. The school is located on a relatively level 50-acre tract of land owned by the town. Although there is ample area, as yet no organized, planned recreation area has been developed for this school. This site has some drainage problems because of its grade and location, but these can be corrected. Town water is adequate for school needs and fire protection.

Presently the Houghton school is being expanded by the addition of five classrooms and an auditorium. Two of these classrooms will eliminate the substandard classrooms at Buttrick, two are for a predicted increase in enrollment, and one classroom will serve to meet State requirements for a room for special students. Also included in the current expansion program is a library and a gymnasium. The addition started in 1961 will be ready for use in the fall of 1962.

An essential part of the planning program for the town of Sterling, based on predicted growth in the next 20 years, is an evaluation of this growth in terms of future school needs. Part 3 of this report deals with these future needs and methods used to evaluate them.

Part III - Estimated Enrollments and Future Classroom Needs !

In this study classroom needs based on estimated enrollments for the years 1965, 1970 and 1980 are projected for both the present 8-grade elementary and 4-year senior high system and a modern 6-grade elementary, 3-grade junior high, 3-grade senior high school system.

Two methods were used to estimate classroom requirements for the future. The first estimates were arrived at by the survival percentage method (Table I). This method traces yearly groupings of students by grade at each grade level throughout the 12-year program. Using actual birth and school enrollment records since 1940, it was possible to find the average percentages of the number of children born to the number attending school at each grade level for every age group. The average percentages for each grade level are then applied to actual and estimated birth figures to project enrollment for each grade or grouping of grades through 1980. The second method was used to check the results of the first. Projected population figures for the appropriate years taken from the Population Report in the Master Plan (Table II). The percentage of the population attending school at each of the several grade-groupings was applied to the high, median and low population forecasts to project future enrollments. The median projected enrollments were then translated into classroom requirements (Table III).

The following table shows classroom needs for the 8-grade elementary, 4-grade senior high school system:

TABLE NO. 7										
	YEAR	GRADES 1	GRADES 9	- 12						
		Pupils	Pupils Rooms							
	<u>1970</u>									
	high	812	. 27	227	9					
	low	676	23	230	8					
	<u>,1975</u>									
	high	980	33	287	10					
	low	725	24	278	10					
	<u>1980</u>									
	high	1170	39	336	12					
	low	876	30	276	9					

Presently (in 1962) the 8-grade elementary system is housed in 23 classrooms with an additional 5 under construction. As previously shown, the net gain is only two classrooms because of existing classroom commitments. Therefore, the 25 classrooms available for growth will not be sufficient to house the 1970 high enrollment estimate. Sterling will need at least two additional classrooms by that time. As the space in the Buttrick school basement is to be converted to a cafeteria, the additional classrooms will have to be provided beyond the present plant and the addition under construction.

By 1980 elementary classroom needs for grades 1 - 8 will reach a high of 39. An additional 12 classrooms will be needed. These projections indicate that a detailed study should be made in the early 1970's to ascertain when construction should begin on a new 12 room 8-grade elementary school located in the eastern part of Sterling in order to accommodate 1980 enrollment in this part of the system unless the following recommendations are adopted to forestall the necessity of another elementary school.

The senior high school classroom space problem will increase proportionally in the years to 1980. 1962 enrollments in the Wachusett Regional High School will reach approximately 250 pupils. By 1970, these enrollments will have reached 277 (high estimate). These children will occupy 9 classrooms (if they are available) at the Regional High School. By 1980, the high school enrollment will reach an estimated 336 pupils, necessitating at least 12 rooms to house them. Obviously the Wachusett Regional High School cannot accommodate all of these children. Other towns in the region are growing as well. So either they must be housed in a new building, jointly with Princeton or some other town, or School Union 24 must reorganize at the regional level into junior-senior high school system. In other words, the total regional picture indicates that, unless the town of Sterling wants to return to a fragmented high school program for its children, with students scattered among the region's high schools, or construct a new senior high school by 1980 - construction of a junior high school (with Princeton) of approximately 15 classrooms is a necessity on the 50-acre Houghton site. Over the long range, this system (junior-senior high) will offer the best advantage to the town of Sterling, because:

- 1. Financially, the town will have to share in the construction of only one school building in the forseeable future the junior high.
- 2. A more balanced and forward looking educational program will be provided for grades 7, 8 and 9 in the years ahead, according to most educators.
- 3. No change will be necessary in the elementary building situation except that there will be room for kindergarten classes.
- 4. More complete development of the Houghton site with adequate recreation facilities will be provided by this building program.

YEAR	GRADES	GRADES 1 - 6		<u>GRADES 7 - 9</u>		<u>GRADES 10 - 12</u>	
	pupils	rooms	pupils	rooms	pupils	rooms	
<u>1970</u>							
high	629	21	246	8	208	7	
low	499	17	245	8	176	6	
<u>1975</u>							
high	760	26	296	10	213	7	
low	536	19	242	8	207	7	
<u>1980</u>							
high	916	31	347	12	257	9	
low	667	22	288	10	210	7	

The following table shows the classroom needs for the 6 grade elementary junior-senior high school system.

TABLE NO. 8

A review of classroom estimates for a 6-3-3 system indicates the following:

- In 1970 need for elementary classrooms would range from 17 to 21. With these maximum-minimum requirements changes in curriculum in the first 6 grades can be accomplished - for example, kindergarten classes can be started for 5 year olds.
- 2. 1970 estimates for senior high enrollments is 208 this indicates an immediate relief for Wachusett Regional High School at such time as a junior high school is available for Sterling's 9th grade, as well as, perhaps, similar grades in the town of Princeton. For grades 10-11-12 in 1980 enrollment will be approximately 257 pupils (high estimate) this is close to the present 4 grade total in the senior high bracket. This means a junior high school would tend to level off the pupil load on the Wachusett Regional High School and that senior high school facilities would not have to be built in Sterling during the next 20 years.
- 3. The chart (Table showing highs and lows in enrollment and classroom space indicates that planning should begin now for a junior high school with Princeton to be ready in 1965, accommodating approximately 500 - 600 pupils.
- 4. Sterling has a ready made site (50 acres) for such a school plant, and even in the 1980 - 2000 growth period a senior high school. It has adequate access to all parts of the town and adjacent towns, as well as municipal services for health, fire protection and the safety of its students.

The school study indicates that school planning in the past has been adequate. In the future, the planning must be more long range in order to accommodate a variety of suitable solutions. The town must face squarely the problem of constructing a new 8-grade grammar school after 1970 and having a fragmented high school program or

Change the educational system to a 6-3-3 program and construct a junior high school in conjunction with some other town, preferably Princeton, keeping grades 10-11-12 in Wachusett Regional until such a time as is practical to construct a senior high school in Sterling.

The findings of this survey indicate the latter to be more satisfactory.

To accomplish this, it will be necessary to revise the legislation by which the Wachusett Region was established. Any future changes in the regional organization must be preceded by changes in the enabling legislation. Such legislative revision requires time and thus should be commenced well in advance of the time any actual changes are contemplated. Legislative revision, commenced as soon as possible, should make provision for:

- 1. the regionalization of grades 7 12
- 2. the establishment of two sub-regions comprised of Paxton -Rutland and Sterling - Princeton
- 3. the eventual dissolution of Union 24 (Wachusett Region)
- 4. the eventual dissolution of the two sub-regions which this time would be completely separate from each other.

Such legislation would permit the construction of two junior high schools-Paxton, Rutland and Sterling, Princeton - the expense of constructing and operating same to be borne by the five towns of Union #24. By approximately 1970, the two sub-regions will convert the junior high schools into junior-senior high schools and the town of Holden will buy out the shares of the other four towns in the Wachusett High School. Holden will then operate its own school system; the two sub-regions will sever ties and become separate two town unions. Thus the dissolution of Union #24 as the Wachusett Region will be completed.

In due time, with the necessary legislative machinery already in existence, Sterling and Princeton may dissolve their school union in favor of separate school systems when they feel that such separation is feasible.

RECREATION

Parks, open space, playgrounds and playfields serve as areas in which people carry on active and passive recreational activities. They also serve as open breaks in the built up areas of town. As density is relative so the pleasant rural aspect of Sterling center and the rural agricultural landscape of the remainder of the town can be maintained and the town grow as in the past with its basic character preserved by the provision of adequate open space in the general plan.

Changes in the population structure, more leisure time, and increased disposable income make it necessary for the town to provide recreation services on a much wider scale than ever before. To meet this need the Planning Board makes the following recommendations:

PASSIVE RECREATION AREAS

Sterling's long term recreational needs are twofold. First, a program providing playground space for organized games and sports must be initiated. This program will reach young people of all ages in every section of the town. Secondly, a program must follow the first which is more long term in character and which will provide parkland and conservation areas that will be devoted to passive recreation, hiking, camping and nature study. These areas, when part of the public domain, will preserve for posterity the exceptional beauty of the long views of mountain and city from the hill tops, and the quiet glades wherein lie the meandering streams that characterize much of Sterling's rural countryside.

It is recommended that a review of the recreation plan be made in 1965 and a program of acquisition of sites for park and conservation areas be undertaken at that time in full co-operation with town Boards and Commissions as well as Federal and State authorities.

ACTIVE RECREATION AREAS

A program designed to provide playground space for children of all ages should be approved immediately, and work started on facilities that will provide needed play space in all sections of Sterling by 1966. With this program in mind, the Planning Board recommends that necessary steps be taken to provide these recreation facilities.

The program consists of expanded facilities at the Town Beach, expanded facilities at the Buttrick School, a full athletic field at the Houghton School site if the recommendations are followed with respect to the Junior High School plant outlined in the School Report. And finally, three playgrounds located in the eastern (Spring Hill), northern (Twin Oaks) and western (Moore's Corner) section of town.

It should be noted in the beginning that the land needed for development of three of the six areas recommended is currently owned by the town of Sterling.

A Landscape Architect should be hired in 1963 for the purpose of preparing plans for new facilities at the Town Beach, Spring Hill site and expansion of facilities at Buttrick School. In 1964 the Architect should prepare plans of a full athletic field for the town at Houghton School site. Also at this time plans should be drawn for a playground in the Moore's Corner area.

A description of playground facilities follows:

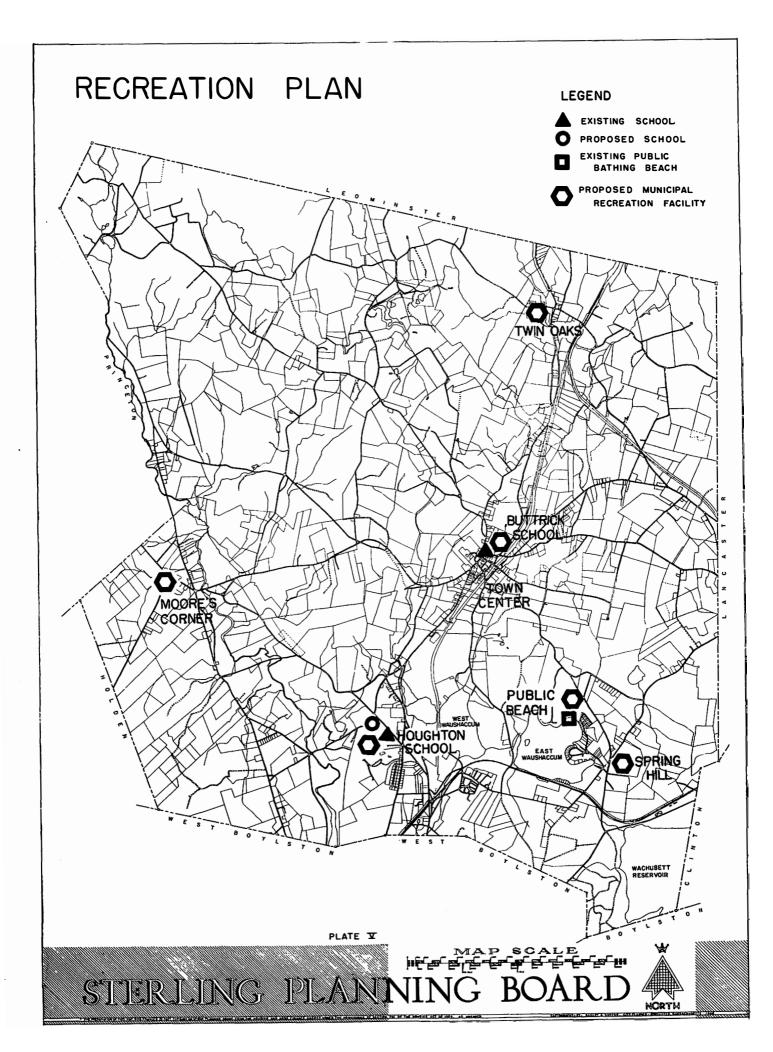
- 1. <u>PLAYGROUND AT THE TOWN BEACH</u>. A playground with hard courts, softball field, tot lot and apparatus for older children will complete the facilities needed at the Town Beach on Lake Washaccum. The town land either side of the approach road to the picnic area should be filled and graded and the proposed facilities installed completion of construction should be such that new areas are available by the summer of 1965.
- 2. <u>PLAYFIELD AT SPRING HILL ROAD.</u> Use of a rough triangle of land for a baseball diamond located at the junction of Spring Hill Road and Fitch Pond Road in the center part of town is an indication of need for an organized playfield in that area. It is recommended that approximately 4 acres of land on the easterly side of the intersection be acquired and developed as a town playfield. Acquisition should occur in 1963. A ball field should be ready in 1964 and hard courts in 1965. Further expansion will depend on population increases in the area after 1965.
- 3. <u>PLAYFIELD AT MOORE'S CORNER.</u> The western section of Sterling would be provided with a playground located on the northerly side of the intersection of Princeton Road (Route 62) and Holden Road. This facility with ball field should be ready for use in 1965. Further expansion of facilities is dependent upon population increases after 1965.
- 4. <u>HOUGHTON SCHOOL SITE</u>. A full athletic field for elementary junior-high school use is recommended for the southeast area of the Houghton School site. Twelve acres of land will be needed for this facility the expansion of which will eventually serve a town Junior-Senior High School complex as well, if the recommendations of the School Report are followed.

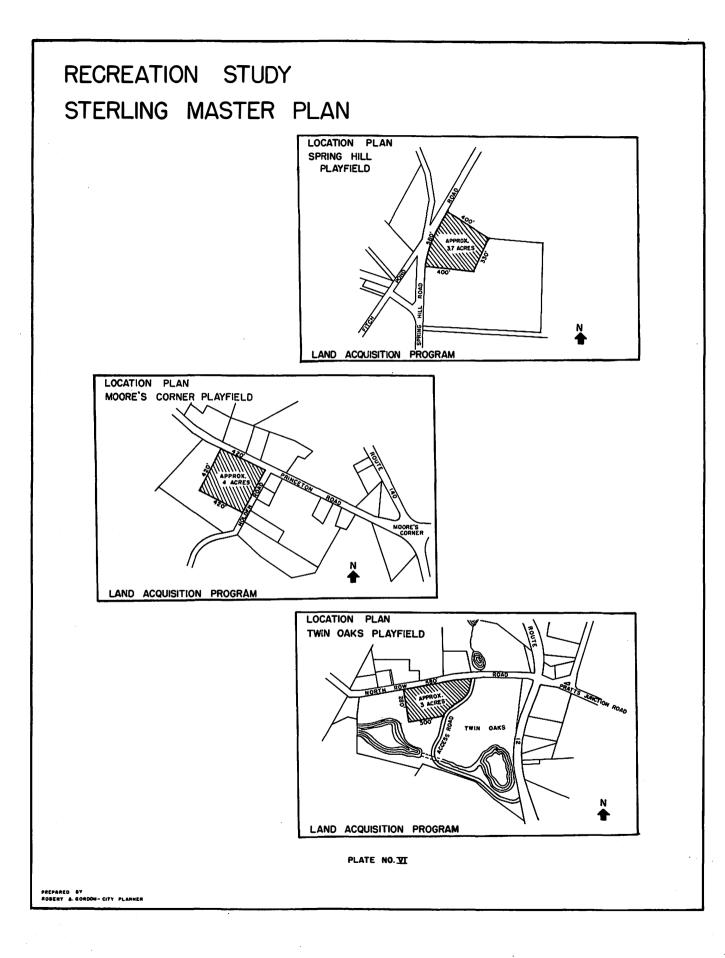
This facility with track, football and baseball fields available will be the major sports field in Sterling. Preliminary plans should be prepared in 1964 for these facilities.

- 5. <u>PLAYGROUND AT TWIN OAKS</u>. The acquisition of approximately 3 acres of land at the intersection of North Row Road and the access road to Twin Oaks area is recommended for the eventual construction of a playground to serve children in the northern part of Sterling. Site acquisition should take place in 1963 and facilities for organized baseball should be ready in 1966. Additional playground facilities can be provided as the area grows. However, they will not be needed until after 1966.
- 6. <u>EXPANSION OF BUTTRICK SCHOOL PLAYGROUND</u>. It is recommended that the recreation area at Buttrick School be expanded to 5 acres and include the following facilities to better serve the school and neighborhood recreational needs:
 - a. <u>Tot Lot</u> with sandboxes, swings and shaded play area.
 - b. <u>Elementary school children</u> hard surface for court games, apparatus for older children and a softball field.

Proposed Playground	Present Ownership	Area	Town Acquire	Facility	Approx. Completion Date
Town 1. Beach	municipal	4 acres	-	fill-grade ballfield hard courts apparatus Tot Lot	1963 1963 1964 1965 1964
2. Spring Hill	private	4 acres	1963	prepare site ballfield hard court apparatus toilets	1963 1964 1965 1966
3. Moore's Corner	private	4 acres	1964	prepare site ballfield hard courts apparatus toilets	1964 1965 ind. * ind. ind.
4. Houghton School Athletic Field	municipal	8 acres	-	full elementa- ry Jr. High School Athletic Field Prepare plans	after 1965 1964
5Twin Oaks	private	3 acres	1963	prepare site ballfield hard courts apparatus toilets	1965 1966 ind. ind. ind.
6. Buttrick School	municipal	5 acres	-	expand apparatus Tot Lot Softball field Play area Hard courts	1966 1963 1964 1963 1965

* ind. = indefinite





TOWN CENTER

The basic need in the physical plan for the center of Sterling is related to movement and storage of the automobile. In this respect, Sterling is no different from other New England towns. All local and through traffic must traverse the town center. Construction of a by-pass for through traffic and provision for off-street parking are major central area projects in the years ahead.

TRAFFIC IMPROVEMENT

In view of this need, a limited access by-pass for Route 12 has been designed to carry through traffic to the east of the main shopping area. Much of the location of this highway is former railroad Right of Way. Northbound traffic in the by-pass will have access to the center by way of an off ramp to Waushacum Avenue to Main Street. Southbound traffic will enter the center by way of the present location of Route 12 at its intersection with Route 62, (see Master Plan for the center).

OFF-STREET PARKING

Provision of public off-street parking in the town center is a primary need in Sterling if traffic flow and pedestrian safety is to be enhanced. A review of the land use pattern shows that there is adequate land to provide for such parking at the rear of properties fronting on Main Street between Waushacum Avenue and Maple Avenue. This is site planned to tie in with Waushacum Avenue as the major access to the center when a through traffic by-pass is constructed. Planned for 150 spaces maximum, the site will require an area of approximately 45,000 square feet of land. Design of the facility will allow a two stage construction program in reaching the desired number of parking spaces in the lot, (see parking lot plan).

<u>Stage one</u> will provide for 102 spaces. Of this number approximately 11 spaces, adjacent to the Town Hall, can be assigned directly to town employees. <u>Stage two</u> will provide for a net gain of approximately 50 parking spaces by adding an area of 23,000 square feet between the lot in stage one, developed as a double row of parking spaces parallel to Main Street, and Pine Street. Entrance to the parking lot would then be possible from Pine Street or Waushacum and Maple Avenues.

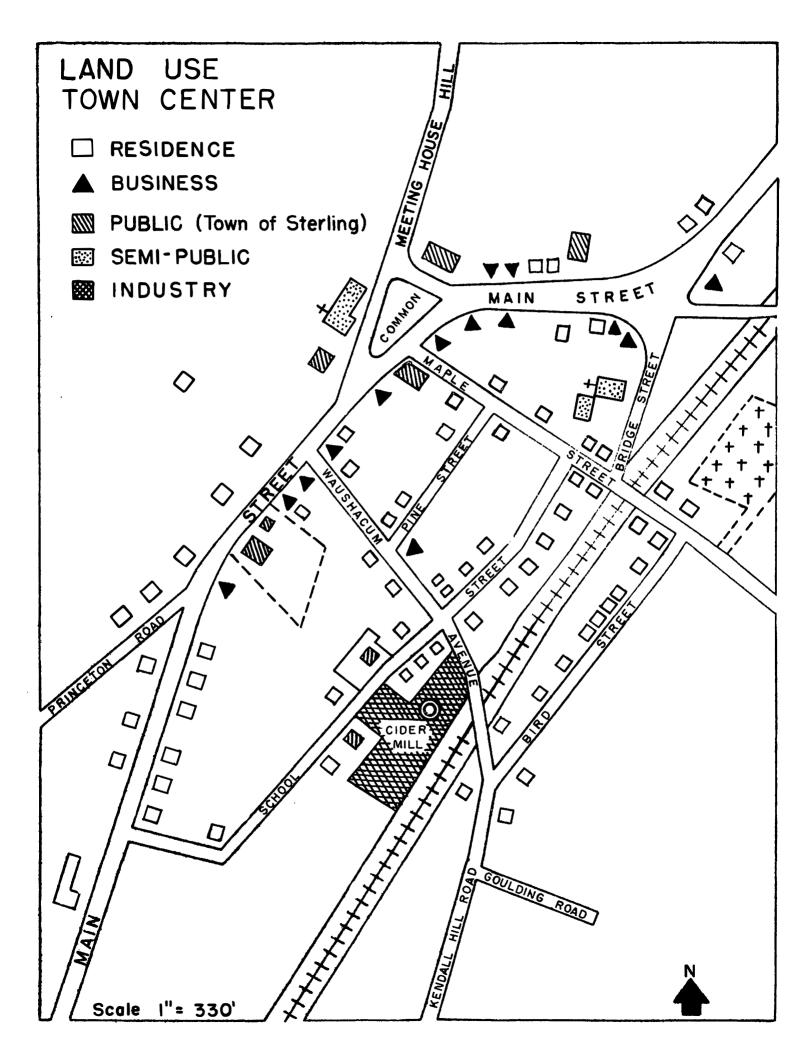
RECREATION

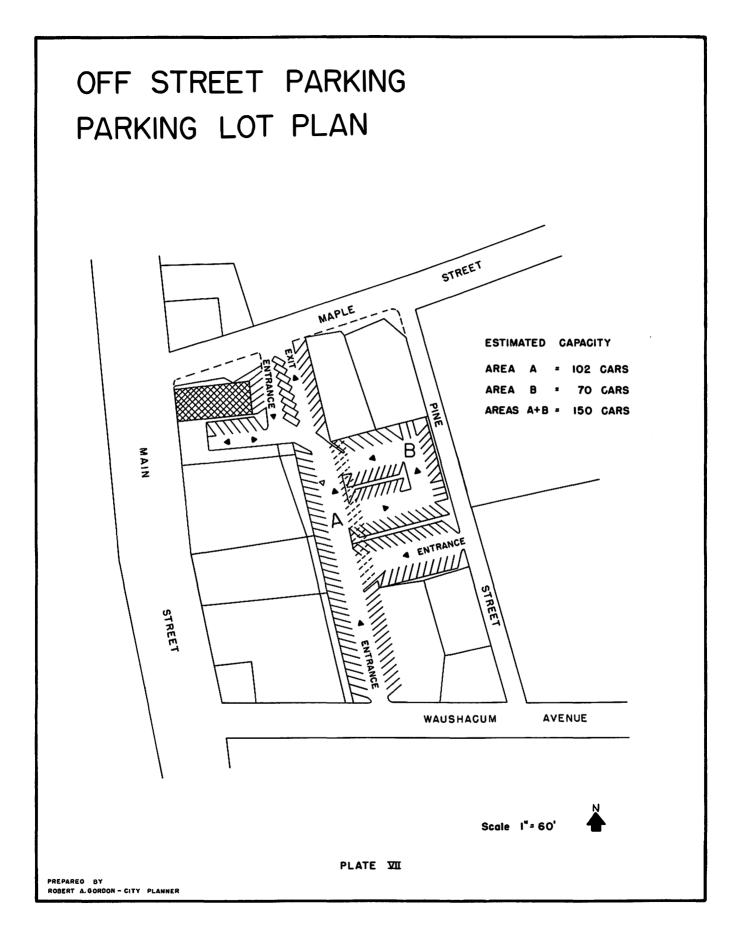
A playground facility expanded to 5 acres at the Buttrick School is also recommended. The enlarged playground is planned to serve school needs and also to serve as a neighborhood playground for children living in or near the town center. If the recommended facilities are provided, the recreation commission will have the added responsibility of providing trained leadership for summer season activities. Recommended facilities are:

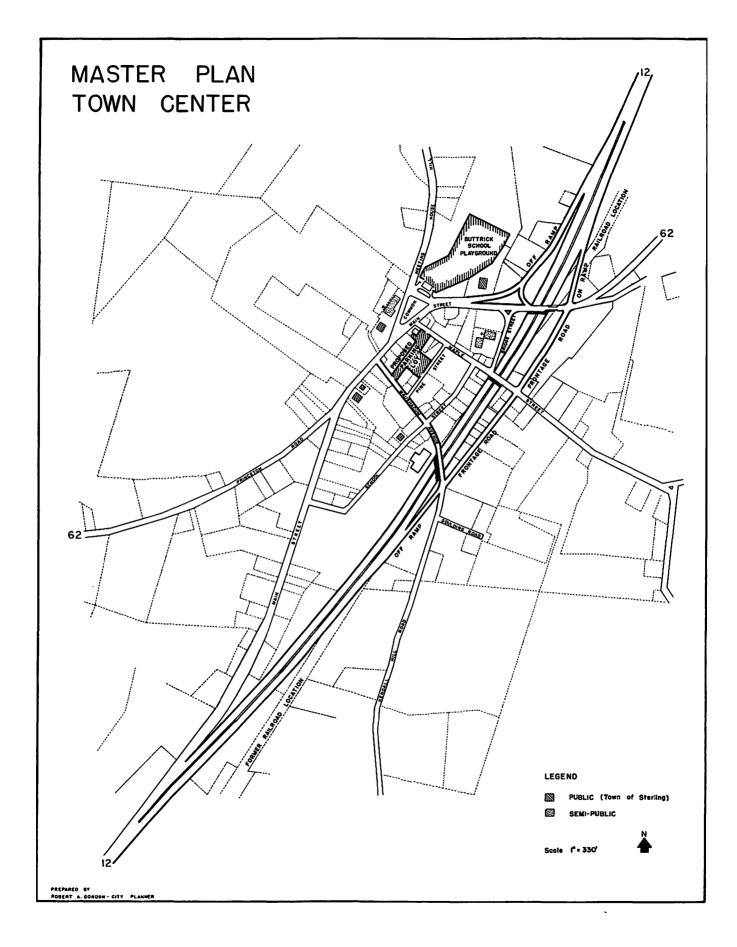
- a. Tot lot play area sand boxes, swings, slides and a shaded playground with benches.
- b. elementary grades hard surface area for court games, apparatus area for older children, open space for informal play.
- c. special facilities softball diamond, access to toilet facilities in Buttrick School, also handicrafts room in Buttrick School available for several weeks during the summer months.

TOWN HALL

The Town Hall in Sterling serves primarily as a cafeteria for the children of Buttrick School. The second floor meeting hall is used for public gatherings. When new cafeteria and lunchroom facilities at Buttrick School are constructed, the space used in the Town Hall will be available for other municipal services. It is the recommendation of this report that at such time as the space becomes available for municipal use, the building be remodelled and redecorated. At such time, it will be possible to partition the first floor of the Town Hall into separate offices for town officials, boards and commissions. The resulting consolidation of town government offices will increase efficiency, provide greater public service, and decrease operating expenses by the elimination of at least one wood frame building having several town offices. Such a consolidation will also provide for expansion on the town library capacity and enable the library board to establish separate departments for adults, children and research.







INDUSTRIAL DEVELOPMENT

As a broader economic base is sought in order to keep pace with municipal growth, the Planning Board recommends that the town look to industrial development of two areas in Sterling as a means of increasing its basic employment and taxable income.

INDUSTRIAL AREAS

First of the two recommendations is an area of fifty acres of land located on Greenland Road opposite the Sterling Airport. This relatively level land has the advantage of being near the Airport, which is scheduled for improvement in the future. Air freight oriented industries would have such transportation facilities within one hundred yards of the industrial site. Zoning of this land should occur when airport development is started. Extension of town water service along Boutelle and Greenland Road to the Airport will insure adequate water supply and fire protection. Widening and straightening of the Greenland Road section of the arterial system will provide adequate road access to the proposed site.

The second industrial development site is located at Pratt's Junction. In this area there are five hundred acres of land with highway and rail access. Ample electric power is located nearby. Some of this land is level and readily available for use. Other parts of it must be filled or graded before industrial use may be made of the land. Town water supply must be extended along Route 12 to Pratt's Junction for adequate clean water and fire protection. Development density can be controlled by the Zoning By-Law changes recommended in this report.

The characteristics of an industrial park can be initiated and preserved by the Industrial Development Commission. Given ample land for off-street parking and landscaping and providing for control of nuisance factors of noise, flashing, smoke and odor through zoning can make these uses of land good neighbors in any community.

WATER SUPPLY

Sterling receives its water supply from a gravel packed well located just south of the center of town off Route 12. This well produces 225 gallons of water per minute. It was constructed in 1954 and has been used continuously ever since. In the same area there are 12 other wells that can produce a maximum of 100 gallons of water per minute. These wells are used as an auxiliary system. Distribution is accomplished by pumping water into a 250,000 standpipe located atop Kendall Hill. Pressure is stabilized at approximately 100 pounds per square inch.

The system supplies approximately 450 users in Sterling center, the campground Sterling Junction and Route 62 east to Lancaster including some 300 feet of water main in the town of Lancaster. Consumption averaged 160,000 gallons per day in 1961.

CONSUMPTION.

Sterling's water consumption averages 160,000 gallons per day. Metered volumes of water pumped indicate a large sharp rise since 1957, part of this rise is due to increased consumption by new water users.

1957	28,926,000	gallons
1958	28,828,000	**
1959	35,465,000	**
1960	35,088,000	**
1961	34,108,000	**

Sterling water users - average year since 1959:

USE	APPROXIMATE GALLON VOLUME	<u>% OF TOTAL</u>
Residence (including water loss)	32,000,000	91.5
Retail business	1,400,000	4.0
Industry	700,000	2,0
Orchards	700,000	2.0
Institutions	200,000	0.5
		100.0%

Residential uses comprise over 90% of volume of water consumption. The next largest volume is retail trade. The group consists of retail stores in the town center and Inns and restaurants along Route 12 that have town water service available. The orchardists are also large water consumers using approximately 700,000 gallons per year.

It must be noted here that some of Sterling's large enterprises have their own source of supply. These are the crushed rock plant, the duck farm, and the power plant at Pratt's Junction.

Presently there are nearly 20 miles of water main in Sterling. Water supply is ample at present. The new well previously mentioned, and the old well system provide well over the 250 gallons per minute estimate of future needs, expansion of water service is needed but it should be accomplished along with increased storage capacity. At present, fire protection in outlying areas is at a minimum. Business and residence alike have to depend upon river, lakes, ponds or water holes for fire fighting water supply. This element of danger must be corrected eventually, as every fire in one of these areas is likely to cause total loss of property and equipment to say nothing of the threat to human life.

RECOMMENDATIONS.

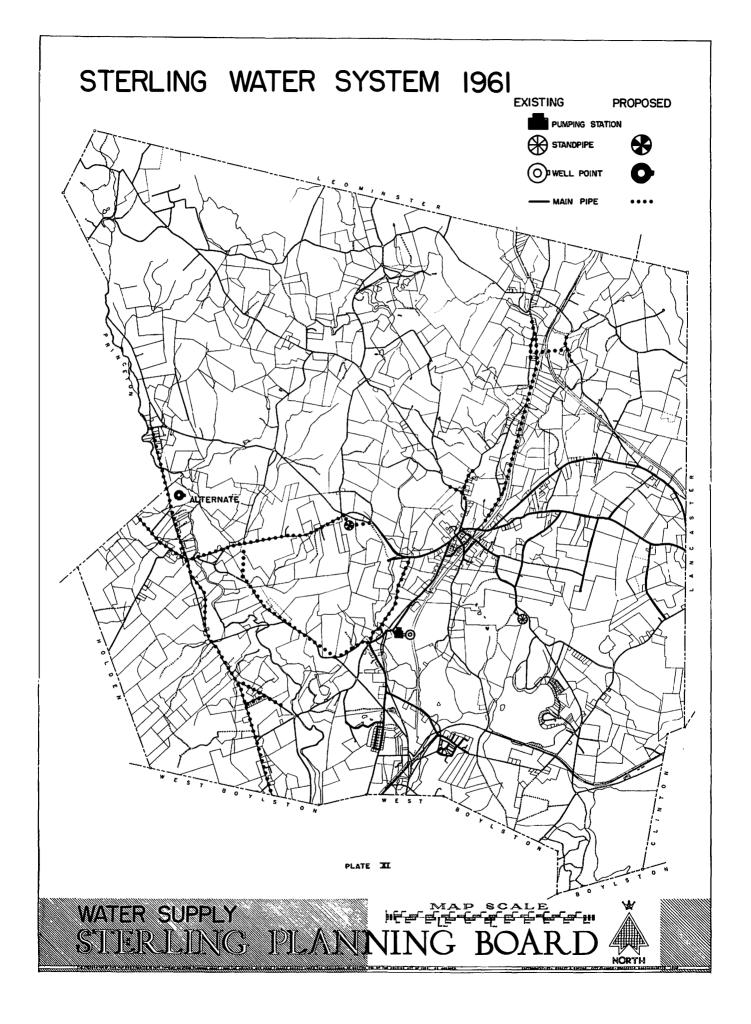
In 1953 the engineering firm of Fay, Spofford and Thorndike recommended the construction of a 300,000 gallon standpipe on Fitch Hill. Further extension of the town water system into West Sterling area could then be accomplished the report stated. In order to properly supply the West Sterling area and also to provide suitable water pressure for fire protection in the center of town, the Planning Board recommends acceptance of the engineers' report and urges construction of the standpipe on Fitch Hill. It is also recommended that a 10" by-pass be constructed from the present pumping station on Route 62 (Princeton Road) in order to prevent loss of service in town because of a break in the present 6" service main in Route 12. Jewett Road is the proposed location for this service. Cost of construction is estimated at \$40,000.

INDUSTRIAL DEVELOPMENT.

Many industries depend on clean water, supplied in quantity, for their manufacturing processes and adequate water pressure for fire fighting. The sites on Greenland Road and Route 12 at Pratt's Junction Road recommended by the Board for industrial development will eventually need such service. They are as follows: <u>Boutelle Road</u> 8,000 feet 8" main which would cost an estimated \$72,000. Construction of this service should be undertaken as part of a development program entered into by the town and industry. <u>Route 12</u> north of Route 62. Some 500 acres of land have been recommended for industrial development on Pratt's Junction Road and the railroad. Public water supply to this area will necessitate a 12,000 foot extension of water mains northerly along Route 12 to proposed industrial park. Cost of such a project (\$115,000) would be recommended by the Board as part of an industrial development program only.

WEST STERLING.

Water service in West Sterling can be accomplished by one of two alternatives. Construction of a well and pumping station in West Sterling at the Wachusett Brook east of Route 140 and extending service from there along Route 140 or construction of a standpipe on Fitch Hill, and the extension of a water main in Princeton Road from the proposed storage facility to the West Sterling area. This report recommends the latter method for two reasons: 1. there is adequate supply of water at the present source of supply, 2. the standpipe is needed before <u>any</u> main pipe extension takes place, also the water at its present source is the best in taste, color and chemical content available (Fay, Spofford and Thorndike report 1953).



ZONING

Sterling has a zoning by-law adopted in 1955. Provisions of General Laws Chapter 40A have been used throughout in the establishment of districts, the table of use regulations for residence rural and commercial districts and provision for special exceptions granted by the Board of Appeals under Section 4. Use of this provision of the State Law makes it possible to have greater flexibility in each of these districts. Use of sign control in residence and commercial districts give added protection to residential property owners abutting business uses of land. Each district has dimensional requirements that will ensure light and air and freedom from nuisance or hazzard of fire.

Because of the continuing change in the land use pattern in Sterling evidenced by the increase in residential construction and the migration of families from urban centers to this rural setting, it is deemed desirable to strengthen the economic base of the town by establishing a separate zone for manufacturing uses. It is the intention of the Board to include all manufacturing processes, junk yards, outdoor storage of used materials for re-sale, and all mining and extractive industries in this new category.

Inclusion of an industrial district will require certain additions and deletions in the present by-law - this has been done as well as some clarification in the by-law. These changes recommended listed by the section in the present by-law and are as follows:

BY-LAW

- 1. title: Zoning By-Law for the Town of Sterling
- 2. purpose and intent: to be rewritten as follows:

The purpose of the by-law is declared to be

- 1. To promote the public health, safety and welfare
- 2. To encourage the most appropriate use of land
- 3. To prevent overcrowding on the land
- 4. To conserve the value of land and buildings
- 5. To lessen congestion of traffic
- 6. To prevent undue concentration of population
- 7. To provide for adequate light and air
- 8. To reduce hazzard from fire or other danger
- 9. To assist in the economical provision of transportation water, sewerage, schools, parks and other public facilities
- 10. To preserve and increase the amenities of the town.

SECTION 1 - ESTABLISHMENT OF DISTRICTS

The town of Sterling is hereby divided into four types of districts designated as:

Neighborhood Residence, 2) Rural Residence and Farming 3) Commercial
Light Industry.

SECTION 11 - 2 USES IN A NEIGHBORHOOD RESIDENCE DISTRICT

<u>Permitted Uses.</u> Removal of soil (including peat, clay, sand, gravel, loam and similar earth products) from the premises subject to by-laws of the town pertaining thereto.

The above use classification should be removed from the list of permitted uses in the Neighborhood Residence District and added to the list of permitted uses in the Light Industrial District.

SECTION II - 4 USES IN A COMMERCIAL DISTRICT

Uses permissible on special authorization of any lawful storage distribution or manufacturing use (including a plant for processing or assembly).

The above section should be placed in the Light Manufacturing District, as set forth in these recommendations.

SECTION III - 2 PERMITTED SIGNS

<u>Signs in a Commercial District.</u> In a Commercial and <u>Light Industrial District</u> the following signs are permitted:

The above addition underlined provides for sign control in the Commercial District to be extended to the proposed Light Industrial District.

SECTION IV - DIMENSIONAL REGULATIONS

Add: District Light Industrial Minimum side yard - 25 feet for dwellings, 35 feet for all other buildings Minimum rear yard - 25 feet for dwellings, 50 feet for all other buildings. Maximum lot coverage 50% of land area of the lot.

SECTION VI - 5 - USES IN A LIGHT INDUSTRIAL DISTRICT

A. PERMITTED USES

- 1. Wholesale or storage business in a roofed structure, but not including wholesale storage of flammable liquids, gas or explosives.
- 2. Manufacturing, assembly, processing, packaging or other industrial operations where all resulting cinders, dust, fumes, gasses, odors smoke or vapor must be confined to the premises, or so disposed of to avoid any air polution.

No noise, vibration or flashing may be perceptible normally without instruments either at a point more than 350 feet from the premises or at any point within the nearest Residence District more than 150 feet beyond the nearest boundary.

3. Removal of soil (including peat, clay, sand, gravel, loam and similar earth products) from the premises subject to the by-laws of the town pertaining thereto.

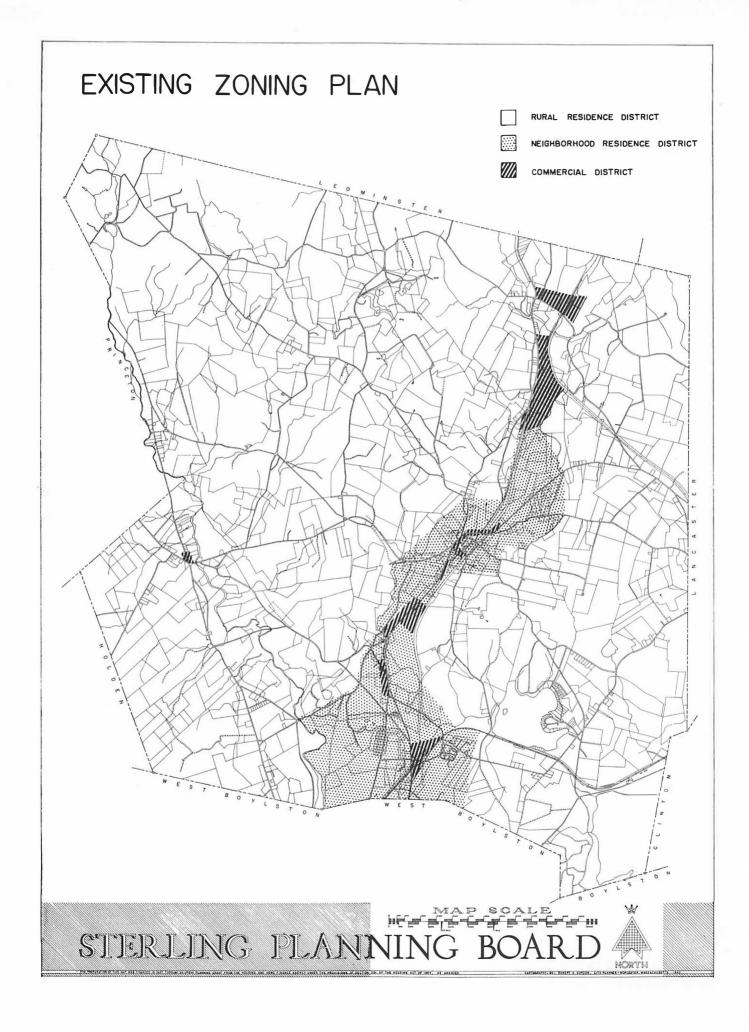
B. USES PERMISSIBLE ON SPECIAL AUTHORIZATION

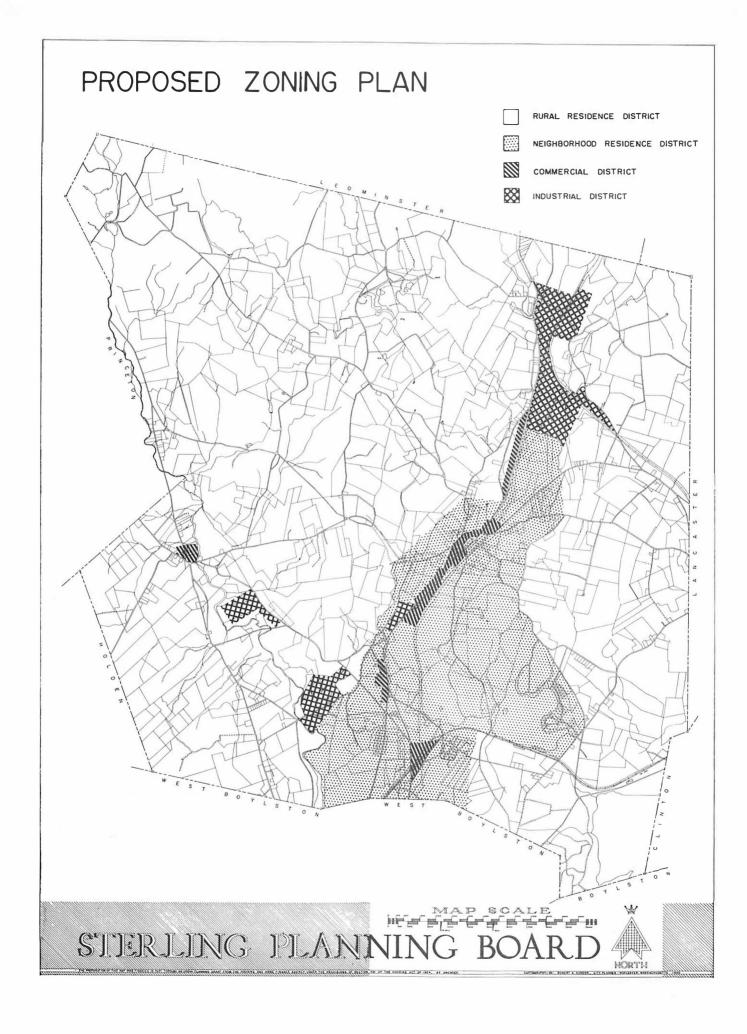
In a Light Manufacturing District, the Board of Appeals may, subject to the provisions of Section VII - 4, authorize any lawful business or service use not herein before specifically permitted in said District (including manufacturing processing that cannot meet the standards set forth in Section II - 5A - 2).

ZONING PLAN.

The employment forcasts for 1980 show that Sterling must provide jobs for at least 700 people if the town is to maintain the same balance of local employment to total population that exists now. In order to do just this, two industrial districts have been proposed as additions to the zoning plan. The first district is located on Greenland Road opposite the Airport. The second district lies along both railroad lines and Route 12 at Pratt's Junction. Total land area zoned for industry is approximately 500 acres. It is proposed that major extractive industries be located in an industrial district, therefore the Sterling peat and sand pit area as well as the traprock company land is included in the industrial district proposed.

Changes recommended in Commercial zoning consist of a lateral expansion along Route 12 south of the town center and an increase in the Commercial District area at Moore's corner. It is proposed to extend the neighborhood residential district easterly across M.D.C. land to include the slope on Newell Hill.





SUBDIVISION REGULATIONS

Sterling has Rules and Regulations governing the subdivision of land, adopted under the Subdivision Control Law, Massachusetts General Laws Chapter 41, Sections 81-K to 81 GG inclusive. Review of the regulations indicates that they are fully adequate to meet land development problems now and in the future.

<u>Requirements</u>. Subdivisions of <u>preliminary</u> and <u>definite plans</u> are provided for within the limits of State enabling legislation, A preview of plans and proposals is suggested before formal filing of a preliminary plan. A <u>preliminary plan</u> is strongly recommended by the Board in its regulations. The filing of the <u>definite plan</u> the regulations also provide for the deposit of \$25 to cover the cost of advertising and mailing notices. Requirements for acceptance of the definitive plans are adequate.

<u>Performance Guarantee</u>. Adequate provision for Bond or cash security guaranteeing that construction of the street, utilities and their appurtances will be accomplished after approval of the plan by the Board are present in the regulation.

General requirements within the limits of the state statute include:

- 1) provision of public hearing
- 2) holding of Public Hearing
- 3) Certificate of approval of plan by the Planning Board
- 4) submission by developer of copies of approved plans to town officers and department affected by such approval.

Section IV of these Subdivision regulations is concerned with street construction requirements. It is in this section that change must occur if these regulations are to conform with the proposals in the Master Plan. Section 4-C establishes the width of a subdivision street as 40 feet. Residential streets (see Transportation section) should have a minimum width of 50 feet. This requirement will necessitate changing section 4-c-1 to read:

The minimum width of street right of way shall be <u>fifty</u> (50) feet.

The Planning Board may require a greater width when deemed necessary for present or future traffic.

Section 4-C-3 should be changed to increase the shoulder width to 5 feet. Purpose of this change is to make it possible to have a 30 foot paved roadway in all subdivisions at some time in the future.

Regulations regarding construction, inspection, acceptance of the work as well as provision for easements, open space, street signs, driveway grades and street trees and finally certification of setting of bounds are in sufficient detail as to enable subdivision contractors and inspectors to adequately perform their respective work.

OFFICIAL MAP.

Preparation of a Base Map for Sterling showing all roads, railroads, streams and water bodies has been completed as part of the Master Plan program. It is but a short step from the Base Map to the editing of and Official Map for the town of Sterling under Massachusetts General Laws, Chapter 41, Section 81E. Such a map establishes all public ways and private ways then existing and used in common by more than two owners. Purpose of such a map is to determine the legal extent of the private road system in Sterling and to serve as a point of departure for the Planning Board in the enforcement of Subdivision Regulations now in effect. Because there are less than twenty miles of private streets in Sterling, editing of such a map will be a simple process.

Use of the Official Map for the purpose of showing the location and layout of proposed public parks and playgrounds and the exterior lines of proposed new or widened public rights of way can materially assist in the effectuation of recommendations of the Master Plan.

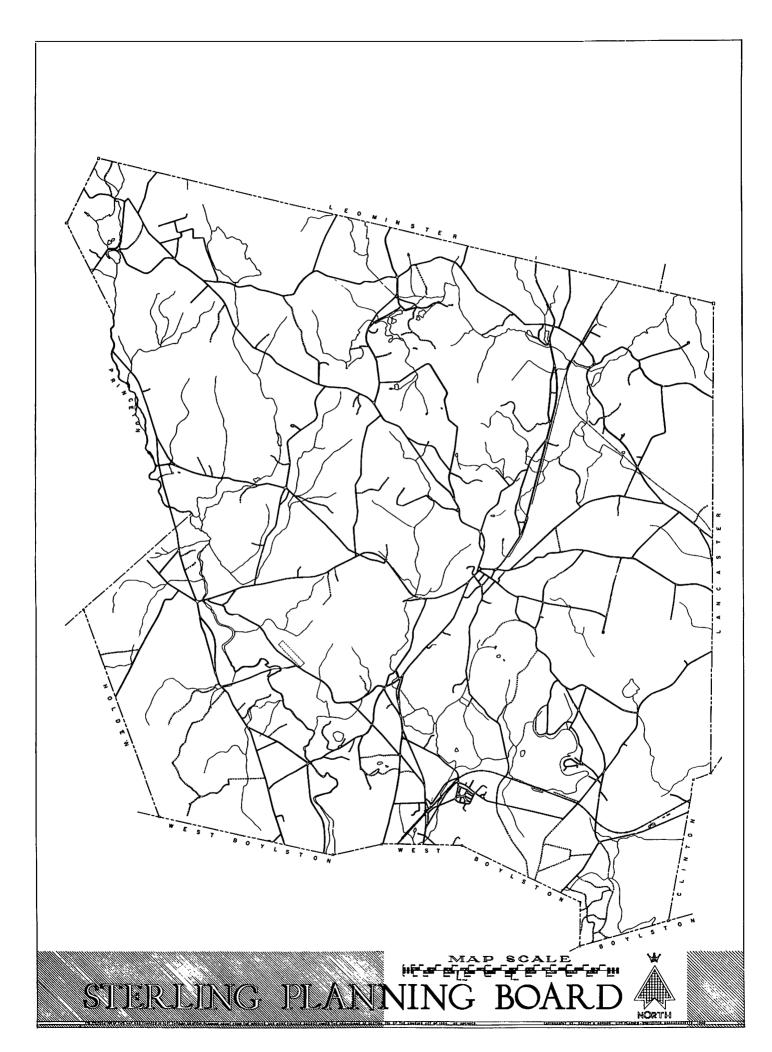
Placing exterior street lines of new or proposed public ways and park or playground land on such a map can occur only after public hearing by the Planning Board and adoption of recommended changes or additions at a Town Meeting. Land damages accrue to persons owning property affected by such placement on the Official Map at a Town Meeting, but no damage can be assessed for removal of structures built within these areas after they have been legally placed upon said map.

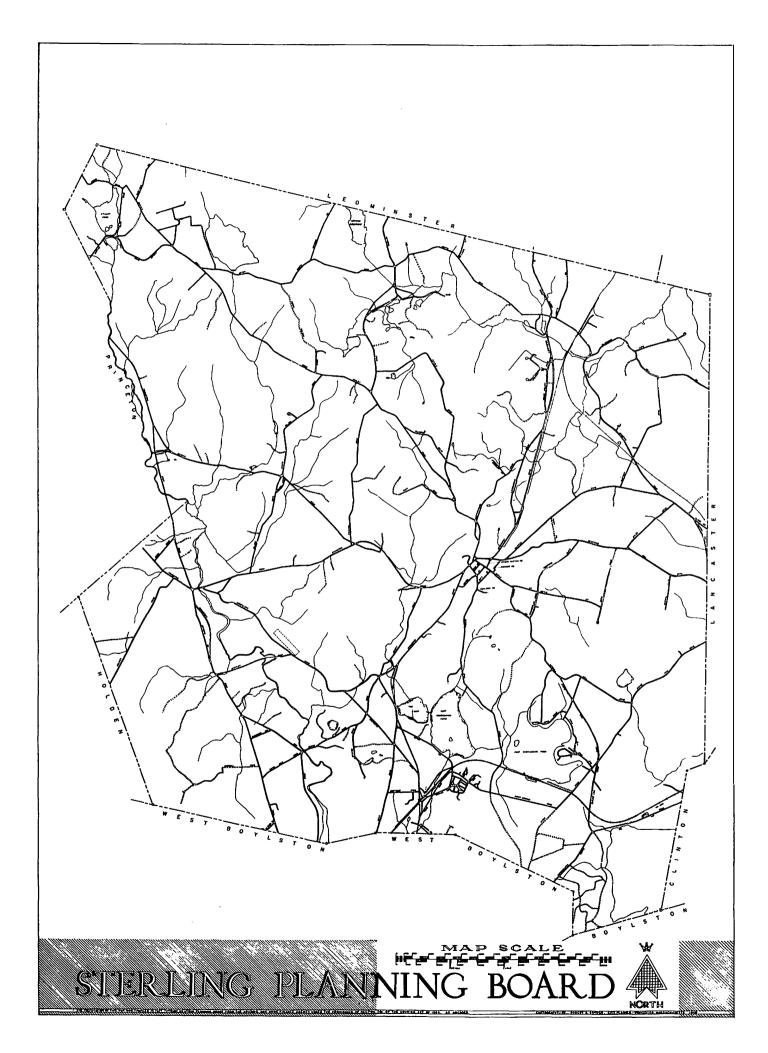
BASE MAP PREPARATION

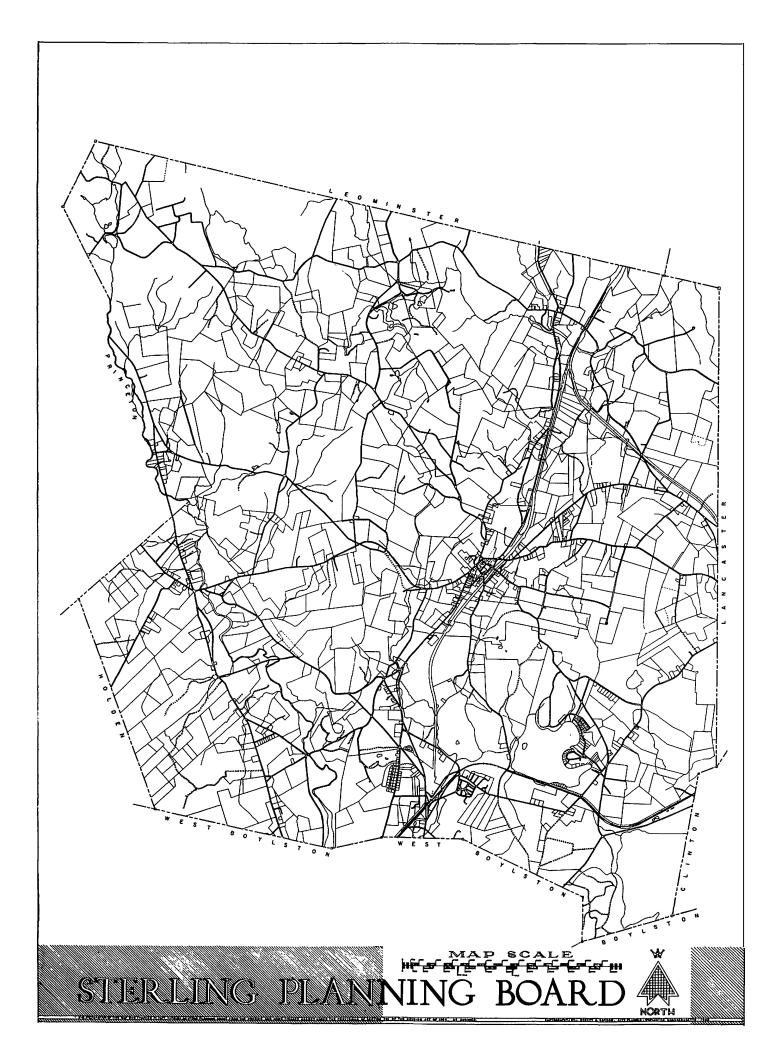
A base map of the town of Sterling has been prepared by the Consultant for use in the Master Plan studies. The map was laid out on a coordinate system using the bearings and distances for town boundaries as described in the Harbor and Land Commission Atlas of the City of Marlboro and other towns including Sterling dated 1908.

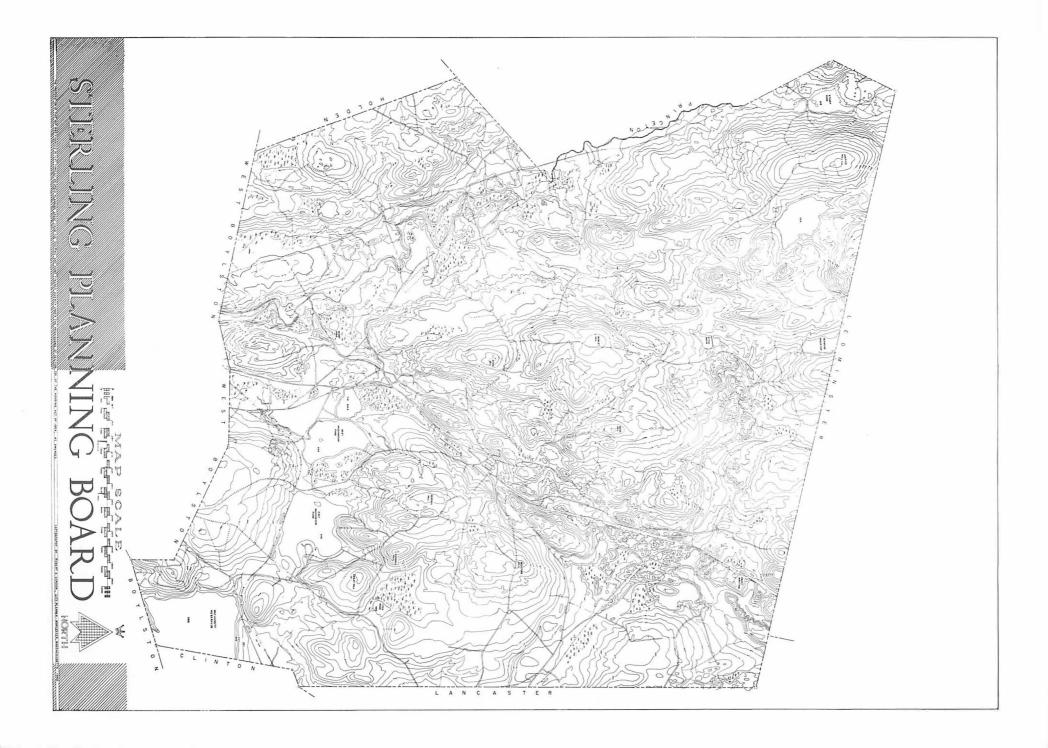
The base map is prepared on linen at a scale of one inch equals eight hundred feet. Prints are available to the town, and one set of maps in color showing various planning studies and drawn at eight hundred scale are the property of the Planning Board. There are four original maps on linen. Map number one a base map with street lines, railroads, streams and water bodies. Map number two has street lines, street names, railroads, streams and water bodies. Map number three has street lines, property lines, railroads, stream and water bodies. Map number four is a contour map derived from USGS Maps. The Board of Assessors plat books (scale 1" = 330') were used as the source for the property lines shown on base map number three.

Reduction and printing in quantity of these maps at a scale of one inch equals twenty-four hundred feet has been accomplished by the Planning Board. The resulting maps are available to town officers, boards and commissions by instruction of the Planning Board. One complete set of pencil tracings of the Assessors' plat books on vellum are available in the office of the Planning Board. These tracings can be reproduced by any blueprinting or ozalid reproduction process. Copies of each of the base maps follow this report.









THE MASTER PLAN

Previous sections of this report have considered the various phases of community life in Sterling, its natural physical features, its present use of land, its population growth and need for space to live in. We have studied the existing community facilities and projected those that may be needed, and finally the town's economic base and means of circulation.

<u>THE MASTER PLAN</u> brings all of these elements into a unified guide for future development. Essentially its purpose is to establish a pattern of land use and future traffic arteries, and to determine what public facilities will be needed, and some estimate as to when and where they should be located. Sterling's Master Plan is based on a population forcast of 7 to 10,000 persons, and the plan is flexible enough to provide for double this amount.

<u>FUTURE LAND USE</u> consists of previous studies touched upon in this report, and a plan has been devised for utilizing the land in the town to its best advantage. In general, natural and cultural features determined the location of the four major functions of land use, residence, business, agriculture and industry. Industrial land has been chosen to meet requirements of industry, adequate land for modern buildings, off-street parking, storage and other amenities must be provided. Sites must be near good highways and rail facilities, the land must be level with a minimum of ledge and swamp. Sterling is attempting to attract industry, and in so doing must provide adequate water supply for manufacturing and fire protection.

The Master Plan shows two residential densities. One for 20,000 square foot lots and the other for one acre lots. The low density areas are in the more rural sections of town and include those areas without town water, areas with poor drainage characteristics, large farms and orchards. Most of the commercial area is located along the Route 12 approaches to Sterling center. Expansion plans for commercial use in this area will make it possible to develop a shopping center in town. It will be possible to provide off-street parking and adequate access from the proposed by-pass that will carry Route 12 southeast of the actual town center. These facilities are included in the town center plan.

Eventual construction by widening existing roads and connecting sections through now empty land will form a new circumferential highway in Sterling. Such an artery will connect the spokes of the plan, which are the collector streets radiating from the center of town. It should be pointed out that the plan is merely a guide for future development. The plan is flexible and changes can be adopted when new situations arise.

COMMUNITY FACILITIES

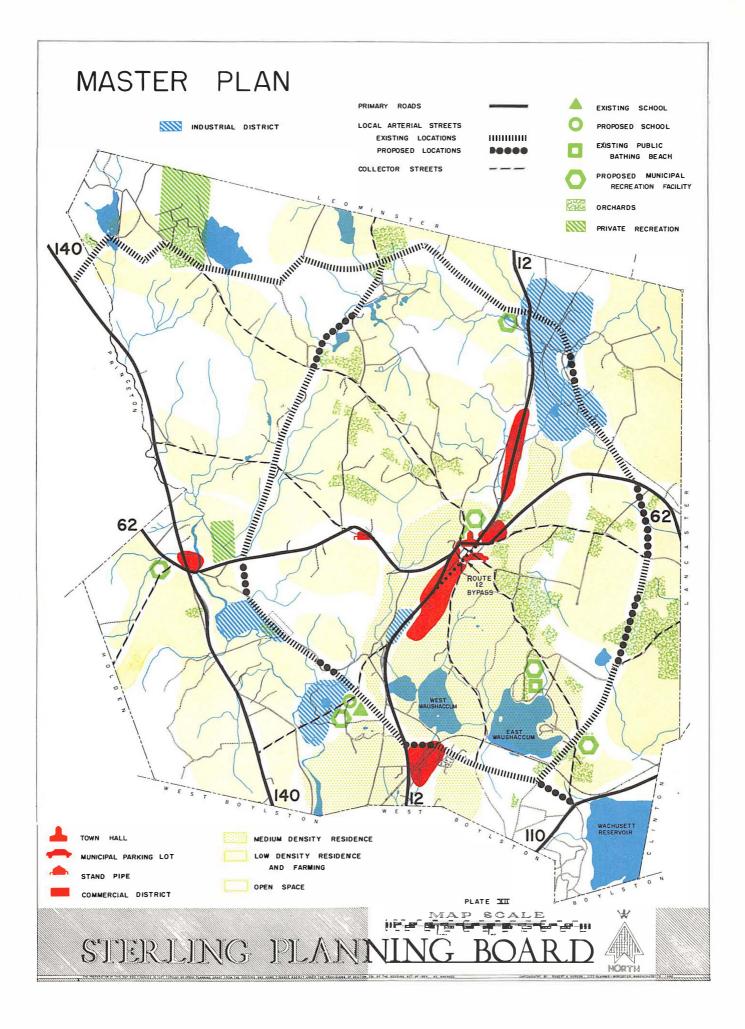
<u>SCHOOLS</u>. The Master Plan makes provision for future expansion of the school system on the present site of the Houghton school. As Wachusett Regional High School becomes larger and requires a reduction in pupil load, so Sterling must be ready with a new school based on an elementary, junior-senior high school plan. In this way it will be possible to achieve a logical sub-region of school union No. 24, with Sterling and Princeton perhaps entering a joint Junior High school construction program.

<u>RECREATION</u>. Need of organized play space in all quadrants of Sterling is evident. At present there are no public recreation facilities with the exception of the picnic area and the Town Beach at Waushacum. Proposed plans incorporate a town athletic field at the Houghton school complex. Recommendations are made for playground space and equipment at Buttrick School, Spring Hill, Twin Oaks, Moore's Corner and expanded facilities at the Town Beach, which will include a playground for children of all ages.

<u>ADMINISTRATIVE FACILITIES.</u> It is obvious that a consolidation of town offices and administrative facilities is in order. These administrative units are scattered in several buildings in the town center. Remodelling of the first floor of the Town Hall will accommodate all of these facilities easily. One distinct advantage is the expansion of library facilities in a growing town. This would be made possible when other town offices are removed from the first floor of the library building.

<u>UTILITIES.</u> Industrial growth and residential expansion require extension of town water service for the health and safety of the town inhabitants. Planned expansion of the water system by construction of a standpipe in Fitch Hill and extension of water mains to more remote sections of town are recommended to go along with projected new development.

<u>OPEN SPACE</u>. Preservation of large acreages of open space is guaranteed by continual holdings of M.D.C. land in the Wachusett reservoir water shed. In other sections of Sterling the conservation commission can set aside land for future use as forest, park, campground and scenic beauty spot. In the years ahead, much thought must be given to the preservation of Sterling's character as a rural New England town. The Master Plan can assist in continuing effort to make Sterling a wonderful place to live.



CAPITAL BUDGET

The proposals of the Master Plan, if they are to be realized, must be carried out in a rational manner. Therefore a capital budget program has been included as an integral part of this plan. The need for a particular facility must be weighed against its cost to determine if and when that facility will be built. The towns' people, represented by their elected and appointed officials, are the final judge in weighing these factors and making the final decision.

The process of formulating a Capital Budget is essentially one of analysing past transactions and projecting this activity into the future. To these figures are added the cost of recommended projects so that capital acquisitions may be planned in an orderly fashion.

Tables I and II show the Receipts and Expenditures in Sterling from 1957 through 1961. The categories are divided as they are shown in the town accounts found in the annual reports.

Tables III and IV show Sterling's Bonded Indebtedness from 1957 to 1967 and interest on these Bonds for the same time period.

These tables are followed with a capital improvement program based on the Master Plan with scheduled debt retirement payments to 1967. None of these projects will carry on however into the 1970's and 80's.

Projects included in the Capital Budget are incorporated in various sections of the Master Plan itself. In the Capital Budget Program these projects are given a priority that is based on need.

The final table presented in the Budget shows the change in the amount of the bonded indebtedness brought about by fitting the Capital Budget Program into the financial planning now in effect in Sterling. Also shown are changes in the amount of interest paid annually in loans for Capital Budget.

In order to show that the Bonded Indebtedness schedule may be undertaken by the town without undue financial hardship, a projection of anticipated expenditures and receipts - through to the year 1967 - is included in the final table too.

Sterling Master Plan Capital Budget Program

	EXPENDITURES 1957 – 1961							
	1957	1958	1959	1960	1961			
General Government	21,443	21,531	21,885	23,580	23,563			
Protection of Persons & Property	26,726	54,147	28,149	33,579	28,435			
Health & Sanitation	13,624	12,189	13,505	20,523	20,466			
Highways	77,694	99,959	84,330	106,436	89,880			
Charities & Veterans Benefits	58,903	64,803	67,595	58,529	68,318			
School & Libraries	449,530	305,579	328,475	382,948	582,422			
Recreation & Unclassified	16,837	21,238	19,097	21,642	20,198			
Enterprise & Cemeteries	164 , 271	197,062	212,743	188,569	243,956			
Interest & Maturing Debt	113,459	166,834	147,255	232,830	243,961			
Agency Trust & Investment	43,243	48,527	55,589	57,007	65,215			
Refunds	2,064	3,936	2,535	3,109	4,487			
TOTAL EXPENDITURE	987,794	995,805	981,158	1,128,752	1,390,901			

RECEIPTS

GENERAL REVENUE	1957	1958	1959	1960	1961
Taxes- Local & State	277,238	306,606	334,609	382,070	41,339
License & Permits	7,488	7,549	13,560	7,374	5,324
Grants & Gifts-Federal State & Legal	, 145,837	142,736	151,846	157,763	175,079
TOTAL	430,563	456,891	500,015	547,207	221,742
COMMERCIAL REVENUE					
Motor Vehicle	49,669	58,315	48,827	61,935	81,892
General	1,180	921	1,220	1,343	1,802
Highways	26,573	26,387	21,724	34,101	32.014
Charities	19,860	25,785	18,957	18,606	17,083
Schools	24,174	27,790	28,342	31,485	34,911
Miscellaneous, Vets. Library, Sholan Park	4,116	406	350	569	1,956
Municipal Light Dept.	137,374	164,903	184,249	192,613	190,100
Municipal Water Dept.	17,936	17,550	18,793	19,040	19,894
Cemeteries	725	1,178	943	1,588	1,363
Interest	3,425	4,051	4,526	4,620	5,273
TOTAL	285,032	327,286	327,931	365,900	386,288
Municipal Indebtedness	70,000	148,000	138,500	147,000	411,344
Agency, Trust & Invest.	73,552	40,829	52,376	47,089	55,229
Refunds	814	5,218	847	888	5,366
TOTAL RECEIPTS	859,961	978,224	1,019,669	1,108,084	1,079,969

STERLING MASTER PLAN	CAPITAI	BUDGET	BON	NDED INDEB	<u>tedness – A</u>	MOUNT OU	rstand ing	ON JANUARY	1			
ITEM	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
l.Water	8,000	7,000	6 , 000	5,000	4,000	3 , 000	2,000	1,000				
2. Water Main	23 , 000	20 , 000	17,000	14 , 000	11,000	8 , 000	5,000	2,000				
3 ₀ Water Main	17,000	15 , 000	13 , 000	11,000	9,000	7,000	5,000	3,000	1,000			
4. Power Grader	4 , 000	2 , 000										
5. Elementary School Land Acquisition	9 , 000	6,000	3 , 000									
6. Water	6 , 000	3,000										
7. Fire Truck	6 , 000	4,500	3,000	1 , 500								
8. Elementary School	330 , 000	310 , 000	290,000	270 , 000	250 , 000	230,000	210,000	190,000	170,000	150,000	130,000	to 1975
9. Elementary School	90 , 000	85 , 000	80 , 000	75,000	70 , 000o	65 , 000	80,000	55,000	50,000	45,000	40,000	to 1975
10. Highway Truck	4 , 000	4 , 000	2,000									
11. Elementary School			5,000	4 , 000	3,000	2 , 000	1,000					
12. Public Works Garage			10,000	8,000	6 , 000	4 , 000	2,000					
13. Fire Station			28,000	26,000	24,000	22 , 000	20,000	18,000	16,000	14,000	12,000	to 1973
14. Tractor Loader			8 , 500	8,500	6 , 000	4 , 000	2,000					
15. Fire Truck chasis				3,000	3,000	1 , 000						
16. Highway Dept. Truck chasis					4 ; 000	2,000						
17. Houghton School Extension						230 , 000	215,000	200,000	185,000	170,000	155,000	to 1978
-	· · · · ·							×			<u> </u>	<u></u>

497,000 456,500 465,500 426,000 390,00 578,000 522,000 469,000 422,000 379,000 337,000

STERLING MASTER PLAN CAPITAL BUDGET

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INTEREST ON BONDS Interest Paid during .. 1. Water 2. Water Main 3. Water Main 4. Power Grader 5. Elementary School Land Acquisition 6. Water 7. Fire Truck 8. Elementary School to 1975 9. Elementary School to 1975 10. Highway Truck 11. Elementary School 12. Public Works Garage 13. Fire Station to 1973 14. Tractor Loader 15. Fire truck chasis 16. Highway Dept. Truck Chasis 17. Houghton School to 1978 Extension

> 12,458 12,169

11,041 10,172 11,950

17,128 15,445 14,050

12,775

11,480

10,300

CAPITAL BUDGET

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PROJECT	1963	1964	1965	1966	1967	
Highway						
Greenland Road &	18,000	15,000	12,000	9,000	6,000	
Boutelle Road land	3,000	3,000	3,000	3,000	3,000	
acquisition	625	525	425	315	210	
	3,625	3,525	3,425	3,315	3,210	
\$18,000						
Pratts Junction Road	<u>15,000</u>	12,000	9,000	6,000	3,000	
Land acquisition	3,000	3,000	3,000	3,000	3,000	
	525	420	315	210	110	
	3,525	3,420	3,315	3,210	3,110	
\$15,000						
Wilder Road & South			<u>13,500</u>	9,000	4,500	
Nelson Rd. land			4,500	4,500	4,500	
acquisition			475	<u> </u>	157	
			4,975	4,815	4,657	
\$13,500						
Cafeteria, Buttrick		17,000	12,000	8,000	4,000	
School		5,000	4,000	4,000	4,000	
		615	420	280	140	
		5,615	4,420	4,280	4,140	
\$17,000						
Remodel Town Hall			10,000	6,000	3,000	
			4,000	3,000	3,000	
			350	210	110	
			4,350	3,210	3,110	
\$10,000						
Standpipe, Fitch Hill	_				300,000	
					20,000	
					8,250	
					28,250	
\$300,000						

PROJECT	1963	1964	1965	1966	1967
Water main extension Jewett Road				40,000	35,000
				5,000	5,000
				1,400	1,200
\$40,000				6,400	6,200
Recreation land acquisition -Spring Hill 4 acres	2,400 2,400				
\$ 2,400					
Recreation land acquisition -Twin Oaks 3 acres	<u>2,400</u> 2,400				
\$ 2,400					
Recreation land					
acquisition- Moore's		2,400			
Corner 4 acres		2,400			
\$ 2,400					
Parking Lot land			<u>10,000</u>	8,000	<u>6,000</u>
acquisition			2,000	2,000	2,000
			<u>250</u> 2,250	<u>200</u> 2,200	<u>150</u> 2,150
\$10,000					
Parking lot construct	cion				
\$43,750					
Houghton School					
athletic field				60,000 10,000 <u>1,650</u> 11,650	50,000 10,000 <u>1,375</u> 11,375
\$60,000				11,000	11,070

PROJECTS	1963	1964	1965	1966	1967
Water main extension Boutelle Road and Greenland Rd.					
\$72,000 Note: start when industrial development begin	ns				
Playground Town Beach	<u>5,000</u> 5,000				
\$5,000					
Playground, Spring Hill		<u>5,000</u> 5,000			
\$5,000					
Playground Buttrick School	<u>1,000</u> 1,000				
\$1,000					
Playground,Town Beach Hard courts-baseball field		<u>2,000</u> 2,000			
\$2,000					
Playground, Moore's Corner \$2,000			<u>2,000</u> 2,000		
Playground, Buttrick School \$1,000		<u>1,000</u> 1,000			

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FINANCIAL PROJECTIONS 1962 - 1967

Expenditures and Receipts

	<u>1963</u>	1964	1965	<u>1966</u>
Total expenditures Total receipts	,1,3 51,2 00 2,080,000	1,412,200 2,400,000	1,472,900 2,580,000	1,525,700 3,200,000
		<u>,1967</u>	<u>7</u>	
Total expenditures Total receipts		1,584,5 3,720,0		

BONDED INDEBTEDNESS

	<u>1963</u>	<u>1964</u>	<u>1965</u>	1966	<u>1967</u>
Projects already					
committed Projects proposed by	522,000	469,000	422,000	379,000	337,000
Master Plan	43,800	54,400	68,500	<u>146,000</u>	<u>411,500</u>
	565,800	523,400	490,500	525,000	748,500

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INTEREST ON BONDS

Projects already committed	15.445	14,050	12,775	11.480	10,300
Projects proposed by Master Plan	1,125	1,560	2,210	480	11,702
TOTAL	16,570	15,610	14,985	11,960	22,002