



COMPREHENSIVE PLAN

SOUTH SHENANGO TOWNSHIP CRAWFORD COUNTY,

PENNSYLVANIA

Ed.

RESOLUTION

OF THE BOARD OF TOWNSHIP SUPERVISORS OF
SOUTH SHENANGO TOWNSHIP, CRAWFORD COUNTY, PA.

WHEREAS, the South Shenango 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 South Shenango Township have been developed and adopted for recommendation by the Planning Commission to this Board; 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 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, public hearings were held by this Board on October 3, 1979 and November 7, 1979 on a Comprehensive Plan of South Shenango Township:

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

That this document, Comprehensive Plan South Shenango Township, dated June, 1979 shall shall be the guide for the future development of South Shenango Township.

ADOPTED THIS 15 DAY OF November, 1979

Gerald Skelton
Gerald Skelton, Chairman
South Shenango Township Supervisors

Rebecca A. Tokar
Rebecca A. Tokar, Secretary
South Shenango Township Supervisors

Carl E. Hurlbert
Carl E. Hurlbert, Supervisor

Marshall Livingston
Marshall Livingston, Supervisor

COMPREHENSIVE PLAN SOUTH SHENANGO TOWNSHIP

CRAWFORD COUNTY, PENNSYLVANIA
CYCLE ONE - JUNE, 1979

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

David Livingston,	Chairman
Robin Branigan,	Secretary
Burton Crawford,	Treasurer
Larry Crom	
Michael Occhiogrosso	
Lois Pitts	
James Schlosser	

The plan was authorized for preparation by the Board of Township Supervisors of South Shenango Township:

Gerald Skelton,	Chairman
Carl E. Hurlbert	
Marshall Livingston	
Rebecca A. Tokar,	Secretary

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

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

Mark D. Becker,	Project Planner
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Lois J. May,	Secretary
Terry E. Oaks,	Graphics

* Frank A. Ciarochi resigned during the planning period.

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INTRODUCTION

Spurred by U. S. Steel Corporation's proposal to build a fully integrated steel making facility at the shores of Lake Erie, the Appalachian Regional Commission (ARC) agreed to fund planning programs for six municipalities in Western Crawford County - enabling them to prepare for growth impacts expected to be generated by the development of this industrial complex. South Shenango Township was one of the six municipalities to request this assistance and, as such, this Plan represents the first formal effort to establish guidelines for the control of growth and development within the Township.

The planning grant provided by ARC was administered by the Northwest Pennsylvania Regional Planning and Development Commission (NPRPDC), which also handled a regional transportation study in connection with the expected impacts of U. S. Steel's proposal. The grant was received locally by the Crawford County Planning Commission, whose staff acted as consultant to the South Shenango Planning Commission. Over the past year, the Planning Commission has collected and analyzed information related to socio-economic and environmental conditions, facility constraints, and opportunities and problems - working toward a plan which accurately reflects the needs of the community.

The report is named a cycle one plan because time was a major constraint in determining the scope of the study. Expecting a steel mill to be built in the near future, and the Township having no plan to guide growth, it was considered most important to digest basic facts about the Township and take stock of local values so as to determine what the residents really care about in terms of their Township's character. In short, it was most important to get a quick idea of what the Township's direction should be relative to potential growth impacts and establish an information base and policy guide to aid in local decision making. In addition, this plan sets the stage for more detailed, project oriented work in succeeding years - when the impacts from U. S. Steel and other developments can be more accurately assessed.

While the major purpose behind developing this plan was to prepare for U. S. Steel impacts, however, a substantial effort has also been made to address some of the adverse impacts which Pymatuning State Park has generated within the Township. Undoubtedly, had a study similar to this one been done when the Reservoir was proposed, we would not be facing some of the problems which exist today. Unlike some of the other municipalities planning for U.S. Steel, South Shenango has learned from the first-hand experience of not having adequate controls in place at the time the Park was developed - and can draw on this experience to benefit its future.

INTRODUCTION

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This plan is bound as it is, in a loose leaf notebook, so that it can be supplemented in future planning cycles. The report is divided into two areas; Background Information (containing analyses of existing conditions and data), and the Plan. Two maps of South Shenango are provided in the report's cover jacket; these maps display existing land use and the Land Use Plan. Many other large maps were completed during the planning process and are on file at the Township Building and in the offices of the Crawford County Planning Commission. A list of these references appears in the Appendix.

For the reader who is not aware of South Shenango's location with respect to the balance of Crawford County and the surrounding region, a location map is provided on the following page.

HISTORIC PERSPECTIVE

Shenango was one of the original thirty-four Townships in Crawford County when it was formed in 1800. It was approximately eight miles square and occupied the entire southwest corner of the County. A division into North and South Shenango occurred in 1830, and the territory of the latter was reduced in 1863 by the creation of West Shenango.

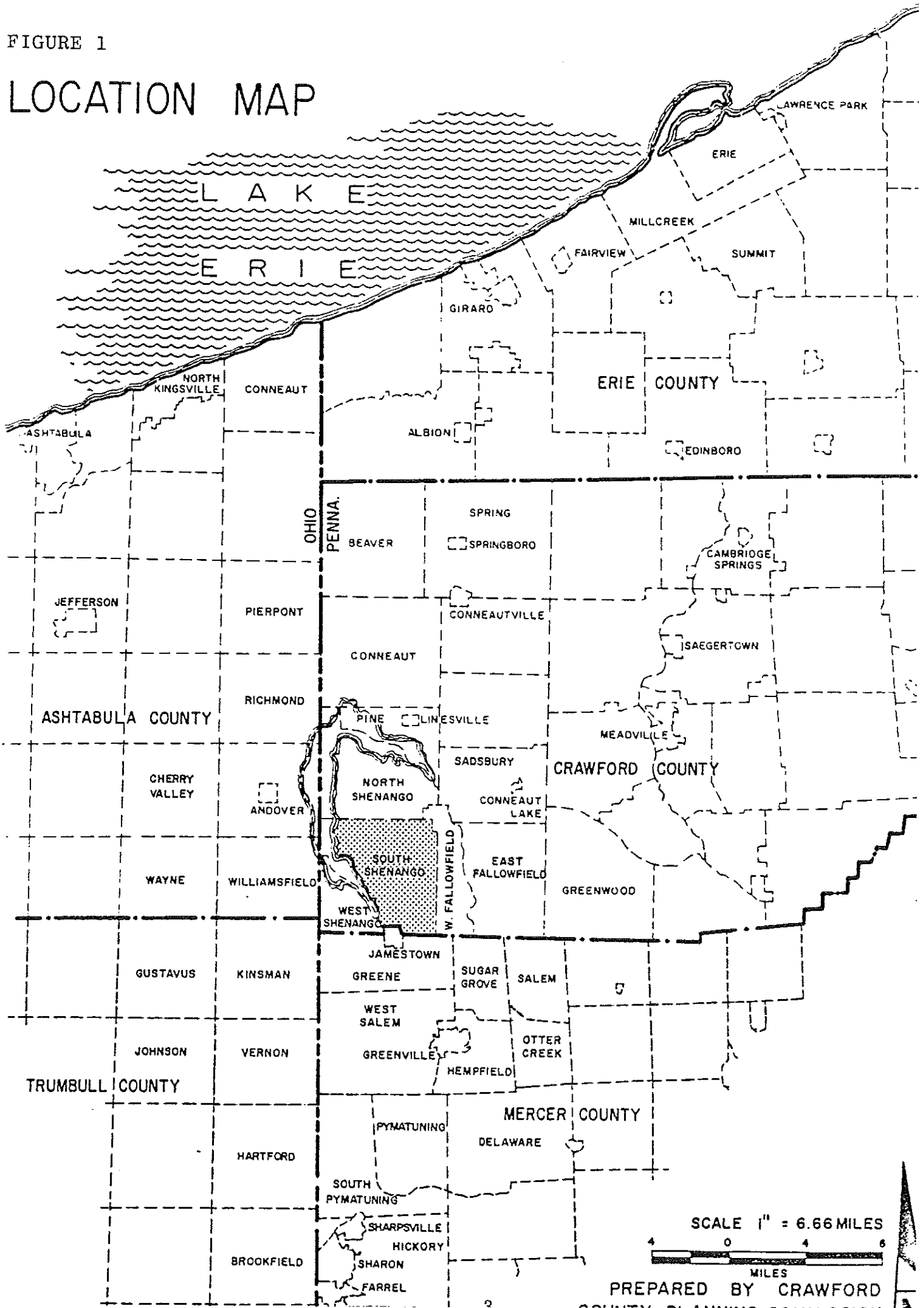
The Erie and Pittsburgh Railroad (later the Penn Central) crossed South Shenango in a north-south direction. In 1881 a station was established in Westford. In 1882 a store was started, and in 1883 a grist-mill was put in operation by Carkhuff and Hulbert. A blacksmith shop and several dwellings were also located in Westford, making it the "nearest approach" to a village in the Township. Hulbert and Martin had a cheese factory in the northwest part of the Township, where a stave factory was also found.

Some early settlers whose descendants still reside in the Township or surrounding area include family names such as Bennet, McElhaney, Scott and Snodgrass.

David Atchison was the first Justice of the Peace. William Campbell operated an early grist-mill on what was then called Shenango Creek. William Douthitt, Alexander McElhaney, and John and Jesse Snodgrass owned distilleries, and Benjamin Snodgrass

FIGURE 1

LOCATION MAP



a sawmill. Thomas Elliott and William Lewis also had early sawmills. James McMaster and Robert McKinley had carding mills in the southern part of the Township.

For years after the first settlers arrived, Indians encamped in great numbers on the banks of the Shenango, where they engaged in hunting and sugar-making.

Peter Smith taught the first school around 1802 in a cabin which had been used as a barn. Edward Hatton held the next term in a log house built for school purposes, and continued to teach for several years. Miss Dotie Buell also was an early teacher.

The first services of the United Presbyterian denomination were held under a tent near the graveyard, and about 1805 a log building was erected in which to worship. In 1818, a second house was built. It was the first frame building in the Township. This building was occupied until 1879, when a handsome frame ediface was erected on the same site at a cost of \$5,000. Although not used, this church still stands today.

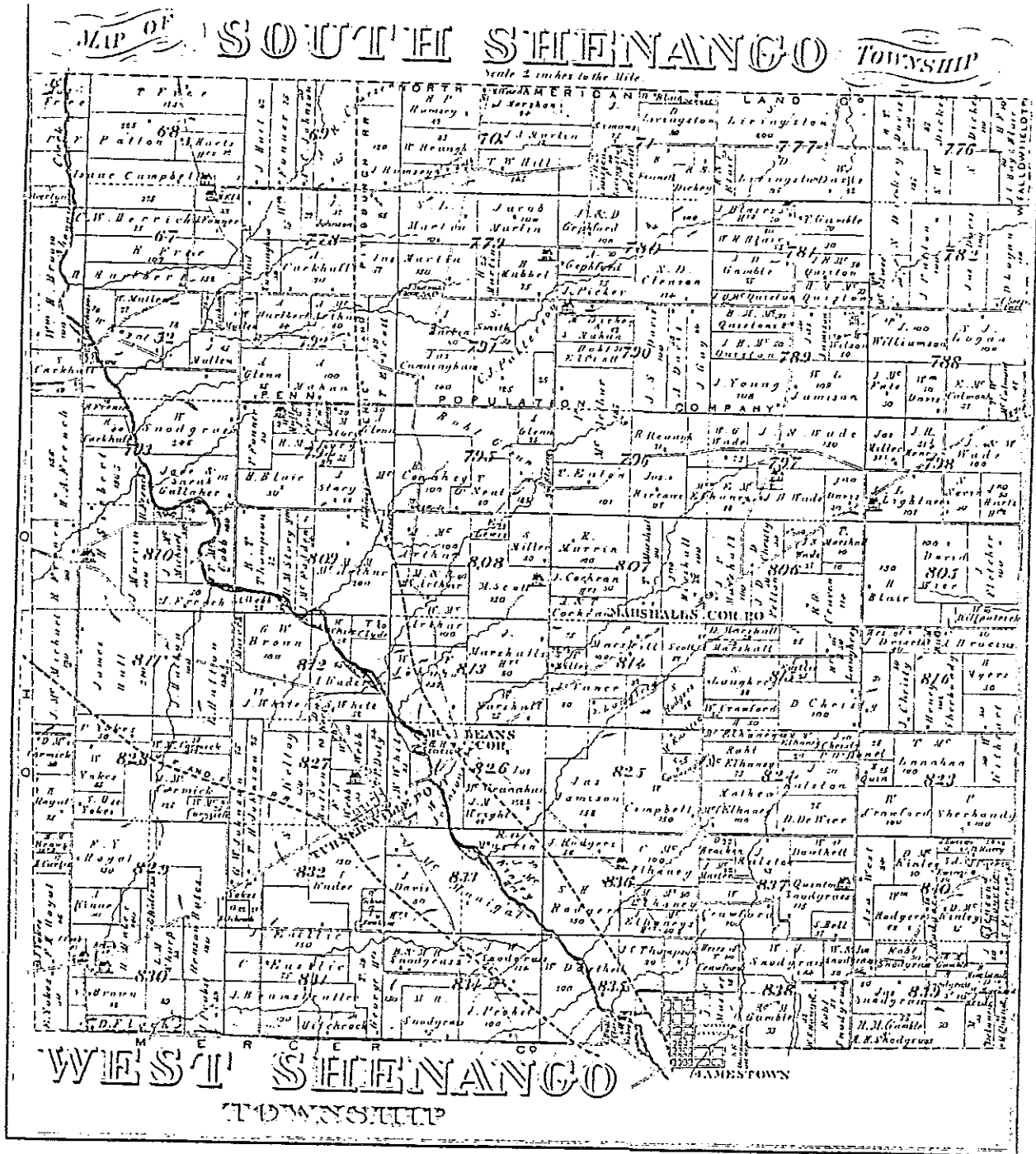
Ebenezer Reformed Church was organized in 1864. Its members had withdrawn from the United Presbyterian Church for political reasons, and constructed their own church in 1868. North Bank Methodist Episcopal Church was organized in 1824. Early meetings were held in private houses and in the schoolhouse until about 1845 when a church was erected.¹

Shortly after the Civil War, in 1869, the General Assembly of Pennsylvania authorized a survey for the purpose of determining the feasibility of draining the Pymatuning Swamp. In subsequent Acts, from 1911 through 1925, the Assembly approved the development of Pymatuning Reservoir, including the acquisition and clearing of land and the construction of a dam north of Jamestown. While the primary purpose of this project was to regulate the flow of water in the Shenango and Beaver rivers, it also served to create one of the most unique recreational and wildlife habitats in the State. More important in terms of this Plan, however, is the impact which Pymatuning State Park has had on the type and extent of development in South Shenango Township. While detailed analysis of impacts on the Township's land use pattern will be provided in the next section, it is important to state here, from an historical perspective, that no other single factor has had nearly the influence on the development of South Shenango as that generated by the construction of Pymatuning Reservoir.

The map on the following page depicts South Shenango and West Shenango Townships as they appeared in 1876. This map is taken from an 1876 publication, entitled Combination Atlas Map of Crawford County, Pennsylvania, by Everts, Ensign and Everts.

¹NOTE: 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.

Figure 2



EXISTING LAND USE

INTRODUCTION

The analysis of existing land use is a fundamental starting point for planning. The survey, mapping, and analysis of existing land use not only defines the existing land use pattern - it also exposes problems which exist and indicates the momentum of and trends in land development.

The pattern of development shown on the "Existing Land Use" map (contained in the cover jacket of this report) depicts the arrangement and distribution of human activity within South Shenango Township. The data displayed on this map is based upon a field survey conducted in September, 1978, and will be utilized in conjunction with data related to other man-made and natural features of the Township in developing the comprehensive plan. The categories of land use identified by the land use survey are as follows:

- Residential
- Vacant Subdivided Lot
- Public
- Semi-Public
- Agriculture
- Vacant Field
- Woodland and Brush
- Commercial
- Mixed Residential-Commercial
- Industrial
- State Park
- Recreation-Public and Private

LAND USE PATTERNS

As discussed in the Historic Perspective, the pattern of land use in South Shenango has been greatly influenced by the partial location of Pymatuning State Park within its boundaries. The Park, which was created when Pymatuning Dam was completed as a flood-control project in 1934, has served to attract increasing numbers of visitors to its facilities over the years. Attendance at Pymatuning has quadrupled since the 1950's, ranking, statewide, second only to Presque Isle State Park in the total number of visitors which it attracts. In 1977, for example, attendance at Pymatuning was 4,107,672, compared with Presque Isle's 4,132,142 - actually less than a one percent margin.

In addition to occupying significant acreage within the Township, the Park has also had a large impact in terms of its attraction for seasonal home development. This type of dwelling is the second most prevalent in the Township accounting for approximately one-third of all residential structures in the community. These seasonal homes are, for the most part, located in allotments, or

subdivisions, which are situated west of the abandoned Penn Central railroad tracks to the Park's edge. The vast remainder of the Township, east of the Penn Central tracks, is occupied primarily by rural residential and agricultural uses, with much of the land covered by woodlands and brush.

The following discussion summarizes the land use survey by each of the categories listed previously:

- Residential Residential uses in South Shenango include permanent residences, seasonal residences, mobile homes and farm complexes.

Major residential concentrations occur in the twenty-five recorded allotments which are located west of the abandoned Penn Central right-of-way. The majority of homes in the allotments are seasonal residences, which have constituted the predominant form of development in South Shenango over the past four decades. These allotments contain a total of 4,507 lots, most of which were created to take advantage of the demand for seasonal homes generated by Pymatuning State Park. Today, however, there is a mixture of seasonal and year-round residences located in the allotments due primarily to the fact that many previously seasonal residents have retired and settled permanently in the area.

Table 1, entitled Allotment Characteristics, summarizes ownership and the extent of development within each allotment. As is indicated, 3,786 lots (84 percent of the total) have been purchased from the original subdividers, and 868 lots (19 percent) have been developed. The discussion of housing in the Township, which follows this section, will explore some of the positive reasons why there hasn't been more development in the allotments. Table 1 also indicates that lot sizes vary considerably between allotments. Lots range from as small as approximately 3,000 square feet in the Breinig and Carrituning allotments to approximately 35,000 square feet in Lake Lane Village.

Residential units which are located outside the allotments are primarily situated along the frontage of roads and are often associated with farm complexes. These rural residences are generally the oldest in the Township - with several having unique architectural design.

- Vacant Subdivided Lot Lots which have been subdivided but are not yet developed are included in this category. Primarily, these lots are located within the allotments.
- Public Structures and lands which are used for government or public functions are included in this classification. The public uses identified in South Shenango include the following:

TABLE 1
ALLOTMENT CHARACTERISTICS
SOUTH SHENANGO TOWNSHIP

Allotment	Total # Lots	# Dev.	# Vac.	Ownership Characteristics					# Lots	Purchased %	Average Lot Sizes
				1 Lot	2 Lots	3 Lots	4 Lots	5 Lots			
Bretnig	42	11	31	3	4	6	2	-	37	88.1%	3,000 sq. ft.
Carrington	30	14	16	16	4	1	1	-	30	100.0%	3,000 sq. ft.
Colonial Estates #2	182	18	164	22	23	2	4	2	104	57.1%	4,000 sq. ft.
Colonial Estates #3	82	10	72	13	12	4	1	2	63	76.8%	4,500 sq. ft.
Colonial Estates #7	100	5	95	5	-	1	-	-	8	8.0%	22,000 sq. ft.
Cottage Park	219	53	166	57	35	8	4	6	209	95.4%	20,500 sq. ft.
Daryman	210	52	158	49	40	8	6	5	208	99.0%	6,000 sq. ft.
Douthett Ranch	500	107	393	66	77	31	11	19	479	95.8%	9,000 sq. ft.
Glenwood	141	33	108	31	25	14	2	1	136	96.5%	9,000 sq. ft.
Grandview	252	80	172	58	44	6	4	2	195	77.4%	8,000 sq. ft.
Green Acres	143	10	133	12	6	1	-	-	27	18.9%	21,000 sq. ft.
Lake Lane Village	48	32	16	30	6	2	-	-	48	100.0%	35,000 sq. ft.
Lake Side Estates	89	38	51	28	15	5	3	1	89	100.0%	6,000-16,000 sq. ft.
Lakeview Estates	270	45	225	81	66	12	5	4	253	93.7%	11,000 sq. ft.
Lakeview Knolls	146	45	101	27	27	4	3	5	141	96.6%	7,800 sq. ft.
Little Fawn Acres	79	17	62	21	5	3	-	-	40	50.6%	18,000 sq. ft.
McArthur's Acres	147	50	97	31	13	8	2	6	133	90.5%	9,000 sq. ft.
McCabe	56	17	39	25	5	4	1	-	51	91.1%	21,000 sq. ft.
Pinecrest	236	35	201	27	25	9	5	8	181	76.7%	4,800-21,000 sq. ft.
Pymatuning Acres	190	17	173	19	11	7	3	4	99	90.9%	10,000 sq. ft.
Richard Ackerman	27	12	15	4	7	3	-	-	27	100.0%	6,500 sq. ft.
Shenango Lakes	589	75	514	136	115	24	12	11	570	96.8%	9,000 sq. ft.
Shenango Lakes Est.	365	24	341	25	76	18	11	9	333	91.2%	3,200 sq. ft.
Thompson	62	14	48	9	8	-	2	-	33	53.2%	9,000 sq. ft.
Westford Estates	302	54	248	5	53	15	17	11	292	96.7%	9,000 sq. ft.
TOTAL	4,507	868	3,639	800	682	196	99	96	3,786	84.0%	

* Assumes remainder to still be in possession of original subdivider.

SOURCE: CRANFORD COUNTY TAX ASSESSMENT RECORDS

- Jamestown Area Elementary School
 - Reservoir on U. S. 322
 - South Shenango Municipal Building
 - Westford Community Hall
- Semi-Public This category includes those uses in South Shenango Township which, while not owned or maintained by any unit of government, are for general public use or public membership. These uses include:
- South Shenango Cemetery
 - Westford Independent Telephone Company
 - Westford United Methodist Church
- Agriculture Lands within the Township which are currently being utilized for crop production or grazing. As mentioned earlier, this use occurs mostly east of the abandoned Penn-Central right-of-way, with the most significant concentration of farming activity located north of Westford Road (L. R. 20005)
- Vacant Field This category was utilized to identify land in the Township which is not being farmed at present, but which could, with proper management techniques, be put back into farm production.
- Woodlands and Brush Areas within the Township which are supporting trees or advanced brush growth are included in this category. In some instances, these areas were actively farmed in the past. In fact, some of the brush lands identified may actually be more appropriately classified as "poorly managed pasture land". Most areas, however, are probably in a transition to woodlands, due either to lack of use for a period of years or to their inaccessibility to farm machinery because of slope or other natural condition.
- Commercial This land use category identifies structures which are used solely for business and/or sales purposes. These uses are scattered around the Township, with the only significant concentration occurring in Westford. Included in the classification of commercial use are:
- Martin Excavating
 - Midway Motel
 - Red Lantern Restaurant
 - Twin Flames Restaurant/Lounge
 - Westford Boating
 - Westford Milling
- Mixed Residential-Commercial Where business and residential uses are combined within the same structure, this category was used. Included are:
- Coulter Radio & T.V.
 - Hillside Beer Distributor on U.S. 322
 - Naomi's Superette
 - Westford General Store
 - White's Lounge

- South Shenango Municipal Building
 - Jamestown Area Elementary School
 - Westford Community Hall
 - Reservoir on U. S. 322
- 01/22/05
- Semi-Public This category includes those uses in South Shenango Township which, while not owned or maintained by any unit of government, are for general public use or public membership. These uses include:
 - Walnut Creek Golf Course
 - Hartstown Golf Course
 - Big Ten Hunting and Fishing Club
 - Westford United Methodist Church
 - South Shenango United Presbyterian Church
 - South Shenango Cemetery
 - Westford Independent Telephone Company
 - Carrituning Fishing Club
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 - White's Lounge
 - Red Lantern Restaurant
 - Westford Boating
 - Westford Milling
 - Martin Excavating
 - Midway Motel
 - Twin Flames Restaurant/Lounge

- Industrial These are goods-producing establishments and include:
 - Continental Aluminum
 - Livingston Packing
- State Park This category encompasses the land holding of Pymatuning State Park.
- Recreation - Public and Private This category was used to identify uses which provide recreational opportunities separate from those which are operated by the State Park. These uses include:
 - Big Ten Hunting and Fishing Club
 - Hartstown Golf Course
 - Meadow Lakes Campground
 - Walnut Creek Golf Course
 - White Haven Campground

LAND USE ACCOUNTS

Table 2, entitled Existing Land Use Accounts, details the total acreage in South Shenango devoted to each of the land use categories described above.

TABLE 2
EXISTING LAND USE ACCOUNTS - 1979
SOUTH SHENANGO TOWNSHIP

USE CATEGORY	ACRES	SQUARE MILES	% OF TOTAL TOWNSHIP AREA
Residential	552	.9	3
Vacant Subdivided Lots	1,073	1.7	6
Public	34	.1	-
Semi-Public	10	-	-
Agriculture	6,040	9.4	32
Vacant Fields	433	.8	2
Woodland & Brush	7,217	11.3	38
Commercial	30	-	-
Mixed Residential-Commercial	2	-	-
Industrial	5	-	-
State Park (Land)	768	1.2	4
State Park (Water)	2,048	3.2	11
Recreation (Public & Private)	189	.3	1
SUBTOTAL	18,401	28.9	97
Public Roads	370	.6	2
Private Roads	182	.3	1
TOTAL	18,953	29.8	100

SOURCE: Crawford County Planning Commission

¹NOTE: The total acreage figure in this table is the sum of all use categories taken from the Existing Land Use Map. A publication, entitled Crawford County Municipal Areas, indicates South Shenango Township's area to be 18,769 acres.

- Mixed Residential-Commercial Where business and residential uses are combined within the same structure, this category was used. Included are:
 - Westford General Store
 - Naomi's Superette
 - Beer Distributor on U. S. 322
 - Zenith Sales on L.R. 20004
- Industrial These are goods-producing establishments and include:
 - Continental Aluminum
 - Livingston Packing
- State Park This category encompasses the land holding of Pymatuning State Park.
- Recreation - Public and Private This category was used to identify uses which provide recreational opportunities separate from those which are operated by the State Park. These uses include:
 - Meadow Lakes Campground
 - White Haven Campground

LAND USE ACCOUNTS

Table 2, entitled Existing Land Use Accounts, details the total acreage in South Shenango devoted to each of the land use categories described above.

TABLE 2
EXISTING LAND USE ACCOUNTS - 1979
SOUTH SHENANGO TOWNSHIP

USE CATEGORY	ACRES	SQUARE MILES	% OF TOTAL TOWNSHIP AREA
Residential	552	.9	3
Vacant Subdivided Lots	1,073	1.7	6
Public	34	.1	-
Semi-Public	10	-	-
Agriculture	6,040	9.4	32
Vacant Fields	433	.8	2
Woodland & Brush	7,217	11.3	38
Commercial	30	-	-
Mixed Residential-Commercial	2	-	-
Industrial	5	-	-
State Park (Land)	768	1.2	4
State Park (Water)	2,048	3.2	11
Recreation (Public & Private)	189	.3	1
SUBTOTAL	18,401	28.9	97
Public Roads	370	.6	2
Private Roads	182	.3	1
TOTAL	18,953	29.3	100

SOURCE: Crawford County Planning Commission

NOTE: The total acreage figure in this table is the sum of all use categories taken from the Existing Land Use Map. A publication, entitled Crawford County Municipal Areas, indicates South Shenango Township's area to be 18,769 acres.

As the table indicates, the largest single land use category in the Township is woodland and brush, which accounts for approximately thirty-eight percent of the total area of South Shenango. The next largest category is agriculture, which accounts for thirty-two percent of Township land; followed by the State Park, which encompasses fifteen percent of the Township.

It is interesting to note that the next largest category is vacant subdivided land, which is estimated to account for six percent of the area of South Shenango. This represents an area which is twice the size of the combined area of all existing residential development in the Township.

HOUSING

The discussion of housing in South Shenango focuses primarily upon the characteristics of homes within allotments, as this is where the largest concentration of housing occurs - and where the largest number of housing problems exist - within the Township. Homes which are located in the rural areas of the community are, with few exceptions, very well kept (despite a wide range of ages) and pose no real problems for the Township.

Within allotments, however, the character of housing varies considerably, due primarily to the seasonal influence of Pymatuning State Park. As mentioned in the discussion of existing land use, there is a mixture of year-round and seasonally occupied residences within allotments. This "phenomenon", in and of itself, has created problems related to property upkeep - particularly where seasonal homes have been abandoned.

Also, as discussed earlier, there are 868 lots which have been developed within the twenty-five allotments in the Township. These 868 lots represent only nineteen-percent of all available subdivided lots - indicating an apparent lack of demand for land in the Township. However, as we know that eighty-four percent of all lots have been purchased, it becomes evident that there are reasons other than "lack of demand" which are responsible for the small number of homes in many allotments.

One such reason, as indicated by Table 1, is that persons owning two lots or more account for the ownership of more than sixty-three percent of all lots in the subdivided areas of the Township. These are persons who, in many instances, purchased more than one lot so as to "assemble" a larger, more private lot for a home. Consequently, it can be assumed that the ownership of two or three adjoining lots is the same as owning one large lot. However, it was also found that

many land owners have purchased lots in a seemingly random fashion within allotments, as opposed to a group of lots in one area. These purchases appear to have been speculative rather than directed toward affording a higher degree of privacy - and undoubtedly represent a significant percentage of unutilized lots.

Another reason for the lack of development in allotments is the poor soil suitability for on-lot septic systems. As stated in the background analysis of soils, virtually all soils in the Township have severe limitations which restrict their ability to support conventional on-lot septic systems. While these limitations are less restrictive on the development of a very large lot, they have served to stop development altogether in allotments where lots are as small as 3000 square feet. The new public sewerage system, however, will remove this constraint on development within almost all the Township's allotments.

One other contributing factor to the lack of development is the uncared-for appearance of many homes and areas within allotments. In many subdivisions, cottages and mobile homes have been vandalized and/or abandoned - serving as safety hazards and eyesores to existing and prospective residents. In addition, a sprinkling of junk cars and boats, and the general mixture of mobile homes and frame structures serves to detract from the desirability of owning a home in many areas. This problem is, perhaps, the most difficult one which the Township must face in improving housing in the future.

Undoubtedly, many of the housing problems which the Township faces today are the result of its total inexperience in dealing with large scale development at the time Pymatuning Reservoir was completed. While the location of the State Park has certainly been an economic and recreational asset to the community, its impact in terms of its attraction for seasonal housing has been, at best, a mixed blessing. No development control ordinances were in effect at the time the reservoir was completed; and, as referred to in the introduction to this report, no planning program was undertaken to assist communities such as South Shenango in dealing with the impacts which were certain to come. Thus, the blame for today's conditions cannot be entirely placed upon South Shenango; rather, the "blame" is shared by the State, the County and the Township. With a lack of adequate control, private landholders who wished to subdivide and take advantage of the demand for vacation home property, did so with little regard for natural features - apparently seeking only to carve as many lots out of their land as they could. The result is a detriment to the beauty that attracted people in the first place.

The land use field survey, conducted in the fall of 1978, indicated that there were 1,286 homes in South Shenango. Consequently, almost two-thirds of the Township's housing stock is located within the allotments. Table 3, entitled Summary of Residential Land Uses, provides a breakdown by each type of residence (e.g., seasonal residential, mobile home) for North, South and West Shenango Townships.

It should be noted that mobile homes were not differentiated in terms of seasonal versus year-round use. Consequently, it can be assumed that the actual number of seasonal residential units is higher than indicated.

TABLE 3
SUMMARY OF RESIDENTIAL LAND USES, 1978
NORTH, SOUTH AND WEST SHENANGO TOWNSHIPS

TYPE OF RESIDENCE	NORTH		SOUTH		WEST	
	#	%	#	%	#	%
Residential (Permanent)	267	18	222	17.3	103	33.4
Residential (Seasonal)	696	46	613	47.7	93	30.2
Residential (Mobile Home)	507	34	345	26.8	87	28.2
Residential (Farm Complex)	36	2	106	8.2	21	6.8
Residential (Multiple Family)	-		-		4	1.3
TOTAL	1506	100.	1286	100.0	308	100.0

NOTE: Percentages may not add due to rounding
SOURCE: CCPC Field Survey September, 1978

The Crawford County Comprehensive Plan indicated that, in 1970, there were 919 homes in the Township - 543 of which were seasonal residences. Comparing this information with the field survey, there have been 367 new homes constructed over the past nine years - or an increase of 39.9 percent. Housing growth rates in North and West Shenango were 78 percent and 3.7 percent respectively during the same time period.

Upon the completion of the new sewerage system, it can be expected that the sale and development of lots served by the system will increase. As such, it is very important for the Township to assess its needs relative to additional development control. While the Township has a certain "responsibility" to provide for seasonal housing, it must control such development to insure that it doesn't become a liability over a relatively short period of time.

POPULATION

INTRODUCTION

The analysis of population trends, both past and present, is a very important part of the planning process for any community. Such an analysis not only provides additional insight into a community's history, but it also provides a basis for making assumptions about what the future population of the community might be. This section provides a description of historic trends in population within South Shenango, along with a comparison of future population estimates.

POPULATION TRENDS

As discussed earlier, South Shenango Township was created in 1830 when the Township of Shenango was divided into two municipalities. Table 4, entitled Total Population Trends, 1840-1970, provides a summary of population growth and decline within the Township for each decade since its establishment. As shown on the Table, the Township's population increased significantly during the 1840's (340 persons, or 25.7 percent), and then declined steadily through the 1930's. The largest single decrease during any decade occurred during the 1860's, when West Shenango was created out of the southwest corner of the Township. This decreased the Township's population by 351 persons, or 25.2 percent.

TABLE 4
TOTAL POPULATION TRENDS, 1840-1970
SOUTH SHENANGO TOWNSHIP

DECADE	TOTAL POPULATION	DIFFERENCE BETWEEN DECADES	
		NUMERICAL	PERCENT
1840	1,324	-	-
1850	1,664	+ 340	+ 25.7
1860	1,393	- 271	- 16.3
1870	1,042	- 351	- 25.2
1880	991	- 51	- 4.9
1890	909	- 82	- 8.3
1900	835	- 74	- 8.1
1910	820	- 15	- 1.8
1920	797	- 23	- 2.8
1930	714	- 83	- 10.4
1940	654	- 60	- 8.4
1950	751	+ 99	+ 14.8
1960	898	+ 147	+ 19.6
1970	1,132	+ 234	+ 26.1

SOURCE: U. S. Census, 1840-1970

The declining population trend which continued from the 1870's through the 1930's was typical throughout Crawford County for this same time period. Prior to 1870, growth county-wide was attributed to net in-migration. Yet, since 1870 - for more than a century - the County has experienced more out-migration than in-migration. Certain factors, such as the industrial revolution,

war, and the depression undoubtedly were responsible for much of the decline in population county-wide through the 1930's. In South Shenango, however, the population decline slowed by the 1940's and reversed itself entirely by 1950. This total reversal is obviously attributable to the development of Pymatuning Reservoir in the early 30's, which generated a regional attraction for seasonal and year-round housing development. Thus, since 1940, South Shenango has departed from the county-wide trend of population decline, and has increased steadily to the present. The overall change from 1940 to 1970 is a net increase of 478 people or a 73 percent increase in total population. An indication that this growth trend is continuing is available through the Current Population Reports, "Population Estimates and Projections" (Series P-25, No. 686) published by the U. S. Bureau of the Census in 1977. This publication provides an estimate of the 1975 population of the Township as being 1,243. This would indicate a net increase of one hundred-eleven residents or a 9.8 percent increase between 1970 and 1975. These estimates were based upon Federal income tax returns (to determine rates of migration), and also on birth and death rates (indices of natural growth).

POPULATION TRENDS IN THE PYMATUNING AREA

Table 5, Comparison of Population Trends, 1940-1970, Pymatuning Area, provides a comparison of population change for local municipalities in the general Pymatuning Area. This group of communities was identified as a County 'Sub Area' in the Crawford County Comprehensive Plan, and includes North, South and West Shenango Townships, Conneaut and Pine Townships, and Linesville and Jamestown Boroughs. This table shows that the population increase which occurred in South Shenango as a result of Pymatuning Reservoir is similar to that which has been experienced by other municipalities in the Pymatuning Area.

TABLE 5
COMPARISON OF POPULATION TRENDS, 1940-1970
PYMATUNING AREA

MUNICIPALITY	1940 POPULATION	1950 POPULATION	% CHANGE 40-50	1960 POPULATION	% CHANGE 50-60	1970 POPULATION	% CHANGE 60-70	% CHANGE 40-70
North Shenango	488	511	+ 4.7	472	- 7.6	621	+31.6	+27.3
South Shenango	654	751	+14.8	898	+19.6	1,132	+26.1	+73.1
West Shenango	184	234	+27.2	321	+37.2	424	+32.1	+130.4
Conneaut	1,208	1,235	+ 2.2	1,295	+ 4.9	1,322	+ 2.1	+ 9.4
Pine	263	350	+33.1	327	- 6.8	392	+19.9	+49.0
Linesville	1,150	1,248	+ 8.3	1,255	+ .7	1,265	+ .8	+10.0
Jamestown	819	931	+13.7	897	- 3.7	937	+ 4.5	+14.4
TOTAL PYMATUNING AREA	4,766	5,258	+10.3	5,465	+ 3.9	6,093	+11.5	+27.8
CRAWFORD COUNTY	61,664	78,946	+10.2	77,956	- 1.3	81,342	+ 4.3	+13.5

SOURCE: U. S. Census, 1940-1970

As shown on the table, West Shenango had the highest growth rate over the thirty year period (130.4%). South Shenango had the second highest percentage growth rate (73.1%), yet had the highest numerical increase; increasing by 478 people between 1940 and 1970. The lowest growth rate occurred in Conneaut Township (9.4%).

The bottom rows of the table provide statistics for the total Pymatuning Area and for Crawford County. As can be seen, the growth rate for the Pymatuning Area during the thirty-year period is over twice that for the County (27.8% vs. 13.5%). Consequently, the Pymatuning Area is definitely a growth area within the County - accounting for approximately fourteen percent of all County growth during the period between 1940 and 1970.

AGE COMPOSITION

Table 6, entitled Population Distribution by Age and Sex - 1970, provides a more detailed analysis of the Township's population - for different age groups and males vs. females. The purpose of this analysis is to identify and compare specific segments of the Township population.

TABLE 6
POPULATION DISTRIBUTION BY AGE & SEX - 1970
SOUTH SHENANGO TOWNSHIP

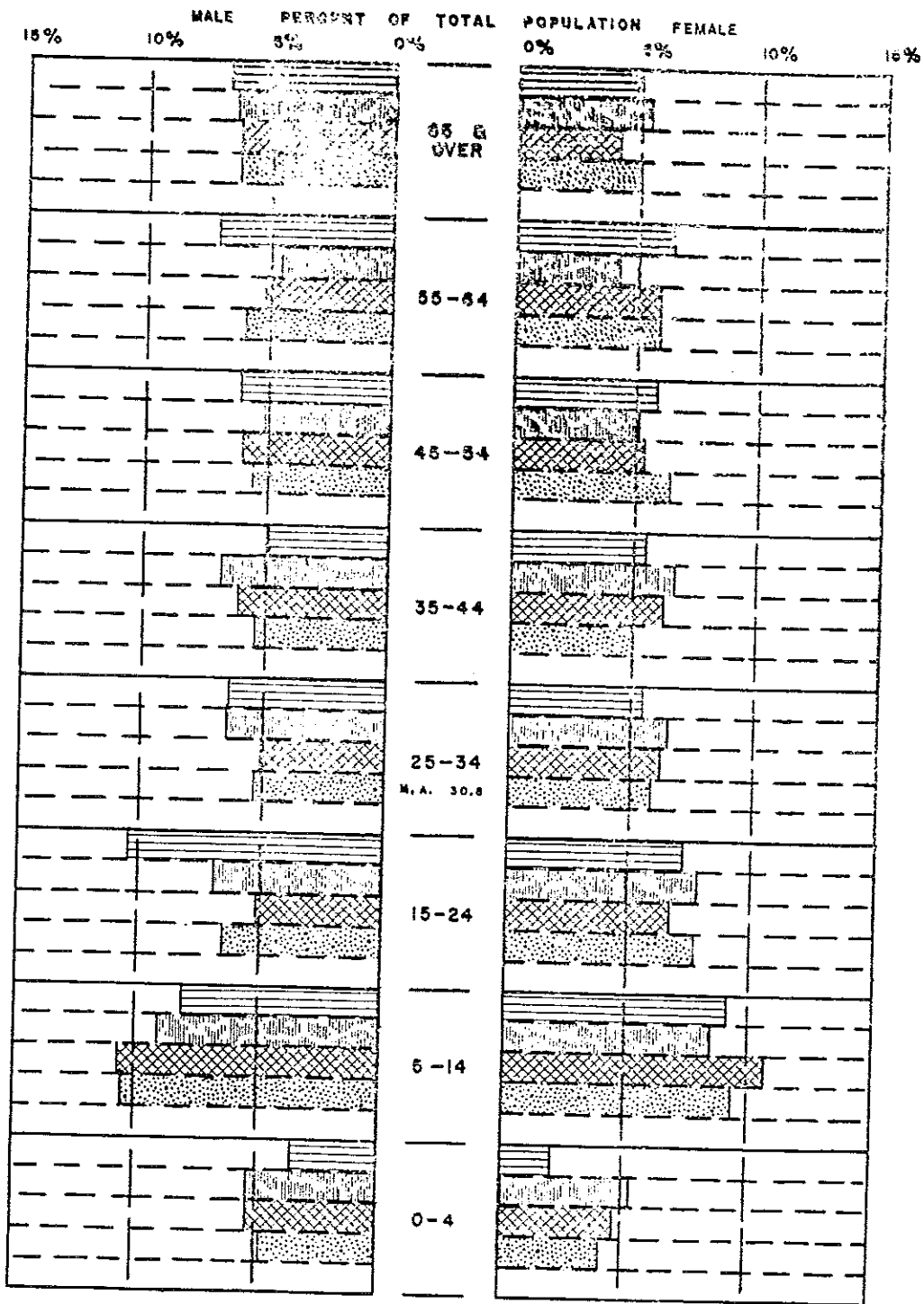
AGE GROUP	MALE	FEMALE	TOTAL	% OF TOTAL POPULATION
0-4	54	48	102	9.0
5-14	119	106	225	19.9
15-24	74	88	162	14.3
25-34	61	67	128	11.3
35-44	61	57	118	10.4
45-54	63	72	135	11.9
55-64	67	67	134	11.9
65+	71	57	128	11.3
TOTALS	570	562	1,132	100.0

SOURCE: U. S. Census - 1970

For example, the table indicates that 11.3 percent of the Township population is elderly (ages 65+); 9 percent are preschool children (ages 0-4); approximately 34.2 percent are school age children (ages 5-24); and 45.5 percent comprise the main working force and homemakers of the Township (ages 25-64). The largest single age group is the 5-14 group, with 19.9 percent of the total population. Males slightly outnumber females in the Township, but not by any significant amount.

FIGURE 3
 POPULATION BY AGE GROUP AND SEX, 1940-1970
 SOUTH SHENANGO TOWNSHIP

	MALE	FEMALE	TOTAL
1940	352	302	654
1950	382	369	751
1960	451	447	898
1970	570	562	1,132



SOURCE: U. S. Census

The bar graph after Table 6 summarizes population trends by age and sex for South Shenango between 1940 and 1970. This provides an easier way to "consume" the data represented in Tables 5 and 6, by showing the percent of total population in each ten-year age group for both males and females, through four decades.

POPULATION FORECASTS

There are numerous methods which can be used to calculate population forecasts; some are very simple, while others are extremely complex. All, however, are estimates based upon our knowledge of past trends and our understanding of future constraints. As such, the forecasts discussed here are intended to reflect alternative sets of assumptions regarding the future population of South Shenango, and should not be interpreted as something more exact.

Basically, three methods were utilized to project population. These include: a.) projecting past growth rates into the future; b.) plotting past population figures and projecting future growth based upon a line which "best fits" past growth; and c.) a consideration of estimates of the impact of U. S. Steel's proposed plant, if built. Following is a description of each of these methods:

Arithmetic Extrapolation

This method involves the calculation of a previous population trend, and the projection of that trend into the future. Three previous trends were calculated for projection into the future; these are the growth rates between 1940 and 1970, 1960 and 1970, and 1970 and 1975.

The rate of growth between 1940 and 1970 averaged 20.3 percent per decade. By projecting this same rate of growth over the next two decades, the following forecasts are derived:

Year	1980	1990	2000
Forecast	1,362	1,638	1,971

These projections indicate that, by the year 2000, the population of South Shenango would be approximately seventy-four percent higher than in 1970 (an increase of 839 persons). The rate of growth between 1960 and 1970, however, was higher than the average between 1940 and 1970, and results in higher population forecasts when projected to the year 2000. The rate of growth over this ten-year period was twenty-six percent, which, if projected over the next two decades, results in the following forecasts:

Year	1980	1990	2000
Forecast	1,427	1,799	2,268

As can be seen, these projections predict a substantially higher population for South Shenango by the year 2000 - actually fifteen percent higher than the previous set of forecasts. It should be noted, however, that the high growth rate of the sixties did not carry over into the 1970's. Rather, growth during the first five years of the seventies slowed to 9.8 percent (19.6 percent, if assumed constant through 1980) - a rate of growth which is slightly less than the average between 1940 and 1970. By projecting the growth rate between 1970 and 1975 in the future, the following forecasts are derived:

Year	1980	1990	2000
Forecast	1,354	1,619	1,936

By comparing this set of forecasts with the first set, one can see that they are slightly - but not significantly - lower.

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 can also be plotted on graph paper if one desires. By utilizing population figures from the U. S. Census for the years 1940, 1950, 1960, 1970 and 1975, the following projections were arrived at for South Shenango:

Year	1980	1990	2000
Forecast	1,368	1,562	1,757

These figures represent the lowest set of forecasts derived. Table 7, entitled Summary of Population Forecasts, summarizes each of the forecasts provided above.

TABLE 7
SUMMARY OF POPULATION FORECASTS
SOUTH SHENANGO TOWNSHIP

Method	Forecast		
	1980	1990	2000
Arithmetic Extrapolation			
1940-1970 rate	1,362	1,638	1,971
1960-1970 rate	1,427	1,799	2,268
1970-1975 rate	1,354	1,619	1,936
Linear Regression	1,368	1,562	1,757

SOURCE: CCPC Staff Calculations

It should be pointed out that none of these projections take into account potential U. S. Steel impacts - nor do they consider the impact of the new sewerage system. As pointed out earlier, in the discussion of land use accounts, there is currently two times as much vacant subdivided land in South Shenango than has already been developed for residential purposes - most of which lies within the service area of the new sewerage system. As this system is the only public sewerage system serving any area bordering on Pymatuning State Park, it greatly enhances the growth potential of both South and North Shenango due to the fact that the poor soils which have hampered development in the past - and which continue to do so in surrounding communities - are no longer a constraining factor. Consequently, the potential exists for future growth rates to surpass the population increases of the past fifteen years, resulting in more residents than projected by the highest forecasts in Table 7. The following discussion summarizes the potential population impact of U. S. Steel's proposed steel fabricating plant.

U. S. STEEL RELATED GROWTH

In light of U. S. Steel's proposal to construct a steel fabricating plant along Lake Erie, the Northwest Pennsylvania Futures Committee has developed population projections for those persons expected to reside in Pennsylvania as a result of the construction of the plant. For purposes of planning, the secondary growth expected to be generated by U. S. Steel is set at 40,000 people by 1990. This projected population is expected to split evenly between Pennsylvania and Ohio; thus, 20,000 new residents are expected to locate in northwest Pennsylvania if U. S. Steel's proposal becomes reality. The Futures Committee's work is based on empirical data obtained through a number of attitude surveys. A distribution formula was set up, based upon the relative attractiveness of the various cities, boroughs and townships in the defined impact area. Factors such as closeness to work, closeness to recreation and closeness to hospital services were important things considered in the formula. Without considering constraints which operate on municipal facilities and services (e.g., lack of public sewer, municipal police protection, etc.), South Shenango is projected to gain 206 persons through U. S. Steel impact by the year 1990. This would represent 206 persons in addition to the previous projections for 1990 which are based on past trends. Consequently, if we assume the 1960-1970 trend forecast to be the most realistic, and we add the impact of U. S. Steel, the 1990 population of South Shenango could reach approximately 2,005 persons.

SUMMARY

In evaluating the various population projections discussed in this section, one must also consider other factors which will have an influence on population within South Shenango. For example, while we know that the new sewerage system will attract residential development, we cannot gauge population increase by the number of housing starts - due to the fact that housing will be developed for both seasonal and year-round use. In addition, many existing

It should be pointed out that none of these projections take into account potential U. S. Steel impacts - nor do they consider the impact of the new sewerage system. As pointed out earlier, in the discussion of land use accounts, there is currently two times as much vacant subdivided land in South Shenango than has already been developed for residential purposes - most of which lies within the service area of the new sewerage system. As this system is the only public sewerage system serving any area bordering on Pymatuning State Park, it greatly enhances the growth potential of both South and North Shenango due to the fact that the poor soils which have hampered development in the past - and which continue to do so in surrounding communities - are no longer a constraining factor. Consequently, the potential exists for future growth rates to surpass the population increases of the past fifteen years, resulting in more residents than projected by the highest forecasts in Table 7. The following discussion summarizes the potential population impact of U. S. Steel's proposed steel fabricating plant.

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SUMMARY

In evaluating the various population projections discussed in this section, one must also consider other factors which will have an influence on population within South Shenango. For example, while we know that the new sewerage system will attract residential development, we cannot gauge population increase by the number of housing starts - due to the fact that housing will be developed for both seasonal and year-round use. In addition, many existing

previously seasonal homes have been converted to year-round use by persons who have retired; thus, population has increased, yet the increase has been absorbed by the existing housing stock. We must also consider what will happen when these "converted" homes are sold; will they revert to seasonal use, or continue to be occupied year-round? If they revert to seasonal use, the Township would stand to lose population. Thus, the seasonal residence in South Shenango is a factor which can have a substantial influence upon population growth or decline - serving as a further illustration of the complexity involved in accurately predicting future population levels.

ECONOMIC ANALYSIS

INTRODUCTION

This portion of the background analysis for South Shenango Township focuses upon the labor force characteristics of the community. The data contained in this analysis takes a closer look at the population of the Township so that a generalized understanding of employment, occupation groups and income can be obtained. Such an analysis not only provides a description of the economic vitality of the residents of the Township, but also provides valuable insight, when compared with other "background" information contained herein, in developing the future land use and facilities plans.

LABOR FORCE

The analysis of the labor force focuses on the occupation groups within the Township. The general characteristics of labor force are described along with a comparison to data for all of Crawford County.

Table 8, Composition of the Labor Force - 1970, lists the various components of the labor force for South Shenango. The data contained in this and other tables in this section is taken from the 1970 Census. The U. S. Census includes anyone who is 14 years old and over as a potential member of the labor force. Generally, however, those who are 14 and 15 years of age are counted as "self-employed". This is to say that while most children in this age group are not directly employed, they do earn income by performing such services as babysitting and yard work.

At the same time, many people over 14 years of age are not counted as part of the labor force; for example, a housewife, a student, or a member of the armed forces. When a person is in the civilian labor force, he or she can also be either employed or unemployed.

TABLE 8
COMPOSITION OF THE LABOR FORCE - 1970
SOUTH SHENANGO TOWNSHIP

	MALE	FEMALE	TOTAL
14 years old +	413	441	854
Civilian Labor Force	302	141	443
% of Total	73.1	32.0	51.9
Employed	277	119	396
Unemployed	25	22	47
% of Civilian Labor Force	8.3	15.6	10.6
Not in Labor Force	111	300	411
Inmate of Institution	0	0	0
Enrolled in school	28	49	77
Military	0	0	0
Other	83	251	334

SOURCE: U. S. Census, 1970

The total number of males 14 years old and over in the Township was 413 in 1970. Of this number, 302 (approximately 73 percent) were part of the civilian labor force. The census indicates that 277 of these men were employed, and 25 (or 8.3 percent) were unemployed. Of those males who were not included in the civilian labor force (111, 26.9 percent), 28 were enrolled in school and 83 were classified as "Other" (retired persons, etc.). The table also indicates that these were 441 females aged 14 and over, with 141 (32 percent) included in the civilian labor force. 119 of these women were employed and 22 (15.6 percent) were unemployed. Of those females not included in the labor force, 49 were enrolled in school, and 251 were classified as "Other" (housewives, retired persons, etc.).

By comparing Table 8 with Table 9, which lists the same data for all of Crawford County, one can see that the male labor force in South Shenango is slightly higher, percentage-wise, than that in the County over-all (73.1 percent vs. 66.1 percent). The figure

TABLE 9
COMPOSITION OF THE LABOR FORCE - 1970
CRAWFORD COUNTY

	MALE	FEMALE	TOTAL
14 yrs. old+	31,495	31,337	62,832
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	16,024	22,988

SOURCE: U. S. Census, 1970

for females in the labor force, however, is slightly lower (32 percent in South Shenango vs. 35.4 percent in Crawford County). The most striking difference between Township and County statistics is the variation between unemployment rates. In South Shenango, the unemployment rate for all persons in the labor force was over three times higher than that for the County (10.6 percent vs. 3.5 percent).

INDUSTRY AND OCCUPATION GROUPS

The number of persons employed in each industry is shown on Table 10, entitled Employed Persons by Major Industry Classification - 1970. The table provides a breakdown for both males and females by industry, along with that industry's percentage of total County employment. For example, there were thirty-one individuals residing in South Shenango who were employed in Agriculture and Forestry, and those workers constituted 7.8 percent of the Township labor force.

TABLE 10
EMPLOYED PERSONS BY MAJOR INDUSTRY CLASSIFICATION - 1970
SOUTH SHENANGO TOWNSHIP

CLASSIFICATION	SEX		TOTAL	% OF TOTAL	% OF TOTAL CRAWFORD CO.
	MALE	FEMALE			
Agriculture & Forestry	31	-	31	7.8	4.2
Mining	-	-	-	-	.2
Construction	20	-	20	5.1	5.4
Manuf.-Durable	134	46	180	45.5	28.8
Manuf.-Non Durable	15	14	29	7.3	11.0
Transportation	30	6	36	9.1	7.0
Wholesale & Retail Trade	22	5	27	6.8	16.0
F.I.R.E.	6	6	12	3.0	2.6
Business & Repair Service	-	-	-	-	1.4
Personal Service	-	-	-	-	3.5
Entertainment & Recreation Service	-	-	-	-	.7
Professional Service	16	42	58	14.6	16.6
Public Service	3	-	3	.8	2.7
Industry Not Reported*	17	-	17	-	-
TOTAL EMPLOYED	277	119	396	100.0	100.0

* Not included in Total
SOURCE: U. S. Census, 1970

The table indicates that a significant majority of Township residents work in the manufacture of durable goods (45.5 percent). This trend is similar to that which exists County-wide, except that it is much more pronounced in the Township. The next highest employer in the Township is the Professional Service category, employing 14.6 percent of the labor force - also in line with County trends. Aside from the Manufacture of Durable Goods, other differences occur between Township and County-wide employment in the Wholesale and Retail Trade Industry and Agriculture and Forestry.

It is also interesting to note that the largest number of employed Township females work in Manufacture of Durable Goods, versus the Professional Service and Wholesale and Retail Trade Industries which employ the highest number of females county-wide.

Table 11, Comparison of Occupation Groups - 1970, provides data which classifies persons by their occupation within each industry rather than by type of industry. Again, data is provided for both males and females, with percentages provided to indicate each occupation's share of total Township and County employment.

TABLE 11
COMPARISON OF OCCUPATION GROUPS - 1970
SOUTH SHENANGO TOWNSHIP

OCCUPATION	SEX		TOTAL	% OF TOTAL	% OF TOTAL CRAWFORD COUNTY
	MALE	FEMALE			
Professional & Technical	21	12	33	8.3	11.3
Management & Administrative	12	6	18	4.5	7.0
Sales	22	6	28	7.1	5.8
Clerical	17	21	38	9.6	12.7
Craftsmen/Foremen	66	6	72	18.2	17.8
Operatives	44	38	82	20.7	21.3
Transportation Operators	41	-	41	10.4	3.6
Laborers (Except Farm)	26	-	26	6.6	4.9
Farm Laborers	7	-	7	1.8	1.3
Farmers/Farm Managers	18	-	18	4.5	2.6
Services	3	30	33	8.3	10.2
Private Hsld. Workers	-	-	-	-	1.4
Not Reported*	17	-	17	-	-
TOTAL EMPLOYED	277	119	396	100.0	100.0

* Not included in Totals
SOURCE: U. S. Census, 1970

The highest number of males in the Township are employed as Craftsmen/Foremen and Operatives. Females are also most commonly employed in the Operatives category. This is in contrast to County-wide statistics which indicates males leading females in the Operative category more than two to one. Once again, however, in terms of percentages of total employment, South Shenango parallels the County fairly closely.

INCOME

Table 12, Income Distribution for Families and Unrelated Individuals - 1970, provides a summary of income ranges for families and unrelated individuals residing in the Township. As shown by the table, 7.8 percent of the Township's income receivers' earned less than \$2,000, with another twenty-four reporting incomes of \$15,000 and over. Between these two extremes, there is no significant concentration of income earners - with incomes almost evenly split above and below \$8,000. The mean income for families, as shown on the table, was \$8,589 - a figure which is approximately \$800 less than the County-wide mean income of \$9,323.

TABLE 12
 INCOME DISTRIBUTION FOR FAMILIES AND UNRELATED INDIVIDUALS - 1970
 SOUTH SHENANGO TOWNSHIP

INCOME RANGE	HOUSEHOLD STATUS		TOTAL	% OF TOTAL
	FAMILY	UNREL. INDIV.		
Less than 2,000	-	32	32	7.8
2,000 - 2,999	13	7	20	4.9
3,000 - 3,999	25	-	25	6.1
4,000 - 4,999	45	-	45	11.0
5,000 - 5,999	37	15	52	12.7
6,000 - 6,999	17	-	17	4.2
7,000 - 7,999	44	-	44	10.8
8,000 - 9,999	64	5	69	16.9
10,000 - 11,999	13	-	13	3.2
12,000 - 14,999	61	6	67	16.4
15,000 - 24,999	10	0	10	2.5
25,000 - 49,999	8	0	8	2.0
50,000 AND OVER	6	0	6	1.5
TOTAL	343	65	408	100.0
MEAN INCOME	\$9,536	\$3,580	\$8,589	

SOURCE: U. S. Census, 1970

Table 13, entitled Persons 14 Yrs. + By Income Category - 1970, provides data on income received by persons 14 years and over (rather than families and unrelated individuals) by income range and sex. The largest grouping of individuals listed on the table earn no income at all (215 persons, or 25.2 percent of the total). In addition, another 30.4 percent earn incomes less than \$2,000 - placing over 55 percent of the Township's labor force in an income category of \$2,000 or less. Of those who earn incomes higher than \$2,000, most earn between \$5,000 and \$10,000.

TABLE 13
 PERSONS 14 YRS. + BY INCOME CATEGORY - 1970
 SOUTH SHENANGO TOWNSHIP

INCOME RANGE	SEX		TOTAL	% OF TOTAL
	MALE	FEMALE		
NO INCOME	24	191	215	25.2
Less than 1,000	13	93	106	16.6
1,000 - 1,999	34	54	88	13.8
2,000 - 2,999	33	18	51	8.0
3,000 - 3,999	24	10	34	5.3
4,000 - 4,999	33	19	52	8.1
5,000 - 5,999	45	38	83	13.0
6,000 - 6,999	30	-	30	4.7
7,000 - 7,999	45	-	45	7.0
8,000 - 9,999	89	12	101	15.8
10,000 - 14,999	25	6	31	4.9
15,000 - 24,999	4	-	4	0.6
25,000 AND OVER	14	-	14	2.2
TOTAL WITH INCOME	389	250	639	100.0
PER CAPITA INCOME	\$7,243	\$2,687	\$5,460	

SOURCE: U. S. Census, 1970

FACILITIES AND SERVICES

INTRODUCTION

The analysis of facilities and services evaluates the adequacy of public investments made to enhance such things as, public safety, leisure-time activity, and living comfort. Included in this analysis are facilities and services such as roads, schools, recreation, library service, police and fire protection, and the municipal building. Also, an inventory of public and semi-public utilities is provided.

ROAD SYSTEM

The most important service provided by the Supervisors of South Shenango is the maintenance of a large segment of the existing road system within the Township. As such, the Township road network is the community's most important public investment. In addition, State roads comprise a large portion of the over-all road system available to Township residents, serving most often to distribute trips with destinations beyond South Shenango.

The Township road system encompasses approximately forty-one miles of roads. The majority of these roadways are of gravel construction or tar and chip. Snodgrass Road, adjacent to the Park, is the only Township road which has a good bituminous surface - having been recently repaved.

The State maintains a road network in the Township of approximately twenty-five miles. All State roads, in whatever condition, are of paved bituminous construction. By combining the total State and Township road systems, there are approximately sixty-one miles of publicly maintained road in South Shenango. The percentage break between Township and State roads is 59 percent and 41 percent respectively.

Drainage Structures and Bridges

All Township roads were surveyed in the Fall of 1978 by the staff of the Crawford County Planning Commission. In addition to pavement type and width (which was estimated to range from ten to sixteen feet) the survey also inventoried all drainage structures in the Township road system. Following is a summary of that data:

- Culverts (all types and sizes)	39
- Bridges	3

In addition, the survey also inventoried drainage structures and bridges on the State system. These include:

- Culverts (all types and sizes)	32
- Bridges	3

Road Classifications

The Federal Government, through staff assistance from the State Highway Department, maintains a Functional Highway Classification System for all roads in all communities throughout the State. This classification system is based upon the premise that some roads serve 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 major arterial highways serves the principal 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.

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 generally discourages traffic movement.

It is important to realize that minor collector and local roads are not eligible to receive federal funding assistance for upkeep, whereas the higher order systems can receive such funds. Minor collector and local roads must be maintained through state and local monies. The one exception to this rule is the Federal Off-Systems funding program, which does make money available for minor collector and local road improvements. Any road, however, which receives federal aid must be brought up to a minimum cartway or travel-way width of twenty feet. The Functional Highway Classification System is an important guide in planning for the level of service on roads, and thus it is an important consideration for planning for the use of land.

Table 14 provides a listing of the roads in South Shenango by functional classification.

TABLE 14
ROAD CLASSIFICATIONS
SOUTH SHENANGO TOWNSHIP

CLASSIFICATION	ROAD
Major Arterial	None
Minor Arterial	U.S. 322
Major Collector	L.R. 20138/L.R. 20003 L.R. 20005, west of L.R. 20003
Minor Collector	L.R. 20011 L.R. 20004 L.R. 20138, east of L.R. 20003
Local	All remaining State and Township roads.

SOURCE: PennDOT

Average Daily Traffic

Data indicating the average daily traffic flow (ADT) has been compiled for the State roads in South Shenango. These counts are taken by PennDOT for all roads in its system, and represent the average number of vehicles utilizing a particular road on any given day. Such counts must be updated periodically to take account of changing conditions in traffic circulation. The following table summarizes traffic volumes for State roads within South Shenango.

TABLE 15
1978 TRAFFIC VOLUMES
SOUTH SHENANGO TOWNSHIP

ROAD	1978 ADT
U. S. 322	1926 to 2379
L.R. 20003	515 to 1082
L.R. 20004	361 to 527
L.R. 20005	453 to 968
L.R. 20011	628
L.R. 20138	175 to 1020

SOURCE: PennDOT

Summary

Analyzing the existing road network for alignment problems and any other conditions pertinent to the network's "well being" cause the following observations to be made:

- The need to identify an improved north-south road to provide good access to State Park facilities. At the present time, there is no well-identified north-south roadway which can distribute visitors to the various Park facilities offered in South Shenango. Whereas, in North and West Shenango, there are roads such as East Lake Road and U. S. 322 to provide easy access to the Park's facilities, there is no continuous road within South Shenango which runs along the boundary of the State Park.
- Westford Road (L.R. 20005) Westford Road is one of the major east-west roads in South Shenango - serving the northern area of the Township more efficiently than U. S. 322. None the less, the State has maintained this roadway very poorly - making it almost impossible to travel safely at the posted speed due to its deteriorated condition.
- L.R. 20138 (from East Lake Road east to U. S. 322) This road has the potential to serve as a major access to the southeast portion of the State Park - yet its badly deteriorated condition discourages its use. Like Westford Road, the State has the responsibility for maintaining this road.

SCHOOLS

South Shenango is included within the Jamestown Area School District. This District "straddles" the Crawford County-Mercer County line and serves, in addition to South Shenango, West Shenango and Greene Townships and Jamestown Borough. Two schools are maintained by the District; the Jamestown Area Elementary (grades kindergarten through six) located on Douthett Drive at its intersection with East Lake Road in South Shenango, and the Jamestown Area High School (grades seven through twelve) located at Liberty and Shenango Streets in Jamestown.

Table 16, entitled Existing School Facilities, provides a general description of the District's two schools.

TABLE 16
EXISTING SCHOOL FACILITIES
JAMESTOWN AREA SCHOOL DISTRICT

SCHOOL	GRADES	YR. BUILT/ ADDED TO	CONDITION	ACRES	CLASSROOMS	CAPACITY	'78-'79 ENROLLMENT
Jamestown Area Elem. School	K-6	1973	Good	25	Open Classroom	525	430
Jamestown Area High School	7-12	1942, 1951, 1958	Good	15	23	475	380

SOURCE: Jamestown Area School District, 1979

Enrollment in the District has declined in recent years, decreasing from 890 students in the 1975-76 school year to the current enrollment of 810. The District Administration estimates that future enrollments will stabilize around 800 students. Of the current enrollment of 810 students, it was estimated that approximately 280 students (35 percent of the total enrollment) come from South Shenango Township. This estimate is based upon school bus service areas.

As can be seen by the Table, both the elementary and high schools have ample room to accommodate growth without compromising educational quality. With this in mind, the only improvements currently being planned are renovations to upgrade some of the classroom space in the high school. Recreation facilities available at each school are discussed in detail in the next section.

RECREATION

The residents of South Shenango are very fortunate to live in a community where such a wide variety of high quality recreation facilities and programs exist. Few people, outside those residing in the Township and other surrounding municipalities, have the ease of access to a facility as unique as Pymatuning State Park.

Also, in addition to having the State park, South Shenango residents may participate in the programs and activities sponsored by the Jamestown Area Recreation Board. This Board is made up of the municipalities of Jamestown and Green Township in Mercer County, and South and West Shenango in Crawford County. While the Recreation Board owns no property or buildings, it nonetheless utilizes many private and public facilities to conduct its numerous programs - ranging from baseball and tennis to skiing. There are also two public golf courses located in the Township which are available to residents; these are the Hartstown and Walnut Creek Golf Courses.

This section of the background information seeks to supply Township residents with a greater knowledge of the unique environment created by Pymatuning State Park and its numerous facilities. It is also the purpose here to inventory the numerous facilities utilized by the Jamestown Area Recreation Board.

Pymatuning State Park

With the dedication of Pymatuning Dam on August 17, 1934, the largest man-made lake in the State of Pennsylvania was created. As stated earlier, the "Pymatuning dream" began over a century ago, when the Pennsylvania General Assembly provided for a survey and an estimate of the cost to reclaim the Pymatuning swamp lands. Through subsequent legislation and study, it was originally determined that 22,000 acres would be required for the development of a reservoir - affecting 313 properties (260 in Pennsylvania and 53 in Ohio). Not until 1921, however, did land actually begin to be acquired, at which time approximately 1/3 of the required acreage was purchased - 72 dwellings and 88 barns were ultimately affected in the development of the reservoir. Land acquisitions were completed and ground was broken for construction of the dam in late 1931.

The completed Lake has a 70-mile shoreline and covers an area of approximately 17,000 acres. The park facilities in Pennsylvania and Ohio contain an additional 8,000 acres of land, providing a total park area of 25,000 acres.

Attendance figures for the Pennsylvania portion of the Park have quadrupled in the past 20 years - increasing from 1,050,000 visitors in 1958 to 4,107,672 in 1977. With attendance increasing, it was necessary to develop a master plan for the future development of the park in the mid-1960's. This plan outlined a rigorous acquisition program for additional park lands, as well as facilities plans for all areas of the Park. Major projects completed under the Master Plan include the Linesville Beach Complex, the Jamestown Beach and Jamestown Camping Areas, and the Tuttle Point Beach and Camping Area in North Shenango. Also, the new administration and maintenance buildings now being constructed in West Shenango were originally proposed in the 1963 Master Plan.

The Pennsylvania Department of Environmental Resources, Division of Outdoor Recreation began work on an update to the 1963 Master Plan some time ago. Higher priority of other planning projects, however, has forced the delay of its completion. It is expected that the land acquisition thrust of the 1963 plan will be reduced considerably, with an emphasis placed instead upon the rehabilitation or replacement of existing facilities and more optimum use of currently owned park land. Projects which are currently included in the Department's five-year capital budget request include the replacement of boat liveries at Linesville and Espyville, and rehabilitation of the boat livery in West Shenango. Also included is the replacement of several outdated comfort stations which are located throughout the Park.

Park facilities which are located within South Shenango include the Westford, McArthur, and Weir picnic areas, and the Snodgrass boat launch. Swimming and camping areas are available in both North and West Shenango, as are boat liveries.

Jamestown Area Recreation Board

The Jamestown Area Recreation Board was formed by Jamestown Borough Council approximately ten years ago in response to the need for organized recreational activities and programs for the Jamestown area residents. The Board decided to include in its service area those communities which are part of the Jamestown Area School District, and utilizes available facilities in all four communities. The Board has a full-time director and is very flexible in terms of its approach to recreation so that it can best serve the wants and needs of the area's residents.

Table 17 provides a detailed listing, by municipality, of the facilities utilized by the Recreation Board.

TABLE 17
RECREATION FACILITIES
JAMESTOWN AREA RECREATION BOARD

MUNICIPALITY	NAME OF FACILITY/SITE	TYPE OF FACILITIES AVAILABLE
Boro. of Jamestown	Jamestown Area High School	Gymnasium and locker room
		Weight room
		Classrooms for supervised activities
		Baseball field (utilized by the Board for soccer)
Borough Hall	Japco Recreation Area	Office of the Recreation Board of Director
		Little League Baseball Field
		Softball field Playground (swingset and sandboxes)
Borough Hall	Scipio Street Tennis Court	Tennis court (lighted)
		Meeting place for community organizations
South Shenango Twp.	Jamestown Area Elementary School	Playground (2 sliding boards, merry-go-round)
		Basketball court
		Two tennis courts
		Two baseball fields
Borough Hall	Walnut Creek Golf Course	9-hole golf course
		Pymatuning State Park
Borough Hall	Pymatuning State Park	Picnic areas, beach, boat launch
		West Shenango Twp.
West Shenango Twp.	Pymatuning State Park	Picnic areas, beaches, boat launch/livery, camping

SOURCE: Jamestown Area Recreation Board

LIBRARY

Library facilities are available to South Shenango residents through the Jamestown Area School District, and at Andover, Ohio, Greenville, and Meadville.

FIRE PROTECTION

South Shenango contributes funds to the Jamestown and Hartstown Volunteer Fire Departments. While this has been done for several years, the Township has received primary fire protection from Jamestown. This department is housed in a new fire hall, located on U. S. 322 in Jamestown Borough, and has 120 active members.

The following equipment is utilized by the Department:

- 3 - Pumper trucks (1937, 1962, 1971)
- 1 - 2600 gallon tanker (1968)
- 1 - 1500 gallon tanker (1957)
- 1 - Rescue Van (1977)

Service provided to South Shenango by this fire department is considered to be excellent. Plans to purchase new equipment include a new pumper in 1982.

POLICE PROTECTION

Insufficient tax revenue prohibits South Shenango from maintaining its own police force. At the present time, protection is provided by the Meadville Barracks of the Pennsylvania State Police. This service is understandably less than "optimum", as the State Police cannot possibly provide round-the-clock patrol for all areas of the Township.

MUNICIPAL BUILDING

South Shenango completed the construction of a new municipal building and maintenance garages this past winter. This complex, which was financed through Local Public Works Funds, is located on Collins Road near Westford and replaces the Westford Community Hall as the primary location for public meetings.

UTILITIES

- South Shenango residents receive electric service from Pennsylvania Power.
- National Fuel provides natural gas to the southern portion of the Township near Jamestown, by a line running a short distance beyond the Borough limits along U. S. 322.
- Telephone service is provided by the Westford Independent Phone Company.
- A public sewerage system has just been completed to serve the developed areas of the Township, west of the abandoned Penn Central Railroad tracks. This system also serves major developed areas in western North Shenango, and is operated by the North Shenango-South Shenango Joint Municipal Authority.

Total cost for the system was over \$13 million, financed by the Farmer's Home Administration. The system is designed to serve 12,000 people, based upon a 20-year growth factor, and extends from Tuttle Point in North Shenango south to the sewage treatment plant located just north of Jamestown.

LAND AND SOILS

INTRODUCTION

Through the survey and analysis of existing land use patterns, we have studied the "man-made environment" of South Shenango, or more accurately, man's impact on the natural landscape of the Township. In developing the future land use plan, it becomes necessary to combine this analysis of the man-made environment with an understanding of the natural environment, so that future growth can be located in areas which are capable of supporting development, and be designed so as to have the highest sensitivity for natural amenities.

PHYSIOGRAPHY

South Shenango Township is located in the southwest corner of Crawford County; the Township shares its western boundary with Pymatuning State Park (West Shenango Township, and Williamsfield and Andover Townships in Ohio), its northern boundary with North Shenango Township, its eastern boundary with West Fallowfield Township, and its southern boundary with Mercer County (Jamestown Borough and Greene Township). The Township's geometric shape is that of a square with the southwest corner cut off, and covers an area of 18,769 acres.

The topography of the Township ranges from 1,010 feet above sea level along the eastern shoreline of Pymatuning Reservoir to 1,350 feet in the southeast. The majority of the Township, however, lies at an elevation of approximately 1,200 feet above sea level, and can be characterized by gently rolling slopes. Steeper slopes of 15 percent grade or more are generally located in the southern area of the Township around Jamestown, and along the stream valleys located west of U. S. 322.

The Township is traversed by approximately thirty small streams which drain surface water off the land in every compass direction. The majority of South Shenango is drained to the west and the north into Pymatuning Reservoir. The southern area of the Township, from approximately Dumars Road south, is drained into the Shenango River; and the eastern edge of the community, from Pitts Road and L.R. 2004 to the Township line, drains east into Pymatuning Swamp and Crooked Creek.

SOIL CONDITIONS

The soil analysis for South Shenango looks at soils in terms of their suitability for certain types of uses - specifically agriculture and residential development. By analyzing the data available from the Soil Conservation Service, it is possible to identify the best agricultural areas in the Township, as well as those areas which are

best suited to supporting on-lot septic systems. The soils data also delineates those areas adjacent to Township streams which are susceptible to flooding, or stream overflow.

In general terms, the Township is primarily overlain by the Frenchtown and Venango soil associations. Both of these soils are characterized as having a high water table and slow to very slow permeability. The soils which are subject to flooding are the Holly and Philo soils; these are also characterized as having a water table at or near the surface during all or part of the year, and moderately slow permeability. The best soils in the Township are the Cambridge and Chenango soils; these are moderately well-drained to well-drained soils found primarily in the western and southern areas of the Township. Also located in small scattered locations in the Township are Alden, Carlisle, Platea, Red Hook and Sheffield soils; these are all poorly drained soils which have a water table at or near the surface all or part of the year. The following analysis provides a description of the above soils based upon their suitability for agriculture and on-lot sewage disposal, and a discussion of those areas of the Township which are susceptible to stream overflow.

Agricultural Quality

The Soil Conservation Service has classified soils according to eight "capability classifications" for agricultural use. Soil limitation becomes progressively greater as the classification numbers increase. The following is a listing of the eight soil classes, and an explanation of the limitations inherent in each.

- Class I Soils that have few limitations which restrict their use.
- Class II Soils that have some limitations which reduce the choice of plants or require moderate conservation practices.
- Class III Soils that have severe limitations which reduce the choice of plants, require special conservation practices, or both.
- Class IV Soils that have very severe limitations which restrict the choice of plants, require careful management, or both.
- Class V Soils that have little or no erosion hazard but have other limitations which are impractical to remove and limit their use largely to pasture, woodland, or wildlife food and cover.
- Class VI Soils that have severe limitations which make them generally unsuited to cultivation and limit their use largely to pasture, woodland, or wildlife food and cover.

- Class VII Soils that have very severe limitations which make them unsuited to cultivation and restrict their use largely to grazing, woodland or wildlife.
- Class VIII Soils and land forms that have limitations which prevent their use for commercial plant production and restrict their use to recreation, wildlife, water supply and aesthetic purposes.

No soils in the Township are included in the Class I category. The Cambridge, Chenango and Philo soils are considered to be Class II soils (some Chenango soils are classified as Class III, due to the slope on which the soils are located); the Frenchtown, Holly, Platea, Red Hook, Sheffield and Venango soils are Class III; Alden soils are Class IV; and Carlisle soils are muck soils, classified as Class VII.

For the purposes of the Plan, the soil classes were grouped into three major categories; good (Classes I and II), fair (Class III), and poor (Classes IV through VIII). The vast majority of soils in the Township are categorized as being fair for agricultural production, with the major limiting factors in all the soils being slow permeability and a high water table.

On-Lot Sewage Suitability

The capability of soil to properly filter sewage effluent is the most critical land constraint on development in areas where centralized sewage treatment systems do not exist. Filtering capability is based on: (1) Soil permeability, (2) depth of soil to bedrock or some other impervious layer, and (3) the slope of the land. Once again, the soils in the Township were categorized as good, fair or poor, depending upon their ability to support on-lot septic systems. The criteria for these categories is as follows:

- Good Suitability Soils in this category will normally be approved by the Township's sewage enforcement officer and the Pennsylvania Department of Environmental Resources (PennDER) for conventional disposal systems. Soils which are good for on-lot septic systems:
 - (a) are not susceptible to flooding;
 - (b) have minimum depth to impervious layer of six (6) feet;
 - (c) have a depth of four (4) feet or more to the seasonal high water table;
 - (d) are termed "well-drained" by the U. S. Soil Conservation Service;
 - (e) have percolation rates of 6 to 60 minutes; this means it takes 6 to 60 minutes for water to drop one inch in a saturated hole;

- or in reference to permeability, it means the soil has a range of between 10.0 and 1.0 (inches of water movement per hour);
- (f) are located on slopes of 15 percent or less;
 - (g) are not so stony as to make system installation impossible.

- Fair Suitability Soils in this category will not normally qualify for conventional on-lot systems, but may qualify for a modified or alternate system. To adequately function in these soils, a system would have to be more elaborate than a conventional system, generally involving higher cost. Soils grouped within this category:

- (a) are not susceptible to flooding;
- (b) have a minimum depth to the impervious layer of twenty (20) inches;
- (c) have a depth to the seasonal high water table of between twenty (20) inches and four (4) feet;
- (d) are termed 'moderately well-drained' by the U. S. Soil Conservation Service;
- (e) have percolation rates of 60 to 300 minutes and a permeability range of 1.0 to 0.2 inches per hour;
- (f) be located on slopes exceeding 25 percent;
- (g) be so stony as to make system installation impossible.

These three categories represent generalized statements about soil suitability. The mapping of these soils provides a general idea of the on-lot sewage suitability of the Township's land. This map indicates that the majority of land in South Shenango is poor for on-lot sewage systems, with most soils classified as good or fair (Cambridge and Chenango soils) being located generally within the area to be served by public sewer. It should be mentioned again that the above two soils are also classified as the best agricultural soils in the Township. Exceptions to the conditions shown on the map may be discovered when a specific parcel is examined in detail.

Flood Prone Areas

Another limiting factor on development is the susceptibility of land to flooding, or stream overflow. Lands within South Shenango which border streams and which are subject to stream overflow were identified by the Soil Conservation Service by the extent of alluvial soils bordering the Township's streams. (These are soils which are composed of sand, silt and clay deposited and left behind when a stream or river overflows.

In most instances where land is subject to stream overflow in South Shenango, the area affected is rural and often being farmed - thus, posing no current threat or constraint upon development. In some

areas, however, allotments have been plotted along or adjacent to the paths of streams with no design consideration for the course of the stream through the subdivision. Consequently, those lots over which the stream passes have been rendered partially or wholly undevelopable unless the stream is culverted. Examples where this occurs are the Pymatuning Acres and Thompson allotments. Also, the Douthett allotment is, to a large extent, located within the flood plain of the Shenango River.

GROUNDWATER RESOURCES

The analysis of groundwater resources is of interest to this background study due to the fact that there is no municipal water supply serving the residents of South Shenango Township.

The information contained in this analysis is taken from a study, entitled Geology and Hydrology of Western Crawford County (1978) by George Shiner and John Gallaher of the U. S. Geological Survey. This study shows that, in Crawford County, there are two general types of earth materials which store groundwater; glacial drift and bedrock. Following is an analysis of the characteristics of these aquifers, along with a discussion of how they relate to South Shenango.

Glacial Drift

Glacial drift includes all materials deposited because of glacial activity; this encompasses glacial till and glacial outwash. Till is a varied mixture of clay, silt, sand, gravel and boulders which were deposited directly by a glacier without any sorting by water. When the same materials have been sorted by the glacial runoff water, they are classified as outwash. In terms of aquifers, till is generally very poor, while outwash has been found to be the most productive aquifer in the area - being the only earth material in western Crawford County capable of yielding over 130 gallons per minute. Thus, with the exception of Linesville, all public water supplies in the area studied tap outwash deposits.

In South Shenango, glacial outwash underlies land located northeast and northwest of Jamestown. Thus, the only major developed area which can tap these deposits is the Douthett Allotment. With this in mind, it becomes necessary to analyze the extent and quality of bedrock aquifers.

Bedrock Aquifers

There are many different types of rocks which make up the different layers of bedrock in western Crawford County. As with glacial deposits, some of these are good aquifers, and some are not, depending upon their physical character, thickness and the amount of fracturing of the rock layers. Also, in areas where glacial

drift occurs, the thickness and permeability of the till or outwash will have an effect on underlying bedrock aquifers. Each of these factors may vary greatly over short distances. Thus it is possible for well yields to vary within small areas.

The study by Shiner identifies the Cussewago and Sharpsville sandstones as being the most productive bedrock aquifers in the western half of the County. These rock formations are characterized by many stable fractures and large pore spaces which permit easy movement of water. Of these two aquifers, the Cussewago sandstone is the more productive.

By mapping these two aquifers, it is found that the Cussewago sandstone is located throughout the Township at depths varying from five feet below ground surface in the vicinity of the Grandview allotment, (northwest) to depths of over three hundred feet in the Gaylord Road area (southeast). The Sharpsville sandstone is located in the central and southeastern areas of the Township, and generally lies at a depth fifty feet above the Cussewago.

Although these facts give the impression that there is ample and accessible groundwater throughout the Township, there are several facts which must be kept in mind. First of all, these rocks vary a great deal in physical character and may not yield water easily in all areas. Secondly, the expense of drilling a well increases with depth and, especially in the central part of the Township where the Cussewago is over two hundred feet below the surface, drilling into the aquifer may not be economically feasible. In addition, it makes a difference as to what type of glacial drift overlays these bedrock aquifer. Most of the Township is overlain by glacial till which is, as mentioned previously, a poor aquifer. Therefore, the water yielding capabilities of the bedrock aquifers are likely to be diminished by this less permeable upper layer. However, in the southwestern portion of the Township, where outwash overlays the bedrock, yields are likely to be even better than expected.

Thus, the bedrock and glacial geology of South Shenango Township indicates good opportunities for groundwater use in most of the Township and excellent opportunities in the southwestern part.

An inventory of some of the wells in the Township, indicating depth and yield, reinforces the geologic data discussed above. The area with both aquifers overlain by outwash has generally high yields. The northwestern area also is very productive since Cussewago sandstone is very close to the surface. However, in the central and eastern parts of the Township there are very few high yield wells. This may seem strange since both the Sharpsville and Cussewago layers are present. However, the depths of these wells reveal that only one is deep enough to tap the Cussewago and this is also the only one with a substantial yield.

Summary

Near the shore, especially in the southern portion of the Township, water is plentiful at relatively shallow depths. In the central and western sections the water is available but at a greater depth, and, thus, at a greater expense. However, as the Township develops it is likely that higher demand will make these deep aquifers economically accessible. If and when this occurs all present information indicates that the water will be there. Based on the geology of the Township, it appears that groundwater resources in the Township will be sufficient to handle substantial growth.

REGIONAL CONTEXT

INTRODUCTION

South Shenango Township is part of a much larger social, economic and political community. Although its governing body, the Board of Township Supervisors, has the power to do many things, the Township depends on the county, state and federal governments to provide many needed services. In addition to this it is often necessary to cooperate with adjacent townships and boroughs on many issues. No municipality is an "island". This section is devoted to a discussion of some pertinent issues in connection with the Township's regional context.

NORTHWEST PENNSYLVANIA FUTURES COMMITTEE

In March of 1977 the state government, aware that the U. S. Steel Corporation was expecting to construct a large steel making complex on Lake Erie at the Pennsylvania-Ohio boundary line, organized the Northwest Pennsylvania Futures Committee (NWPF). The leadership at the state level in organizing this Committee came from the Department of Community Affairs and the Governor's Office. The original voting membership included seven persons from the state each representing interested and involved departments of state government and seven so called local members; three persons appointed by the Crawford County Commissioners, three persons appointed by the Erie County Executive, and one person from Northwest Pennsylvania Regional Planning and Development Commission. Also invited to serve as non-voting members of the Committee were officials from Ohio and U. S. Steel.

The purpose of the Futures Committee, as it is called, is to insure coordination of county and municipal planning in the impact area of the proposed mill, to provide staff to handle issues of a regional concern, to provide a forum for the exchange of information and to develop an organization that could assist the local municipalities and the counties in competing favorably for State and federal grants.

Currently, the Futures Committee has a staff of three persons. The voting membership of the Committee has been changed, but it is still pursuing its same objectives. The Committee has met once a month for almost two years and has provided a forum for the exchange of ideas in connection with the planning for impacts expected from this large complex. It was through aid from the Futures Committee that planning funds were provided to the Crawford County Planning Commission to undertake municipal planning in western Crawford County. To date, the Futures Committee has not seen fit to develop a regional plan for settlements relative to the impact population. This task will probably not be done because it is the feeling of most people involved with the Committee that each municipality itself along with each of the two counties should do its own planning and cooperate among themselves in terms of the regional context. The Committee, however, is doing a detailed projection of where the impact population is most likely to settle and it may eventually make comments on individual municipal community plans relative to settlement trends set in motion by the advent of the steel plant.

The Crawford County Planning Commission staff expects to use the impact population and population distribution forecasts that have been developed by the Futures Committee staff. These forecasts were discussed in the Population section of this report. Staff of the Futures Committee is developing a series of technical reports on various tools municipalities can use to manage and control growth. These reports are available from the Committee office in the Springfield Township Supervisor's building in Erie County.

CRAWFORD COUNTY COMPREHENSIVE PLAN

The Crawford County Comprehensive Plan is a general guide for development throughout its fifty-one municipalities. Individual boroughs and townships doing their own plans should be aware of its proposals, but they are free to depart from them if they think such course is in their best interest. The County Land Use Plan indicates that most of South Shenango Township should be maintained in rural/agricultural use. Residential uses are encouraged to locate in the western portion of the Township - generally adjacent to Pymatuning State Park, and extending slightly east of L.R. 20003 (East Lake Road).

The County Plan, however, is currently being considered for revision so that it is consistent with the more detailed planning now being done in western Crawford County to prepare for U. S. Steel impacts. In addition to updating the land use plan so that it is consistent with the recommendations of this and other more current reports, the County Plan also places a major emphasis on coordinating road maintenance policy across municipal, county and state lines to aid in achieving the objectives of the land use plan. As such, roads management is seen as an integral part of growth and land use management in the County. The detailed recommendations for future land use and road maintenance within South Shenango, as discussed in the plan section of this report, will be incorporated into the County Plan.

RELATIONSHIPS TO ADJACENT MUNICIPALITIES

As shown on the Location Map in the introduction to this report, South Shenango shares its boundaries with seven separate municipalities. Three of these communities - West and North Shenango and West Fallowfield - are also in Crawford County. Greene Township and Jamestown Borough, located to the south, are in Mercer County; and Williamsfield and Andover Townships are located to the west in Ohio.

With the exception of Jamestown Borough, all of the municipalities surrounding South Shenango are primarily agricultural/rural in character - particularly along the Township's northern and eastern boundaries. West Shenango, to the west, is actually separated from South Shenango by Pymatuning Reservoir and is characterized by a similar type of seasonal housing (as is found in South Shenango) adjacent to the State Park, with agriculture predominating in the majority of the Township to the west. Williamsfield and Andover Townships are also separated from South Shenango by Pymatuning Reservoir.

At the present time, North and West Shenango Townships are also completing work on their first comprehensive planning programs, and will focus next year on reviewing and adding to their development control ordinances. The Borough of Jamestown is just beginning a comprehensive planning study with staff assistance provided by the Mercer County Planning Department; this also represents the Borough's first planning effort.

FISCAL ANALYSIS

INTRODUCTION

Rational and workable future spending proposals must be directly related to South Shenango Township's basic financial position, established obligations, and the anticipated growth of the Township's tax base. The following analysis considers South Shenango's current and past financial condition and provides a general projection of future revenues. By comparing this analysis with the needs identified in the land use and facilities plans, a better understanding of the Township's ability to implement certain projects can be gained.

REVENUE AND EXPENDITURE TRENDS

Table 18, entitled Revenue, Expenditures and Assessed Valuation Trends, summarizes South Shenango's receipts, expenditures and increases in assessed valuation over the past five years.

TABLE 18
REVENUE, EXPENDITURES AND ASSESSED VALUATION TRENDS
SOUTH SHENANGO TOWNSHIP

	1973	1974	1975	1976	1977
REVENUES					
Previous Year's Balance ¹					
Taxes	\$ 15,304	\$ 18,995	\$ 10,726	\$ 39,778	\$ 44,287
Other Revenue	34,576	31,792	40,384	73,956	58,877
Non-Revenue Receipts	38,885	50,330	42,502	45,137	49,164
	-	201	30,000	2,306	1,780
TOTAL REVENUE	\$ 88,765	\$101,318	\$123,612	\$161,177	\$154,108
EXPENDITURES					
General Government	\$ 7,799	\$ 9,371	\$ 9,330	\$ 25,960	\$ 18,672
Protection to Persons and Property	2,632	1,274	69	1,661	1,941
Health and Sanitation	1,795	3,890	5,539	1,642	1,950
Highways	47,099	68,748	31,654	73,170	68,664
Miscellaneous	4,445	6,812	11,294	7,337	9,957
Non-Governmental	-	496	25,948	7,120	10,588
TOTAL EXPENDITURES	\$ 63,770	\$ 90,591	\$ 83,834	\$116,890	\$111,772
BALANCE¹	\$ 24,995	\$ 10,726	\$ 39,778	44,287	42,336
ASSESSED VALUATION²	\$2,512,000	\$2,693,500	\$2,832,250	\$2,909,800	\$3,007,608
TAXES					
Real Estate	6 Mills	6 Mills	10 Mills	10 Mills	10 Mills
Earned Income	$\frac{1}{2}\%$	$\frac{1}{2}\%$	$\frac{1}{2}\%$	$\frac{1}{2}\%$	$\frac{1}{2}\%$
Real Estate Transfer	1%	1%	1%	1%	1%

¹ Includes Securities and investments held.

² Assessed valuation is computed at 30% of replacement value using 1971 dollars.

NOTE: Figures may not add due to rounding

SOURCE: South Shenango Township Records

In each of the five years represented in the Table, the major sources of Township revenue were taxes (real estate, earned income and real estate transfer), and what is termed "other revenue" (grants received, such as State Liquid Fuels and Federal Revenue Sharing Funds). Averaged over the total five-year period, income from taxes and "other revenue" accounted for thirty-eight percent and thirty-six percent of total receipts respectively. The cash balance, together with securities and investments held by the Township accounted for twenty-one percent of South Shenango's income over the five year period. Non-revenue receipts (income received, for example, from the sale of Township property, equipment or supplies) accounted for five percent of total receipts between 1973 and 1977.

Table 19 provides a detailed breakdown of the Township tax structure, as well as other tax obligations - both County and School District - imposed on the Township's taxpayers. The current Township real estate millage of ten mills is twelve mills below the statutory millage established by Pennsylvania tax enabling legislation.

TABLE 19
1978 TAX STRUCTURE
SOUTH SHENANGO TOWNSHIP

<u>TOWNSHIP TAXES</u>		<u>RATE</u>
Real Estate		10 Mills
Earned Income		$\frac{1}{2}$ percent
Real Estate Transfer		1 percent
<u>OTHER TAXES</u>		
Crawford County		
Real Estate		13 Mills
Per Capita		\$5
Jamestown Area School District		
Real Estate		97 Mills
Per Capita		\$10
Earned Income		$\frac{1}{2}$ percent

SOURCE: South Shenango Township and
Crawford County Records.

The Township's expenditure patterns closely parallel the major responsibilities of the governing body. As indicated by Table 18, highway expenditures constitute the most significant element of overall Township expenditures during the five-year period (accounting for sixty-two percent of all expenditures between 1973 and 1977). It is expected that the expenditure demands of road maintenance will continue to make up a significant component of total expenditures.

The "pie charts" which appear on the following page graphically illustrate the data which is provided in Table 18. These charts provide an easy method for understanding the relative significance of one type of revenue or expenditure to another.

ASSESSED VALUATION TRENDS

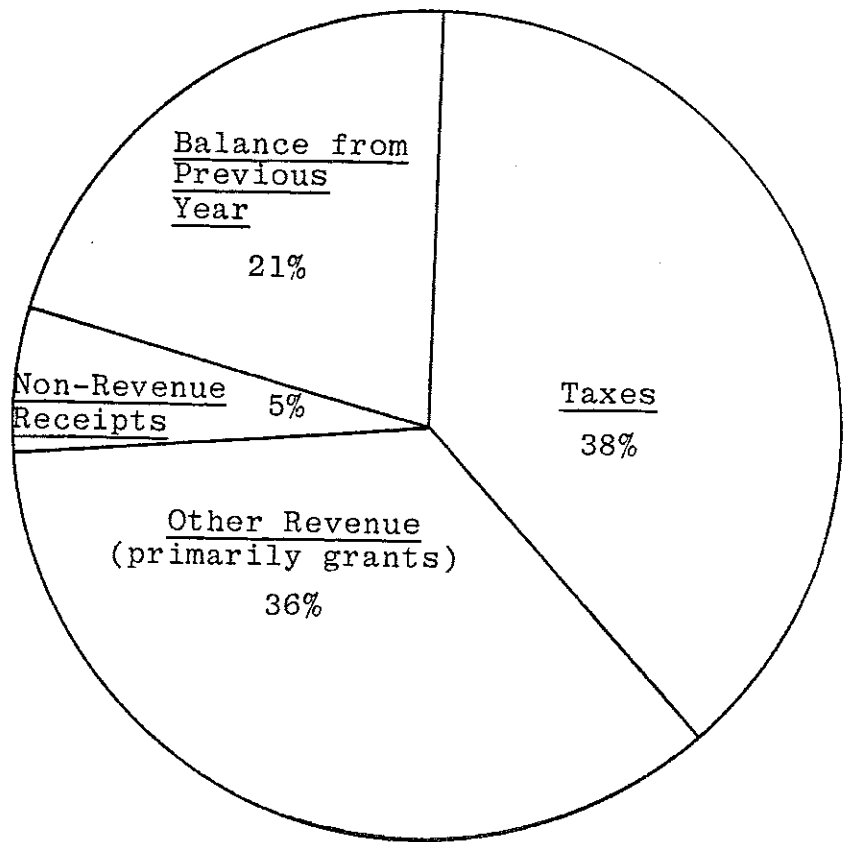
As mentioned, Table 18 also lists the assessed valuation for the Township between 1973 and 1977. During this time, the assessed valuation of the Township has increased approximately twenty percent - from \$2,512,000 in 1973 to \$3,007,608 in 1977. The highest single increase during the five years occurred in 1974, when the Township's assessed value increased 7.2 percent.

BORROWING CAPACITY

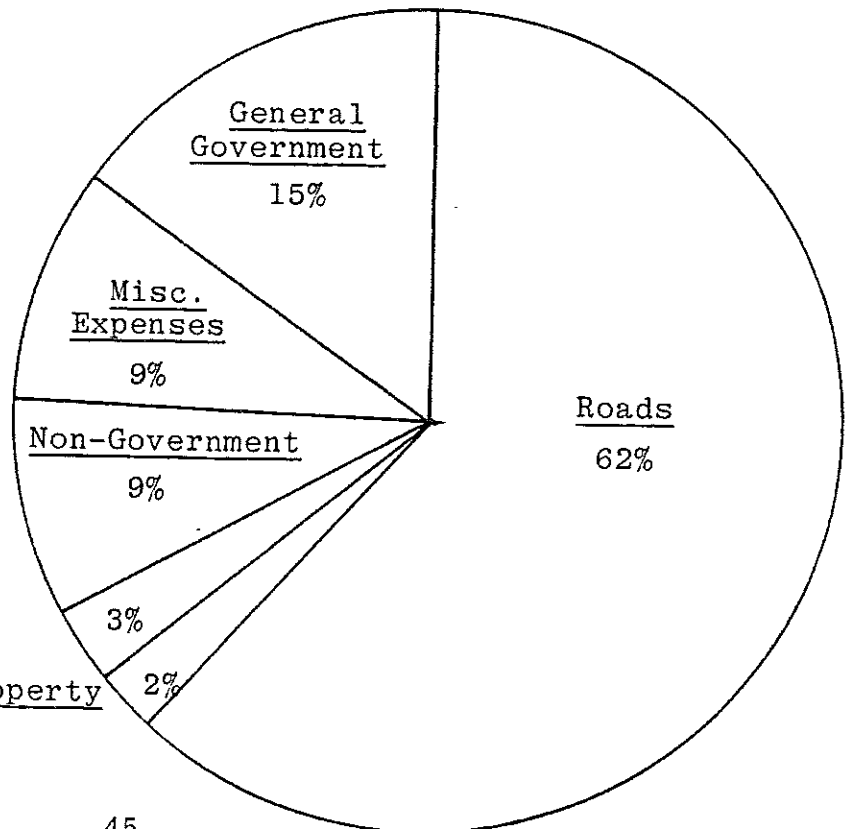
The Local Government Unit Debt Act of 1972 changed the bases for non-electoral debt limits, from a percentage of assessed valuation to a percentage of total revenue. The new non-electoral limit is calculated by determining the total annual revenue received by the Township, excluding:

FIGURE 4
 AVERAGE REVENUES AND EXPENDITURES, 1973-1977
 SOUTH SHENANGO TOWNSHIP

REVENUE RESOURCES
 Percent Average 1973-77



EXPENDITURES
 Percent Average 1973-77



Health & Sanitation

Protection to Persons & Property

- Subsidies or reimbursements from the United States Government or from the Commonwealth of Pennsylvania measured by the cost of, or given or paid on account of, a particular project financed by debt.
- Revenues, rates, receipts, user charges, special assessments and special levies which are or will be pledged or budgeted for specific self liquidating debt, but such portion thereof as may be returned to the local government unit by the pledges for any general operating purpose shall not be excluded.
- Interest on monies in sinking funds, reserves, and other funds pledged or budgeted for the payment or security of outstanding debt, and interest on bond or note proceeds.
- Grants and gifts-in-aid of or measured by the construction or acquisition of specified projects.
- Proceeds from the disposition of capital assets, and other non-recurring items including bond or note proceeds not considered income under generally accepted municipal accounting principles.

Two additional factors need to be mentioned. First of all, the debt limit refers only to debt not approved by the electorate. The law places no restrictions on debts approved by referendum. The second point is that the Basic Debt Limit can be raised if indebtedness is incurred for specific eligible projects. An additional one hundred percent of the borrowing base may be utilized to finance the cost of capital facilities for projects related to public health services, pollution control, sewage and refuse collections, and public transportation - providing the County has not assumed responsibility for the function.

The "borrowing base", upon which the debt limit is established, is an average of the three previous year's eligible revenue totals. The debt limit for South Shenango Township is indicated in Table 20, as well as the steps used to determine the total.

TABLE 20
1978 BASIC NON-ELECTORAL DEBT LIMIT
SOUTH SHENANGO TOWNSHIP

	1975	1976	1977
Borrowing Base (Total Eligible Revenue)	\$ 82,879	\$119,092	\$108,042
Three Year Average =	\$103,338		
Basic Debt Limit = 3 year average x 250% =	\$258,345		

SOURCE: South Shenango Township Records

OPPORTUNITIES AND PROBLEMS

In addition to the inventory and analysis of the various man-made and natural systems contained in this report, it is also necessary to take a look at opportunities which enhance living conditions within the community (or have the potential for doing so), as well as problems which may serve to detract from the area's desirability, amenity or safety. The identification of these community opportunities and problems has been accomplished through various observations made during field surveys, analyses of data contained herein, and meetings with the Planning Commission. It is the purpose of the Land Use and Facilities Plans to take advantage of and strengthen the opportunities identified, and prescribe methods for resolving community problems.

Following is a list of statements which are meant to describe opportunities and problems identified in South Shenango Township. This list, however, is not intended to be complete and should be changed and added to as conditions warrant.

- OPPORTUNITY: The resort-recreational aspects of Pymatuning State Park.
- OPPORTUNITY: The Township's new public sewerage system provides increased potential for growth in the area between the State Park and the abandoned Penn Central rail right-of-way.
- OPPORTUNITY: The majority of South Shenango is characterized as being rural, with an interesting and attractive landscape.
- OPPORTUNITY: The abandoned Penn Central rail right-of-way, which runs from Jamestown to Linesville, provides a unique potential for recreational development.
- OPPORTUNITY: The Township contains a significant amount of land which, if properly drained, could become valuable cropland.
- OPPORTUNITY: An excellent inter-municipal recreation program is available to Township residents of all ages.
- OPPORTUNITY/
PROBLEM Potential impacts of U. S. Steel proposal to construct a steel-making complex along the Lake Erie shoreline near Conneaut, Ohio.
- PROBLEM: Lack of maintenance of many seasonal homes has resulted in a blighting influence on the surrounding community.
- PROBLEM: In some instances, the inappropriate location and careless installation of mobile homes has served to detract from the attractiveness of the Township, and reduce surrounding property values.

- PROBLEM: The plotting of large allotments in the past, with no coordinated development plan or control, has resulted in large areas of undeveloped subdivided land and the irreversible conversion of farm land to non-agricultural use.
- PROBLEM: The holding of large amounts of land by out-of-town owners for recreational, retirement, or speculative purposes.
- PROBLEM: Roads within most allotments are not maintained by the Supervisors, are too narrow and are in very poor condition.
- PROBLEM: The Township lacks a sufficient tax base to provide such services as police and fire protection or new programs involving heavy capital outlays for staff or "hardware" items.
- PROBLEM: Most of the Township's soil is unsuitable for the construction of normal on-lot sewage systems and, as such, poses an important constraint on development of land outside the area to be served by public sewer.
- PROBLEM: The development of Pymatuning Reservoir has served to cut off many previously "through routed", thus making traffic circulation confusing in the western portion of the Township - particularly in a north-south direction.

THE PLAN

LAND USE PLAN

INTRODUCTION

The Land Use Plan prepared for South Shenango has been created to reflect the long-range development policies of the Township. These policies provide the basis for the implementation of the Plan by identifying basic principles related to the planned and coordinated growth of the Township the preservation of environmentally sensitive areas; and the establishment of controls to protect and enhance the unique and desirable character of the community for future residents. Thus, the Land Use Plan for South Shenango represents a series of goals which encourage the optimum use of buildable land, as well as the protection of those lands within the Township which are either subject to building hazard or which possess unique, aesthetic or agricultural value.

The major purpose of this Land Use Plan is that it serve as an effective guide to the Township Supervisors and Planning Commission, not only in attempting to influence the location of new development, but also in holding down the costs of providing municipal services through land use regulation. In addition, the Plan has sought a close relationship between the use of land within the Township and the land use policy of surrounding communities - working to achieve an efficient and mutually acceptable pattern of land use throughout the region.

The following discussions present the growth and development policies established by South Shenango to govern land development and conservation. These policies are born out of lengthy discussions as to how the Township should manage its land to achieve its objectives for controlling growth; the primary objective being to preserve the rural/agricultural character of the Township, while encouraging new residential and commercial development. In some instances, programs and/or projects have been identified which prescribe specific means for extending policy into action. Where appropriate, these programs/projects are described in conjunction with the policies they seek to achieve. A summary is provided at the end of the discussion of policies which details the specific recommendations of the Plan, as illustrated on the "Land Use Plan" map. (See the cover jacket of this report).

LAND USE POLICIES

The land use policies form the basis for developing the Land Use Plan and, as such, establish the principles upon which future development proposals should be reviewed. In addition, these policies seek to achieve the Township's objective of encouraging growth which is

"structured" in terms of its location and its relationship to existing development and natural features. The policies established to guide land use decisions in South Shenango are as follows:

Future development shall be encouraged to locate in the appropriate use areas as delineated by the South Shenango Land Use Plan. This plan designates areas for agriculture, rural and concentrated residential development, commercial development, conservation, and State Park.

The Land Use Plan for South Shenango delineates specific areas of the Township for certain uses, based upon detailed analyses of existing uses, land and facility constraints, and future needs. As such, the Plan seeks to eliminate land use conflicts by grouping uses according to their activity or function. The Planning Commission and Township Supervisors shall, to the greatest extent possible, encourage new development to locate in the appropriate areas, as recommended by the Plan. Following are several more specific policy statements which address different use areas.

Agricultural uses shall be encouraged in areas where productive agriculture exists.

The land use survey conducted in the Fall of 1978 indicated that there were one hundred-six "farm complexes" located in South Shenango. These represent active "full time" and "part time" farms, as well as farms which are no longer utilized at all. The largest concentration of active farms is located north of Westford road, and extends into North Shenango. This area, in particular, is encouraged to remain in agricultural production and, as such, the Township should manage its road system and all other facility improvements so as to discourage new non-farm related growth in this area.

In addition, however, the Township Planning Commission sees the need to promote and preserve all existing active farming operations - no matter where they are located within the Township. As such, the "Land Use Plan" map classifies all active farms located outside the area served by public sewer as being promoted for agriculture exclusively - with the surrounding area being reserved for low density residential uses and agriculture (uses which would not threaten productive agricultural activity).

Future large scale subdivision of land for residential purposes shall be encouraged to locate in areas designated for concentrated residential development.

The Land Use Plan designates areas for concentrated residential development, based upon the ability to be served by public sewer (as well as the likelihood of being extended service where not currently available), proximity to fire protection and improved

"structured" in terms of its location and its relationship to existing development and natural features. The policies established to guide land use decisions in South Shenango are as follows:

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The Land Use Plan for South Shenango delineates specific areas of the Township for certain uses, based upon detailed analyses of existing uses, land and facility constraints, and future needs. As such, the Plan seeks to eliminate land use conflicts by grouping uses according to their activity or function. The Planning Commission and Township Supervisors shall, to the greatest extent possible, encourage new development to locate in the appropriate areas, as recommended by the Plan. Following are several more specific policy statements which address different use areas.

Non-farm land uses shall be discouraged in areas where productive agriculture exists.

The land use survey conducted in the Fall of 1978 indicated that there were one hundred-six "farm complexes" located in South Shenango. These represent active "full time" and "part time" farms, as well as farms which are no longer utilized at all. The largest concentration of active farms is located north of Westford road, and extends into North Shenango. This area, in particular, is encouraged to remain in agricultural production and, as such, the Township should manage its road system and all other facility improvements so as to discourage new non-farm related growth in this area.

In addition, however, the Township Planning Commission sees the need to promote and preserve all existing active farming operations - no matter where they are located within the Township. As such, the "Land Use Plan" map classifies all active farms located outside the area served by public sewer as being promoted for agriculture exclusively - with the surrounding area being reserved for low density residential uses and agriculture (uses which would not threaten productive agricultural activity).

Future large scale subdivision of land for residential purposes shall be encouraged to locate in areas designated for concentrated residential development.

The Land Use Plan designates areas for concentrated residential development, based upon the ability to be served by public sewer (as well as the likelihood of being extended service where not currently available), proximity to fire protection and improved

roads, proximity to active farming operations, and development patterns within the Township and in surrounding communities. The subdivision of land for large-scale residential development should be encouraged in these areas so as to maintain a concentrated service area for public services and utilities and protect the Township's rural areas from development.

Land which have no concentration of active farm operations, and where the potential for concentrated development does not exist, shall be encouraged to develop for low density uses in keeping with constraints on development implicit in the land itself.

Much of the land in South Shenango is no longer actively used for farming - yet it is located either amidst active farms or away from the area served by public sewer. Considering the poor soils which are located throughout the Township, in terms of their suitability for on-lot septic systems, it is recommended that these areas be encouraged to develop for low density residential uses on lots which can safely support on-lot sewage disposal (two to ten acres or larger). It is also recommended that these areas be encouraged for the expansion of existing active farming operations - as well as for new agricultural activity.

Pymatuning State Park is recognized as a critical environmental resource to the Township, region and state. As such, the Planning Commission and Supervisors shall discourage new development which would have a negative impact upon the park and its facilities.

Because South Shenango contains a portion of Pymatuning State Park, the Township has a certain "responsibility" to accommodate seasonal residential and commercial uses. In accommodating such uses, however, the Planning Commission and Supervisors have a negative view towards developments which would serve to degrade the State Park's and, consequently, the Township's scenic resources.

It is important to note that the natural beauty of the Township is a very important factor in maintaining a successful tourist industry. As such, future development will be strongly urged to blend into the natural setting, rather than impose itself upon it.

Land subject to the hazards of flooding shall be managed by the Township under the guidelines established by state and federal regulations in order to curtail new development in these hazard areas.

South Shenango Township shall regulate its flood prone areas in accordance with the State of Pennsylvania's new Flood Plain Management Act (Act 166 of 1978) which requires full participation in the National Flood Insurance Program. Areas within the Township which are subject to flooding are delineated on the Land Use Plan map, and are designated for conservation.

Commercial and light industrial uses shall be encouraged to locate in the Township, contingent upon careful review to insure compliance with high design standards.

South Shenango Township encourages commercial and light industrial uses to locate and expand within the community, and shall regulate such uses more on the basis of their site design than their proposed location. Until such time as the Township adopts its own subdivision regulations, the County Planning Commission shall review proposals to insure that they take measures to minimize traffic conflict, provide adequate parking, and provide landscape and other buffers so as to eliminate adverse impacts on existing uses in the surrounding area.

The Land Use Plan also recommends that concentrated commercial development be encouraged to locate in Westford. This Village is served by the public sewerage system, is well located with respect to the developed areas of the Township, and is the location of several existing commercial uses.

Subdivision regulations shall be enforced in South Shenango Township so as to provide for responsible regulation of land surveying and mapping, and to insure environmentally sensitive development.

Until such time as South Shenango adopts its own subdivision ordinance, the County Planning Commission shall administer subdivision regulations in the Township with review and comment from the Township Planning Commission and Supervisors. Even upon the adoption of its own ordinance, however, the Township shall continue to rely upon the technical staff assistance of the County Planning Commission in reviewing subdivision proposals, as this assistance is recognized as being invaluable to the Township Planning Commission in making responsible decisions.

PROGRAM: The South Shenango Planning Commission shall undertake the development of a subdivision and land development ordinance for the Township and shall, upon its completion, recommend that it be adopted by the Township Supervisors.

The Planning Commission recognizes the need for the Township to adopt its own subdivision and land development ordinance which will insure, among other things, that newly formed lots under ten acres are correctly dimensioned, marked on the land and publically recorded; that new land subdivision is sensitive to existing natural features of the land; and that new roads are built by the developer according to Township standards.

PROGRAM: The South Shenango Planning Commission shall undertake a comprehensive review of all existing development control ordinances to evaluate their effectiveness and consistency. Based upon this review, the Planning Commission shall forward revised and/or totally new ordinances to the Township Supervisors for their review and adoption.

The Planning Commission recognizes the need to review the Township's existing ordinances affecting the quality of new development - as one of the first steps after completing this Comprehensive Plan. Based upon this review, the Planning Commission shall recommend changes and/or additions to existing ordinances - as well as be in a position to recommend the adoption of additional controls to aid in achieving the objectives of the Land Use Plan.

SUMMARY

As stated earlier, the Land Use Plan serves as a guide to local officials in helping them influence development so as to best benefit the community. The "Land Use Plan" map illustrates how the policies discussed above relate specifically to the land in South Shenango. Generally, this map recommends that concentrated residential development be encouraged to locate in the area which is feasible to be served by the public sewerage system; that is, primarily west of the abandoned Penn Central right-of-way. The vast remainder of the Township, lying east of the Penn Central right-of-way, is encouraged for agriculture and rural development (single family homes on large lots).

In terms of Pymatuning State Park, this plan recommends that the State acquire the narrow piece of land which lies between Pymatuning Reservoir and East Lake Road - in the general vicinity of the intersection with L.R. 20138. Along this small portion of the Reservoir, the State's land holdings have been lost due to erosion. The purchase of this strip of land to restore the State's "control" over the shoreline, however, does not diminish the need for a more permanent solution to the erosion problem in this area.

FACILITIES PLAN

INTRODUCTION

The Facilities Plan for South Shenango Township has been developed as an extension of the Land Use Plan, in that it identifies additional - and in some instances, more 'tangible' - methods for achieving land use policy. The policies and programs which are presented in this discussion focus specifically on what public officials in South Shenango can do, in terms of public investment, to influence the location of new development in the Township. A major emphasis in the Facilities Plan is placed upon road management; i.e., maintaining the Township road system so as to promote or discourage growth in specific areas of the Township. It must be mentioned, however, that all of the policies and programs discussed in both the Land Use and Facilities Plans are interrelated - working collectively to achieve the Township's objectives for controlling growth.

ROAD MANAGEMENT

The objective of road management in South Shenango is to maintain a safe, efficient and attractive road system which is functionally consistent with the recommendations of the Land Use Plan. The following policies establish a basis for accomplishing this objective.

The Federal Functional Classification System shall be accepted as the appropriate system for the classification of roads in the Township.

The Federal Functional Classification System, as discussed in the background information on roads, establishes a hierarchy for classifying roads throughout the nation according to their function. The Crawford County Planning Commission has further refined the Federal 'Local' classification to differentiate between roads designated as local by the Federal System which provide continuity and actually serve a collector function, and those roads which serve no other function than to provide access to abutting properties. This refinement is necessary because the majority of road mileage in Crawford County falls within the Local classification and, as such, is undifferentiated on the basis of more specific functional criteria. As such, South Shenango endorses the use of the Federal system, as refined by the County Planning Commission, for the purpose of classifying roads in the Township.

The travel way width, surface treatment and degree of maintenance of all Township roads shall be based upon their functional classification category. Where appropriate, the Township shall recommend changes in the functional classification of certain roads so as to insure compatibility with the objectives of the Land Use Plan.

The road recommendations for South Shenango designate the desired functional classifications for roads within the Township - indicating which roads should be encouraged for light, moderate, or heavy use through road maintenance policy. The functional classifications recommended may, in some instances, differ from the official classification as now established. These changes are made so as to recommend that certain roads receive improved maintenance, while others, perhaps, should receive less. The primary purpose of these recommendations is to establish a road management program which works toward achieving the objectives of the Land Use Plan. For example, Township roads which traverse areas of the community that are primarily in active agricultural use should be maintained at minimum standards designed to sustain a good quality road bed and minimize dust; the intent being to discourage, through the Township's primary form of capital investment, the encroachment of development into agricultural areas. In contrast, Township roads which provide access to, and collect traffic from, subdivided areas of the community - as well as Township roads within the allotments themselves - should be maintained to higher standards intended to encourage concentrated growth in these specified areas.

This policy, however, must be tempered by the Township's financial capacity to upgrade roads. For example, at the present time, the Township maintains roads in the Colonial Estates #2, Douthett and Little Fawn Acres allotments - all of which are maintained as gravel roads and are expected to remain so until such time as development increases and makes it economically feasible to pave them.

As a basis for relating road maintenance to functional classification, the following table recommends standards to govern travel-way widths and surface treatment based upon the function of different roads.

TABLE 21
ROAD MAINTENANCE CRITERIA
SOUTH SHENANGO TOWNSHIP

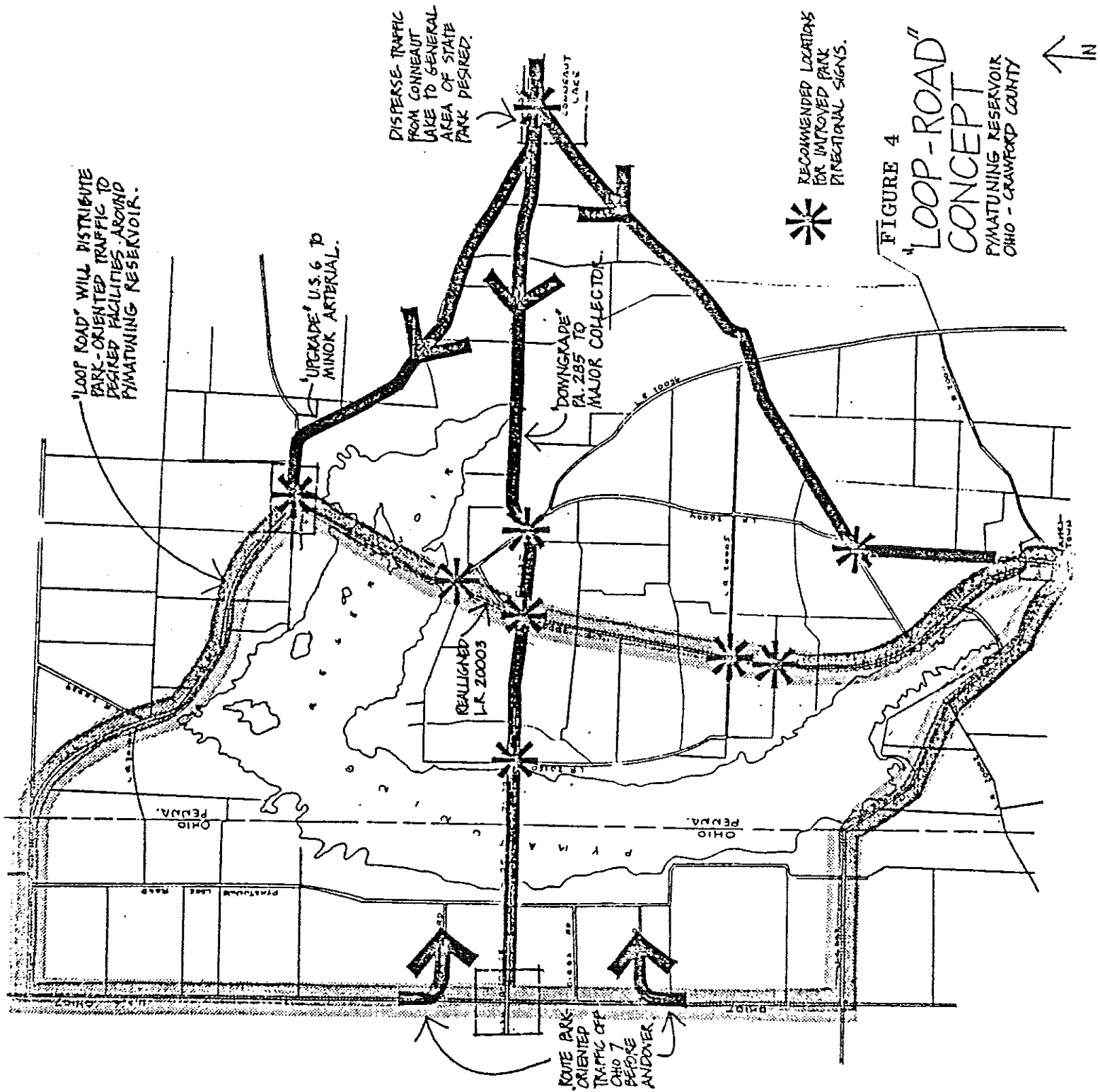
FUNCTIONAL CLASSIFICATION	TRAVEL-WAY WIDTH	SURFACE TREATMENT
Minor Arterial	22-24 feet	Paved
Major Collector	22-24 feet	Paved
Minor Collector	20 feet	Paved
Collector	20 feet	Gravel/Paved ¹
Local Access	18 feet	Gravel/Paved ¹

¹ NOTE: Dependent on present surfacing and location within the Township.

PROJECTS: The following summarizes the road recommendations for South Shenango Township - specifically related to changes in functional classification and/or needed road improvements.

- L.R. 20005 (Westford Road) The Facilities Plan recommends that this road, from its intersection with L.R. 20003 east, be upgraded from its present classification of "Local" ("Collector" under the revised Crawford County system) to "Minor Collector". Westford Road extends from the State Park east to Hartstown in a "straight line" - serving as a major east-west route for the northern half of the Township. Despite the importance of this road to the Township and the State Park, it has been allowed to deteriorate to the point of being hazardous at posted speeds - having not been substantially improved since 1958. With this in mind, the Township urges the State to upgrade this road to a safe standard and "strengthen" its use through improved signing as a major access to Pymatuning State Park.
- L.R. 20138 (from East Lake Road east to U.S. 322) This portion of L.R. 20138 is classified as "Minor Collector" and has the potential for serving as a major access to the facilities located at the southern end of the State Park - relieving traffic from having to pass through Jamestown to get to the Park's facilities in West Shenango Township. Like Westford Road, however, this road has not been improved in quite a number of years and is very badly deteriorated. Thus, it is recommended that PennDOT also improve this road and encourage its use as a major access to Pymatuning.
- L.R. 20003 (East Lake Road) The Facilities Plan recommends that this Road be upgraded from its present classification of "Major Collector" to "Minor Arterial". In addition, the Plan recommends an evaluation and strengthening of the regional road network which provides access to Pymatuning State Park - a network which includes L.R. 20003 in South Shenango. The Plan proposes the identification of a "loop road" around Pymatuning Reservoir, consisting primarily of Rt. 7 in Ohio, U.S. 6 in both Ohio and Pennsylvania, L.R. 20006 across the Spillway, L.R. 20003/20138 in North and South Shenango Townships, and U. S. 322 in Jamestown, West Shenango and Ohio. This "loop road" would serve to distribute Park-oriented traffic directly to the Facilities offered at different areas of the Park - a task which is not well provided for at present.

The map on the following page provides an illustration of this idea, which primarily utilizes existing roadways and improved signing at key intersections. The only major road improvement recommended for this loop is a realignment of L.R. 20003, north of Pa. 285, so that it connects with L.R. 20006 at the southern end of the Spillway (see the map). This would provide one continuous road from Linesville to Jamestown. Also, as mentioned, improved signing is needed



"LOOP ROAD" WILL DISTRIBUTE PARK-ORIENTED TRAFFIC TO DESIRED FACILITIES AROUND PYMATUNING RESERVOIR.

ROUTE PARK ORIENTED TRAFFIC OFF OHIO 7 BEFORE ANDOVER

to more efficiently direct visitors to Park facilities - not only on the Park's periphery, but also on a regional scale. As such, this Plan also recommends the identification of a regional "feeder" road network for Park-oriented traffic - the goal of which is to direct people to the general area of the Park which interests them. The, utilizing the loop road, direct them to specific facilities available within the area. For example, from Conneaut Lake, traffic destined for Pymatuning State Park could be dispersed in three directions, depending upon the facilities desired:

1. Southwest, via U.S. 322, to the facilities in the Jamestown area;
2. West, via Pa. 285, to the Causeway and other facilities in the Espyville area; or
3. Northwest, via U. S. 6, to the facilities in the Linesville area.

Once traffic is routed to one of these three general areas of the Park, it can, with improved signing, be directed to the specific facilities desired. It is important to stress the need for improved directional and informational signs to assist park visitors in locating the facilities they desire. At the present time, many local residents are inconvenienced by often having to provide directions to park visitors who are unfamiliar with the area - an inconvenience which could be greatly reduced by a system of improved directional signs.

PROGRAM: The Township shall communicate its road classification recommendations 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 South Shenango intends to manage its road system to help control the location of growth. The major changes which the Township must convince PennDOT to accept are those which relate to L.R. 20003 (East Lake Road) and L.R. 20005 (Westford Road).

South Shenango Township shall 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, and the listing of qualifying projects for funding under the Federal 066-Systems Road 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 twelve years.

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.

The Township encourages the preservation and "filling in" of tree line plantings at or near road right-of-way lines, particularly in new developments.

The strong lines of shade tree plantings which enhance areas along U. S. 322, L. R. 20004 and others, are recognized as a major asset to South Shenango's scenic quality. As such, this policy is intended to maintain and further enhance the Township's rural and developing areas by encouraging the preservation and "filling in" of these tree lines. This policy should also be made clear to PennDOT and coordination should take place with the County Superintendent and the District 1-0 office as they schedule maintenance and/or improvements. Of particular concern relating to this policy is a project in this Plan to upgrade L. R. 20003/L. R. 20138 (East Lake Road) from a "Major Collector" to a "Minor Arterial" - see page 56. This reclassification would certainly enhance the "loop" concept, but any major improvements to this road could threaten the natural beauty provided mainly by large trees. Any improvement programs by PennDOT to this road should be particularly sensitive to its aesthetic value.

Road names throughout the Township, particularly on Township roads, should be consistent along their entire length, and should not be duplicated.

Over the years road names in South Shenango Township and other localities in Crawford County, have developed in a piecemeal fashion. One can drive from one end of the Township to another on the same road and find several different names. Some examples are: T-401 (Moore Rd.-McFadden Rd.-Livingston Rd.-Dickey Rd.) and T-359 (McArthur Rd.-Fitch Rd.-Simons Rd.). This situation leads to confusion even for people who have been in the area for years. To add to the confusion there are several road name duplications in various allotments throughout the Township. For example, there are three Maple Drives, one Maple Lane, three Oak Drives, two Elm Drives and one Elm Road, two Lakeview Drives and one Lakeview Road - all in different allotments. These duplications become particularly confusing in emergency situations, particularly if the people making an emergency call do not know which allotment they are in.

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COMMUNITY FACILITIES AND SERVICES

Just as road management is a key mechanism available to the Township in attempting to influence the location of development, so too is the management of other community facilities and services. All public investments must be managed to try to concentrate development so as to increase service efficiency, maintain the rural-agricultural character of the Township and provide increased safety and amenity to all Township residents. It is necessary to mention, however, that South Shenango, like most other rural townships in Crawford County, does not presently provide a wide range of facilities and services for its residents - particularly in comparison to what more urbanized municipalities offer. With this in mind, the question becomes, what is the threshold at which the Township should consider getting involved in such additional programs? Certainly, this can be determined, to a large extent, by monitoring the facility and service needs of Township residents - particularly as the population of the Township increases. However, even as needed facilities and services are identified, South Shenango's limited financial resources will restrict the extent to which the Township can become involved.

The following policies establish the position of South Shenango relative to providing community facilities and services adequate to meet resident's needs, and to expand such services where feasible.

The designation of road names in any municipality is the prerogative of the governing body, the Board of Supervisors. They can, by ordinance, change the names of any public roads where the public safety and interest is concerned. They can also through the use of land subdivision regulations control the names of private roads before they are built.

PROJECT: The Planning Commission should study road name consistency throughout the Township. The culmination of this project should be an "Official Map" showing recommended road names for all public roads.

Road names should be consistent on all contiguous roads. Names should reflect either historical precedent or the most commonly accepted designation.

PROJECT: Allotment associations having private roads where names are duplicated in other areas should be encouraged to change the names of their roads.

PROJECT: The Board of Supervisors should adopt the "Official Map" recommended by the Planning Commission, and in so doing make official road name changes.

PROJECT: Road name signs should be placed where all Township Roads intersect, including the intersections of State and private roads with Township roads.

PROGRAM: As the Township takes over ownership of any private road, the Supervisors on recommendation from the Planning Commission, should change any road names which are duplicated or inconsistent.

Should either the Township or Crawford County adopt subdivision regulations, these regulations should be used to assure road name consistency on any newly created road. It is also important to stress that road names are often inconsistent between municipalities and coordination of any road name changes with adjoining municipalities would be of mutual benefit.

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South Shenango Township shall continue its financial support of the Jamestown Volunteer Fire Department.

The service which the Jamestown Volunteer Fire Department provides to South Shenango is acclaimed as excellent. As such, the Township is committed to insuring that this high level of service is maintained. The Township Supervisors, by continuing to provide financial aid, will help the Jamestown Fire Department maintain adequate equipment to meet its needs and continue its level of excellent service.

The future extension of the sewerage system shall be based upon population density or upon intensity of land use as justification and evidence of need.

The Township Planning Commission and Supervisors shall work closely with the North Shenango-South Shenango Joint Municipal Authority to assure that any future expansion of the sewerage system is consistent with the Land Use Plan. The present service area of the system provides an immense potential for growth on land which is already subdivided. An analysis of allotments in the Township indicates that only approximately one-fifth of the available lots have been developed - while four-fifths have been purchased. Thus, if only half of the remaining vacant lots were developed, there would be almost three times as many homes within the allotments than presently exist.

As stated in the land use policies, future large scale subdivisions of land should be encouraged to locate in areas which are adjacent to the sewerage system's present service area, so that development is concentrated and sewer lines aren't encouraged to extend all over the Township.

The Township shall continue its financial support of the Jamestown Area Recreation Board so as to provide structured leisure time activities for Township residents.

South Shenango recognizes the value of having the programs and activities of the Jamestown Area Recreation Board available to Township residents. As such, the Township shall continue its support of the Recreation Board and the valuable services it provides.

PROGRAM: South Shenango Township should explore the benefits of joining with the communities of Jamestown, North and West Shenango, and any other interested municipalities in forming a council of governments (COG) to represent the Pymatuning area and its interests; to facilitate the combined enforcement of development regulations; and to explore projects and programs which will have a greater benefit if approached regionally rather than locally.

In the background section of this report, several references are made to the adverse impacts of Pymatuning State Park - most notably in terms of roads and housing. Also, South Shenango's limited revenues are discussed - specifically related to the Township's inability to take on major new programs. While these problems are, in some instances, more pronounced in South Shenango, they are none-the-less very real problems in Townships such as North and West Shenango as well. Consequently, the benefits to be realized by "pooling resources" are certainly worth evaluating.

The formation of a council of governments would serve to greatly expand the opportunities for intermunicipal cooperation - beyond the provision of such basic services as fire protection and recreation programs. For example, the communities involved could benefit by the joint purchase of supplies and equipment to maintain roads - as well as the coordination of road maintenance across municipal boundaries. In addition, a council of governments would have the power to apply for grant funds and contract for services - two areas where member municipalities could benefit greatly by a combined effort. (State and federal agencies often favor grant applications for projects which are of regional, vs. local, benefit - as more people are benefited by the dollars spent). Another benefit of forming a COG is that it could hire a full-time administrator who could, as a major part of his responsibility, provide technical assistance in enforcing the various development codes of member communities - a task which is badly needed.

Other benefits include the possibility of joint police protection, and the creation of a "bigger voice" to represent the interests and concerns of the Pymatuning area to County and State agencies. Certainly, other programs and activities, too numerous to begin discussing here, could be investigated and undertaken by such a council of governments. As such, it is strongly recommended that the formation of a COG be given very serious consideration.

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South Shenango Township should seek to cooperate with other area municipalities in finding a viable use for the "abandoned" Penn-Central Railroad right-of-way.

The old Penn-Central Railroad which runs north and south through the western part of the Township from Jamestown to Linesville, fell to disuse when the Penn-Central went bankrupt. The narrow right-of-way with the rails still in place is presently owned by the Penn-Central Trustees - a non-railroad entity. This long strip of graded

land through a beautiful section of the Township would be ideal for public recreation purposes. It could serve several different functions some of which might be: a biking and hiking trail, a nature trail, a cross-country ski trail or a snowmobile trail. It would be sad to see such a potential facility lost due to lack of interest.

To acquire this right-of-way from the Penn-Central Trustees would probably take a lot of local private and public cooperation, effort and money. Nonetheless, it would be of great benefit to the Pymatuning Area if such a facility could be acquired.

PROJECT: The South Shenango Planning Commission should play a major role in an effort to acquire the old Penn-Central right-of-way for public recreational purposes.

In working on this project the Planning Commission should seek maximum cooperation from public and private agencies. These might include: the Crawford County Planning Commission, the Crawford County Commissioners, adjacent local governments, Pennsylvania Department of Environmental Resources, the Federal Government, the Pymatuning Association, the Jamestown Area Recreation Board, and local recreation clubs.

HOUSING PLAN

INTRODUCTION

The Housing Plan seeks to identify some of the methods available to South Shenango in dealing responsibly with the housing problems which exist in the Township. Realistically, however, this is an area which must be more thoroughly addressed in future planning cycles in order to present meaningful alternative for action. With this in mind, the following policies represent the position of South Shenango relative to its most immediate needs in resolving housing problems.

HOUSING POLICIES

South Shenango Township shall enforce its building and development codes so as to maintain and improve existing residential neighborhoods, to insure sound new residential construction, and to protect the housing consumer.

The Township shall, to the best of its ability, enforce ordinances which are intended to eliminate health and safety hazards associated with dilapidated and abandoned housing in the Township. As stated earlier, a project of high priority to the Township is the review of all existing development control ordinances to improve their effectiveness in dealing - not only with new development - but also in resolving existing development problems.

PROJECT: A housing conditions survey should be undertaken to identify concentrations of dilapidated and/or abandoned housing within South Shenango Township.

As a first step in dealing responsibly with housing problems in the Township, a structural conditions survey and analysis should be undertaken to evaluate South Shenango's housing stock. This survey and analysis would then serve as the basis for a comprehensive program aimed toward improving housing in the Township.

South Shenango shall 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.

Good community planning is a continuing activity; it is not a "once done then over" situation. The Township Planning Commission, the Supervisors and 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.

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APPENDIX 2

REVISION PAGE

Date

Revision

APPENDIX 1

REPORTING MATERIAL

Following is a list of narrative and mapped studies developed as background to the Plan, which could not be entirely included in this document. This material, however, is on file either with South Shenango Township officials or in the offices of the Crawford County Planning Commission.

1. Current Well Inventory, South Shenango Township, 1978 (map)
2. Existing Land Use - South Shenango Township, Survey dated September, 1978 (colored map version)
3. Federal Insurance Administration Flood Hazard Boundary Map, Township of South Shenango, Pa., January 5, 1975
4. Groundwater Resources, South Shenango Township, 1978 (map)
5. Identification of Full and Part-time Active Farms, South Shenango Township, 1979 (map overlay)
6. Soil Conservation Service Map of Existing and Potential Agricultural Land, South Shenango Township, 1979
7. Soil Suitability for Agriculture, South Shenango Township, 1978 (map overlay)
8. Soil Suitability for On-Lot Sewage, South Shenango Township, 1978 (map overlay)
9. South Shenango Township Property Lines Base Map, January, 1977
10. South Shenango Township Property Line Base Map, showing the land ownership, Fall, 1978.
11. Townships of North, South and West Shenango - Facilities Plan Map. 1979

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APPENDIX 2

REVISION PAGE

Date

Revision

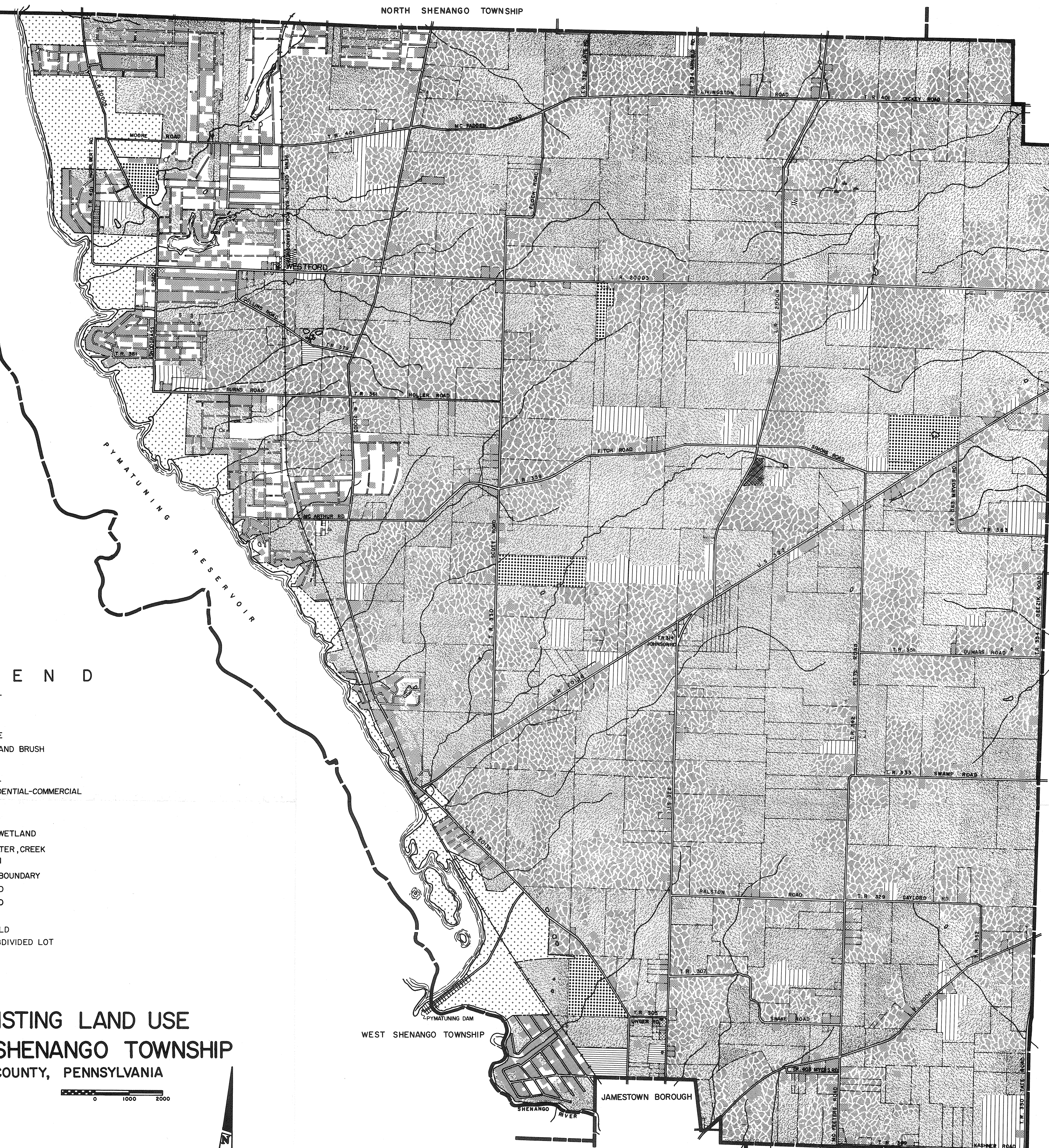
LEGEND

- RESIDENTIAL
- PUBLIC
- SEMI-PUBLIC
- AGRICULTURE
- WOODLAND AND BRUSH
- INDUSTRIAL
- COMMERCIAL
- MIXED RESIDENTIAL-COMMERCIAL
- STATE PARK
- RECREATION
- MARSH OR WETLAND
- BODY OF WATER, CREEK OR STREAM
- MUNICIPAL BOUNDARY
- PUBLIC ROAD
- PRIVATE ROAD
- PAPER ROAD
- VACANT FIELD
- VACANT SUBDIVIDED LOT

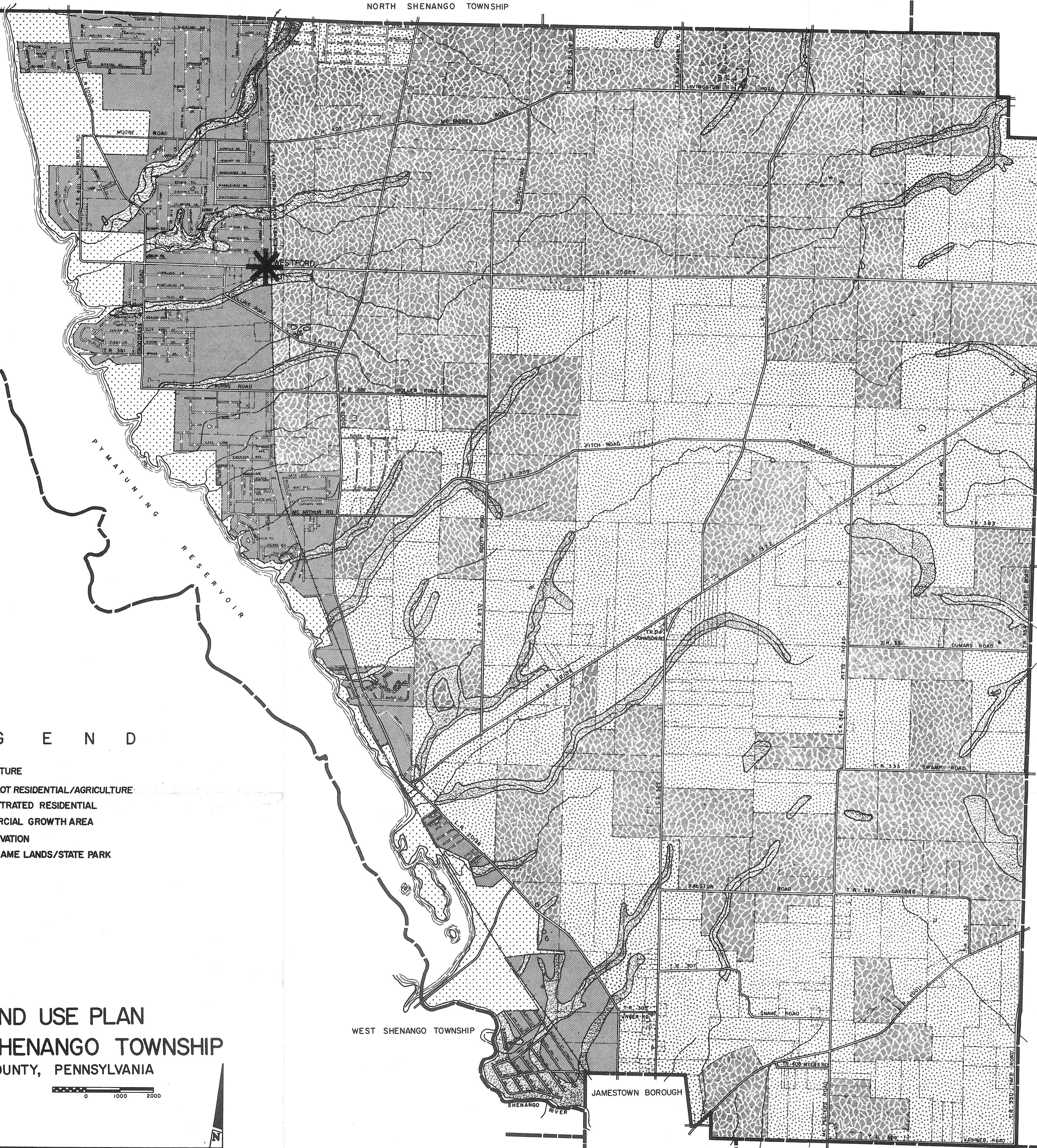
EXISTING LAND USE
SOUTH SHENANGO TOWNSHIP
CRAWFORD COUNTY, PENNSYLVANIA
SCALE IN FEET



PROPERTY LINE RECORD
AS OF JANUARY 1977
PREPARED BY THE
CRAWFORD COUNTY
PLANNING COMMISSION





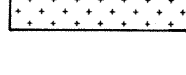



ASHTABULA COUNTY OHIO
CRAWFORD COUNTY PENNSYLVANIA

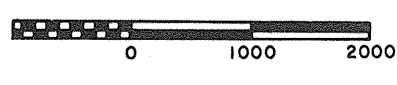


WEST FALLOWFIELD TOWNSHIP

L E G E N D

-  AGRICULTURE
-  LARGE LOT RESIDENTIAL/AGRICULTURE
-  CONCENTRATED RESIDENTIAL
-  COMMERCIAL GROWTH AREA
-  CONSERVATION
-  STATE GAME LANDS/STATE PARK

LAND USE PLAN
SOUTH SHENANGO TOWNSHIP
CRAWFORD COUNTY, PENNSYLVANIA
SCALE IN FEET



PROPERTY LINE RECORD
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WEST SHENANGO TOWNSHIP

JAMESTOWN BOROUGH

MERCER COUNTY

SHENANGO RIVER

PYMATUNING
RESERVOIR