

CYCLE ONE

Comprehensive Plan Beaver Township

CRAWFORD COUNTY, PENNSYLVANIA

JUNE 1979

This plan was prepared under the policy guidance from the Beaver Township Planning Commission. The Commission's membership is as follows:

Dan Mahoney,	Chairman
Richard Bronson	Vice-Chairman
Jesse Haas,	Secretary
Clifford Burgess	
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This plan was authorized for preparation by the Board of Township Supervisors of Beaver Township:

Sidney Martin,	Chairman
Gerald L. Casbom	
Wallace Hyde, Sr.	
Judy Martin,	Secretary

Preparation of this document was financed in a substantial way through grants from the Appalachian Regional Commission.

Technical assistance was provided Beaver Township by the staff of the Crawford County Planning Commission. Staff members participating in the work were as follows:

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Beaver Township Supervisors

R.D. 1, Conneautville, Pa. 16406

RESOLUTION OF THE BOARD OF TOWNSHIP SUPERVISORS OF BEAVER TOWNSHIP, CRAWFORD COUNTY, PA.

WHEREAS, the Beaver Township Planning Commission has been created to consider, among other things, long range plans for the growth and development of the Township; and

WHEREAS, the Planning Commission has used the services of the Crawford County Planning Commission staff and various studies, surveys and analyses of the Township have been completed and discussed in public meetings and a series of Township development objectives and policies have been formulated by the Planning Commission; and

WHEREAS, plans and policies affecting the future of Beaver Township have been developed and adopted for recommendation by the Planning Commission to this Board; and

WHEREAS, the Beaver Township Supervisors have been represented at the regular meetings of the Planning Commission through the course of the preparation of a comprehensive plan; and

WHEREAS, this Board has reviewed and approved the Background Information; the Regional Context; the Population Forecasts; the Plan Objectives, Policies, Projects and Programs for future land use, roads, community facilities and services, and housing; the priorities for plan projects and programs; the Existing Land Use map and the Land Use Plan map; and

WHEREAS, it is the responsibility of the Township Supervisors to exercise foresight in guiding the affairs of the Township; and

WHEREAS, it is in the best interests of the Township to establish policies for management of its growth and development; and

WHEREAS, the Planning Commission on August 29, 1979, held a public hearing on a Comprehensive Plan for Beaver Township and provided the results of that public hearing to the Board;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF BEAVER TOWNSHIP, CRAWFORD COUNTY, PENNSYLVANIA:

That the document, Beaver Township Comprehensive Plan dated June 1979, with pages 24, 33, 36, 50, 53, 55, 56, 57, 58, 59, and 72 changed as reprinted and presented September 12, 1979. (Policy on Conneaut Valley Medical Center was deleted.)

ADOPTED THIS twelfth DAY OF September, 1979

Sidney H. Martin
Sidney Martin, Chairman
Beaver Township Supervisors

ATTEST
Judy Martin
Judy Martin, Secretary
Beaver Township Supervisors

This plan is bound as it is, in a loose leaf notebook, so that it can be supplemented in future planning cycles. But the plan as it is presented here provides the giant first step towards dealing responsibly with the immediate issues of growth and development.

This comprehensive plan report is organized into four areas:

Next {
Introduction
Background Information
Regional Context
The Plan

In the report's map jacket two maps can be found: Existing Land Use and the Land Use Plan. Many more large maps were completed during the planning process, and these maps are on file with municipal officials and in the offices of the Crawford County Planning Commission. (See Appendix 2)

Last { For the reader who is not aware of the Township's location in relation to the balance of Crawford County and neighboring counties to the north and west a Three County Regional Map is provided on the following page.

Background Information

Background Information

PRELIMINARY REMARKS

The background information phase of the planning process is particularly important because it gives the Planning Commission members and those citizens of the Township who attend the Commission's monthly meetings the opportunity to get to know the community planners who provide the technical leadership in the process. It is important that the relationship with the professional planner be an open and cordial one for it is the planner's task to translate the people's values into alternative plan ideas which can be tested through the meeting process. This report would assert that rapport between citizen and professional planners was achieved in the planning process and that issues of growth and development in the Township were dealt with in reasonable depth.

At this early point in the report it is considered well to make a few general observations:

There is an overriding concern in the Township to retain what the Commission members described as rural character. This would appear to translate to the conclusion that the members are concerned about what is built in the Township; where it is built and how much is built.

On the other hand, there is a reluctance on the part of the Commission members to have government interfere too greatly in the lives of people. It is true that these two values are partially contradictory. Yet it is very natural for Township residents to be faced with a dilemma such as this.

The basic industry in the Township is farming. Many residents have full-time employment in non-farm jobs, but these are nearly always located outside of the Township. The strength of full-time farming activity has eroded measurably since the Second World War. There is the fear that this erosion will continue and with it a way of life which has been the most significant characteristic of the Township.

There exists a desire to increase the economic base of the Township by accepting new growth that would strengthen the Township's economy. Of course this desire is conditioned by the feeling that, new development be compatible with the Township's rural character.

EARLY HISTORY OF BEAVER TOWNSHIP

Pioneers began settlements in Beaver Township as early as 1797. During this era land in Beaver Township could be acquired through the Land Act of 1792 or through a private land company. The two means required either money or a contract involving necessary improvements before a gratuity of land would be issued; at times both money and an improvement contract were required. After several years many of the settlers claimed the land on which they resided as their own, by virtue of their settlement. The courts disagreed, however, causing an exodus of settlers resulting in a situation where in 1810 only one family was left in the entire Township.

The year 1816 was a turning point for the Township because it marked the commencement of immigration from New York and other Eastern States. These self sufficient and industrious people cleared forests, constructed roads, built schoolhouses, established saw and grist mills, and rapidly pushed forward other improvements.

In 1816 the firm of Clark, Magaw & Shryock took up the task of establishing a salt works just southwest of Beaver Center. At first the enterprise was a success with a daily yield of ten bushels of salt. Thinking that a deeper well would produce a stronger rush of salt water the owners proceeded to extend the well to a greater depth. This maneuver proved disastrous because the increased depth instead of yielding a stronger brine produced oil. The salt water, once it mixed with the oil, became valueless for commercial purposes and the works were abandoned.

For almost twenty years, 1820 to about 1840, after the closing of the salt works, black salts became the main sellable item for Township residents. Ashes of burned log heaps were either sold to asheries or converted to black salts by the settlers themselves and then sent to market. This extra income is said to have been instrumental in saving many family homes from being sold by the County Sheriff.

William Plymate is said to have been the first person to erect a sawmill. He was followed by Elihu Griswold and later by Robert Foster in 1831. Dr. Bemers was the first physician in the Township. He first resided in Meadville but later came out to Beaver Township to attend disbanded soldiers sick with typhoid fever.

The early pioneers of 1797 did not have any schools. Those settlers that remained after the land claims controversy sent their children to Conneautville to be educated. In 1826 a school was started in Beaver Center. The school was managed by three trustees with salaries ranging from \$5.00 to \$9.00 a month. By 1834 there were four schools in the Township but only the Beaver Center School was graded.

A Methodist Episcopal class was organized in 1839. Meetings were held in the schoolhouse until 1870 when a frame church was completed. In 1840 a Christian congregation was organized which continued for ten years. The Christian Church at Beaver Center was organized in 1870 and in 1871 the congregation erected a church. Outside of the Beaver Center area, a United Bretheren meeting-house was erected in 1861. This edifice was built in the southwest portion of Beaver Township at Reed's Corners.

Beaver Center served as the only hamlet within the Township. During the 1800's it contained a post office, two churches, a schoolhouse, a physician, one dry goods store, one grocery, a drugstore, two saw-mills, a blacksmith shop, a shoe shop, a cheese factory (nearby), a manufacturer of hand rakes, bent felloes, spokes and wagon poles, and about twenty dwellings.

History books say little of agriculture other than, "The low-land is rich, and answers well for farming and grazing, and for these avocations the Township is by nature well calculated".¹

The map on the following page depicts Beaver Township as it appeared in 1876. This map is taken from an 1876 publication, entitled Combination Atlas Map of Crawford County, Pennsylvania, by Everts, Ensign and Everts.

PHYSIOGRAPHY

Beaver Township is located in the northwestern corner of Crawford County. The Township's northern boundary is Erie County (Conneaut Township), its southern border is Conneaut Township (Crawford County), the eastern border is Spring Township (Crawford County), and the western border is the State of Ohio (Ashtabula County). The Township covers an area of 23,360 acres and is close to a square in geometric shape.

The topography of the Township ranges from 1,160 feet above sea level on its southern border to 880 feet on the northeastern corner. The majority of the Township, however, lies at an elevation of between 1,100 to 970 feet above sea level, and is relatively flat with the exception of the northeastern corner where the terrain becomes a little more hilly. The least hilly area lies in the northwest corner of Beaver Township at the western-most portion of Gamelands 101. This section of the Township is relatively large wetland area which has been described as an "ideal" wildlife habitat.

¹ NOTE: The historical facts in this narrative were compiled from History of Crawford County, Pennsylvania by R. C. Brown; Warner, Beers and Co., Chicago, Illinois, 1885.

Most of the streams in the Township are branches of Conneaut Creek and flow in a northerly direction. They are part of the Lake Erie Watershed and eventually empty into the Atlantic Ocean. To the south of Pa. Route 198 between the Beaver Road and Maples Road there is a unique physiographic phenomenon which has at least academic significance. The stream draining this small area of the Township (Paden Creek) runs south instead of north. It is part of the Shenango River Watershed, eventually ending up in the Ohio and Mississippi River systems. Thus the imaginary line separating Paden Creek from the other streams in Beaver Township which drain north is, in fact, a "Continental Divide".

THE EXISTING USE OF LAND

A close look at the existing uses of land is an essential ingredient in the community planning process. A grasp of how the community uses its land could reveal not only the type of physical uses but also the underlying values on which those uses are based. The land use survey for Beaver Township was initially completed in September of 1977 and later updated in August of 1978. Each parcel of land, as it appears on property assessment maps, was assigned its appropriate use(s). Following is a descriptive list of the categories employed in the land use survey. Each of these categories has been designated on the Existing Land Use map located in the front cover jacket of this report.

Residential Uses

There are approximately 309 residential dwellings in Beaver Township, utilizing roughly 303 acres of 1.2 percent of the total Township area. Of the 309 residences sixty-eight, or twenty-two percent, are mobile homes and 241, or seventy-eight percent are single family homes. Most residential development is located along existing road frontages and little subdivision activity has occurred in the Township. Only one area has developed to any residential concentration; this occurs in Beaver Center, which is the hub of the Township. Two roads, Pa. 198 and Beaver Rd. (L.R. 20039) stand out as the most populated areas of the Township in respect to strip development. Residential development is much thinner north of Beaver Center as compared to the southern portion of the Township.

In determining acreage figures for Table 1 "Existing Land Use Accounts", individual mobile homes and conventional homes were treated alike. Where a dwelling was situated on a lot of five acres or less the acreage for the entire lot was included as "residential". Where a home was located on a larger acreage or a farm, only the house and accessory structures comprising an area of approximately one acre were included in the calculation. As Table 1 shows, less than two percent of the total Township area is in residential use.

TABLE 1

EXISTING LAND USE ACCOUNTS
BEAVER TOWNSHIP - 1977

USE CATEGORY	IN ACRES	SQUARE MILES	% TOTAL
Woodland & Brush	11 352	17.7	48.7 %
Agriculture	9 351	14.6	40.1 %
Public & Semi Public	22	--	--
Industrial & Commercial	9	--	--
Residential (1)	303	.5	1.3 %
Park & Conservation	1 905	3.0	8.2 %
Roads (68.7 miles)	403	.6	1.7 %
TOTALS	23 345 (2)	36.4	100.0 %

Notes: (1) Approximately 303 lots averaging 1 acre each.

(2) The total acreage figure in this table is the sum of all use categories taken from the Existing Land Use Map. The Township area as figured from the Beaver Township Base Map prepared by the County Planning Commission staff is 23,345 acres. A publication entitled: Crawford County Municipal Areas indicates Beaver Township's area to be 23,368 acres. The Conneaut School District uses this figure in its state aid ratio formula.

Source: Crawford County Planning Commission (CCPC) staff calculation.

Public and Semi-Public Uses

These uses are combined on Table 1, and include such uses as the Township garage, the Community Center, churches, the cemetery, and the Circle-B Saddle Club. Public uses are those uses which are owned by and operated for the public. In Beaver Township these are: the Beaver Township Community Center property, the Township garage, and the Beaver Township Cemetery all located in Beaver Center.

Semi-public uses are those owned and operated by only certain public groups. These include the United Church of Beaver Center in Beaver Center and the Palmer Church in Palmer. The Circle-B Saddle Club, though more a recreational use, is included as a semi-public use here and on the Existing Land Use map because there are no other recreational uses in the Township and it relates closest to the semi-public use category. As seen in the table these uses comprise less than one percent of the total land area of the Township.

Agricultural Uses

Farming has always been actively pursued by many residents of Beaver Township, and is today the Township's main economy. As a result, agricultural activities occupy approximately 9,350 acres or forty percent of the Township's land. This makes agriculture the second largest use of land in Beaver Township. Most farming occurs south of Shadeland Rd. (L.R. 20142), but some activity does take place further north.

Although the farms and the woodlands are what give Beaver Township its rural character, there is some feeling even among the farmers themselves that few, if any, active farms will be left by the year 2000. Most farms in the Township today are dairy farms, and the escalating costs of running them may force the end of an era. From before the turn of the century and through World War I Beaver Township gained a national reputation for Timothy Hay production. The land is ideal for such hay, but farms are too small to compete with other areas of the country in the hay market. Today there is no hay grown for the commercial market.

Woodland and Brush Uses

A quick glance at the Existing Land Use map reveals that a large percentage of the Township is covered in woodland or brush. In fact approximately 11,350 acres, or forty-nine percent of Beaver Township, not including the State Gamelands, is covered with trees or heavy brush. If Gameland 101, which is mostly tree covered, were included this would add another 1,905 acres; bringing to total area of the Township in this use up to fifty-seven percent. (See Table 1)

The Existing Land Use map does not distinguish between woodland and brush, because of the inherent difficulties in such a task. However, most brush areas constitute what was once farmland but has since, through disuse, overgrown with heavy brush and scrub trees on their way to more mature forest. With the combination of woods, brush, gamelands, and agricultural uses, only approximately three percent of the Township area remains in other uses. Little observation is needed to see that Beaver Township is truly rural.

Industrial, Commercial, Mixed Residential/Commercial Uses

Beaver Township has a small core of industrial and commercial uses which together occupy approximately nine acres. Though comparatively little land is utilized for these uses, they are none-the-less important to Township life and the local economy. There are currently three industrial uses, eight commercial and two mixed residential/commercial uses active in the Township. A mixed residential/commercial use is one where a person has a business and a residence on the same property, either within or very near the home.

The three industrial uses include a machine shop on Joiner Road, and two saw mills - one on Philadelphia Road east of Beaver Road and one on Fisher Road also east of Beaver Road. The saw mills, though active, are small and not of a permanent nature. Commercial uses are scattered throughout the Township located in Beaver Center and on Beaver, Shadeland, Fisher and Palmer Roads. Following is a list of the industrial and commercial uses as they appear today:

Blood's Sanitation	Machine Shop (Industrial)
Blood Saw Mill (Industrial)	Saw Mill (Industrial)
Dog Grooming Service (Mixed)	Tack Shop
Duda's Greenhouse	Tannery
Durfee's Lumber	Watch Repair (Mixed)
Lamb's Tractor Sales and Fertilizer	Welding Shop
	Woodard Sand & Gravel

Public Park and Conservation Uses

State Gameland 101, owned and operated by the Pennsylvania Game Commission, is the only public park and conservation area in Beaver Township. This game preserve occupies approximately 1,900 acres in the northwestern part of the Township. It also extends into Conneaut Township in Erie County where its size is comparable to that in Beaver. Table 1 indicates that the Gameland is the third largest use of land in the Township utilizing approximately eight percent of the total land area. This large expanse is mostly wetland and marsh area ideal for water fowl and beaver. The Gameland is open to the public for the enjoyment of nature and for hunting and fishing in season.

An important part of a land use analysis is the land parcelization survey. The purpose for such a study is to determine the size of parcel most commonly owned by Township residents and by those residing outside of the County.

TABLE 2

LAND PARCELIZATION STATISTICS - INVENTORY BY PARCEL SIZE
BEAVER TOWNSHIP - JANUARY 1979

PARCEL SIZE IN ACRES	NUMBER OF PARCELS	PERCENT PARCELS IN TWP.	ACRES IN CATEGORY
Less Than 1 Acre	64	12.8	--
1.0 - 1.5	24	4.8	24
1.6 - 2.5	19	3.8	41
2.6 - 3.5	9	1.8	27
3.6 - 5.0	16	3.2	71
5.1 - 10.0	29	5.8	245
10.1 - 45.0	113	22.7	3 050
45.1 - 100.0	184	36.9	12 230
100.1 - 200.0	32	6.4	4 190
Over 200	9	1.8	3 240
TOTALS	499	100.0 %	23 118

Notes: Included in this inventory are State Game Land holdings as follows:

- 1 parcel in the 10.1 - 45 acre category
- 2 parcels in the 45.1 - 100 acre category
- 1 parcel in the 100.1 - 200 acre category
- 4 parcels in the over 200 acre category

Each property ownership (deed) is counted separately.

Acreage are as taken from 1978 County assessment records.

Source: 1978 County assessment records and Crawford County Planning Commission staff calculations.

As Tables 2 and 3 illustrate, there are 499 parcels of land in Beaver Township - 155 of which are owned by property owners residing outside of the County. The size most common to both resident and non-resident owners is the 45.1 to 100 acre parcel which comprises 37 percent or 184 out of the total 499 parcels. This category is followed by the 10.1 to 45.0 acre parcel and then by the less than 1 acre category.

TABLE 3

LAND PARCELIZATION STATISTICS
PROPERTY OWNERS RESIDING OUTSIDE OF CRAWFORD COUNTY
BEAVER TOWNSHIP - JANUARY 1979

PARCEL SIZE IN ACRES	NUMBER OF PARCELS	PERCENT PARCELS FROM TABLE 2	PERCENT ALL PARCELS IN TOWNSHIP	ACRES IN CATEGORY
Less than 1 Acre	22	34.0	4.4	---
1.0 - 1.5	6	25.0	1.2	7.5
1.6 - 2.5	6	31.5	1.2	12.7
2.6 - 3.5	1	11.0	.2	3.0
3.6 - 5.0	6	37.5	1.2	25.2
5.1 - 10.0	8	27.5	1.6	73.0
10.1 - 45.0	39	34.5	7.8	1 069.6
45.1 - 100.0	59	32.0	11.8	3 906.0
100.1 - 200.0	6	18.7	1.2	883.0
Over 200	2	22.2	.4	790.0
TOTALS	155	N/A	31.0	6 770.0

Source: Crawford County Planning Commission (CCPC)
staff calculations from 1978 county
assessment records.

POPULATION

The purpose of this section is to examine both the past and present populations of Beaver Township in an effort to plot any fluctuating patterns of increase or decrease in the number of residents. Not only will the total population figures for a given year be compared to other yearly totals, but also the decades from 1940 to 1970 will be compared according to fluctuations in age brackets as well as male/female ratios. The Tables which follow provide the statistics for the mathematical analysis of this narrative.

TABLE 4

POPULATION COMPARISONS 1850-1970
BEAVER TOWNSHIP

DECADE	TOTAL POPULATION	ACTUAL CHANGE	PERCENT CHANGE
1850	672	- -	- -
1860	1 098	+426	+63.3 %
1870	1 177	+ 79	+ 7.1 %
1880	1 136	- 41	- 3.4 %
1890	1 131	- 5	- 0.4 %
1900	1 018	-113	- 9.9 %
1910	957	- 61	- 5.9 %
1920	767	-190	-19.8 %
1930	620	-147	-19.1 %
1940	740	+120	+19.3 %
1950	759	+ 19	+ 2.5 %
1960	800	+ 41	+ 5.4 %
1970	775	- 25	- 3.1 %

Source: Crawford County Planning Commission staff analyses of U. S. Census data.

According to Table 4, Beaver Township has experienced fluctuating population trends from its incorporation in 1850 to the most recent U. S. Census of 1970. The trends can be classified into three continuous segments, the first and third showing population increases with the second indicating a decrease. The first segment deals with population trends between the years 1850 to 1870. During this period Beaver Township's population almost doubled with a 75.1 percent increase; or an average of 9.8 percent per decade. It was also during this segment that Beaver Township reached its peak population of 1,177 in 1870. It is possible that this highly accelerated growth rate can be attributed to increases in the availability of transportation such as canals, roads and railroads during this period. The second segment is incorporated into the years between 1870 and 1930. During this sixty year period Beaver Township's population underwent a steady decrease, averaging 9.7 percent per decade. Included in this time segment is the largest decrease

and also the lowest population in the Township's history. The largest decrease occurred in the 1910 to 1920 decade with a 19.8 percent decrease, followed by the lowest population in 1930 of 620 persons. It is difficult to pin-point the exact reasons for the continuous decrease in population from 1870 to 1930. Such events as the Industrial Revolution as well as the Depression both occurred in this era and are possible influences on population trends. The third segment covers the period 1930 to 1970. During this period, the Township's population began to rise again and formed an overall increasing trend. The average increase per decade in the third segment was 7.3 percent, not much lower than the 9.8 percent average increase during the first segment. The summary of the segments below indicates that increasing population averages offset the decreases:

1st Segment	1850 to 1870	+9.8% per decade
2nd Segment	1870 to 1930	-9.7% per decade
3rd Segment	1930 to 1970	+7.3% per decade

Further, an overall view of the Township's population from 1850 to 1970 shows a 15.3 percent increase, or an average increase of 1.2 percent per decade. In view of some of the drastic fluctuations which have occurred in the past, it is difficult to establish any pattern for Beaver Township which will help to predict future population trends.

TABLE 5

COMPARISON OF POPULATION TRENDS
CONNEAUT VALLEY AREA - 1940 to 1975 *

MUNICIPALITY OR AREA	1940	1950	PERCENT CHANGE 40-50	1960	PERCENT CHANGE 50-60	1970	PERCENT CHANGE 60-70	PERCENT CHANGE 40-70	1975 **	PERCENT CHANGE 70-75
Spring Twp.	1 296	1 362	+ 5.1	1 325	-2.7	1 287	-2.9	- 0.7	1 402	+ 8.9
Springboro	570	611	+ 7.2	583	-4.6	584	+0.2	+ 2.5	643	+10.1
Conneautville	965	1 177	+ 22.0	1 100	-6.5	1 032	-6.2	+ 6.9	1 082	+ 4.8
Beaver Twp.	740	759	+ 2.6	800	+5.4	775	-3.1	+ 4.7	876	+13.0
Conneaut Twp.	1 208	1 235	+ 2.2	1 295	+4.9	1 321	+2.0	+ 9.3	1 418	+ 7.3
Summerhill Twp.	830	939	+ 13.1	910	-3.1	963	+5.8	+16.0	893	- 7.3
Conneaut Valley	5 609	6 083	+ 8.5	6 013	-1.2	5 963	-0.8	+ 6.3	6 314	+ 5.9
Crawford Co.	71 644	78 948	+ 10.2	77 956	-1.3	81 342	+4.3	+13.5	85 357	+ 4.9

Notes: * Conneaut Valley Area for the purposes of this report includes: Conneautville and Springboro Boroughs, and Beaver, Conneaut, Spring and Sumerhill Townships. However, residents do not normally consider Conneaut Township as part of the "Valley" community.

** 1975 Population from U. S. Census Publication "Population Estimates and Projections" (Series P-25, No. 686 - May 1977)

Source: Crawford County Planning Commission staff analyses of U. S. Census data.

In terms of a regional context, based on Table 5, Beaver Township's net change of population from 1940 to 1975 was higher than that of Spring Township and Springboro. However, at the same time it was lower than the net percent change of both Conneaut Township and Conneautville. Taking into account both the total population trends from 1850-1970 and the comparison of population trends in the Conneaut Valley area from 1940 to 1975, Beaver Township still has a healthy growth rate. In reference to the regional context Beaver's stability is shared by most of the other municipalities in the Conneaut Valley Area.

TABLE 6

POPULATION BY AGE AND SEX
BEAVER TOWNSHIP - 1940

AGE GROUP	% MALE	MALE	% FEMALE	FEMALE	TOTAL	% TOTAL
0-4	8.7 %	36	8.0 %	26	62	8.4 %
5-14	17.1 %	71	22.2 %	72	143	19.3 %
15-24	20.2 %	84	12.3 %	40	124	16.8 %
25-34	12.7 %	53	11.7 %	38	91	12.3 %
35-44	9.4 %	39	10.2 %	33	72	9.7 %
45-54	11.1 %	46	12.1 %	39	85	11.5 %
55-64	9.1 %	38	12.7 %	41	79	10.7 %
65+	11.7 %	49	10.8 %	35	84	11.3 %
TOTALS	100.0 %	416	100.0 %	324	740	100.0 %

Source: U. S. Census - 1970

TABLE 7

POPULATION BY AGE AND SEX
BEAVER TOWNSHIP - 1970

AGE GROUP	% MALE	MALE	% FEMALE	FEMALE	TOTAL	% TOTAL
0-4	11.9 %	46	7.5 %	29	75	9.7 %
5-14	27.0 %	105	29.0 %	112	217	28.0 %
15-24	12.6 %	49	14.0 %	54	103	13.3 %
25-34	8.7 %	34	9.8 %	38	72	9.3 %
35-44	8.7 %	34	11.4 %	44	78	10.0 %
45-54	12.6 %	49	11.4 %	44	93	12.0 %
55-64	9.0 %	35	8.1 %	31	66	8.5 %
65+	9.5 %	37	8.8 %	34	71	9.2 %
TOTALS	100.0 %	389	100.0 %	386	775	100.0 %

Source: U. S. Census - 1970

Tables 6 and 7 show the male and female populations of Beaver Township by age categories according to 1940 and 1970 Census figures. This breakdown indicates a 6.5 percent decrease in the male population and a 19.1 percent increase in the female population from 1940 to 1970. These changes have given Beaver Township almost equally divided male/female population totals in 1970. Also worthy of note from the 1970 Census are the closely related totals between the males and females of a given age bracket. In order to effectively analyze these and other pertinent trends the male and female populations from these tables were combined and then grouped into respective age categories in the following manner:

<u>AGE</u>	<u>CATEGORY</u>
0-5	Pre-schoolers
5-24	School Children
15-44	Childbearing Age
15-64	Working Force
65 & Over	Elderly

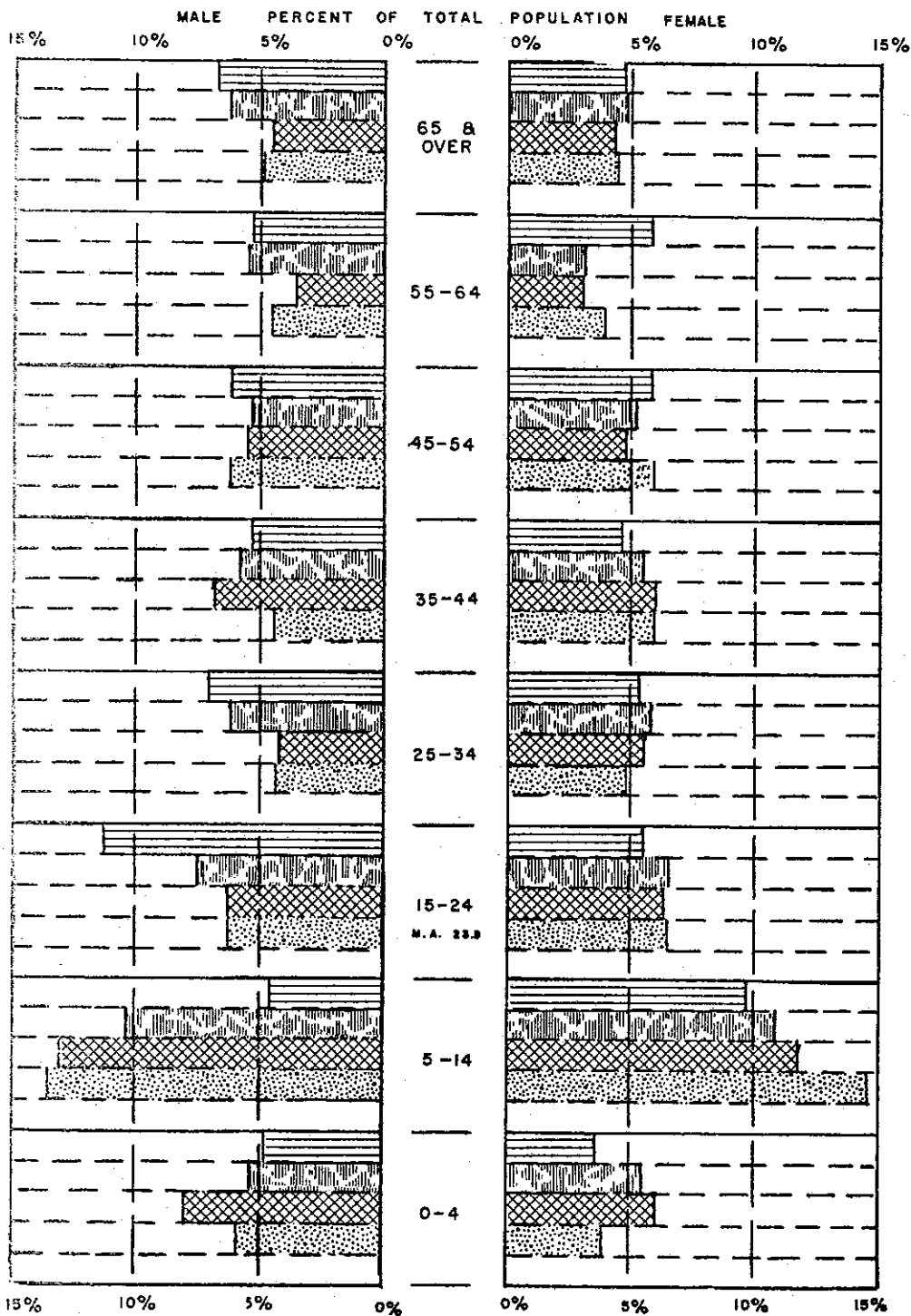
In the pre-schoolers category the 1940-1970 gain was twenty-one percent, followed by a 19.9 percent increase in the school children category. This indicates a rather high increase and should warrant some attention as to the availability of facilities associated with these two age groups. The largest age group increase of 22.5 percent occurred in the 15-44 age group which contains women of childbearing age. This of course does not automatically mean an increase in population but it does indicate a possibility in that direction. The working force decrease of 8.6 percent and the 15.5 percent decrease in the elderly category are the only two age brackets experiencing a decline. The decrease in the working force was probably due to a sharp nationwide decrease in the availability of work, and especially agricultural work in Beaver Township. Lack of work usually promotes out migration to areas where work is available. In studying Tables 6 and 7 one can see that the large decrease in the work force occurred in different age groups for males and females. By comparing the males and females between the ages of 15 and 44 in both 1940 and 1970, one notices a trend. The trend is that males started to leave Beaver Township between the ages of 25 and 34, while females, on the other hand, began to leave the Township between the ages of 15 and 24. The obvious conclusion is that females in this younger age group married spouses from outside the Township. Males stayed with their families a little longer before leaving to seek employment.

Reasons for the decline in the number of persons sixty-five and over by 15.5 percent from 1940 to 1970 is difficult to explain. Some possible explanations are that there were actually fewer people in the 35 to 64 age group during the 1930's who would be over 65 in 1970. Also that the availability of convalescent facilities outside the Township was greater in the 1960's, or more of this elderly group decided not to retire in the Township.

TABLE 8

Population By Age Group & Sex 1940-1970
Beaver Township

	MALE	FEMALE	TOTAL
1940	416	324	740
1950	405	354	759
1960	420	380	800
1970	389	386	775



Source: U. S. Census

In looking at this age group on Tables 6 and 7 it is interesting to note that there were more elderly males than females in both 1940 and 1970. This may appear unusual given the fact that males traditionally are outlived by females. However, on closer inspection it can be seen that ever since the loss of females in the 15 to 24 age group during the 1930's, there has been a surplus of males. This trend, though not as pronounced during the 1960's, shows up very clearly in the senior citizens' group recorded by the 1970 Census.

Table 8 shows the age-sex breakdown for the three decades prior to 1970. Some observations can be made from this table as follows: Since 1940 males have outnumbered females; however, this gap seems to be steadily closing. In 1940 there were more people in the 15 to 24 age group than any other, while in 1950, 1960 and 1970 the 5 to 14 year age group was the largest. This observation points directly to the post-war "baby boom". One can also see that over the thirty year period population in age groups 25 through 64 has remained fairly stable. This reflects those people who chose to stay in Beaver Township to raise their families. It is interesting to follow a certain age group through the decades on Table 8 to see how it has changed. This can be enhanced by color coding the same group of people (the bars) for different decades.

Overall, Beaver Township's population is gradually increasing with a relatively well balanced male to female ratio. The increase in the number of young people is a positive sign of solid growth, but at the same time warrants some attention if out migration is to be minimized. Population forecasts for the future, including U. S. Steel's possible effect, can be found in the "Plan" section of this report.

HOUSING

The general condition and availability of housing in a community reflects to some extent the ability of the community to attract new residents. Beaver Township, being a rural community, does not have any apartment buildings or large numbers of two family residences. Because of this the Township generally attracts people interested in residing either in a single family home or a mobile home. This section of the background is therefore concerned with looking at the condition and availability of Beaver Township's single family and mobile home units.

The 1970 Census reported a total of 236 housing units in Beaver Township, 196 occupied and 40 vacant. Of the vacant units none were for rent and 5 were for sale; it can be assumed that the other 35 were abandoned single family homes or mobile homes. The Census data also reveals that 196 units, or 83 percent of all units, were constructed prior to 1940, leaving only 40 units built since 1940. Furthermore, statistics from the County Assessment Records show that between 1974 and 1977 eleven new homes were built; bringing the total

number of units built since 1940 to approximately 51 units. Although the 1974 to 1977 statistics seem small they do reveal a growth trend in Beaver Township. In 1970 there were 19 mobile homes and 217 single family homes. The existing land use survey, updated in August of 1978, shows that at the time of the survey 68 of the total 309 housing units were mobile homes.

	MOBILE HOMES		SINGLE FAMILY HOMES	
	Number	Percent Total	Number	Percent Total
1970	19	8 %	217	92 %
1978	68	22 %	241	78 %

The figures above illustrate the growth of both the number of mobile homes and the number of single family homes from 1970 to 1978.

The 1970 Census data also describes the condition of housing at the time of the Census. Figures show that 88.8 percent of the Township's housing units were either deteriorating or dilapidated, according to national Census standards. A more recent windshield study done by the Beaver Township Planning Commission for half of the Township shows that by 1978 the percentage of dilapidated or deteriorating buildings has dropped to 26.5 percent. Even though there appears to be a trend toward improved housing conditions, there are still enough homes in generally deteriorating condition to warrant close monitoring and positive action from the Township.

ANALYSES OF THE ECONOMY

The Labor Force

The labor force of any municipality is comprised of persons 14 years and older, employed or unemployed, (excluding members of the armed forces for the civilian labor force). Those outside the labor force status are persons 14 years and older who work less than 15 hours a week. Some of the people that can be included in this category are students, retired workers, housewives, seasonal workers, or persons who cannot find work because of long term physical or mental illness or disability.

As shown on Table 9, Beaver Township's labor force in 1970 totaled 237 people; of these, 222 were employed and 15 were unemployed. This means that in 1970, 93.7 percent of the civilian labor force was employed while 6.3 percent was unemployed. These figures should not be considered as a trend since they reflect only the status at the completion of the 1970 Census. The unemployment rate at that time was 6.9 percent. Since then unemployment in western Crawford County has fluctuated between 13.0 percent in December, 1975 to 7.0 percent in December, 1978.

Table 9 also provides the above statistics for Crawford County. Unemployment in the County was reported by the 1970 Census at 3.5 percent of the total labor force; 3.4 percent lower than that of Beaver Township during the same period.

TABLE 9

LABOR FORCE STATUS
BEAVER TOWNSHIP & CRAWFORD COUNTY - 1970

	MALE	FEMALE	TOTAL	
BEAVER	14 yrs. old+	223	255	478
	Civilian Labor Force	169	68	237
	% of Total	75.8	26.7	49.6
	Employed	166	56	222
	Unemployed	3	12	15
	% of Civilian Labor Force	1.8 %	17.6 %	6.3 %
	Not in Labor Force	54	187	241
	Inmate of Institution	0	0	0
	Enrolled in School	28	47	75
	Military	0	0	0
Other	26	140	166	
COUNTY	14 yrs. old+	31 465	31 337	62 802
	Civilian Labor Force	20 819	11 108	31 927
	% of Total	66.1 %	35.4 %	50.8 %
	Employed	20 183	10 625	30 808
	Unemployed	636	483	1 119
	% of Civilian Labor Force	3.1 %	4.3 %	3.5 %
	Not in Labor Force	10 646	20 229	30 875
	Inmate of Institution	320	528	848
	Enrolled in School	3 360	3 659	7 019
	Military	20	0	20
Other	6 946	16 042	22 988	

SOURCE: U. S. Census, 1970

Employment

Table 10 classifies Township and County residents by industrial categories in which they are employed. Each employee is placed in one of the thirteen categories ranging from manufacturing to public service work. As shown on Table 10, the highest percentage of employed Township residents, 28.4 percent, are involved in the manufacture of non-durable products. Consequently the lowest percentage, 1.3 percent, excluding zero classifications, are employed in the business and repair service fields. It should be noted that more than half, or 54.1 percent of employed residents are involved in manufacturing of durable and non-durable products. The third highest classification, 16.2 percent, is that of transportation. Here the females outnumber the males by six percent. One possible reason for this could be the recent increase in female school bus drivers. Agriculture and forestry include nine percent of the Township's employed residents on a full time basis.

TABLE 10

EMPLOYMENT BY MAJOR INDUSTRY
BEAVER TOWNSHIP & CRAWFORD COUNTY - 1970

INDUSTRY TYPE	MALE	FEMALE	TOTAL	% TOTAL BEAVER	% TOTAL COUNTY
Agriculture/Forestry	15	5	20	9.0 %	4.2 %
Mining	-	-	-	-	.2 %
Construction	17	-	17	7.7 %	5.4 %
Mfg. (Durable Goods)	48	9	57	25.7 %	28.8 %
Mfg. (Non-Durable Goods)	55	8	63	28.4 %	11.0 %
Transportation	15	21	36	16.2 %	7.0 %
Wholesale/Retail	-	4	4	1.8 %	16.0 %
Finance/Real Estate	13	-	13	5.9 %	2.6 %
Business/Repair Service	3	-	3	1.3 %	1.4 %
Personal Service	-	-	-	-	3.5 %
Entertainment/Rec. Serv.	-	-	-	-	.7 %
Professional Service	-	9	9	4.0 %	16.5 %
Public Service	-	-	-	-	2.7 %
TOTAL EMPLOYED	166	56	222	100.0 %	100.0 %

SOURCE: U. S. Census - 1970

Countywide, the figures are slightly different as shown on Table 10. The highest classification, 28.8 percent, is still in manufacturing but instead of non-durable products the County excels in the durable product classification. The two manufacturing categories employ roughly 39.8 percent of the County's labor force. This is much lower than the 54.1 percent of residents in Beaver Township. The second highest category, 16.5 percent, is in the professional service category, as opposed to the four percent in Beaver Township. Agriculture and forestry employ only 4.2 percent of County residents, which is 4.8 percent lower than in Beaver.

TABLE 11

COMPARISON OF OCCUPATION GROUPS
BEAVER TOWNSHIP & CRAWFORD COUNTY - 1970

OCCUPATION	MALE	FEMALE	TOTAL	% TOTAL BEAVER	% TOTAL COUNTY
Professional/Technical	-	-	-	-	11.3 %
Managers/Administrators	7	-	7	3.1 %	7.0 %
Sales	6	-	6	2.7 %	5.8 %
Clerical	5	20	25	11.3 %	12.7 %
Craftsmen/Foremen	53	-	53	23.9 %	17.9 %
Operatives	57	11	68	30.6 %	21.3 %
Transportation Operators	10	16	26	11.7 %	3.6 %
Laborers (Except Farm)	13	-	13	5.9 %	4.9 %
Farm Laborers	-	-	-	-	1.3 %
Farmers/Farm Managers	15	5	20	9.0 %	2.6 %
Non-Household Services	-	4	4	1.8 %	10.2 %
Household Workers	-	-	-	-	1.4 %
TOTAL EMPLOYED	166	56	222	100.0 %	100.0 %

SOURCE: U. S. Census - 1970

Employed Township and County residents (14 years +) by occupation and by sex, are examined in Table 11. The table provides more specific information as to the type of work each individual does. For example, it is sometimes not enough to know that a person is involved in some type of manufacturing. It may also be important to know just what that person does - is he a foreman or is he a laborer? This table gives a better idea of what skills and trades Beaver Township residents rely upon for employment.

The largest classification is that of operatives with 30.6 percent. This group includes assemblers, inspectors, dressmakers, examiners, etc. Craftsmen-Foremen constitute the second largest group with 23.9 percent of those employed. These are followed by transportation equipment operators at 11.7 percent and then clerical with 11.3 percent. Farmers and farm managers constitute nine percent of the residents with twenty full time farmers.

The information in Table 12 provides a reasonably accurate accounting of locations in which Beaver Township residents work. As can be seen from this table, 208 residents worked outside of the Township in 1977. The largest group or fifty-one percent worked in Crawford County, mostly in Meadville. Thirty-five percent worked in Erie County, mostly in Albion and Girard, and fourteen percent worked in Ohio.

TABLE 12

LOCATION OF EMPLOYMENT BY COUNTY, STATE & MUNICIPALITY
BEAVER TOWNSHIP RESIDENTS - 1977

COUNTY, STATE, MUNICIPALITY	NUMBER TOWNSHIP RESIDENTS	PERCENT OF TOTAL
Crawford	105	50.5 %
Erie	73	35.1 %
State of Ohio	30	14.4 %
TOTALS	208	100.0 %
Meadville	30	14.4 %
Albion	25	12.1 %
Conneautville	23	11.2 %
Springboro	20	9.6 %
Linesville	20	9.6 %
Girard	19	9.1 %
Erie	8	3.8 %
Millcreek Twp., Erie County	8	3.8 %
Conneaut Twp.	6	2.9 %
Fairview Twp. Erie County	4	1.9 %
Edinboro	4	1.9 %
Conneaut Lake	3	1.4 %
Lawrence Park	3	1.4 %
Greenwood Twp.	2	1.0 %
Summit Twp., Erie County	2	1.0 %
Cambridge Springs	1	.5 %
State of Ohio	30	14.4 %
TOTALS	208	100.0 %

NOTE: These employment figures do not include full time farm workers.

SOURCE: Wage Tax Collector, Beaver Township, October, 1978. Data organized by CCPC staff.

Income

The economic vitality of a municipality is usually measured by the unemployment rate and the incomes of those residing in the community. These statistics are most meaningful when compared with the income indicators of surrounding areas. The following Table provides the information necessary for such a comparison.

TABLE 13

FIVE YEAR INCOME COMPARISONS
CONNEAUT VALLEY & CRAWFORD COUNTY

MUNICIPALITY	1970	1975 *	1969	1974	% INCREASE	1970 +	1975 *	POPULATION	
	FAMILY MEAN	FAMILY MEAN	PER CAPITA	PER CAPITA	PER CAPITA	TOTAL MEAN	TOTAL MEAN	1970	1975
Spring Township	\$8 269	\$12 618	\$2 041	\$3 114	52.6 %	\$7 308	\$11 152	1 287	1 402
Beaver Township	\$9 724	\$14 343	\$2 312	\$3 410	47.5 %	\$9 412	\$13 883	775	876
Conneaut Township	\$8 380	\$11 740	\$2 205	\$3 090	40.1 %	\$7 715	\$10 809	1 322	1 418
Conneautville Borough	\$9 225	\$13 146	\$2 491	\$3 550	42.5 %	\$7 653	\$10 906	1 032	1 082
Springboro Borough	\$7 570	\$11 665	\$2 231	\$3 438	54.1 %	\$6 913	\$10 653	584	643
Summerhill Township	\$8 333	\$12 158	\$2 369	\$3 456	45.9 %	\$6 972	\$10 172	963	893
Crawford County	\$9 323	\$13 173	\$2 637	\$3 726	41.3 %	\$7 580	\$10 711	81 342	85 357

Notes:

- * 1975 Family Mean Income is a linear projection based on the percent increase of per capita income.
- + Total Mean Income is the average of all mean family incomes and all unrelated individual mean incomes.

Residents of the Conneaut Valley do not normally consider Conneaut Township to be part of the "Valley" community.

Source: U. S. Census - 1970; 1977 "Population Estimates and Projections", Series P-25, No. 686 and Crawford County Planning Commission staff computations.

In 1969 the Per Capita Income for Beaver Township was 2,312 dollars and ranked third highest of the six municipalities. That year the communities surrounding Beaver Township, namely Conneaut Township, Spring Township and Springboro. All had lower Per Capita Incomes. By the end of 1974 Beaver Township's Per Capita Income slid to fourth highest, due to a 54.1 percent increase in Springboro's Per Capita Income. During the same period Beaver Township's Per Capita Income increased by 47.5 percent; the third highest increase behind Springboro and Spring Township. In the "Family Mean" income category, Beaver Township ranked first both in 1970 with a mean of 9,724 dollars, and in 1975 with a mean of 14,343 dollars. Also worthy of note is that Beaver Township's Family Mean was higher than the County's by 401 dollars in 1970 and by 1,170 dollars in 1975.

Table 14 compares the relative numbers of people in a given income range and how these incomes have changed between 1969 and 1977. The Table is based on two sources; the 1969 source is the U. S.

Census while the 1977 source is Local Wage Tax Information. Therefore, the 1977 category includes only persons who have filed a wage tax return and so provides no information for the "No Income" column.

TABLE 14

INCOME RANGES FOR PERSONS 14 YEARS AND OLDER BY SEX
BEAVER TOWNSHIP RESIDENTS

% TOTAL	1969 MALES	1969 FEMALES	1969 TOTAL	INCOME RANGE	1977 TOTAL	1977 MALES	1977 FEMALES	1977 % TOTAL
-	23	120	143	No Income	-	-	-	-
21.0 %	25	45	70	Below 1 000	17	7	10	7.3 %
8.6 %	6	23	29	1 000 - 1 999	17	6	11	7.3 %
5.4 %	5	13	18	2 000 - 2 999	24	8	16	10.3 %
5.4 %	5	13	18	3 000 - 3 999	9	3	6	3.9 %
7.5 %	10	15	25	4 000 - 4 999	16	10	6	6.9 %
10.7 %	23	13	36	5 000 - 5 999	10	4	6	4.2 %
9.5 %	29	3	32	6 000 - 6 999	15	8	7	6.4 %
7.5 %	20	5	25	7 000 - 7 999	10	6	4	4.3 %
11.6 %	39	-	39	8 000 - 9 999	30	18	12	12.9 %
9.3 %	31	-	31	10 000 - 14 999	49	42	7	21.0 %
3.5 %	7	5	12	15 000 - 24 999	34	33	1	14.6 %
-	-	-	-	25 000 and Over	2	2	0	.9 %
100.0 %	200	135	335		233	147	86	100.0 %

Note: Persons with "No Income" are not included in grand total or percentages.

Sources: U. S. Census - 1970; and Wage Tax Collector, Beaver Township 1978.

In 1969 there were 143, or 29.9 percent, of all individuals in the working age group who received no income. Of these 23 were males and 120 were females. The largest group of income earners (70) received less than 6,000 dollars and comprised 21 percent of those earning an income. The second largest income group of 39, or 11.6 percent, received anywhere from 8,000 to 9,999 dollars. The highest income range reached was from 15,000 to 24,000 dollars by 3.5 percent of residents 14 years and older. By 1977 the largest group of income earners, 49 persons, earned anywhere from 10,000 to 14,999 dollars. The most important development by 1977 was that almost half, 115 persons, of those working earned anywhere from 8,000 to 25,000 dollars or more.

COMMUNITY FACILITIES AND SERVICES

The analysis of facilities and services is in a way a continuation of the existing land use section of this report. However, whereas the land use analysis provided the location of a Township's facilities, this analysis provides an explanation of what these facilities are and what services they offer. Also analyzed are those facilities and services which are available from outside the Township.

Road System

A municipality's road network is, without doubt, its most important facility. Properly maintained roads are in effect a lifeline for incoming and outgoing individuals as well as such vital services as fire and police protection.

Beaver Township contains a total of 69.73 miles of road. The Township is responsible for maintenance of 41.87 miles of this total, while the State maintains the remaining 27.86 miles. All the roads under Township maintenance have a gravel surface and are therefore classified as unimproved.

Of the 27.86 miles of road under State maintenance, 18.65 miles have a bituminous surface and the remaining 9.21 miles are surfaced with gravel. Nearly all of the Township maintained roads have a travel-way of from 14 to 16 feet and a right-of-way of 50 feet. The State roads within the Township have a 50 foot right-of-way and pavement widths ranging from 16 to 18 feet. The following table gives the number of miles for both paved and gravel Township and State roads:

	Bituminous	Gravel	Total
Township Roads	0	41.87	41.87
State Roads	18.65	9.21	27.86
Both Systems	18.65	51.08	69.73

Road Classifications The Federal Government, through staff assistance from the Pennsylvania Department of Transportation, maintains the Federal Functional Highway Classification System for all roads in all communities throughout the State. This classification system is based upon the premise that some roads service more important functions than others because they carry higher traffic volumes, they are designed to higher standards, and they connect major activity centers. Following is a description of the "hierarchy" which is utilized in the Functional Classification System:

Major Arterial - The system of principal arterial highways serves the major centers of activity within and between states. These are usually urban areas having a population of 25,000 or over. Major arterials carry the highest traffic volumes and facilitate trips of the longest length (e.g., interstate highways). For major arterials, the concept of service to abutting properties is subordinate to the provision of travel service for major traffic movements.

Minor Arterial - This system of roadways interconnects with and augments the major arterial system - providing service to trips of more moderate length at a somewhat lower level of travel mobility than major arterials. This system includes all arterials not classified as major, and includes facilities that place more emphasis on land access than does the major system. (e.g., Pa. Route 18)

Major Collector - This road system generally serves traffic of an intracounty, rather than intercounty or statewide importance. The system often provides service to a county seat or larger settlement area, as well as areas of traffic generation not directly served by the higher systems.

Minor Collector - This road network collects traffic from local roads and "feeds" it to the higher road systems. These roads may penetrate neighborhoods, distributing trips from the higher systems to their ultimate destinations.

Local - The local road system serves primarily to provide direct access to abutting land and access to the higher order systems. It offers the lowest level of mobility, and service to through-traffic movement should be discouraged.

In Beaver Township the categories in the system are listed below along with current official 1980 assignments of roads in these categories:

Major Collector	Pa. 198 (L.R. 20040)
Minor Collector	Beaver Road (L.R. 20039) Springboro Road (L.R. 20041)
Local	All remaining State and Township Roads

It is important to realize that in Beaver Township's case federal funds are available only for upkeep of Route 198 (L.R. 20040). The minor collectors and local roads must be maintained by State and Local funds. The only other way to secure funds for the upkeep of a minor collector or a local road would be through the Federal Off-Systems Funding Program. The rule is that any road which receives federal aid must be brought up to a travel-way width of at least 20 feet. The Functional Classification System is an important guide in planning for the level of funding and service on roads, and therefore it is an important consideration for planning for the use of land.

Average Daily Traffic The method used by PennDOT for expressing the number of vehicles using a particular road on any given day is called average daily traffic (ADT). These statistics are kept by PennDOT for the State roads and in this narrative have been updated to 1978 standards from 1973 data.

<u>ROAD</u>		<u>ADT</u>	
		<u>1973</u>	<u>1978</u>
Beaver Road	(L.R. 20039)	300-400	339-452
Route 198		300-400	339-452
Shadeland Rd.	(L.R. 20142)	110-130	113-141
L.R. 20123		90	93
L.R. 20041	(To Springboro)	600	680
Fisher Road	(L.R. 20122)	650	735

Drainage Structures An October, 1978 field survey of existing drainage structures on Township and State roads produced the following results. The Township maintains approximately fifty nine drainage structures, twenty-five of which are bridges and thirty-four of which are culverts. The State maintains an almost equal amount with twenty-two bridges and thirty-five culverts for a total of fifty-seven drainage structures. Crawford County maintains only one bridge located on Jerusalem Hill Road over Stone Creek. It should be noted that outside of the information on State maintained bridges, the remaining figures are only approximate.

	Bridges	Culverts	Total
Township Drainage Structures	25	34	59
State Drainage Structures	22	35	57
County Drainage Structures	1	0	1
Totals	47	69	117

Summary Analyzing the existing road network for alignment problems and any other conditions pertinent to the network's well being, the following observations are made:

Seasonal flooding conditions exist on the following roads:

- Shadeland Road (western most portion)
- Philadelphia Road (western most portion)
- Joiner Road (first bridge west of Beaver Road)
- Jerusalem Hill Road (eastern most portion)

By far the most serious flooding condition exists on Shadeland Road.

A steep hill on Jerusalem Hill Road runs down into an intersection with Spring Road. The drop is severe enough to cause potential danger to east bound motorists turning north or south onto Spring Road.

The newly reopened section of Lockwood Road does not provide access to any residential dwellings.

Two abrupt curves on Township roads T. 338 (Maples Road) and T. 348 (Townline Road) could be considered for alignment upgrading.

Shadeland Road, besides having a flooding problem has three posted bridges.

L.R. 20041 (to Springboro) has a bridge just west of Beaver Center, which is posted as critical. The ADT on that portion of road (680) is the second highest in the Township.

The north bound T-Intersection of L.R. 20123 and Philadelphia Road poses several problems to both motorists traveling north on L.R. 20123 and those traveling east or west on T. 867

(Philadelphia Road). The problem occurs because the road surface of L.R. 20123 has widened to the point of looking like no intersection exists. This has been further complicated by woods and brush obscuring vision from all sides.

Road intersections sided by full grown corn stalks produce visual handicaps.

Schools, Current Status and Needs

Beaver Township is included within the Conneaut School District. Two schools, the Conneaut Valley Elementary School and the Conneaut Valley High School, provide educational opportunities for students ranging from kindergarten to the twelfth grade. Outside of the basic educational programs these facilities also provide special education, mental retardation, learning disability and reading services. Existing facilities are analyzed as follows:

	Grades	Classrooms	1978-79 Enrollment	Site Acreage	Age & Condition
Elementary	K-6	22	609	15	Built 1959, Good
High School	7-12	14	592	20	Built 1954, Good

One should note the above figures include students enrolled in special and vocational-technical education. The elementary school includes a multi-purpose room, a cafeteria, a library, a health room and an outdoor playground. The high school includes; shop facilities, a cafeteria, a health suite, library, gym, music and art rooms and athletic fields.

The following needs are identified by educators for these two facilities. Elementary school: additional space for library and for special and general classrooms. High school: additional space for library, seminar use, individual instruction, large group instruction, music activities, laboratory study and indoor recreation facilities. These needs are said to exist without special population impacts. Crowded conditions are primarily the result of "program" increases - not pupil increases.

The Crawford County Planning Commission staff has written a paper entitled: "The Public School in the Community: Issues But Perhaps No Choices". This paper, found in Appendix 1 of this report, discusses in general, the Pennsylvania Public School System, the powers and responsibilities of the local school district, the role of the Intermediate Unit, Federal and State Program Mandates, and the issue of the neighborhood school. Since schools are too often taken for granted, and because they are such an important part of community life, the authors think it appropriate to include this paper as a supplement, in hopes that it will be of interest and value to parents, school officials and local government decision makers.

Medical and Emergency Services

Beaver Township residents, having no medical facilities in the Township, use either the medical center at Albion or the Conneaut Valley Health Center in Conneautville. Residents living in the northern portion of the Township rely more on the Albion Center, while the more southern residents depend on the Valley Health Center in Conneautville.

The Valley Health Center began operating in August of 1977 after several years of dormancy due to the lack of a practicing physician in the area. It now operates under the auspices of the Community Health Services of Crawford County, Inc., a private non-profit corporation. The Valley Health Center now provides "fee for service" medical care five days a week. Their staff includes a physician as Medical Director, a Family Health Specialist, a Registered Nurse and a Receptionist. Primary care services are emphasized along with: emergency service, X-Ray and lab work, nutritional programs, public health screening, mental health service, drug and alcohol abuse service and referral.

Ambulance and rescue service are provided by the Conneautville Volunteer Fire Department, with backup from Albion. Less serious emergencies are taken to the Valley Health Center during working hours, while serious and after hours cases are taken to Meadville hospitals. We must not forget to mention that there is a dentist in Conneautville; however, he may retire from active practice soon.

Library

Beaver Township has no library facilities within its boundaries. However, two libraries, the Springboro Public Library and the Stone Memorial Library in Conneautville, are available to Beaver Township residents.

Fire Protection

Beaver Township residents are provided with fire protection by two volunteer fire companies from Springboro and Conneautville. The Springboro Volunteer Fire Department and the Conneautville Fellows Club Volunteer Department share the responsibility for adequate protection of Beaver Township. Generally the Springboro Department covers any fire occurring north of Artman and Fisher Roads, serving approximately seventy percent of the Township. The Conneautville Department covers any fire south of the above mentioned roads. For this service Beaver Township donates 1 mill tax annually to the Conneautville Volunteers and 2 mills taxes annually to the Springboro Volunteers. The following equipment is maintained by these companies:

SPRINGBORO

2 Pumper/Tankers (1,000 gal.)	1 Pumper/Tanker (730 gpm/1,000 gal.)
Assorted Special Equipment	1 Pumper (1,000 gpm)
	1 Grass Fire Vehicle
	1 Equipment Van

Police Protection

Present police protection for Beaver Township residents is obtained from the Pennsylvania State Police out of its Meadville Barracks.

Municipal Buildings

The Beaver Township Community Building is located in Beaver Center. Although the building is old much renovation has been done to preserve this edifice. The building is used for public functions such as Planning Commission and Supervisors' meetings as well as for recreational activities. The building appears adequate for current needs of the Township, although the surrounding site could be improved as a recreational facility.

A second municipal building, a maintenance garage, is located just north of the community building near the Township's cemetery. This new facility is used for housing road maintenance vehicles, including:

Austin Weston 300 Pacer Grader
International High Lift Loader
York Road Maintainer
F750 Ford Dump Truck
GMC 6/6, 2.5 Ton Truck

Public Recreation

Recreational facilities in the Township are minimal. Outside of the Township building, Circel-B Saddle Club and Gamelands 101 most residents use facilities outside of the Township. Although there exists much potential within Gamelands 101 for establishing certain types of recreational facilities little has been done about it. At present, the main recreation derived from the Gamelands is hunting. The Township building provides adequate space for such occasions as church sponsored dinners, grange meetings, and for the Beaver Township Community Association sponsored events.

Recreational facilities are available to Beaver Township residents at the Conneaut Valley Schools as well as at park facilities located in Springboro and Conneautville.

Utilities

Sewage Disposal There is no public sewer system in Beaver Township. All sewage disposal must be handled by on-lot disposal methods.

Water Since Beaver Township has no public water system residents rely strictly on individual water wells. (See Ground Water section of this report).

Electricity Electric power is provided to Township residents through two sources; the Pennsylvania Electric Company (Penelec) and the Northwest Rural Electric Cooperative Association (REC).

Penelec provides single and three phase service to individual customers along L.R. 20041 from Springboro to Beaver Center. The rest of Beaver Township is served by REC.

Penelec and REC have defined jurisdictional areas, delineated by Pennsylvania's New Territorial Act of 1975. Neither company can encroach on the other's territory. Pennsylvania Public Utility Commission regulations oblige Penelec to serve any increased demand for service within its jurisdictional territory, and Penelec is capable of providing such service within the Conneaut Valley area. Penelec facilities serving this area include a 34.5 KV line that can be used for industrial, commercial and residential services, along with normal 12.47 KV three phase or 7.2 KV distribution.

Telephone The Mid-Penn Telephone Corporation (MID-PENN) provides general telephone service to the entire Conneaut Valley Area, including Beaver Township. Private or party line service is provided at the subscribers option. Watts lines or any type of special services can also be provided within the service area.

Gas National Fuel Gas (NFG) provides service for approximately three or four homes on L.R. 20041 just west of the Beaver-Spring Township boundary lines. Other than that NFG does not provide gas service to Beaver Township. Domestic fuel needs are generally met by local propane and fuel oil distributors, or by individual sources for those fortunate enough to have their own gas well.

SOILS

The soil characteristics within a municipality should serve as a guideline for any land use decisions. The degree of suitability of a particular soil for a designated task should be predetermined, so that the planned use can be sustained by the soils on which it will depend.

The soils information in this section was collected from aerial photographs on which soil types are identified. These photographs are the result of a survey done by the U. S. Department of Agriculture Soil Conservation Service working through the Crawford County Conservation District. The following three maps were developed specifically for Beaver Township through the above mentioned soil survey: Agricultural Quality, On-Lot Sewage Suitability, and Flood Prone Areas. These maps will be available for viewing by the public at the Beaver Township Community Building and offices of the Crawford County Planning Commission.

Agricultural Suitability

The soil classifications discussed here pertain strictly to uses involving agriculture. The Soil Conservation Service has classified agricultural soils into eight classes, with their limitations on productive use increasing as one progresses from Class I to Class VIII.

Throughout the country it is normal practice to group these soil classes into three categories as follows:

Good. Classes I and II. These soils are very well suited to agricultural cropping; they drain particularly well.

Fair. Class III. Soils in this class are fair for cropping; the limiting factor is a lack of good soil drainage.

Marginal to Poor. Classes IV-VIII. These soils are not considered good for agricultural cropping; their poor drainage characteristic is the chief limiting factor.

It is important to note that this conventional system of soil classification is based primarily on the suitability of soils to handle field crops such as corn, the various grains, etc. The fact that hay - grasses and forage crops - are important in Crawford County farming and can be grown well on Class III soils is a reality that is hidden in the 3-fold list of soil categories above. Actually soils in the fair category serve the Beaver Township dairy farmers very well and should be considered, for local purposes, good soils if used to grow forage crops.

A calculation of the amounts of soil (by land area) in each of these three categories was made as follows: Good 2%, Fair 70%, Poor 28%.

It should be mentioned also that soils in the fair category and some soils in the poor category can be productive if they are managed properly and if certain basic investments such as tiling (to improve drainage) are carried out.

On-Lot Sewage Suitability

Soil suitability for on-lot sewage systems is measured according to the soil's ability to properly filter sewage effluent. The filtering capability of a soil is based on (1) soil permeability, (2) depth of the soil to bedrock or some other impervious layer, and (3) the slope of the land. In Beaver Township, which has no centralized sewage system, the ability of a soil to perform well as an absorption field is crucial to any type of residential development. Each present and perhaps the future resident must rely entirely on the suitability of the soils in his area to meet certain standards.

Soil suitability standards for on-lot sewage disposal are set by the Pennsylvania Department of Environmental Resources (PennDER). Based on these standards and with the cooperation of the Soil Conservation Service, Beaver Township's soils have been divided into three capability classifications for on-lot sewage suitability. General standards for these classifications follow:

Good Suitability Soils capable of supporting a standard on-lot disposal system, and which will qualify for permit approval by PennDER.

Fair Suitability. Soils which will not normally qualify for a conventional system, but may qualify for a modified or alternate system.

Poor Suitability. Soils which will not qualify for an on-lot sewage system because one or all of the following conditions are present:

May be subject to flooding.

Depth to the seasonal high water table of less than 1.5 feet.

Percolation rates of greater than 300 minutes and a permeability of less than 0.2 inches per hour.

A slope of greater than fifteen percent.

May be too stony.

According to these State standards at least ninety percent of the soils in Beaver Township are classified "poor" for on-lot septic systems. The remaining ten percent are only "Fair" and there are no soils in the "good" category. Although this analysis is generalized and a final decision can be made only after an on-site inspection, it is clear that proper soils would be difficult to locate. From conversations with the sewage enforcement officer for Beaver Township, it is apparent that a minimum of three to five acres of land could be needed to find a suitable location for an on-lot sewage system. If no suitable soil is found, State regulations allow one individual system to be installed without a permit on a parcel of land larger than ten acres.

FLOOD PRONE AREAS

Another limiting factor on development is the susceptibility of land to flooding, or stream overflow. Lands in Beaver Township which border streams and which are subject to stream overflow were identified through the Soil Conservation Service by the extent of alluvial soils bordering the Township's streams. Alluvial soils are composed of sand, silt and clay which were deposited and left behind by an overflowing stream.

Generally, areas in Beaver Township considered to be flood prone are located either in woodlands or on agricultural land, and therefore pose little threat to development. However, in some areas such as Beaver Center, any further development along East Branch Creek could be constrained by that creek's flood prone areas.

For the purpose of development limitations only the 100 year flood plain is considered. The 100 year flood plain is any area which has the potential to flood at least once every 100 years. Since rainfall and floods are not predictable a 100 year flood could

happen at any time. It could also happen in two consecutive years, but the probability is only 1 in 100. This does not mean that smaller floods, such as; 50 year or 20 year floods, should be ignored. They can also cause damage to homes, property, roads, etc.

The Federal Insurance Administration (FIA), a branch of the U. S. Department of Housing and Urban Development (HUD), has compiled "Official Maps" which designate flood prone areas in the Township which qualify for the National Flood Insurance Program.

Beaver Township has qualified for the National Flood Insurance Program, which enables residents who might live in, or have property in, a flood prone area to obtain flood insurance at rates subsidized by the Federal Government.

GROUND WATER RESOURCES

Good information is available on ground water resources in Western Crawford County from a recently completed geological report entitled: "Geology and Hydrology of Western Crawford County". The material in this section is based wholly on this report. In Beaver Township, as in nearly all of Crawford County, water must be obtained from the ground. Thus, the availability of ground water throughout the Township is a condition to reckon with in developing a plan for growth.

Ground water resources in Beaver Township are based on geologic features underlying the ground we live on. These features are broken down into two major geologic formations: the glacial drift and bedrock formations. The entire Township is covered at its surface by glacial drift. This drift is the "leavings", so to speak, of the glaciers which once enveloped our area. The drift varies in depth from about 2 to 26 feet except for major stream valleys and low places where it is much deeper. In some portions of the Conneaut Creek Valley this drift goes as deep as 100 feet. This phenomenon is only found in the extreme northeastern corner of the Township.

Glacial drift is the term given to all material deposited by the glaciers. Material deposited directly without any sorting is called till, which could be anything from clay to boulders. Firm till is called "hardpan" by well drillers. In some cases till deposits were accompanied by a sorting process caused by streams or ponds of melting water which consolidated sands and gravels. These deposits are called outwashes, and usually provide a plentiful source of ground water.

The second major geologic formation is the bedrock under the glacial drift. These are named Devonian Shales and cover the entire Township. To accompany this narrative a property line base map was developed on which the following information is displayed: (2)

1. Topographic contours of the Devonian Shale bedrock formation.
2. The extent of the outwash deposits.
3. Locations of 67 wells for which well log data is tabulated.
4. Fracture trace lines.

Items 3 and 4 above will be explained in the following paragraphs. The locations for 67 wells and fracture traces were mapped. Data on the 67 wells were tabulated on a separate listing. These data demonstrate the following realities relative to the availability of ground water in Beaver Township:

- Generally the best source of water is found in the outwash deposit located only in the extreme northeast corner of the Township. Of 8 wells recorded in the outwash deposit the average yield was 9.7 gallons per minute (GPM). The median yield was 10 GPM/ Throughout Western Crawford County the average yield from wells in the outwash areas is approximately 20 GPM, somewhat higher than those found in Beaver Township. Wells in this deposit seldom go deeper than 100 feet and those in Beaver range from 18 to 38 feet in depth. Over 90 percent of the wells in Western Crawford County completed in the glacial drift tap the outwash deposits. However, in Beaver very few wells are completed in the drift because of the lack of such outwash deposits.
- Till deposits are normally poor sources of water. Only six percent of the wells completed in glacial drift in Western Crawford County tap till deposits. This makes life difficult in Beaver Township because about ninety-nine percent of the Township is till deposit. As a result there are no wells completed in the glacial till in Beaver Township. Well drillers have found that in the till areas of Beaver they must go deeper into the bedrock formations to find adequate water.
- Three out of four wells in the Western County are completed in bedrock formations. In Beaver Township almost nine out of ten wells are completed in bedrock. Except where the underlying bedrock is Devonian, wells are satisfactory. The Devonian formation, however, is very dense and transmits water poorly. Most Beaver Township wells are completed in this Devonian Shale. We have data on 37 such wells. Their median yield is 2 GPM; however, their average yield is 4.2 GPM. Often wells drilled to the Devonian yield only 1 to 3 GPM; thus, Beaver seems to be above average.

(2) NOTE: This map can be viewed at the Beaver Township Community Center, or at the offices of the Crawford County Planning Commission.

- There is another layer of bedrock under the Devonian Shales. This is called the Conneaut Group. There are 11 wells in Beaver Township completed in this rock formation varying in depth from 31 feet to 283 feet. Generally deep wells are drilled in search of a better water supply. Unfortunately these deeper wells average the same yield in GPM (4.2) as do the shallower wells in the Devonian Shale, at least in Beaver Township.
- Salt water infiltration is particularly dangerous in the Devonian Shales. It is important to just catch the weathered top course of the Devonian in drilling a well to avoid salt water. This means wells should not normally be deeper than fifty feet, reaching just to the top portions of the Devonian.
- The situation being what it is in terms of the Devonian Shales it is often wise in seeking water for a household to install a dug well, tapping only the till layer. Such wells should be at least three feet in diameter and must be protected from contamination.
- The water produced in the Township no matter from which deposit is normally hard; it contains high amounts of calcium and magnesium.

The average amount of water used per day per person is 100 gallons. The average household uses 500 gallons per day. The average household can be supplied by a well pumping on demand if a 3 GPM capacity exists. Where a household can obtain only 1 GPM this will suffice if storage facilities are available and the household exercises care in water use.

The map displaying the information in this section also includes lines called fracture traces. These are lines visible on aerial photographs which have been transferred to a map of the Township. These lines indicate a subsurface fracture. The ideal point to drill a well is at the intersection point of fracture traces. Fracture trace zones range in width from 15 to 60 feet.

The relative availability of water in the various areas of Beaver Township has a definite bearing on the issue of what sort of growth policies the Township should adopt through its comprehensive plan.

FISCAL ANALYSIS

This analysis presents a summary of previous trends in receipts and expenditures for Beaver Township, as well as a summary of assessed valuation and tax millage rates in past years. The intent is to determine the Township's financial capability to handle existing and future programs and services, based on these past trends.

Township Revenues

A summary of receipts for the Township from 1974 to 1978 is presented in Appendix 2 of this report. Total receipts have fluctuated throughout the five year period; however, within that time there was a net increase from \$63,765 in 1974 to \$76,819 in 1978. This is a 20.5 percent increase over five years or an average yearly increase of 4.1 percent.

Receipts are classified in two different categories, revenue receipts and non-revenue receipts. Revenue receipts are those receipts that increase net assets without increasing debt liabilities, such as; taxes, grants, or fines. Non-revenue receipts include all income which does not alter the Township's net value, such as; sale of property, securities, and equipment. Revenue receipts comprised the vast majority of receipts averaging eighty-four percent of total receipts over the five year period. Chart 1 shows the relative importance of one type of revenue to another.

Tax Revenues The Township receives its tax revenues from several different taxes and sources. Township taxes include: a real estate tax, a wage tax and a per capita tax. The real estate tax rate for the past five years has been 12 mills, or .12 cents for each dollar of assessed property value. Property is assessed by the County, and is currently set at 30 percent of the replacement value in 1971 dollars. The wage tax rate is one-half percent of each resident's wages, and the per capita tax rate is \$5.00 for each resident eighteen years of age or over.

Revenue from taxes averaged about one fourth (26 percent) of the total revenues received for the five year period. The dollar amount of tax revenues increased fairly steadily from 1974 to 1978. These tax trends can be better understood by examining the table "Trends in Assessed Valuation and Township Taxes", in Appendix 1. While the millage rate of 12 mills has remained constant over the five years, the total assessed valuation has increased steadily from \$666,050 in 1974 to \$768,050 in 1978, an increase of fifteen percent. Therefore, it is logical that the maximum possible tax yield would also increase, and the table shows this to be the case.

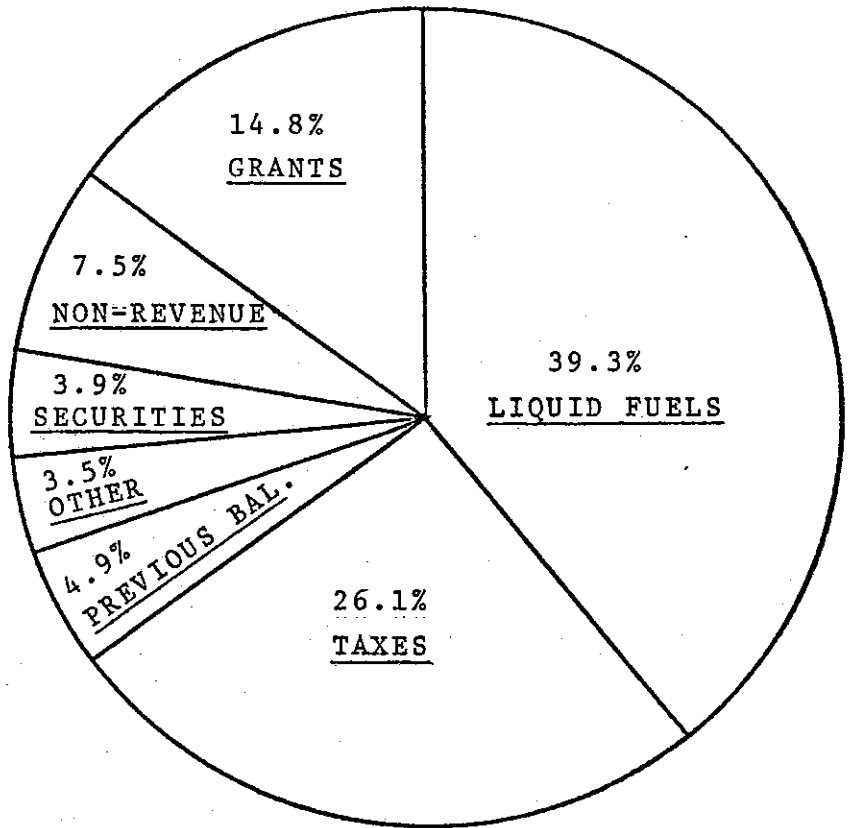
The Wage Tax, mentioned previously, is also an important revenue source. Currently each working resident is taxed at one-half percent of his or her wages by the Township and the same amount (.5 percent) by the Conneaut School District. Persons who work outside the Township have their tax deducted by their employer. Beaver Township then recovers this revenue from the local government where the tax is collected. This tax provided forty-three percent of total Township tax revenues from 1974 to 1978. Within that time the yearly figure fluctuated, (see Appendix 2) but there was a net increase of forty-four percent over the five years. The fluctuations in Wage Tax revenues are probably best explained by such factors as changes in wages and employment and changing collection techniques.

CHART 1

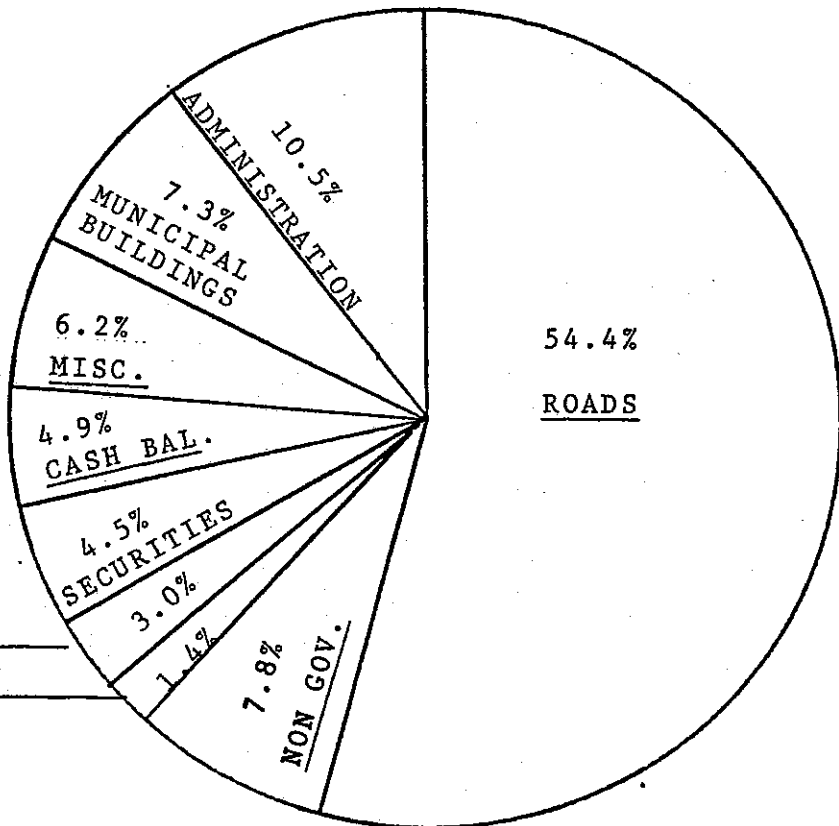
BEAVER TOWNSHIP

REVENUE SOURCES

PERCENT AVERAGE



EXPENDITURES
PERCENT AVERAGE
1974-1978



Fire _____

Tax Collection _____

Grants For the most part, grants come from federal, state and county sources. During the five years surveyed such grants contributed approximately fifteen percent to total Township revenues. Federal grants from both Revenue Sharing and Anti-Recession funding contributed \$24,361 during that period. State grants amounted to \$11,623 and county grants \$4,650 over the five years.

Liquid Fuels Revenue State Liquid Fuels funds are by far the largest single contributor to Township revenues. Over the five year period (1974-1978) this source averaged \$28,128 per year or slightly over thirty-nine percent of the total revenues. These revenues originate from the State Liquid Fuels Tax Highway Aid Fund, which by law distributes part of our state gasoline tax to local governments for road maintenance and reconstruction. The amount each township receives is based on a formula using the number of township road miles and the population of the township. These funds must be used only for road maintenance and related projects.

Other Revenue This category, as shown in Appendix 2, includes revenues from such sources as: licenses and permits; fines and forfeits; interest and rent; and miscellaneous revenues. During the five years studied, the average annual receipts amounted to \$2,495, or 3.5 percent of the total revenues.

Non-revenue Receipts Non-revenue receipts, or funds which do not alter the net value of municipal assets, came either from transfers from existing Township, State, or Federal funds or from loans. These averaged \$5,410 for each of the five years, or 7.5 percent of the total annual revenues. However, in looking at Appendix 2, we see that there were no non-revenue receipts in 1978 and they amounted to only \$1,500 in 1974.

Securities and Investments Securities and investments held by the Township are not considered either revenue receipts or non-revenue receipts. They are simply investments which the Township has made in previous years.

Previous Cash Balance The previous cash balance is the amount of cash left over from the year before. It is made up of two sources: cash from the general fund and cash from State liquid fuels monies. However, both securities and investments and previous cash balance must be included when looking at the entire Township revenue picture. This becomes especially important when working out any budget considerations for the following year.

Township Expenditures

Total expenditures, like total receipts, fluctuated over the five year period, 1974-78. This is mainly due to large capital improvements, and unusually high non-government expenses in 1975 and 1976 respectively. (See Appendix 2).

There are two different categories of expenditures, governmental and non-governmental. Governmental expenditures are those that cover the actual cost of government services, such as; maintenance, administration, salaries, fire protection, road maintenance and capital improvements. All expenditures which do not relate directly to governmental operation, such as; principals paid on indebtedness and certificate purchases are classified as non-governmental expenditures. As the preceding pie chart shows, governmental expenditures made up the vast majority of expenses comprising about eighty-three percent of the total, while non-governmental expenditures averaged approximately seventeen percent of total expenditures over the five year period.

Administration All salaries, wages, materials and other expenses incurred during the operation of the Township are included in this category. An average of about one tenth of total expenditures was spent on administration. Between 1974 and 1978 administrative expenses fluxuated greatly due to varying administrative needs.

Tax Collection This expense averaged almost \$1,000 for each of the five years and went to pay for Tax Collector's commissions and materials.

Municipal Buildings and Offices This category includes all expenses incurred for the maintenance and repair of municipal buildings and offices. It averaged 7.3 percent of total expenditures for the five year period but fluctuated quite a bit within that time. This expense was highest in 1975 when over \$14,000 was used to construct a new Township Garage in Beaver Center.

Fire and Health This category covers mainly the Township contribution to volunteer fire companies. As can be seen in Appendix 2, there was some problem with this system in 1976 when only \$389 was contributed. Since that time the Township has agreed to contribute the equivalent of three tax mills to this cause. Two mills go to the Springboro Volunteer Fire Company, which covers approximately seventy percent of the Township. The other one mill goes to the Conneautville Fellows Club Volunteers, who cover the remaining thirty percent of the Township. This has meant more than double the contribution in 1977 and 1978 over what had been given in 1974 and 1975.

Roads This category includes all expenses incurred in the maintenance, snow plowing and improvement of Township roads. This was the largest expense for each of the five years analyzed, averaging about fifty-four percent of total expenditures.

Miscellaneous This category includes any expenditures that do not fit into the above categories, such as; employee payroll taxes and insurance. These expenses averaged 6.2 percent of the total for the five year period.

Non-Government This category includes all interest paid on debts incurred for governmental purposes as well as transfers to other funds. Beaver Township incurred a Tax Anticipation debt of \$9,500 in 1976. The remainder of these expenses was in transfers to Sinking Funds, or to repay Federal Revenue Sharing debts.

Summary of Receipts and Expenditures

Several major points can be made from the preceding analysis:

Both receipts and expenditures showed a net increase of approximately twenty percent from 1974 to 1978.

The amount of tax revenue from real estate increased substantially from 1974 to 1978 due to an increase in total assessed valuation of real estate.

Grants were the major source of receipts comprising an average of fifty-four percent of total over the five years. The largest single source of grants was State Liquid Fuels.

The major expenditure between 1974 and 1978 was for highway services. This expense averaged approximately fifty-four percent of total expenditures.

Debt Limitation

The Local Government Unit Debt Act, Pennsylvania Act 185, restricts the amount of debt a local municipality can incur. According to the Act, a township can incur a debt of up to 250 percent of the arithmetic average of total revenues, not including grants in-aid, for the three years preceding the debt. More debt can be incurred by the Township, if approved by a referendum.

Overall Tax Burden

The individual tax burden upon each taxpayer in a township is an important consideration in any review of local finances. As discussed previously, a twelve mill tax on real estate was levied through the five year period from 1974 to 1978. Beaver Township also imposed a .5 percent wage tax on all residents. The following list shows these taxes, as well as the School District and County taxes, that Beaver Township residents were subject to in the five year period:

<u>Taxing Body</u>	<u>Real Estate Tax</u>	<u>Per Capita Tax</u>	<u>Wage Tax</u>
Township	12 mills	\$ 5	.5%
School District	64 mills	\$ 15	.5%
County	<u>13 mills*</u>	<u>\$ 5</u>	<u>-</u>
	89 mills	\$ 25	1%

*11 mills before 1976

The following example shows how these taxes affect the average taxpaying resident. These figures represent the 1978 tax burden using a hypothetical family of 4 (2 adults and 2 children under 18 years old) earning the mean family income of \$14,180 (1970

Census plus 7 percent per year) and living in an average \$16,989 home (mean value for owner occupied units, 1970 Census plus 10 percent per year) assessed at 30 percent or \$5,097.

Township Taxes

Real Estate Tax (12 mills x \$5,097 assessed valuation)	
(.012 x \$5,097)	\$ 61.16
Wage Tax (.005 x \$14,180)	70.90
Per Capita Tax (\$5 x 2 adults)	10.00
	<u>\$ 142.06</u>

School District Taxes

Real Estate Tax (64 mills x \$5,097)	
(.064 x \$5,097)	\$ 326.21
Per Capita Tax (\$15 x 2 adults)	30.00
Wage Tax (.005 x \$14,180)	70.90
	<u>\$ 427.11</u>

County Taxes

Real Estate Tax (13 mills x \$5,097)	
(.013 x \$5,097)	\$ 66.26
Per Capita Tax (\$5 x 2 adults)	10.00
	<u>\$ 76.26</u>
TOTAL TAX BURDEN:	\$ 645.43

Conclusion

In conclusion it appears that Beaver Township is now able to provide an adequate level of services using local tax revenues and grants from County, State and Federal sources. However, should future development occur at a rapid rate without proper land use controls and policies, the Supervisors would have little choice but to raise taxes in order to maintain a satisfactory level of government services.

If, on the other hand, future development is reasonably controlled through Township policies and land use decisions, there is a good chance that this new development will pay its own way. That is to say, that new homes or other types of development will add to the tax base more than they demand or at least equal their demands. This can best be accomplished if development is clustered rather than spread throughout the Township. Such clustering will allow for more cost effective public facilities, such as; improved roads, or sewer and water systems. Other important factors are to regulate development density according to the ability of the Township to provide needed services. Too high, or too low density development may prove too costly to Township taxpayers. New developments should also bear the cost of improvements, such as; roads, sewer, water and drainage systems, rather than being allowed to develop without them, and later demanding such services at the taxpayer's expense.

OPPORTUNITIES AND PROBLEMS

The Beaver Township plan should recognize opportunities that exist in the Township and should address community problems, particularly as these opportunities and problems relate to the physical growth and development of the Township. Following is a list of statements which are meant to describe such opportunities and problems. It is unlikely that this list is complete. It should be added to as the Township continues to deal with the issues of community development through the planning process.

Opportunity or Problem

The impending construction by the U. S. Steel Corporation of a large steel making complex means many new jobs will be available close at hand, and many new people, at least relatively speaking, will be looking for residential, commercial and industrial sites on which to build. The Township's economy will inevitably "heat up".

Opportunity

The Township offers an excellent rural setting with an abundance of open space and forest.

Problem

Township topography is relatively flat and soils are relatively impermeable causing standing water where fields are not tilled or ditched.

Problem

Soils for on-lot sewage systems are generally very poor throughout the Township.

Opportunity

There are many roads maintained by both the State and the Township and they provide a good means of access to the properties in the Township.

Problem

Beaver dams, both on private property and State Gamelands, cause road and crop destruction by creating flooding conditions.

Problem

Drain ditches along Township and State roads are poorly maintained. Heavy undergrowth and unseeded ditches inhibit proper drainage and accelerate erosion.

Opportunity

There are approximately twenty active farms utilizing approximately fifty percent of the land in the Township representing an important economic activity which works to improve the rural character of the Township.

Problem

The number of full time farmers is getting smaller, and if nothing is done to reverse this trend, or at least hold the line, there will be few, if any, farmers by the year 2000.

Opportunity

State Gamelands No. 101 (Jumbo Woods) is an open space resource which with proper care and development could provide good recreation opportunities for Township residents and the public in general.

Problem

There is a lack of recreational facilities other than outdoor opportunities within the Township.

Opportunity

State Gameland 101 and other forested areas provide a good resource for marketable timber.

Problem

Logging operations within the Gamelands are not properly supervised. This has caused damage to many Township roads and drainage ditches. Loggers fail to leave worked over areas free of debris and at times do not clear road ditches to permit drainage.

Problem

Careless building practices and lack of good building maintenance have resulted in deteriorating structures which detract from the beauty and rural character of the Township.

Problem

Some drainage structures are damaged and need replacement if flooding is to be prevented. Several bridges need repair so that hazards to traffic can be eliminated. Township Supervisors find it difficult to maintain their bridges in good condition due to budget limitations.

Problem

The newly opened section of Lockwood Road (T. 837) is very wet and almost impassable by automobile.

Problem

Adequate water supply from wells is restricted due to the presence of salt water and the generally low yield from shale rock which underlays most of the Township.

Problem

Many mobile homes are considered to be substandard as living units and most of these are neither anchored nor skirted.

Problem

There is no strong "community center" in the Township to serve the commercial, residential and social needs of residents.

Opportunity

Beaver Center can act as the framework for a "strong" community center, or focus, in the future.

Regional Context

The Plan

The Plan

PRELIMINARY REMARKS

The meaning of a plan - a comprehensive plan which is the term in common usage today - is sometimes hard for persons to understand. Often times those responsible for helping municipalities make plans are not as helpful as they should be in making the meaning of a plan clear. Let it be said that the plan is reflected only in part by a map of the Township on which the most desired uses of land are established. This is normally called a land use plan. Such a plan is part of this report. A mapped plan should also show the proposed location for community facilities; such as, highways, park areas, municipal buildings, schools, sewer and water transmission lines, etc. In Beaver Township this is done in a rather general way on the Land Use Plan map found in this report. More specific ideas have been conceived for Beaver Center. Draft site plans for possible development patterns in Beaver Center and the Community Center site can be seen at the request of the Beaver Township Planning Commission or the Crawford County Planning Commission.

In proposing land uses and facilities a time period needs to be introduced. Most plans are based on 20 year periods, and this plan is based on 20 year time period thinking - but with qualifications. The U. S. Steel plant proposal is so elusive that the plan developed should be considered a "first cycle" effort; growth, needs, trends should be evaluated again no later than five years from the present date. Also one might say - very convincingly - it is impossible to establish land use and facility plans 20 years into the future because of ever present uncertainties. A mapped physical plan of land use and facilities for a period of 20 years plus or minus has its limitations. One way to handle these limitations is to concentrate plan making on establishing meaningful objectives and policies - to in effect make a policies plan. This report combines both approaches. There is a land use plan map and there is a heavy emphasis on establishing policies which can guide township decision making over a period of at least five years into the future, especially in the areas of growth and development.

POPULATION FORECASTS

Population forecasts can be helpful in estimating future growth potential of a certain population. The following projections are by no means infallible since they are based on past trends and assume that these trends will continue into the future. There are many methods by which population forecasts can be projected; this analysis will incorporate three of those methods to forecast the population potential of Beaver Township to the year 2000. The first two methods, arithmetic extrapolation and linear regression, will be computed and then compared with the proration of projections made in the Crawford County Comprehensive Plan. The above mentioned methods do not take into account the possible influences on population projections should U. S. Steel decide to build its lakefront facility. A separate projection analysis, dealing with possible effects of the facility on population growth, is located at the end of this section.

Arithmetic Extrapolation

In this method the percent of past growth or decline is projected into the future to estimate population. Three versions of this method were run for Beaver Township. In the first the percentage growth rate from 1970 to 1975 (13 percent) was projected to the year 2000. In the second the average growth rate of 1.6 percent per decade from 1940 to 1970 was projected to the year 2000. In the third version the percentage growth rate from 1960 to 1970 (loss of 3 percent) was projected to the year 2000. These three projections were then averaged together. The results are shown in the following table:

TABLE 15

POPULATION FORECAST - ARITHMETIC EXTRAPOLATION BEAVER TOWNSHIP								
TIME PERIOD	1940	1950	1960	1970	1975	1980	1990	2000
1970 - 1975 (13 %/5 yrs)	--	--	--	775	876*	990	1 247	1 572
1940 - 1970 (1.6%/decade)	740	759	800	775	781	787	800	811
1960 - 1970 (-3%/decade)	--	--	800	775	763	751	727	704
Average	740	759	800	775	807	843	925	1 029

Source: Crawford County Planning Commission staff calculations and U. S. Census.

NOTE: * This 1975 population estimate obtained from Bureau of Census "Current Population Reports, Population Estimates and Projections" (Series P-25 No. 686)

Linear Regression

This method represents another way of projecting past trends into the future. It is best explained by saying that a series of past population figures are plotted over a period of time and then a "best fit" straight line is drawn equidistant through these plottings and projected on into the future. The process is done mathematically, but it can be plotted on graph paper if one desires. By using population figures from the U. S. Census for the years 1960, 1970 and 1975 the projections for Beaver Township population were calculated as follows for 1980, 1990 and 2000:

<u>1960</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
800	775	876	863	903	943

Because of the characteristics of this technique the projection for 1980 was actually below the figure estimated for the Township in 1975.

Proration of County Comprehensive Plan Forecast

The Crawford County Comprehensive Plan included a very careful projection of county-wide population to the year 2000. This forecast was done through the use of the Cohort Survival technique. In handling the proration method Beaver Township's percent of the county-wide population was averaged for the last four decades. This average computed to .99 percent of the total County population. This percent was applied to the County plan's projections with the following results:

Future Year	County Plan Projection	Beaver Township Share
1980	86 670	858
1990	93 975	930
2000	100 690	997

Summary Projection Based on Past Trends

By doing the trend projections explained above and averaging them, the following results have been obtained as shown in Table 16. These projections can be considered reasonably accurate based on the assumption "natural" conditions prevail; they do not include U.S. Steel related population impacts or any other such significant event.

TABLE 16

SUMMARY POPULATION FORECASTS BASED ON PAST TRENDS
BEAVER TOWNSHIP

YEAR	PROJECTED NUMBER PERSONS	INCREASE OVER 1970	PERCENT INCREASE OVER 1970
1970	775	--	--
1980	853	78	10.0 %
1990	920	145	18.7 %
2000	1 022	247	31.9 %

Source: Crawford County Planning Commission staff calculations, and 1970 Census.

U. S. Steel Related Growth

The Northwest Pennsylvania Future's Committee staff has developed a projected population expected to reside in Pennsylvania, which is estimated to be 20,000 people by the year 1990. For purposes of planning, the secondary growth expected to be spawned by U. S. Steel is set at 40,000 people, and the split between Pennsylvania and Ohio is assumed to be fifty percent in each state.

New Figure
The combined projections from the base year 1970 (population 775), including the past trends plus U. S. Steel related figures, yields a total projection to 1990 of ~~248~~ ²⁵⁰ additional persons, ~~say 250~~ persons. Figuring 3.3 persons per household, this translates to ~~71~~ ⁷⁵ new households. The U. S. Steel impact population figure of ~~103~~ persons by 1990 should be considered as low simply because other municipalities in the impact area will not be able to handle, due to facility and land constraints, the full amount of persons expected to be attracted into their communities based on the distribution formula. In such cases these persons will go to other municipalities, including Beaver Township.

Cons to your work

Smith
Consistent

Edward J. ...

~~As outlined in the "Objectives" and "Policies" section which follows, such development proposals should be directed to the Beaver Center area.~~

ISSUES

OBJECTIVES

POLICIES

PROJECTS AND PROGRAMS

A plan for the growth and development of the Township translates to one important word "direction". This section of the comprehensive plan is the key to all of the work appearing heretofore. The following narrative in the truest sense is the township plan. In the objectives and policies set forth here the township declares how it sees its future development being directed. Projects and programs are listed here also in order to show how the general directions translate to specific action.

ISSUE - GROWTH

Objective To develop policies and programs which will maintain balanced growth in locations and in a manner consistent with natural land constraints to development.

It is true that Beaver Township through the decade of the 1960's lost a small amount of population (down from a total population of 800 in 1960 to 775 persons in 1970). However, this trend was reversed from 1970 to 1975 when the total population went to 876 persons. With the expected construction of U. S. Steel's large steel making plant at nearby Lake Erie, the Township is expected to continue to grow. The objective of the Township is to insure that as growth occurs it is balanced. Currently there are few commercial or industrial uses in the Township; however, there is a reasonably strong farming industry. Service, commercial and employment generating uses are welcomed additions to Beaver Township; but severe constraints in the land in terms of poor on-lot sewage capability and poor availability of potable ground water will require that these uses, as well as residential uses, be located with care.

ISSUE - THE USE OF LAND

Objective Future development shall be encouraged to locate in the appropriate areas as designated by the Land Use Plan for Beaver Township. This Plan delineates areas for agriculture, rural development, community development - including residential, commercial and industrial uses - free standing or independently sited industrial uses, public open space and flood hazard areas.

The comprehensive plan includes a land use plan which designates desired uses for Township lands. This plan is based on resident preferences; analysis of the existing land uses; analysis of land and public facility constraints, and identified future needs. The designated uses are purposely general in nature but serve to indicate groupings of uses according to major activity categories so that conflicts among very different activities that might occur can be reduced or eliminated, and so that the public sector, as reflected through the Township Supervisors and the Township Planning Commission, can provide development guidance to private individuals and organizations. Because of the advances in technology in the past hundred years, buildings for commercial, industrial and residential uses are very different in nature, and experienced planners find that it is often, but not always, beneficial to group such related uses together. A separation of some land uses from others can serve to protect property values and to create more efficient, attractive settlements.

The population forecast for the Township to the year 1990, which includes expected impacts from the proposed U. S. Steel plant and which was explained in a previous section of this report, predicts that the Township will gain a minimum of 250 persons. At an average of three and one-half persons per household, this would mean the Township should be able to accommodate 71 more households by 1990.

Policy To encourage existing agricultural operations to remain in the Land Use Plan's "Agriculture" areas and to promote, where possible, the expansion of agriculture and to discourage uses harmful to the continuation of agriculture from locating in these areas. Parcels of land in the "Agriculture" areas should be as large as possible, and new roads and package sewage treatment facilities should not be constructed there.

As pointed out in the background section of this report, Beaver Township is essentially a rural and agricultural municipality. Presently, approximately forty percent of the total Township area is utilized as either cropland or pasture, and approximately forty-nine percent of the Township has woodland or brush cover. Although it is probably true that the number of people employed in the agricultural industry has decreased over the past decade, there can be little doubt that this industry remains the strongest influence on both the economy and the character of the Township.

Policy

To maintain low density development on lands in the "Rural Development" areas of the Township where the land is not particularly suited for active, productive agriculture. Lot sizes in these areas should be from five to ten acres or larger, at a minimum.

Land throughout most of the township is a constraining factor to development. At least ninety percent of the land in Beaver Township, based on soil characteristics, is rated as unsuitable for on-lot sewage systems. Nearly all drilled wells in the township must be completed in the Devonian Shales and generally yield only one to five gallons per minute; furthermore, great care must be exercised in drilling, otherwise salt water infiltration shall occur. All of the water obtained from wells in the Devonian Shales is "hard" water.

The Pennsylvania Department of Environmental Resources (PennDER) does not require on-lot sewage permits on properties 10 acres or greater in area, and Beaver Township as well as most other municipalities observe this same rule also. A municipality may, however, require on-lot sewage permits issued in conformance to state standards for properties 10 acres or greater. Regulations of this type very likely would have the effect of discouraging, even more, development on these lands. A quick study of vacant land in the "Rural Development" area as shown on the Land Use Plan, indicates that approximately 185 parcels, ten acres or greater, could be subdivided off from larger property holdings in the Township.

Although current lack of group water or sewer systems in the Township poses some constraints, this plan encourages industrial uses which can be good neighbors to locate in Beaver Township in order to provide balanced growth and a stronger local economy, i.e., sources of employment and an increased tax base. An area with potential for some industries is indicated in the "Rural Development" use category north of Philadelphia Road between State Game Lands 101 and the Spring Township boundary. This area does have sufficient electric power to handle industrial uses, although admittedly the roads are gravel construction.

Policy

To encourage further settlement in Beaver Center in order that this village can become the chief focus for Township growth. Community development uses are urged to locate here including residential, institutional, commercial and industrial activities.

Beaver Center is the only development focus in the Township today, and it should be reinforced as the focal point for community life in Beaver Township as the Township continues to attract residents and grow. The extent of the community development area at Beaver Center is shown loosely on the Land Use Plan because the existing settlement pattern is sparse enough to allow for great land use flexibility in the establishment of a more defined pattern, depending upon future development proposals. The planned location of areas for specific interests within Beaver Center could severely limit development potential.

Lot sizes in this "Community Development" area should be at such densities as to make common sewer and water systems feasible. This would mean that lots should be in the vicinity of 20,000 square feet or smaller.

A site plan showing how Beaver Center might expand with new residential and commercial development has been completed as part of this planning study and is available in the Township and County Planning Commission offices. This plan represents one idea on how new development may be located in Beaver Center; it suggests locations for one hundred residential lots, one commercial service center site, an expansion of the community building grounds and a "package" sewage treatment plant. No industrial sites have been shown on the plan, but these uses are encouraged. Assuming a common water system cannot be supplied from drilled wells a series of water retention ponds could be constructed to impound water for such a common system.

The plan can be used to promote development here and to interest developers in investigating the feasibility of group sewer and water utilities. Such group, or public facilities would be necessary for any serious development, since the individual systems now used would not be adequate. But with these facilities in place, Beaver Center could be a charming little community center.

Policy

As development occurs in the Beaver Center core area there should be a transitional area between the Beaver Center growth area and the agricultural and rural lands beyond so that the rural and agricultural character of these lands is not destroyed.

This policy is recommended in order to reduce potential conflicts between new and denser development in Beaver Center and the existing agricultural and rural uses which immediately abut Beaver Center. New residents, though interested in a rural atmosphere, may not be willing to accept some of the ordinary occurrences of farm life, for example: farm odors, animal crossings, animal noises, etc. In order to protect both the farmer and the newcomer a transitional "buffer" area is contemplated. In concept the buffer would be a ring of land a minimum of one-half mile wide surrounding the developed area of Beaver Center. Development densities somewhere in between those proposed for Beaver Center and the agricultural area are recommended. Uses could also be less community development oriented as they grow closer to the agricultural lands allowing a gentle transition from one density to the other. Should zoning be adopted by the Township this concept should be built into the zoning ordinance and map.

Policy

To discourage any expansion of State Game Land 101 but to encourage Game Commission management practices which improve recreation opportunities yet which, on the other hand, prevent the beaver population from destroying the usefulness of surrounding farm lands and public roads.

The Game Lands could be an asset to the Township, but currently the net result of their presence is believed to be loss of property tax revenues and a cause of flooding conditions on adjacent farm lands and roads. The beaver in these protected lands build dams which back water up onto private lands and nearby public roads.

Most residents believe that current Game Commission management practices for Game Land 101 could be expanded to be more people oriented, and that stronger measures could be taken to control an excessive beaver population. Promoting good habitat for wildlife is considered desirable, but it would also be desirable to have good hiking and horse back riding trails which once existed in these game lands. In addition, a soundly conceived long range plan to develop an "interpretive experience" based on a marsh/wetland habitat could be an asset to the Township and the Game Commission.

Program

In order to open a channel of communication between the State Game Commission and the Township, the Beaver Township Planning Commission should invite appropriate state officials to at least one public planning Commission meeting every year to discuss mutual problems and opportunities relative to State Game Lands 101.

Policy

To manage lands subject to flooding hazards in order to prevent ill advised development in areas that have a tendency to flood.

The State through its Flood Management Act of 1978 and the Federal Government require Beaver Township to control building activities in areas designated as flood hazard zones. The Federal Insurance Administration has mapped the areas of the Township it believes are subject to flooding conditions. The soil survey completed by the U. S. D. A. Soil Conservation Service has identified soils deposited through floods over the past centuries. This information is the basis for identifying flood hazard areas. The Township currently has qualified its residents for participation in the Federal Flood Insurance Program.

Program

The planning commission shall begin to study the use of growth management regulations in the Township.

The land use plan shall serve as a guide to private individuals as to how land in the Township is used. Persons building in the Township should be guided by this plan. The Township Supervisors should be guided in their roads' management practices and in other ways by this plan, as will be explained in more

detail in succeeding sections of this report. To implement the plan in a more thorough way regulations on the private use of land would have to be adopted. Should the U. S. Steel Corporation announce its intention to construct the proposed plant at Lake Erie the Township is certain to get, at least relatively speaking, considerably more growth and development. In order to prepare for this change, work should begin soon on writing a set of regulations that will enable the Township to exercise reasonable control over the expected development. No regulations can be put into effect without adequate public hearings and the enactment of an ordinance by the Board of Township Supervisors.

Program

To insure reasonable regulation of land subdivision and development the Board of Township Supervisors, after the Board and the Planning Commission have made a careful study of such regulations, should enact a subdivision ordinance structured in such a way that the County Planning Commission staff provides administrative aid, but final subdivision plat approval is in the hands of the Township.

Land subdivision regulations would provide the Township with the assurance that newly formed lots would be correctly dimensioned, marked on the land and publically recorded. They also insure that new roads, if any, built by developers meet Township standards. The use of the County planning staff for administrative aid would insure that the Township gets the benefit of using full-time people who can specialize in understanding the somewhat technical process of land subdivision.

ISSUE - ROAD NETWORK

Objective To maintain a safe, attractive and efficient road system utilizing this system to accomplish the objectives set forth in the Land Use Plan.

The Township's most important facility is its road network. Proper upkeep of the 69.7 miles of road in the Township is essential. Because roads are needed for any new development they can be used, to some extent, as a tool for directing development appropriate to areas as indicated in the Land Use Plan. Whether roads are maintained with gravel or bituminous surfacing could be an important consideration in the amount and location of new development.

Policy

The Federal Functional Classification System shall be accepted as the appropriate system for the classification of roads in the Township. The following designations represent the Township's position on the classification of its road network:

Major Collector

State Route 198

Minor Collectors

L.R. 20039 Beaver Road

L.R. 20122 Fisher Road

L.R. 20041 Springboro Road

Collectors (called Locals in the Functional System)

L.R. 20142 Shadeland Road

L.R. 20123 Palmer Road

All Township Roads except Headley Lane

Local Access

Headley Lane

This classification system is based on the fact that there is a hierarchy of roads and that roads vary in importance according to the type of service they provide. Some roads serve only local Township traffic while others serve intertownship and intercounty travel needs. The Federal Functional Classification System defines the hierarchy of roads in the following way:

Minor Arterial. A road which serves interstate and intercounty travel, and where trips are normally of long duration.

Major Collector. A road serving intercounty and intracounty travel and which connects development centers within a county.

Minor Collector. A road which collects traffic from the local road system and funnels it to the major collector and minor arterial systems.

The three categories described above include roads all of which have reasonable continuity. The following two categories demonstrate a difference in the continuity characteristic, especially the local access road.

Local (Collector). This category of road is named local in the federal system and it includes all township maintained roads. However, from the perspective of local people most township roads have continuity throughout the municipality and serve many, many acres of land. Other roads could easily be built off the so-called township

roads serving newly formed subdivisions. If this were to happen it would be easy to demonstrate that the so-called local roads are collector roads. Consequently in this plan the normal township road is called a collector if it has reasonable continuity or length.

Local Access. This is the true local road, a road which would never - even with full development around and off it - carry appreciable through traffic and which primarily serves abutting property owners with access.

Besides providing a convenient way to organize one's thinking on the township road network, the Federal Functional Classification System has another important characteristic. It denotes the amount of financial help the Federal Government will supply to a particular road category. To a lesser extent, it also is a key to relative road importance and to major improvement priorities. Minor collector and local (collector) roads do not participate in the conventional federal aid programs. They do, however, qualify for the Federal Off-Systems Aid Program.

Policy

The travel-way width of roads and their surface characteristics shall be based on classification category. The following travel-way widths and surface materials shall be standard for the Township:

Major Collectors	22-24 feet	Paved
Minor Collectors	20 feet	Paved
Collectors	20 feet	Graveled
Local Access	18 feet	Graveled

This policy amounts to setting certain general standards for roads in the Township. Federal regulations are such that no federal money for roadway improvements can be given for a local road project except that the travel-way width be brought up to twenty feet. Beyond the standards expressed here it is important for the Township to develop a more elaborate set of road standards and specifications so that new roads built through the land subdivision process are completed to acceptable construction standards.

Project

The township shall communicate its road classifications policy to PennDOT and shall work with the state to change the official designations bringing them into harmony with township policy.

The state should be made aware that the township intends to use the road system within its boundaries to help manage growth. Road classifications on the Functional System emanate from the federal government and it will take a relatively long time to effect changes. The only change which the township has to convince PennDOT of relative to its position on road classifications is to have Fisher Road, L.R. 20122, upgraded from a local (collector) road to the minor collector category.

Program

The Township shall inform the supervisors of adjacent municipalities of its road policies in an effort to promote road management and classification policies in harmony with those in Beaver Township.

There are a number of road links from Beaver Township into Ohio and into Conneaut Township of Erie County which make fairly direct links to the proposed steel plant site. Strong improvements to these road links, which would facilitate vehicular access to the township, could cause excessive development pressure and jeopardize existing rural character. L.R. 25001 in Conneaut Township (Erie County) should be maintained as a minor collector north to Route 226. North from this intersection, where the road crosses the Conneaut Creek valley, and then intersects with Route 6N north I-90 interchange, L.R. 25001 should be maintained in its graveled character. When this road enters Crawford County it becomes L.R. 20039, or Beaver Road.

Palmer Road, L.R. 20123 becomes L.R. 25088 when it reaches the Erie County line. This road is paved, and as it goes north to Route 226, includes one of the rare covered bridges which exist in this part of northwest Pennsylvania. Because of the character of this bridge and the general rural character of this area L.R. 25088 should be maintained as it is without extensive up-grading.

L.R. 25079, an Erie County road termed Pennside Road, is classified as a minor collector. This road connects with Spring Road in Beaver Township (T368) and with Pennside Road in Spring Township, both of which are graveled collector roads. The Township should urge that Pennside Road in Erie County be reclassified to a local or collector road.

State Line Road going north from the extreme northwest corner of Beaver Township and intersecting Route 226 (Ohio Route 84) is a paved road, but very badly deteriorated. Hopefully, the Ohio and Erie County

forces that maintain this road can be convinced to hold this road link as a gravel road so as to discourage excessive travel over it into Beaver Township where only gravel roads are encountered.

State Line Road extends from the Erie County line on the state boundary, south to Route 198 where it terminates about 2,500 feet north of the Conneaut Township boundary. It is a gravel road and should remain so. Also, it should not be extended south of Route 198 to link with a section of a State Line Road in Conneaut Township. Furthermore, Richardson, Calhoun, Reeves, Harmond Corners, Rick, Graham and Turner Roads, all east-west gravel roads in Ohio linking with State Line Road, should remain as gravel roads so as not to bring development pressure to bear on State Line Road. Hildom Road, a paved road in Ohio, and connecting at State Line Road with Shadeland Road in the Township, should not be improved as a major traffic carrier beyond what it is already.

The intent of the road management policies in this section is to discourage excessive settlement in western and northern Beaver Township which is extremely rural in character. The land itself offers many constraints to development without group sewage and water systems in place - and of course, such systems are not in place and will not be in the foreseeable future.

Policy

All existing Township roads shall be maintained with a gravel surface, and when financially feasible should be treated for dust control. Should new roads be built in the Beaver Center area, these roads shall be paved with bituminous surface.

Currently all township roads are graveled. The only paved roads are State maintained roads and not all of these are paved. The tax revenues in the past in Beaver Township have not been sufficient enough to allow the Township Supervisors to pave roads. The gravel road also is indicative of the essentially rural nature of the Township. Except in the Beaver Center area the Township intends to manage its roads with gravel surfacing. The Land Use Plan encourages agricultural, and low density development in all areas except Beaver Center and this road management policy is in keeping with the desired settlement plan for the Township.

Policy

All State roads in the collector category after being brought up to Township standards should be returned to the Township for maintenance providing the State contributes a fair share of the upkeep money for these roads and the roads are in acceptable condition at the transfer time.

PennDOT is promoting a policy of turning roads classified as locals back to municipalities for all future maintenance. When one considers that the State has a larger road system under its jurisdiction than all of the New England States plus New York and New Jersey combined, PennDOT's policy is really a matter of self-preservation. As the Township considers its actions in this matter some way must be found to handle bridge maintenance, a responsibility which is difficult for local municipalities because of the more technical and costly nature of these structures.

Policy

To maintain close coordination with the Board of County Commissioners and the Crawford County Planning Commission in connection with the determination of PennDOT's Twelve Year Highway Improvement Program.

Major reconstruction and new construction projects must be listed on the State Twelve Year Highway Program in order to be funded. These are projects which normally require detailed engineering plans and the purchase of right-of-way. PennDOT utilizes county planning commissions to coordinate and obtain local comment on what projects should be in this program. The Crawford County Planning Commission in turn has organized a Highway Advisory Committee which is a forum for expressing local municipal needs in connection with this program. The Board of Township Supervisors is a member of this Advisory Committee. The Board should make sure that the County Planning Commission has a listing of all major highway improvements for state maintained roads which the Township believes should be scheduled for construction over the next 12 years.

Policy

To maintain close coordination with the Board of County Commissioners, the Crawford County Planning Commission and PennDOT in connection with the listing of qualifying projects for funding under the Federal Off-Systems Road Program.

The Off-Systems Road Program has the ability to deliver federal dollars for the improvement of township roads. Qualifying projects should be listed with the County and with PennDOT. These projects should be prioritized by the Township.

Projects

The following road projects are listed as current needs. Since these projects are on minor collector and local (collector) roads, it is assumed they can qualify for Off-Systems Program monies. Perhaps some of these projects can qualify for entry onto the Twelve Year Program particularly the bridge improvements.

Shadeland Road, L.R. 20142, between Beaver Road, L.R. 20039, and State Line Road at the Ohio line, serves an important function as an east-west access route in the Township. This road gets considerable use as a "collector" road taking local traffic from all over Beaver Township as well as Springboro and Conneautville to Ohio. It connects with Hildom Road, a good surfaced road in Ohio, and is the only direct east-west link across the state line except for Route 198.

Even though Shadeland is an important road there are problems with it which prohibit use during wet periods and some winter months. It is subject to periodic flooding primarily because of water backup caused by beaver dams in and adjacent to Gameland 101.

This plan recommends that Shadeland Road be improved by PennDOT to a good gravel surface road which can accommodate traffic year round. The long term solution is probably to raise the road bed four to five feet at the stream crossing near the Gameland. This project can be done under Off-System Program money.

In the summer of 1978 PennDOT surveyed all State maintained bridges in northwest Pennsylvania. Six bridges in Beaver Township were rated poor on this survey; this means they should be replaced immediately. Four of these bridges are on Shadeland Road, one on Fisher Road and one on the Springboro Road. More specifically, they are located as follows:

On Shadeland Road over West Branch Conneaut Creek, approximately 3,250 feet east of the Ohio line. (Station No. 32 and 39)

On Shadeland Road over East Branch Conneaut Creek, approximately 250 feet west of Beaver Road. (Station No. 139 and 26)

On Shadeland Road over Mud Run, approximately one mile east of Beaver Road (Station No. 198 and 06)

On Shadeland Road over Stone Run, approximately 900 feet east of Palmer Road. (Station No. 259 and 23)

On Fisher Road over East Branch Conneaut Creek, approximately 2500 feet east of Beaver Road. (Station No. 24 and 44)

On Springboro Road over East Branch Conneaut Creek, approximately 850 feet east of Beaver Center. (Station No. 8 and 43)

These State bridges should be replaced through state and/or Off-Systems Program funding.

Two other bridges which did not receive a "poor" rating from PennDOT, are none-the-less felt by Township officials to need immediate attention. These bridges are both on the Springboro Road, L. R. 20041, immediately east of Palmer Road, L. R. 20123:

The first bridge, approximately twenty-five feet east of the Palmer Road intersection is too narrow, undergrowth hinders the passage of water, and the railings are only old wooden planks.

The second bridge, approximately 2,600 feet east of Palmer Road, is also too narrow and undergrowth cloggs the passage of water enough to cause flooding of the small creek it crosses.

Blockage occurs in the culvert on Beaver Road, L.R. 20039, located approximately 1,200 feet south of the intersection with Philadelphia Road, T-867. The State should install a larger culvert and extend the pipe a substantial distance outside of the right-of-way lines to prevent damage to pipe ends and to insure against future blockage.

The major Township road bridge reconstruction project should be for the structure on Joiner Road, T-883, approximately 400 feet west of Game Lands 101. This bridge needs total replacement and should be done under the Off-Systems Program.

Projects

The Township should undertake two projects chiefly with its own resources in order to eliminate flooding conditions on T-308 and on the Jerusalem Hill Road.

Clean the sediment from the culverts in the vicinity of the intersection of Shadeland Road and T-308 and cut a new and deeper road ditch north along the east side of T-308 to Shadeland Road and then along the south side of Shadeland Road east to reach Middle Branch Creek. Associated with this a new and larger culvert should be placed under T-308 in the vicinity of Philadelphia Road in order to better drain waters from Game Lands 101. In connection with the new ditch at Shadeland Road an easement would need to be obtained from Game Commission Officials. The State should be requested to help with this project cost.

On the Jerusalem Hill Road, approximately 1,000 feet west of the Spring Township line the roadway is periodically flooded due to beaver dam construction on private land north of the road. The Township with its responsibility for the public safety and welfare should negotiate with the private property owners to arrive at a permanent solution to the flooding problem or, if necessary, take legal action.

ISSUE - COMMUNITY FACILITIES AND SERVICES

Objective

To support and/or maintain community facilities and services adequate to residents' needs, and to improve and/or expand such services when feasible.

In the preceding section of the plan the road network was discussed. This is the chief facility and service which the Township provides its residents. Beaver Township does not provide a wide range of facilities and services for its citizens compared to what more urban governments provide. This is the typical situation with respect to rural townships in Crawford County. An important question facing the Township is, Where is the threshold at which the Township should consider getting into additional programs? This question is not easy to answer. It will be explored somewhat in the following narrative. As the population of the Township increases the needs of the residents should be monitored, and adventures into new facility and service systems evaluated.

Policy

To continue financial support for the volunteer fire companies, in Conneautville and Springboro, in order to obtain fire protection for Township residents.

Both fire companies now receive financial aid from the Township. This practice should continue. It promotes intermunicipal cooperation and strengthens existing service organizations. Although the western sections of the Township are some distance from the two boroughs, reality dictates that the existing arrangement is the best that can be managed now. In the foreseeable future it may be logical to work to strengthen the existing fire companies rather than to organize any new service. Any new fire company should be located in Beaver Center.

Policy

To continue to depend on police protection as provided by the State Police.

Currently there is no clearly felt need for improved police service in the Township. However, this situation may change with the initiation of construction by the U. S. Steel Corporation. This need, if and when one does exist, can best be solved through intermunicipal cooperation.

Policy

To initiate annual payments to the existing public libraries in Conneautville and Springboro so that they can strengthen the services they now supply to the residents of Beaver Township.

The Conneautville and Springboro libraries participate in the County library system which obligates them to serve the residents of Beaver Township whether or not the Township contributes to their operation. The County library system is new and it seeks to convince all municipalities in the County to also contribute to nearby existing libraries. The two borough libraries are operating in inadequate facilities. Thus, an important priority of these libraries should be to use the funding they can acquire to strengthen their basic facilities so they can better serve the Conneaut Valley area. The possibility of establishing one combined library should be examined as a solution to facility needs.

Policy

To strengthen the organizational structure responsible for maintaining the Beaver Township Community Building; to improve the building facility and to improve the Community Building's site for recreation and park uses.

One great asset of Beaver Township is its community building which is graced with an interesting bell tower and steeple. The building was once used as a public school, but it is now, along with its grounds, owned by the Board of Township Supervisors. A site plan was developed through the comprehensive planning process which proposes a more careful organization of the site to better accommodate vehicle access and parking, as well as the addition of property east and northeast of the site in order to construct recreation facilities. Many community groups use this building including the Beaver Township Planning Commission.

Project

The Beaver Township Supervisors should organize and appoint a Beaver Township Community Center Commission which should be given responsibility for maintaining and improving the Community Building and grounds.

The Supervisors in appointing such a commission should choose members from the many groups in the Township that helped to establish the center's programs over the years and who use the building today. Members should come from such organizations as: the Beaver Township Community Association, the Circle B Saddle Club, the Bee Cee group, the Grange, area churches, etc. The commission when appointed can develop ways to raise funds from private individuals and groups. However, the Supervisors should continue to provide some financial help for the upkeep of the building and grounds.

Since the Township owns the site, the Supervisors have the ultimate responsibility for what happens to the property, and they also should have final authority in terms of building renovation and site expansion. But the Board of Supervisors needs the help of a commission to provide program administration and to gain community support for needed improvements.

Policy ~~To provide a measure of financial support for the Conneaut Valley Medical Center in Conneautville.~~

~~One of the deficient services in Beaver Township, and in the Conneaut Valley area in general, is the lack of 24 hour medical service close at hand. The Valley Medical Center in Conneautville has provided a needed service, but its history has been plagued for a lack of adequate financial support, and it does not operate 24 hours a day. Alternatives to the Conneaut Valley Medical Center involve trips to either Meadville, Conneaut or Erie City. Better financial support from both the local private and public sectors should be returned by better local medical service.~~

Policy To support responsible efforts by higher levels of government to improve solid waste disposal services and to insure that such services will be available at reasonable cost in future years.

Recent regulations enforced by PennDER have caused all of the sanitary landfills to be closed in Crawford County. None of these landfill sites were large enough or operated on a large enough scale to afford to meet stiffer environmental standards. As a result, solid waste in Crawford County is hauled to adjacent counties for disposal. The future of reasonably priced disposal services is questionable, and there is no one municipality in the county large enough to be able to afford to open a new landfill. Other methods of disposal appear too costly; thus some coordinated effort at a higher than local municipal level must occur if this problem is to be resolved.

Project The Board of Township Supervisors should pass a resolution requesting: (1) the Board of County Commissioners to take a leadership role in proposing a satisfactory solution to solid waste disposal problems, and, (2) the County's Solid Waste Management Plan be revised and in so doing local municipalities be involved in the revision process. The Township should also resolve that it is willing to adopt ordinances regulating solid waste collection practices providing a reasonable area-wide, or county-wide, solid waste management plan is developed and implemented.

ISSUE - HOUSING

Objective

To assume a role in assisting the construction of new housing for all age groups in the Township and in channeling into the Township federal funds for housing loans and grants for new housing and rehabilitation of existing housing.

More and more the construction of new housing for persons of average income is becoming impossible without some form of federal or state subsidies. Programs are available for securing these subsidies but most of the programs require, in the case of rural townships, that an administrative structure be lodged at the county level. No detailed housing survey was completed in this planning study. However, from cursory observations two facts are fairly clear about the housing situation: (1) there is an extremely low vacancy rate in housing for rental or sale and (2) many houses are relatively old and in need of rehabilitation if the existing housing stock is to be retained in a credible state.

Policy

To provide financial support for the Conneaut Valley Housing and Site Development, Inc., a non-profit organization aiming to bring new housing construction into the Conneaut Valley.

This Corporation was formed in 1979 by leadership from the Conneaut Valley area who realized that new housing starts have been generally slow and that there is virtually no rental housing available. The Corporation has the ability to make use of federal loan subsidy programs for new housing, particularly the Federal Farmers Home Administration which provides a program mechanism for non-profit organizations led by diligent public spirited citizens to get new rental housing under construction.

Policy

To encourage the Board of County Commissioners to reactivate the County Housing Authority in order to channel federal aid into housing rehabilitation loan programs in the Township.

Beaver Township is not able to participate directly in housing rehabilitation loan programs. It must work through a county-wide authority in order to make low interest

rate rehabilitation loans available to its residents. The County created a housing authority in years past, but currently it has no appointed members and is not functioning.

Project The Board of Township Supervisors should pass a resolution showing its support for the Crawford County Commissioners to activate the County Housing Authority, enabling this organization to "pass through" loan and grant money for housing rehabilitation.

Program The Planning Commission shall study the Township's building permit regulations with a view towards recommending improvements to these regulations.

The Beaver Township Supervisors enacted a simple building permit ordinance approximately two years ago. There are very few regulations in this ordinance and its improvement would add to the Township's ability to guide development in the overall public interest.

PROJECTS AND PROGRAMS SUMMARIZED AND PRIORITIZED

So that the township can be aware in a clear way of the "calls for action" which this plan is recommending the following listing of projects and programs has been assembled from the preceding section. The ranking in this listing is the priority.

1. The Planning Commission shall begin to study the use of growth management regulations in the Township.
2. The Beaver Township Supervisors should organize and appoint a Beaver Township Community Center Commission which should be given responsibility for maintaining and improving the Community Building and grounds.
3. The Planning Commission shall study the Township's building permit regulations with a view towards recommending improvements to these regulations.
4. The Township shall communicate its road classifications policy to PennDOT and shall work with the state to change the official designations bringing them into harmony with township policy.
5. The Township shall inform the supervisors of adjacent municipalities of its road policies in an effort to promote road management and classification policies in harmony with those in Beaver Township.

6. The Township should undertake two projects chiefly with its own resources in order to eliminate flooding conditions on T-308 and on the Jerusalem Hill Road.
7. The following road projects are listed as current needs:
 - Improvement of Shadeland Road (L.R. 20142) from Beaver Road to State Line Road.
 - Replacement of four bridges on Shadeland Road.
 - Replacement of bridge on Fisher Road.
 - Replacement of bridge on Springboro Road 850 feet east of Beaver Center.
 - Replace Township bridge on Joiner Road (T-883), approximately 400 feet west of Gameland 101.
 - Replace or improve two bridges on Springboro Road immediately east of Palmer Road (L.R. 20123).
 - Improve drainage structures on Beaver Road (L.R. 20039) approximately 1,200 feet south of Philadelphia Road (T-867).

Since these projects are on minor collector and local (collector) roads, it is assumed that they can qualify for Off-Systems Program monies. Perhaps some of these projects can qualify for entry onto the Twelve Year Program, particularly the bridge improvements.

8. In order to open a channel of communication between the State Game Commission and the Township, the Beaver Township Planning Commission should invite appropriate state officials to at least one public planning Commission meeting every year to discuss mutual problems and opportunities relative to State Gamelands 101.
9. To insure reasonable regulation of land subdivision and development the Board of Township Supervisors, after the Board and the Planning Commission have made a careful study of such regulations, should enact a subdivision ordinance structured in such a way that the County Planning Commission staff provides administrative aid, but final subdivision plat approval is in the hands of the Township.
10. The Board of Township Supervisors should pass a resolution showing its support for the Crawford County Commissioners to activate the County Housing Authority, enabling this organization to "pass through" loan and grant money for housing rehabilitation.
11. The Board of Township Supervisors should pass a resolution requesting: (1) the Board of County Commissioners to take a leadership role in proposing a satisfactory solution to solid waste disposal problems, and, (2) the County's Solid Waste Management Plan be revised and in so doing local municipalities

be involved in the revision process. The Township should also resolve that it is willing to adopt ordinances regulating solid waste collection practices providing a reasonable area-wide, or county-wide, solid waste management plan is developed and implemented.

Though the programs and projects are listed in priority according to their importance to Beaver Township, it may be appropriate to observe that some programs are much more involved than others. The study of growth management regulations, for example, might take as long as a year, while notification of neighboring communities about road policies might only take one day. It is important to emphasize priorities and to follow them where possible, but not so important as to interfere with the opportunity to accomplish something of a "lower" priority or perhaps a new program.

THE PLAN AS A CONTINUING PROCESS

This message in this section will be brief. It is to "underscore" something which the writers of this plan hope is already in the reader's mind. The policies which are "pronounced" in this plan report, the land use plan, the proposals made for various community facilities - none of these elements are considered to be "chiseled on stone tablets". The plan, it is true, has taken clear stands on important issues of concern to the Township. It should do this. It should stake out positions on the issues. The plan cannot be all things to all people. If it were all things to all people, it would not be worth reading. But be aware, every private and public action as they occur over the weeks, months and years ahead will introduce new realities into township life. Peoples' attitudes change and this could change the plan's objectives and policies. The plan should be considered open to change, and to be meaningful to the Township it must change in some regards. This plan is a guide for community growth and development, but a flexible guide. Plan changes as they are introduced in the future hopefully will be well thought out and not willy-nilly.

The main reason this plan is bound in a loose leaf notebook is to put it in a physical format so that it can change conveniently with the passage of time. New and more detailed background information can be added. Revised policies and additional policies should be considered and likely worked into this document. Appendix 4 provides a page on which plan revisions can be recorded.

Many persons who work in the community planning field full time will say that more than anything else "planning is a process", that the day after any plan is adopted it begins to become out of date because new events are always occurring especially through the individual development decisions of the citizenry. These planners say that the orderly problem solving process which was used to create the plan, the coming together of township people

to thrash out issues and make decisions, that this process is the most meaningful thing. The writers of this report are unwilling to stretch the concept of flexibility this far. In this plan report it is felt that there are objectives and policies which will be true and good for the Township for years ahead. But this extreme position on plans and planning is meaningful because it emphasizes that this plan is evolutionary and can change and should change in some respects over the years ahead.

Good community planning is a continuing activity; it is not a "once done then over" situation. The Township Planning Commission, the Supervisors and Beaver Township citizens are urged to use this document hard, to mold and shape it so that it is always important and useful in Township affairs. The Planning Commission has the key role and responsibility in keeping the Plan "alive", and they should undertake a major reassessment of this document and the Land Use Plan map at least once every five years.

Appendices

Appendix 1

THE PUBLIC SCHOOL IN THE COMMUNITY: ISSUES BUT PERHAPS NO CHOICES.

Public schools play a vital role in our social structure. They educate our children; provide a place of social growth and interaction, and set the stage for the leaders and the followers of the next generation. In addition, school facilities are of unique importance in community development. They are focal points for community life; their size and location has great effect on the organizations of our communities. It is important for citizens and those interested in community planning to know about their school system. This discussion is included in this plan report because sooner or later the issues explored here will be of concern to township people.

In Pennsylvania, under the School Reorganization Act of 1970, many smaller school districts were consolidated into larger districts of between 3,000 and 3,500 students. There are approximately 500 school districts in the state. Crawford County is served by seven school districts only one of which, the Conneaut School District, does not cross into neighboring counties.

The Pennsylvania School Code, Act 24, is the basic enabling legislation which governs public schools throughout the Commonwealth. It establishes the Pennsylvania Department of Education which is responsible for assuring adequate education statewide. It provides for school districts; each district is to be governed by a school board made up of nine members elected at large for staggered six year terms. Within the regulations established by the State, the school board is entirely responsible for the education of our children. They, for the most part, determine what programs and what facilities our children will experience. (However, there are hidden conditions on this power as will be explained later in this narrative.)

Our planning effort in Crawford County is mainly concerned with land use planning and the social and economic consequences of land use decisions. Thus, when considering schools we tend to look mainly at the location of existing and future facilities trying to make sure they fit into our communities.

What are the options the local school board has relative to these facilities and what is mandated by the State? Technically speaking, a school board has considerable power. It has complete authority to build facilities where and how it decides as long as certain safety and space requirements are met. The board also has the power to decide on the type of educational programs to be offered, and it has the power to tax. These powers in reality, however, are tempered by the ability of the district to finance its facilities and programs. Very few districts in Pennsylvania, and none in Crawford County, can afford to "go it alone" without requiring outside help. Thus we find strong influences from the State and Federal Governments in our local schools, since they are the major financial contributors.

The subject of State aid needs to be introduced here. A school district which cannot completely support itself (very few can) is eligible to receive substantial state subsidy. Depending on the need, a school district may receive up to seventy percent state subsidy for its annual operating budget. However, the state aid system is extremely complex, so only the very basic elements will be explained here.

First of all the "aid ratio" granted to any school district depends on that district's wealth. It is the determination of such wealth that becomes complicated. Several factors enter into the aid ratio formula; they are:

- (1) The overall population density of the district expressed as the number of people per square mile. As the system now operates, sparsely populated districts and densely populated districts are eligible for more aid than are medium density districts. There are no densely populated districts in Crawford County (500 people per square mile), and all districts except Crawford Central are considered sparsely populated (50 or less per square mile) under state regulations.
- (2) The market value of real estate in a district based on actual property sales during the previous year. This should not be confused with assessed valuation which only increases when property is reassessed or new structures are added. If, for example, market values overall in a district rise due to inflation, and at the same time population declines, the state will consider such a district to be wealthier and allow less subsidy (more tax money and fewer people).
- (3) The average daily attendance for a district during the school year. This figure is important because the state limits how much it will aid any school district to approximately \$750 per student per year. Thus a poor district which, based on other factors, may be eligible for a seventy percent subsidy may not receive this amount because of the per capita limit. This policy places a "cap" on the aid ratio formula.
- (4) The state, in recent years, has also attempted to determine the wealth of a school district based on income tax records. Perhaps you recall a question on your state income tax return asking in which school district you live. This approach has not been entirely successful because many people don't bother to answer this question.

In its very simplest terms, the more a district can afford to pay itself, the less it will be subsidized by the State. However, this basic theory has become very complicated by gradual legislative and regulatory changes.

As mentioned previously, the size and location of school facilities are important factors in community development. In theory, a school district has a great deal of flexibility when it comes to facilities. They can build just about anything they want, if they can afford it without outside help and still meet the State's safety and area requirements. However, very few districts, and none in Crawford County, can afford a new school facility on their own. Even if they could, there are still three basic state requirements which must be met before construction on any new school facility can begin. These are: (1) Proof of need, (2) proof of ability to finance, be it local or state aid, and (3) site and building plans approved by the Pennsylvania Department of Labor and Industry. Of course, if local financing is not available for the completion of the entire facility, then financial aid from the State will most likely be required. This changes the picture of local control significantly, since the State may require different plans and will only subsidize facilities considered essential, i.e. classrooms, library, cafeteria, multi-purpose space, etc. Facilities such as, swimming pools, student lounges, plush interiors, etc. will generally not be funded. Also, the State will only subsidize a portion of the entire project based on the district's ability to pay; the rest must be provided by the district itself.

Thus, when it comes to new school facilities, school boards must weigh many factors in choosing the location and type of facility. Among these factors the four most important are probably: economic feasibility, location, design and size of the building, and public acceptance. In terms of economic feasibility and size, larger schools make more sense for several reasons. It is generally less expensive to build a larger facility than it is to build two or three smaller ones to accommodate the same number of students. The larger school requires proportionately less staff, and maintenance, and gets maximum use of expensive common facilities such as the gym, cafeteria, health unit, music room, etc. A larger school can be more efficient because of its built-in space flexibility. In such a school where there are more classrooms, one room can easily serve different uses. In a school with only 6 or 7 classrooms, it is difficult to adjust space if there are sudden fluctuations in enrollment from year to year. If, for example, there were enough first graders to fill two classrooms where only one was needed the year before, in a small school there would be no room for the new first graders since all the other classrooms would be occupied by other grades. A grade school of at least twelve classrooms could normally provide some needed flexibility.

At the high school level, experience has shown that a facility should be large enough to handle between 800 and 900 students. This size minimum affords ample classroom flexibility and can justify extra facilities such as; swimming pools, playing fields, gymnasiums and specialized rooms and equipment. The larger school also allows for social experience with a more diversified group of students and teachers. Such school can offer a wider choice of programs in areas such as; language, art, music, special education, etc.

Public acceptance of the larger or consolidated school is, however, another matter. All too often school administrators and school boards tend to down play or overlook the importance of this acceptance in favor of financial and functional considerations. Or, if public opinion against the consolidated school concept is such that it cannot be ignored, school decision makers tend to claim that they have no choice because of state and federal mandates. Such claims may seem to be the easy way out, but, as we shall see, there is some validity to this argument.

Many citizens, at least in rural parts of the country still place great importance on the concept of the "neighborhood school". The importance of the school, and particularly the elementary school, as a focal point for community life is a fact that should be considered. Some parents prefer an existing or new, smaller and less equipped neighborhood school over a new, larger and better equipped school, simply because of their strong ties to a neighborhood. Perhaps parents who hold out against change to a more consolidated and "progressive" system are in reality expressing what they feel is their last hope of maintaining local control over the education of their children. It appears they believe that, if their children go to a larger school further away they will have less to say about how the school is run. There is also the belief that their children at the elementary level will receive just as good an education in a small "neighborhood" school as they would in a consolidated school. Parents may also resist having their neighborhood lose the identity it has with a public school located in it.

The cost of education today is much greater than it was ten or fifteen years ago. Teachers' salaries, for example, are considerably higher. Educational programs have expanded greatly, particularly at the elementary school level. In one sense the expanded programs, if this is the correct term, are the result of an increasing specialization in the educational process. Learning disability, retarded, handicapped and exceptional childrens programs are required. Programs for this type of youth have been broken out from the traditional classroom setting and are set up specially. These programs require additional classroom space. This is the "critical issue" it would seem in terms of decisions by school districts to, on the one hand, retain older and normally smaller schools and perhaps build small schools - 12 to 15 classrooms - or, on the other hand to build large consolidated schools with 20 or more classrooms.

Speaking only of the elementary schools, if the school district is to go along with the current program trends, established in no small part by the professional educator, they have virtually no choice but to go with the larger school. They could not afford to duplicate all of those expensive space requirements in a series of small schools for a wide range of programs, such as; art and music rooms, a well-sized gymnasium and many athletic opportunities; a health suite, room for the gifted, the educable mentally retarded, those with learning disabilities, or the physically handicapped, let alone a full library facility, a teachers' lounge, assembly room and cafeteria. The school district's decision on the range of its programs in a relatively sparsely settled area such as Crawford County, will decide

whether or not the traditional neighborhood school, serving one or two neighborhoods and relatively small and close to "home", can exist at all into the future. Viewing the trends of the recent decades one is led to the conclusion that people want such a wide range of programs, and they have accepted the educational theory that groups of special students must be "separated out" so to speak instead of main streamed in order to be helped adequately. If this is the case the small school and more intimate neighborhood relationships are things of the past, principally because of financial realities.

But is this the situation? Do the school directors and the public have a realistic choice on program content, and thus indirectly the size of their elementary schools? Is it true that all the local districts must do for their youth relative to the physical school facility, as mentioned earlier in this section, is to make sure it meets state safety and health regulations? If this is the case, then a decision for a narrow range of school programs could make the small elementary school feasible. Smaller schools could be renovated to meet the currently stiffer safety regulations and these schools could remain as physical and emotional centerpieces of historic neighborhoods.

Alas, the issue is not so simple. The expanded school program is a reality which is complex and not easily understood by most people. The answer lies in a quagmire of state and federal laws, rules and regulation. We shall try to shed some light on the issue here, but in the end it is the value system of the citizens and their elected school representatives which will, based on existing realities, determine the stance taken in the school district.

The State and Federal Governments have progressively increased demands on public schools through a wide range of previously non-existent programs. In some cases these programs are mandated by law, and in some cases they are mandated by the "purse strings". This purse string mandate for Crawford County, and most of Pennsylvania, might as well be a legal mandate. Programs and choices which are mandated include:

The three basic criteria dealing with new facilities, mentioned previously: proof of need, proof of finances and approval of building plans.

Chapter 22 of the Pennsylvania School Code outlines basic curriculum requirements, to include the 180 day school year and minimum hours of instruction in the basic curriculum. On the elementary level English, social studies, science, reading, art, music and physical education must be offered in grades one through six - Kindergarten, however, is not a requirement, but once initiated it is almost impossible to discontinue.

Library facilities are required with minimum standards for the number and categories of books - However, there is local discretion as to the physical set up of the facility, i.e., whether it is self-contained in the classroom or in a "central" library.

The Education of All Handicapped Act (P.L. 94-142) is federal legislation designed to help all kinds of handicapped students. The Act requires that all school districts provide a "least restrictive environment" for the education of such students. This means that a school district must, within reason, make the physical and educational facilities as accessible as possible to the handicapped. Thus, we see wheel chair ramps, special toilet and transportation facilities, classes for the blind and hard of hearing, and special staff or facilities for other types of handicapped.

State and federal regulation also mandate that a school district must provide "special education" programs. These are specific programs which must be offered some of which are: the Individualized Education Program (I.E.P.) for handicapped students; psychological testing; speech therapy; learning disabilities; programs for socially/emotionally disturbed pupils; and programs for gifted students.

The Equal Opportunity Act requires that citizens be given equal educational opportunities. This, as most know, has led to integration plans and bussing for many school districts.

A school district, according to Pennsylvania law, must provide transportation to all students in its district who do not live within walking distance from their school. This law includes non-public school students as well.

These are the bulk of the existing state and federal mandates which must be provided by school districts whether or not they accept any outside financial aid. If a school district can afford to meet all these requirements on its own and still have money left over to do what it feels necessary, it can then be very independent. Of course none in Crawford County can afford to "go it alone". They must accept state subsidies and help from intermediate units in order to fulfill state and federal mandates.

What about the facilities issue - the neighborhood school? There is nothing in state or federal mandates which specifically require school consolidation. However, when state aid is used for new facilities it must be used in the most cost effective manner. In most cases this means consolidation in one form or another. Nonetheless a school district with citizens willing to pay the price to keep smaller schools could do so if, once again, it could meet all mandates relating to facilities, special programs, and curriculum within its smaller schools. Unless this approach is accepted as a local financial responsibility, or unless these mandates can be "turned back" - the school districts have no choice but to build larger consolidated schools.

The issue of mandates for new and more specialized educational programs introduces the subject of the intermediate unit. After the reorganization of local school districts as a result of the School Reorganization Act of 1970, a gap was left between the

new school districts and the Pennsylvania Department of Education. The gap was one mainly of liaison between districts and the state, and of services to local school districts which were previously provided by the "County Superintendent". To fill this gap, the State created a system of intermediate units which would cover larger areas than the County Superintendent system, and which would have much greater service capability. There are now twenty-nine intermediate units operating throughout the Commonwealth. Although the intermediate unit is a creation of the state, it acts somewhat like a non-profit corporation.

In this part of the State the Northwest Tri-County Intermediate Unit, Number 5 (I.U.-5) located in Edinboro, provides the needed specialized functions. The Unit serves seventeen school districts in Crawford, Erie and Warren Counties. The only district in Crawford County not under the wing of Unit 5 is the Jamestown School District in the extreme southwestern corner of the County.

In terms of organization, Intermediate Unit Number 5 has a board of directors with thirteen members from the seventeen school districts which it serves. The directors make major policy decisions which are then carried out by a sizeable professional staff under an executive director. The Intermediate Unit is funded primarily by the state and federal governments, which combined contributed 96.9 percent of the 1978-79 budget of 9.6 million dollars. Local school districts contributed 3.1 percent to the budget, based on the services they need and their ability to pay.

Services which the Unit provides are extensive and include: special education, management services and instructional services, to name only a few. Special education is by far the Unit's largest responsibility, accounting for forty-three percent of the total 9.6 million dollar budget. There are fifteen programs within the special education field, some of which include: psychological testing for students with speech, vision, hearing, physical and mental handicaps; programs for gifted students, and socially/emotionally disturbed students. Special education staff personnel from the Unit either travel to locations where they are needed, or are assigned to a particular district to help run these programs.

The intermediate unit plays a vital role in aiding school districts, especially in rural areas where districts find it difficult to pay for ever increasing program demands from the state and federal governments. These pressures from state and federal sources have become increasingly more frustrating to local school boards, school administrators and tax payers. Even the leaders of the Intermediate Unit Number 5 who receive outside funds for, and administer such programs are feeling the pressure. John T. Willow, from the Fort LeBoeuf School District and President of the Northwest Tri-County Intermediate Unit Board of Directors, expressed these concerns in his message published in the Unit's 1978-79 Annual Report:

Time after time, members of our Board have been faced with state and federal regulations that are so complex, so costly and so contradictory as to be ludicrous and appalling to all of us. When taking action on some of these matters, I know that each of the Board members in all good conscience is tempted to vote "no" on many occasions, until we are reminded by our solicitor that we are sworn to uphold the laws of the Commonwealth and of the nation and therefore must implement action on programs with which we may not agree.

What's happening? It seems that many special interest groups in the field of education are successful in getting the kind of legislation they want, or in forcing court decisions that interpret the law in their favor. The net result is that an increasing number of special services must be provided. Local districts are being told what they must do and, because the Intermediate Unit can do it more effectively and efficiently, districts are more frequently asking that the I.U. provide these special services. Unfortunately, the services are generally to be performed in ways dictated by people far removed from "where the action is", frequently resulting in a tangled wasteland of ridiculous procedures and systems.

Consider the field of special education. Local school districts are constantly asking for more from the Intermediate Unit because of legislative and judicial mandates, yet we are told that we can expect no more money next year than we received during the current fiscal year. Is this realistic in the face of steadily escalating costs? It appears that our legislators and courts are putting us into a practically impossible situation.

All of us recognize the impact of Proposition 13, but it goes without saying that the increasing mandates imposed on educators and school districts are incompatible with the noble goal of reducing costs and taxes.

There will be an increasing need for the services of an Intermediate Unit in the years ahead. Local school districts simply cannot afford to provide many of the services and programs which the laws now require. The Intermediate Unit, as a service unit, can provide those programs and services much more efficiently and effectively than the individual district. But the increased demands on the Intermediate Unit for such services and programs carries with it the need for more local support of the Intermediate Unit in all those areas where local districts request such assistance. This is particularly true in the areas of management services, instructional materials services, curriculum planning, policy development, federal and state liaison and others where the Intermediate Unit has substantial expertise and is truly able to help the local districts reduce their own costs. What is the alternative? One that certainly does not appeal to many of us - letting the State do it for us.

Mr. Willow's words clearly express the realities of a dilemma faced by school districts in Crawford County. Of course one may question whether the I.U. can provide additional programs "more efficiently" as Mr. Willow states. But the fact remains that the cost of education and the mandates from "outside" are becoming increasingly difficult to deal with. Parents, citizens and planners must be more cognizant of this situation as they relate to decisions made by school boards. School boards and school administrators, for their part, must stay well informed and encourage open communication with their constituents and with the world around them.

Appendix 2

TRENDS IN ASSESSED VALUATION & TOWNSHIP TAXES BEAVER TOWNSHIP 1974 - 1979

YEAR	TAX STATUS	(1) ASSESSED VALUATION REAL ESTATE	(2) 100% TAX YIELD REAL ESTATE	ACTUAL YIELD REAL ESTATE	(3) PER CAPITA TAX LEVY	ACTUAL YIELD PER CAPITA	NOT COLLECTED	WAGE TAX YIELD
1974	Taxable Exempt	666 050 - 15 350-	7 993 - 184-	7 029 NA	2 140 NA	1 925 NA	1 179 - 184-	6 283 NA
1975	Taxable Exempt	691 250 - 18 000-	8 295 - 216-	*8 388 NA	2 355 NA	2 195 NA	67 - 216-	8 679 NA
1976	Taxable Exempt	719 950 - 18 000-	8 639 - 216-	8 476 NA	2 195 NA	2 179 NA	179 - 216-	7 512 NA
1977	Taxable Exempt	737 500 - 18 000-	8 850 - 216-	8 507 NA	2 300 NA	2 248 NA	395 - 216-	8 320 NA
1978	Taxable Exempt	768 050 - 18 000-	9 217 - 216-	*9 460 NA	2 295 NA	*2 394 NA	* 343 - 216-	9 063
1979	Taxable Exempt	803 600 - 20 450.	9 643 - 245-	NA NA	NA NA	NA NA	NA - 245-	NA NA

- NOTES: (1) - Assessed valuation computed at 30% of replacement value in 1971
 (2) - Tax yield based on millage rate of 12 mills per dollar.
 (3) - Per Capita Tax is \$5.00 per resident 18 years or older.
 (4) - Wage tax computed at 1/2% of a resident's annual wages.
 * - Indicates surplus usually from back taxes.

SOURCE: Annual Audit and Financial Reports - Crawford County Clerk of Courts.

Appendix 3

SUPPORTING MATERIAL

This appendix contains a listing of narrative and mapped studies developed as background to the plan which could not be entirely included in this document. However, this important supporting information is on file either with the Beaver Township Officials or in the offices of the Crawford County Planning Commission.

1. Amendments to F.I.A. Maps Based on Soils, Beaver Twp. 1978 (map)
2. Beaver Center Loop Concept, 1978 (overlay)
3. Beaver Center: Shall It Plan for Growth? November 1978 (map)
4. Beaver Center Quadrangle 7.5 Minute Series (Topographic) 1959 Photorevised 1970 (map)
5. Beaver Township Agricultural Quality, 1979 (overlay)
6. Beaver Township - Bedrock Contours, Scale 1" = 4000' \pm (map)
7. Drainage Related Problems and Solutions Beaver Township, October 1978 (overlay)
8. Existing Land Use Base Map (colored version) Sept., 1977 Revised October, 1978 (map)
9. Existing Land Use, Beaver Township, Jan. 1979 (map)
10. Existing Situation, Beaver Community Building Site, December, 1978, (map)
11. Farming Activities, Beaver Township, 1978 (overlay)
12. F.I.A. Flood Hazard Map, Township of Beaver, Pa. (Crawford County) Feb. 28, 1975 (map)
13. Ground-Water Resources, Beaver Township, September 1977 (map)
14. Idea for Road Management Policy, Beaver Township 1978 (overlay)
15. Identification of Active Farms, Beaver Township, December 1978 (overlay)
16. Land Use Alternative, Growth with a Passive Agricultural Base, Beaver Township, January 1979 (map)
17. Land Use Alternative, Managed Growth with an Active Agricultural Base, January 1979 (map)
18. Numerous Plan Ideas Beaver Township, 1978 (overlay)
19. Pierpont, Ohio-Pennsylvania Quadrangle 7.5 Minute Series (Topographic) 1960 Photorevised 1970 (map)
20. Plan For the Growth of Beaver Center, January 1979 (map)
21. Property Line Base Map September 1977 (map)

22. Property Line Base Map Showing Parcels by Owners and Acreage, Beaver Township 1978 (map)
23. The Road & Development In Beaver & Spring Townships & Springboro, A Plan Idea January, 1979 (map)
24. Road Map Beaver Township, October 11, 1945 Revised April 19, 1952 (map)
25. Soil Limitation Composite Analysis, (Sewage, Agricultural Quality and Flood Plain) Beaver Township, 1979 (overlay)
26. Suggested Plan for Further Development of Community Building Site, January 1979 (map)
27. Suggestions for Township Plan Recommendations Beaver Township, 1978 (overlay)
28. Tax Exempt Land Map, Beaver Center, Pa. on USGS 7.5 Minute Series Beaver Center Quadrangle dated 1959 (map)